

User's Manual

KODAK Professional RFS 3570 Film Scanner

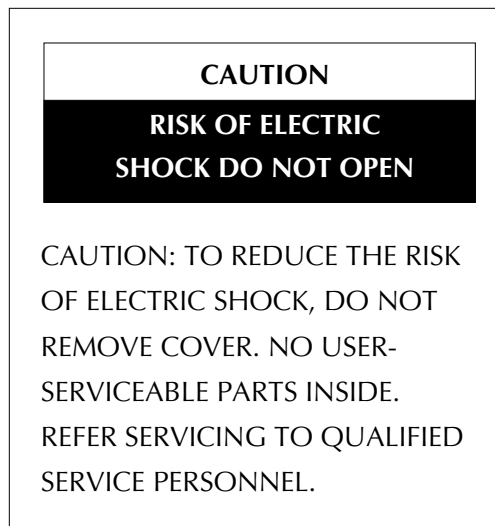
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Important Safeguards and Precautions

WARNING: To prevent fire or shock hazard, do not expose unit to rain or moisture.



- ▶ **Read Instructions** — Read all the safety and operating instructions before operating the unit.
- ▶ **Retain Instructions and Packing Materials** — Retain the safety and operating instructions for future reference. Retain the packing case for use if the equipment must be shipped.
- ▶ **Heed Warnings** — Heed all warnings on the equipment and in the operating instructions.
- ▶ **Follow Instructions** — Follow all operating and use instructions.
- ▶ **Controls** — Adjust only those controls that are covered by the operating instructions.

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- ▶ **Cleaning** — Unplug the unit before cleaning. Clean only the outside cabinet with a damp cloth. Do not use liquid cleaners or aerosol cleaners.
- ▶ **Attachments** — Do not use attachments that are not recommended. The use of such attachments may cause hazards and serious damage to the equipment.
- ▶ **WARNING: Water and Moisture** — Do not use the equipment near water — for example, near a sink, or in a wet room or basement, etc. Do not expose the unit to rain or moisture and do not immerse the equipment in water or other liquids; contact Kodak for servicing if this occurs.
- ▶ **Dust** — Excessive dust levels may damage internal parts. Be certain to cover the scanner with the supplied dust cover whenever the scanner is off. Because dust can build up in the scanner and affect image quality, we recommend that you follow the procedure at the beginning of each work session that is described at the end of “Appendix C — Trouleshooting.” Doing so will help to ensure that you remove dust buildup before scanning.
- ▶ **Power Sources** — You should operate the unit only from the type of power source indicated on the back of the unit. If you are not sure of the type of power supply that will be used, consult a dealer or local power company.
- ▶ **Replaceable Fuse** — There is one replaceable fuse in the unit. Be sure that the fuse meets the power requirements listed on the fuse-rating label on the unit.
- ▶ **Grounding** — The unit is equipped with a three-wire grounding-type plug with a third (grounding) pin. The three-wire plug will fit into a grounding-type power outlet. This is a safety feature. If you are unable to insert the plug into an outlet, contact an electrician to replace the obsolete outlet. Do not defeat the safety purpose of the grounding-type plug.

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- ▶ **Power-Cord Protection** — Route power-supply cords so that they are not likely to be walked on or pinched by items placed on or against them; pay particular attention to cords at plugs, receptacles, and the point where they leave the unit.
- ▶ **Operating Range** — If the Scanner has been stored or transported outside its operating ambient temperature range (refer to “Appendix J — Specifications”), allow it to return to within its operating range before turning it on.
- ▶ **Lightning** — For added protection of the equipment during a lightning storm, or any time when you will leave the equipment unattended and unused for long periods of time, unplug the unit from the power outlet. This will protect the equipment from damage caused by lightning or power-line surges.
- ▶ **Overloading** — Do not overload power outlets and extension cords; this can result in a risk of fire or electric shock.
- ▶ **Object or Liquid Entry** — Never push foreign objects of any kind into the equipment openings. Never spill liquid of any kind on the equipment; contact Kodak for servicing if this occurs.
- ▶ **Servicing** — Do not attempt to service the unit yourself, except to change the fuse (see instructions in “Appendix E — Replacing the Fuse”). Opening or removing covers may expose you to dangerous voltage or other hazards.
- ▶ **Damage Requiring Service** — Unplug the unit from the wall outlet and refer all servicing to the manufacturer under the following conditions. (Refer to “Appendix B — Warranty” for additional information.)
 - When the power-supply cord or plug is damaged (send cord only). Power cords are available as a spare part; refer to “Appendix I — Optional Equipment & Spare Parts List.”
 - If liquid has been spilled or if objects have fallen into the equipment.

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- If the equipment has been exposed to rain or water.
- If the unit does not operate normally according to the operating instructions.
- If the unit has been dropped or the housing has been damaged.
- When the equipment exhibits a distinct change in performance.
- ▶ **Accessories** — Do not place the unit on an unstable cart, stand, bracket, or table. It can fall, causing serious injury to persons and serious damage to the unit. Use only with a stable cart, stand, bracket, or table.
- ▶ **Handling** — Handle the equipment with care; do not drop the equipment.

CAUTION: To prevent fire or shock hazard, use only the recommended accessories or attachments.

Electromagnetic Emissions

This equipment has been tested and found to comply with the limits for a Class A digital device pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his or her own expense.

This equipment conforms with the requirements of European Standard EN55022 with respect to radio interference for a Class A device.

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Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la classe A prescrites dans le règlement sur le brouillage radioélectrique édicté par le Ministère des Communications du Canada.

This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus set out in the radio interference regulations of the Canadian Department of Communications.

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Technical Assistance

Refer to the following sources for assistance if you have questions as you work with the Scanner.

- ▶ If you encounter difficulties with hardware, with scanned images or with product performance, refer to “Appendix C — Troubleshooting.”
- ▶ If you notice circular shaped objects in scanned images — like water spots or bubbles — be certain that you follow the procedure at the beginning of each work session that is described at the end of “Appendix C — Troubleshooting.” Doing so will help to ensure that you remove dust buildup before scanning.
- ▶ If a message appears on the computer screen that you do not understand, refer to “Appendix D — Messages from KODAK Drivers.”
- ▶ If you need other assistance from this manual, refer to the “Contents” and the “Index.”
- ▶ If you are unable to find answers from this manual, contact your dealer.
- ▶ If you are a customer in the United States and you are unable to find answers to your questions using this manual or from you dealer, call Kodak at 1-800-CD-KODAK.
- ▶ If you are a customer in Canada and you are unable to find answers to your questions using this manual or from your dealer, call Kodak at 1-800-465-6325.
- ▶ If you are a customer outside the United States or Canada and you are unable to find answers to your questions using this manual, contact your local Kodak representative for technical assistance.

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Contents

1 Introduction 1-1

2 Before You Begin — Macintosh Computer 2-1

Required Hardware 2-2

Computer 2-2

Monitor 2-2

Display Card 2-2

Required Software 2-3

Optional Printers 2-4

3 Installation

(Hardware and Software) — Macintosh Computer 3-1

Installing the Scanner Hardware 3-2

Connecting the Scanner to a Power Source 3-2

Connecting the Scanner to Your Computer 3-3

If No External SCSI Devices Are Connected 3-5

If External SCSI Devices Are Connected 3-9

Setting the Scanner SCSI Identification Number 3-19

Installing the KODAK Driver for Adobe Photoshop Software (Macintosh) 3-21

.....

4 Loading the Film and Slide Holders — Macintosh Computer 4-1

Loading 35 mm Film and Slides 4-2

 Loading 35 mm Film into the 35 mm Film Holder 4-2

 Loading 35 mm Slides into the Slide Holder 4-3

 Loading 35 mm Film and Slide Holders into the Scanner 4-4

Loading Film Sizes Other Than 35 mm 4-8

 Loading Film into the Film Holder 4-8

 Loading Film Holders (Other Than 35 mm Sizes) into the Scanner 4-10

5 Using the KODAK Driver for Adobe Photoshop Software — Macintosh Computer 5-1

Displaying the KODAK Driver Window 5-3

Producing Scanned Images 5-5

 Loading the Film Holder 5-5

 Operating the KODAK Driver 5-6

 Set the Film Type 5-6

 Set the Film Size 5-6

 PreScan the Image (and Calibrate the Scanner) 5-6

 Change the Magnification Adjustment 5-12

 PreScan the Image Again 5-14

 Select the Image 5-15

 Set Auto Balance 5-16

 Rotate the Image 5-16

 Sharpen the Image 5-16

 Set the Image to Black and White 5-17

 Focus the Image 5-17

 Change Color Levels 5-18

 Change Brightness 5-19

.....

- Change Contrast 5-20
- Choose the Resolution 5-20
- “Crop” the Image 5-21
- Scan the Image into Photoshop 5-21
- Scan Additional Images 5-23
- Turning Off the Scanner 5-24
- Reference: Buttons and Indicators 5-25

6 Before You Begin — PC 6-1

- Required Hardware 6-2
 - Computer 6-2
 - Display 6-2
 - Display Card (Graphics Adapter) 6-2
 - SCSI Interface 6-2
- Required Software 6-3
- Optional Printers 6-4

7 Installation (Hardware and Software) — PC 7-1

- Installing the Scanner Hardware 7-2
 - Connecting the Scanner to a Power Source 7-2
 - Installing a SCSI Host Adapter 7-3
 - For Qualified Technical Personnel Only 7-3
 - Connecting the Scanner to Your Computer 7-4
 - If No External SCSI Devices Are Connected 7-5
 - If External SCSI Devices Are Connected 7-9
 - Setting the Scanner SCSI Identification Number 7-19
- KODAK TWAIN Driver 7-21
 - Installing TWAIN Compliant KODAK Driver 7-22

.....

8 Loading the Film and Slide Holders — PC 8-1

- Loading 35 mm Film and Slides 8-2
 - Loading 35 mm Film into the 35 mm Film Holder 8-2
 - Loading 35 mm Slides into the Slide Holder 8-3
 - Loading 35 mm Film and Slide Holders into the Scanner 8-4
- Loading Film Sizes Other Than 35 mm 8-8
 - Loading Film into the Film Holder 8-8
 - Loading Film Holders (Other Than 35 mm Sizes) into the Scanner 8-10

9 Using KODAK Driver with Windows Applications — PC 9-1

- Using a KODAK Driver for TWAIN Compliant PC Applications 9-3
 - Adobe Photoshop 2.5 and 3.0 for Windows 9-4
- Producing Scanned Images 9-6
 - Loading the Film Holder 9-6
 - Operating the KODAK Driver 9-7
 - Set the Film Type 9-7
 - Set the Film Size 9-7
 - PreScan the Image (and Calibrate the Scanner) 9-7
 - Change the Magnification Adjustment 9-13
 - PreScan the Image Again 9-15
 - Select the Image 9-15
 - Set Auto Balance 9-16
 - Rotate the Image 9-17
 - Sharpen the Image 9-17
 - Set the Image to Black and White 9-17
 - Focus the Image 9-17
 - Change Color Levels 9-19
 - Change Brightness 9-20

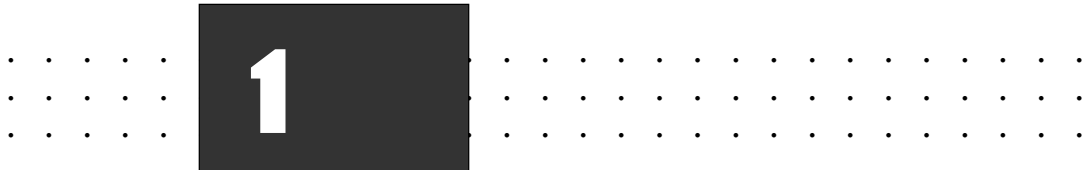
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Change Contrast 9-20
Choose the Resolution 9-20
“Crop” the Image 9-21
Scan the Image 9-22
Scan Additional Images 9-23
Turning Off the Scanner 9-24
Reference: Buttons and Indicators 9-25

10 Appendices 10-1

Appendix A — Software License Agreement A-1
Appendix B — Warranty B-1
Appendix C — Troubleshooting C-1
Appendix D — Messages from KODAK Drivers D-1
Appendix E — Replacing the Fuse E-1
Appendix F — Updating the KODAK Driver F-1
Appendix G — Repacking Instructions G-1
Appendix H — Problem Report Form H-1
Appendix I — Optional Equipment & Spare Parts List I-1
Appendix J — Specifications J-1
Appendix K — Glossary K-1

11 Index 11-1



Introduction

The KODAK Professional RFS 3570 Film Scanner combines high resolution, high speed, and scanning of a variety of film formats from 35 mm to 70 mm (RFS “3570”), in one easy-to-operate desktop scanner.

Once you’ve scanned the image (color negative, color transparency, or black-and-white negative) you can view it as a color or monochrome image.

The Scanner works by flashing a filtered (red, green, blue) strobe through your image against a Charge Coupled Device (CCD). The Scanner provides 6 million pixels per scan — crisp images of 3072 pixels wide by 2048 pixels high.

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The features of the Scanner include:

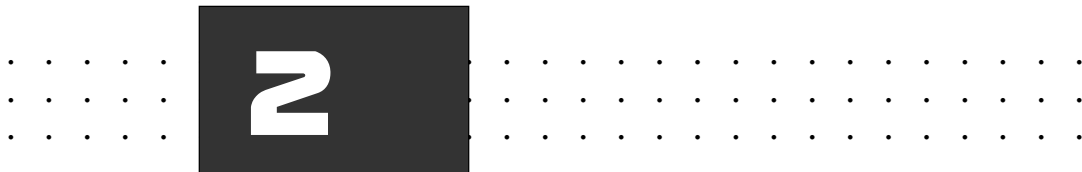
- ▶ Fast scanning speed.
- ▶ Quick and easy loading of film—no position adjustments are required.
- ▶ User-selectable autofocus.
- ▶ High quality analog-to-digital conversion with 12 bits per RGB color.
- ▶ Automatic color balance with manual fine-tuning.
- ▶ User-selectable image sharpening.
- ▶ Ultra-fast image preview.
- ▶ Support for a variety of film sizes from 35 mm to 70 mm.
- ▶ Support for a large variety of film types.
- ▶ A variety of scanning resolutions.
- ▶ Automatic calibration.
- ▶ Magnification adjustments that allow you to optimize the area of the imager used for your scan.
- ▶ A KODAK Driver plug-in for Adobe Photoshop (Macintosh Computer).
- ▶ A KODAK TWAIN Driver that provides access to the Scanner for the growing number of TWAIN compliant PC applications (PC only).
- ▶ Support for SCSI host adapters including ASPI Windows host adapters such as those from Adaptec, Inc. running EZ-SCSI 4.01 or later (PC only).

If your computer has a video card that supports 24-bit color, the image is displayed in full color (16.8 million colors) on your monitor. If your video card supports only 8-bit color, the image is displayed in 256 dithered colors. If you are using a black-and-white system, the image displays in black-and-white. Regardless of the monitor you use, the quality of the scan (in 24-bit color) is not affected. In all cases the best possible image supported by your hardware is displayed on your monitor.

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The KODAK Drivers are used to capture images from the scanned film (negative or positive), and open that image data in a window in your supported image editing software. You can then edit images and save them as files on your computer hard disk.

NOTE: You may be able to use the Scanner on other computer platforms or with additional operating systems, using drivers prepared by companies other than Kodak, or by developing your own driver. Contact Kodak for information.



Before You Begin — Macintosh Computer

NOTE: Before you continue, complete and submit the enclosed Warranty Registration card. You should also read “Appendix A — Software License Agreement” and “Appendix B — Warranty.”

Check the following lists to ensure that you have the appropriate hardware and software.

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Required Hardware

Computer

Apple Macintosh Computer that: supports 32-Bit QuickDraw software; has at least 8 megabytes (MB) random access memory (RAM) installed (32 MB RAM or more is recommended for fastest scan times); has 80 MB of free space on its hard disk. Adobe Photoshop requires three to five times the size of the scanned image file in combined hard disk space and RAM.

NOTE: Adobe Photoshop 3.0, when run on a Power Macintosh, needs a minimum of 16 MB of RAM (including at least 11 MB of RAM in addition to the memory used by the operating system), and recommends 24 MB of RAM.

Monitor

Apple Macintosh or compatible monitor, 13" or greater (with a minimum 640 x 480 pixel screen size). A high-quality color monitor displays the best image. (The quality of the scan is not affected by the monitor in use.)

Display Card

Use the appropriate display card for the monitor to be used; we recommend an 8-bit or, preferably, 24-bit video display card. (The built-in video capability supplied with some Macintosh Computers may be sufficient.)

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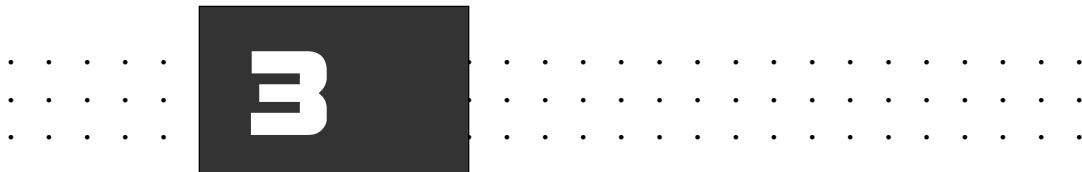
Required Software

- ▶ Apple System software 7.0, 7.1, 7.1.2, or 7.5 to 7.5.3 and 32-bit QuickDraw. Consult your Apple manuals for installation instructions if this software is not already installed. (If you are using System 7.0 or System 7.0.1 you should use the System Tuner version 1.1.1, or consider upgrading to System 7.1 or 7.5; otherwise you may experience system crashes and/or lose folders or files from your hard disk.)
- ▶ Adobe Photoshop software version 2.0, 2.5, or 3.0 to 3.0.5, and 4.0.

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Optional Printers

Suggested printers for use with the scanner appear in “Appendix I — Optional Equipment & Spare Parts List.” In the United States, contact Kodak at 1-800-CD-KODAK for detailed information on printer options and accessories and to obtain ordering catalog numbers; in Canada call 1-800-465-6325, and elsewhere outside the United States contact your local Kodak representative.



Installation (Hardware and Software) — Macintosh Computer

Follow the steps in this section to —

- ▶ Install the Scanner.
- ▶ Install the KODAK Driver for Adobe Photoshop Software.

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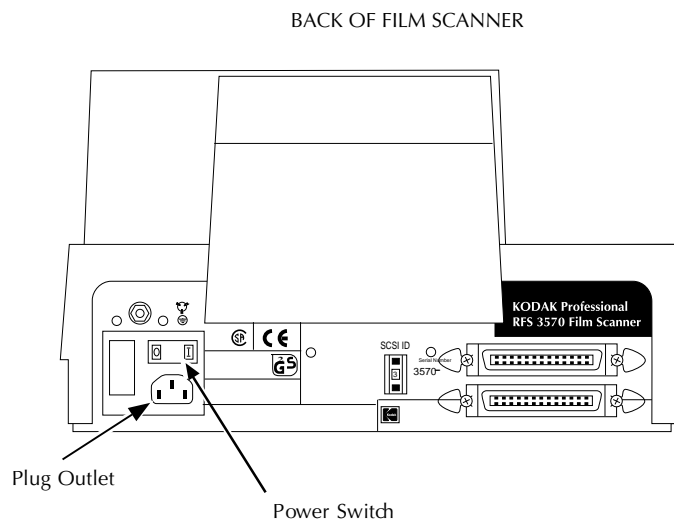
Installing the Scanner Hardware

Follow these instructions to connect the Scanner to a power source, to connect the Scanner to your computer, and to set the Scanner SCSI Identification number.

Connecting the Scanner to a Power Source

Follow these steps to connect your Scanner to a power source:

1. Remove any remaining packing material from the Scanner and place the Scanner on either side of your Macintosh computer. (You should retain the original shipping carton and packing materials.)
2. Press the O end of the power switch on the back of the Scanner to be sure that the Scanner power is off.
3. Plug the appropriate end of the supplied power cable into the plug outlet of the Scanner and the other end into a power source.



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Connecting the Scanner to Your Computer

Follow the instructions in this section to connect the Scanner, a non-terminated SCSI device, to your Macintosh computer by using the supplied cable and terminator.

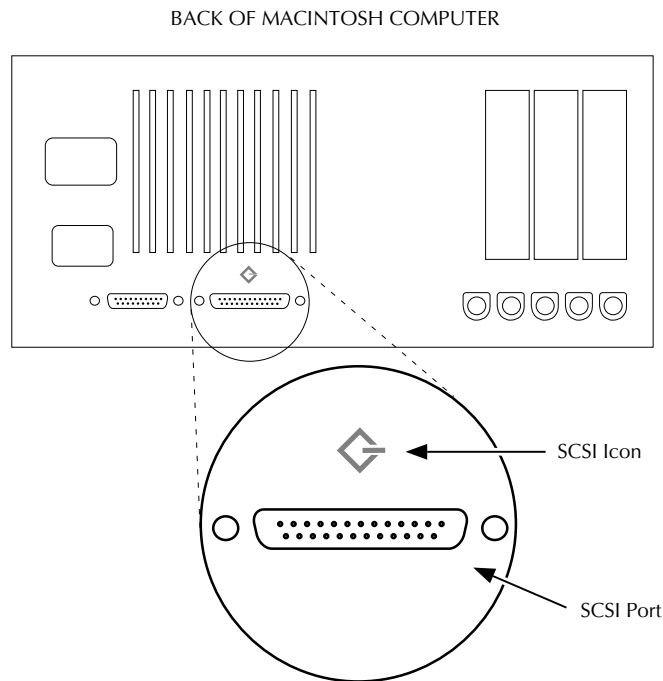
NOTES: If you are a PowerBook user, consult the manuals supplied with your computer to determine the cabling and termination requirements needed to connect the Scanner — a non-terminated SCSI device — to your PowerBook. You will probably need to supply a PowerBook HDI-30-pin to 50-pin SCSI cable to complete this connection. Be certain that the cable you obtain is for connecting a PowerBook computer to a SCSI device, not for connecting a PowerBook computer to a desktop computer.

This manual assumes that you are familiar with the operation of your Macintosh computer. If you are not, refer to the manuals and other instructions supplied with that computer before continuing.

1. Turn off the power to your Macintosh computer and all peripherals (turn off the computer first).

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2. Find the SCSI port, also called a SCSI connector, on the back of the computer (not the back of the Scanner), and determine whether or not a device (for example a disk drive) is attached. The figures in this chapter are intended to illustrate a typical Macintosh computer.



3. Select the appropriate instructions from the two sets that follow, according to whether or not other external SCSI devices are connected.
 - A. Continue below at "If No External SCSI Devices Are Connected" if no external SCSI devices are connected.
 - B. Or continue at "If External SCSI Devices Are Connected" later in this chapter if external SCSI devices are connected.

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If No External SCSI Devices Are Connected

Complete these steps if no SCSI devices are connected to your Macintosh computer; otherwise proceed to “If External SCSI Devices Are Connected” later in this chapter.

CAUTION: Whenever connecting or disconnecting SCSI cables, be sure power is turned off on all devices in the SCSI chain, including the computer and the Scanner (turn off the computer first).

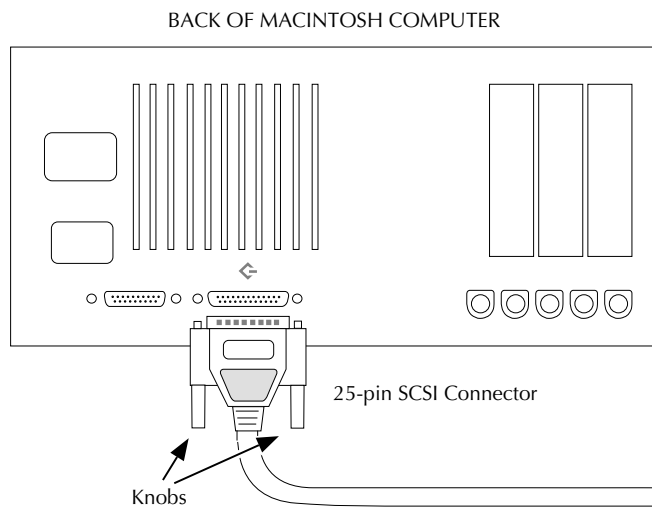
1. Select the cable (supplied with the Scanner) with the 25-pin SCSI connector at one end and the 50-pin SCSI connector at the other end.



NOTE: If you are using a Macintosh PowerBook computer, you will need to supply a PowerBook HDI-30-pin to 50-pin SCSI cable to complete this connection. Be certain that the cable you obtain is for connecting a PowerBook computer to a SCSI device, not for connecting a PowerBook computer to a desktop computer.

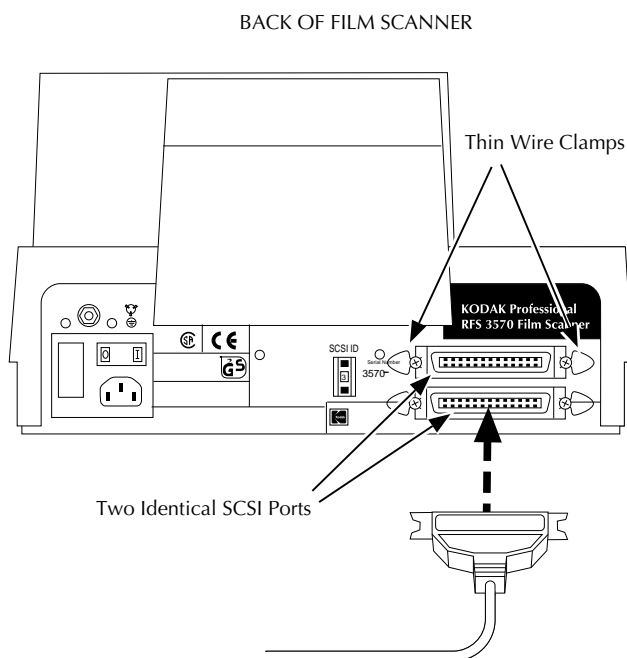
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2. Attach the 25-pin SCSI connector of the cable to the SCSI port on the back of the Macintosh computer. Make sure the cable connector is well seated by pressing it into place firmly, and then tighten both knobs on the 25-pin SCSI cable connector.



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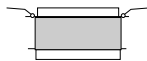
3. Attach the other end of the cable to either of the identical SCSI ports on the back of the Scanner. Seat the connector firmly and pinch the thin wire clamps shut.



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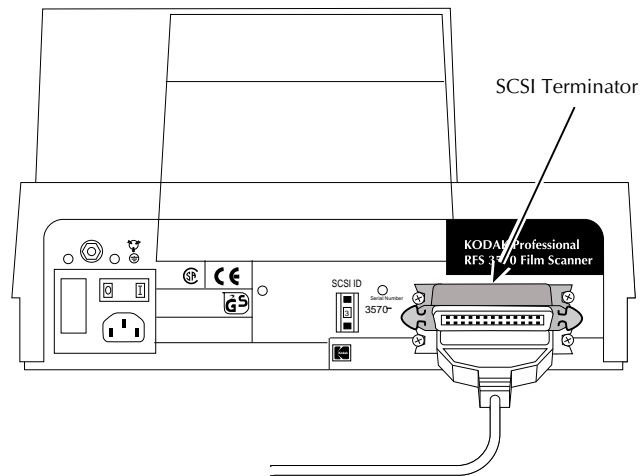
4. Attach the SCSI terminator (supplied with the Scanner) to the empty SCSI port on the Scanner, seat the terminator firmly, and pinch the thin wire clamps shut.

Terminator



NOTE: If you are using a Macintosh IIfx computer, use the black terminator supplied with that computer; it is not interchangeable with the terminator supplied with the Scanner.

BACK OF FILM SCANNER



5. Continue at "Setting the Scanner SCSI Identification Number" later in this chapter.

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If External SCSI Devices Are Connected

Complete these steps if one or more external SCSI devices are connected to your Macintosh computer; otherwise continue at “Setting the Scanner SCSI Identification Number” later in this chapter.

CAUTION: Whenever connecting or disconnecting SCSI cables, be sure power is turned off on all devices in the SCSI chain, including the computer and the Scanner (turn off the computer first).

Multiple SCSI devices are connected to the Macintosh computer in a chain. The following steps will help you determine where you should place the Scanner in that chain — either at the end of the chain, or in the middle of the chain.

NOTE: The total cable length connecting all devices must not exceed 15 feet (4.6 meters).

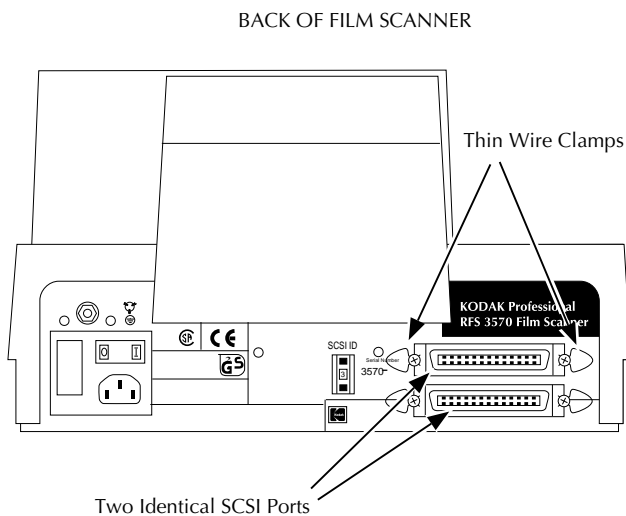
1. Select your SCSI cable with identical 50-pin SCSI connectors at each end.

NOTE: This cable is not packed with the Scanner but is available through Kodak. Refer to “Appendix I — Optional Equipment & Spare Parts List.” This cable is also widely available from computer retailers; if you obtain a cable from one of these sources, be certain to obtain a high quality cable with a continuous EMI shield over the cable and connectors.



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2. Locate the two identical SCSI ports and thin wire clamps on the back of the Scanner.



3. Determine if the connected SCSI devices are terminated or not. The Scanner is a non-terminated SCSI device. To do so:
 - A. First look for an external SCSI terminator on the devices; if you find one, remove it.
 - B. Because some devices contain internal terminators, also check the instructions for your devices to determine if they are terminated internally.

NOTE: The Scanner does not have an internal terminator.

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4. Select the appropriate instructions from the two sets that follow, according to whether or not an external device is terminated internally.
 - A. Continue on the next page if none of the connected devices is terminated internally.
 - B. Or continue at “Follow these steps if one of the connected devices is terminated internally” later in this chapter if one of the connected devices is terminated internally.

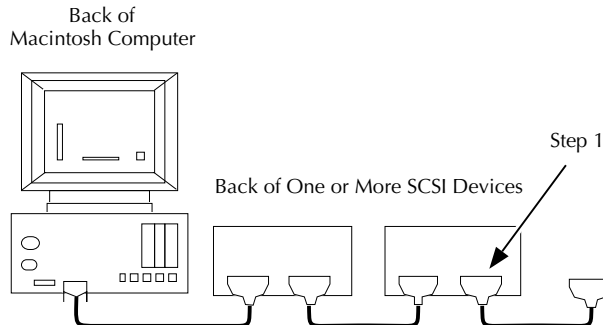
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Follow these steps if none of the connected devices is terminated internally (and any external terminator found in the SCSI chain has been removed):

NOTE: In the following steps, you will place the Scanner at the end of the chain of connected devices. (You can place the Scanner anywhere in the chain as long as you add a terminator to the last device in the chain.)

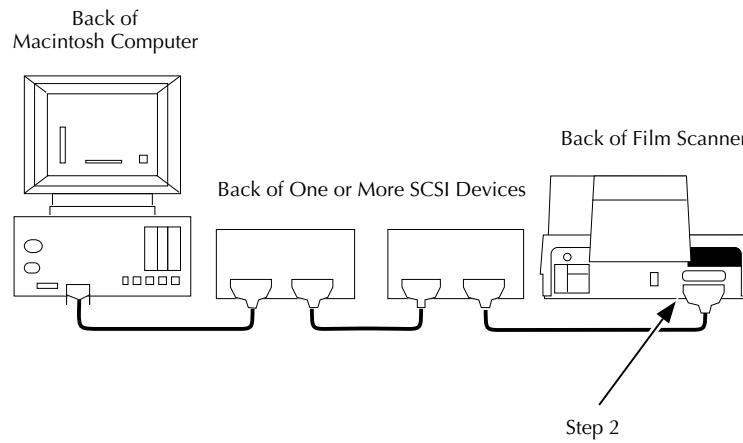
1. Attach one end of your 50-pin to 50-pin SCSI cable to the empty SCSI port on the last device in the chain. Seat the connector firmly and pinch the thin wire clamps shut.

NOTE: This cable is not packed with the Scanner but is available through Kodak. Refer to "Appendix I — Optional Equipment & Spare Parts List." This cable is also widely available from computer retailers; if you obtain a cable from one of these sources, be certain to obtain a high quality cable with a continuous EMI shield over the cable and connectors.



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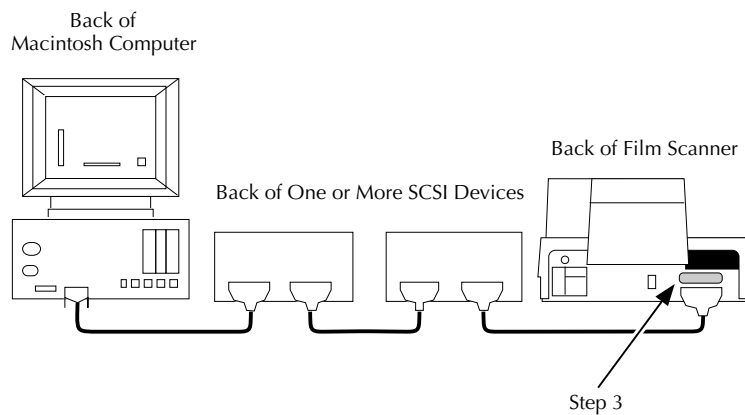
2. Attach the other end of the cable to either of the identical SCSI ports on the back of the Scanner. Seat the connector firmly and pinch the wire clamps shut.



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3. Attach the SCSI terminator (supplied with the Scanner) to the empty SCSI port on the Scanner, seat the terminator firmly, and pinch the wire clamps shut.

NOTE: If you are using a Macintosh IIx Computer, use the black terminator supplied with the computer; it is not interchangeable with the terminator supplied with the Scanner.



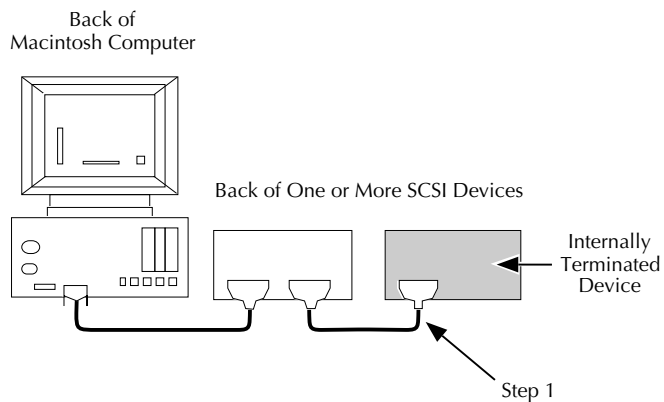
4. Continue at "Setting the Scanner SCSI Identification Number" later in this chapter.

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Follow these steps if one of the connected devices is terminated internally:

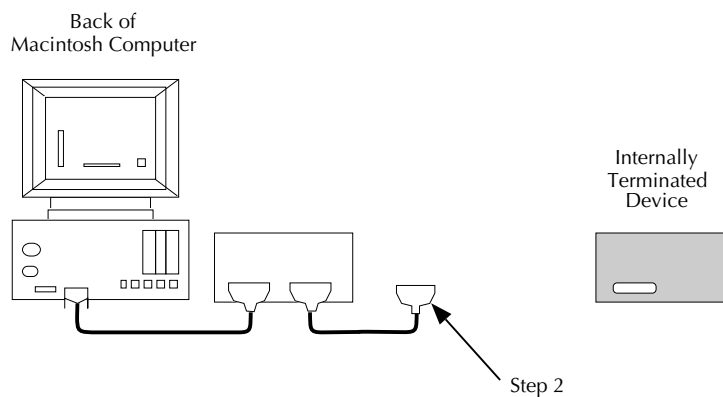
NOTE: In the following steps, you will place the Scanner in the chain just before the terminated device. (You can place the Scanner anywhere in the chain between the terminated device and the Macintosh Computer.)

1. Locate the cable leading to the internally terminated device. (The terminated device should be the last device.)

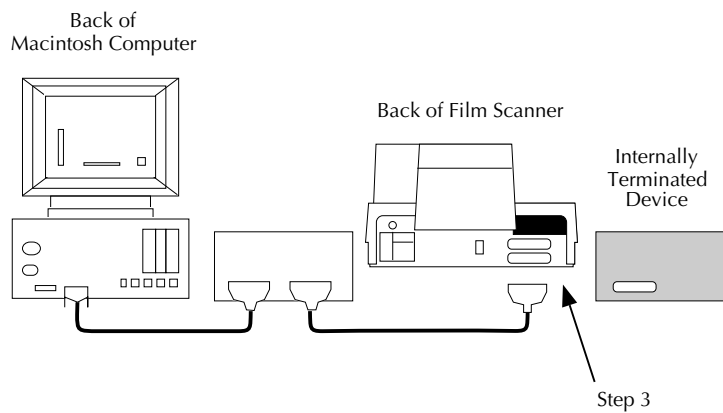


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2. Disconnect the end of that cable from the internally terminated device. Do not disconnect the other end of the cable.

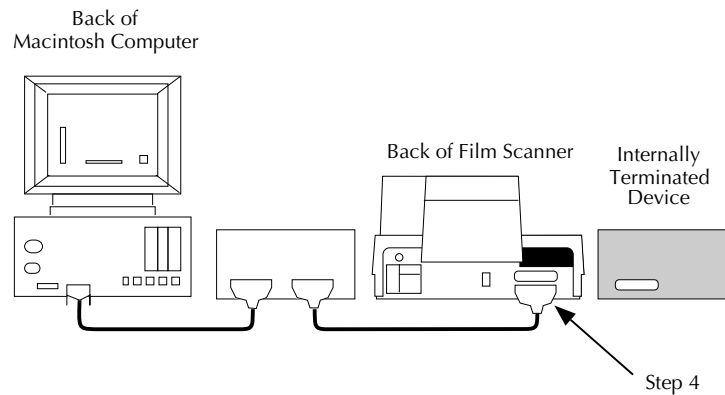


3. Position the Scanner so that you can connect it in the chain before the terminated device.



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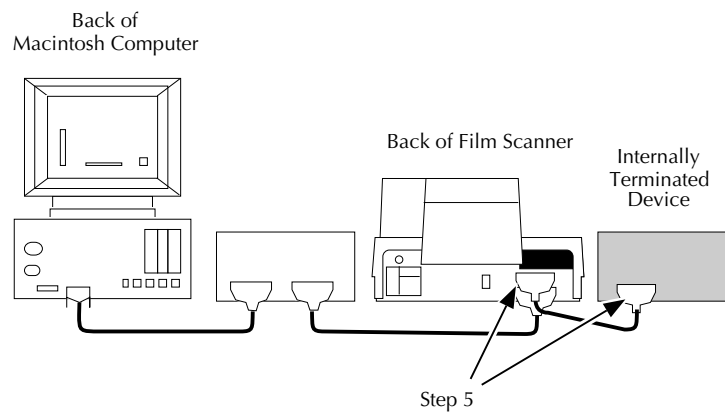
4. Attach the end of the cable you just disconnected to either of the identical SCSI ports on the back of the Scanner. Seat the connector firmly, and pinch the thin wire clamps shut.



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5. Attach the Scanner to the internally terminated device by plugging one end of your 50-pin to 50-pin SCSI cable into the empty SCSI port on the Scanner and the other end into the empty SCSI port on the terminated device. Seat both connectors firmly and pinch both wire clamps shut.

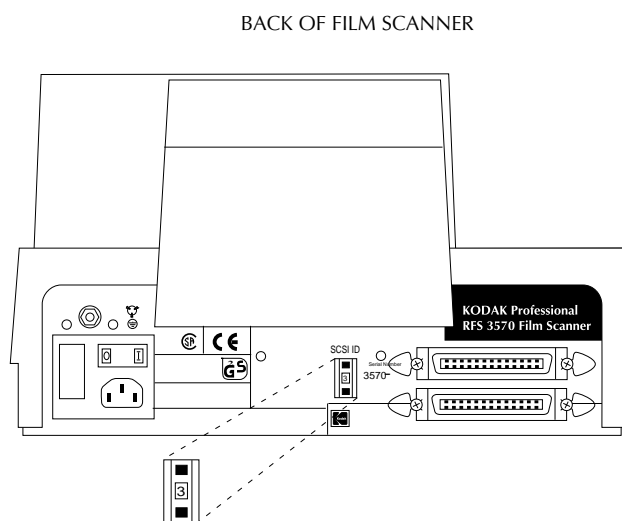
NOTE: This cable is not supplied with the Scanner but is available through Kodak. Refer to "Appendix I — Optional Equipment & Spare Parts List." This cable is also widely available from computer retailers; if you obtain a cable from one of these sources, be certain to obtain a high quality cable with a continuous EMI shield over the cable and connectors.



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Setting the Scanner SCSI Identification Number

Follow the steps below to set the SCSI identification (ID) number for the Scanner. You set the number by gently pushing buttons at the top and bottom of the SCSI ID switch on the back of the Scanner as described in this section.



SCSI ID Switch
(Do not use 0, 7, 8, or 9)

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Each SCSI device connected to the same computer must have a different SCSI ID number. Your Macintosh Computer is number 7, and your internal hard disk is probably 0. If your computer has a CD-ROM drive, be certain to avoid its number also; it may be number 3 if it is an internal drive supplied by Apple Computer, Inc. Therefore avoid numbers 0, 3, and 7 since the Scanner must have a unique SCSI ID.

1. If SCSI devices other than the Scanner are connected to your Macintosh Computer, determine their SCSI identification numbers so that you can select a different number for the Scanner. (If necessary, refer to the documentation for those devices to determine how to find their numbers.)
2. Double-check to make sure that the power to the Scanner is off (O). (The O end of the switch should be pressed in and the green light at the top left front corner of the Scanner should be off.)
3. Set the Scanner to an unused number from 1 to 6 by pressing the bottom button to go to a higher number or the top button to go to a lower number. Do not assign the number of any other attached SCSI device, and do not assign 0, 7, 8, or 9. If your computer has a CD-ROM drive, be certain to avoid its number also; it may be number 3 if it is an internal drive supplied by Apple Computer, Inc. Assign high ID numbers to devices used most frequently.

NOTE: Make sure the power to the Scanner is off if you change its ID number at a later time.

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Installing the KODAK Driver for Adobe Photoshop Software (Macintosh)

Follow these steps to install the driver. This is a onetime operation that you must perform before you can obtain images from the Scanner.

1. Turn on your Macintosh computer; after a short wait, you will be in the Finder. (If your Macintosh computer has been configured to open applications other than the Finder, return to the Finder now.)
2. Install Adobe Photoshop (not provided by Kodak) if you have not already done so.
3. Make sure the gamma for your monitor is calibrated properly, per instructions in the Photoshop manual.
4. Locate the diskette entitled "KODAK Driver for ADOBE PHOTO-SHOP Software for use with KODAK Professional RFS 3570 Film Scanner."
5. If the diskette is not locked, lock it by sliding the tab on the back to reveal a small hole. This will prevent the contents of the disk from being changed inadvertently, and may aid in preventing the spread of computer viruses to this diskette.
6. Place the diskette into the internal drive of your Macintosh computer. If a window does not open for the diskette, double-click on the diskette icon to display the window.
7. Double-click on the READ ME file, read its contents — the latest information on the Scanner; then choose QUIT from the FILE menu.

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8. Complete part A of this step for supported Photoshop versions before version 2.5, and part B for versions 2.5 and later.
 - A. Drag the KODAK RFS 3570 and the RFS3570.BIN icons into the folder on your hard disk that contains the Photoshop PS PREFERENCES file. Wait while the files are copied; if you are asked if the new files should replace existing ones, respond affirmatively.

NOTE: If the PS PREFERENCES file does not exist, you must run Photoshop (once) to create it. If you do not place the KODAK RFS 3570 and RFS3570.BIN icons into the same folder as PS PREFERENCES, you will not be able to acquire images from the Scanner.
 - B. Follow directions in the Photoshop manual regarding placement of plug-in modules. For example, with Photoshop 2.5 and 3.0, drag the KODAK RFS 3570 and RFS3570.BIN icons into the PLUG-INS folder created when you installed this version of Photoshop (or into another folder you have designated with PREFERENCES to hold plug-in modules). For Photoshop 2.5, be certain that the two files are not placed within another folder inside the PLUG-INS folder. Wait while the files are copied; if you are asked if the new files should replace existing ones, respond affirmatively.
9. Eject the diskette by dragging its icon to the TRASH icon.
10. Store the diskette. (Although copying the driver files is a onetime action, you may need to use the diskette again.)

The driver is now installed in your Macintosh computer and the Scanner is now ready for use as described in Chapter 4 and Chapter 5.



4

Loading the Film and Slide Holders — Macintosh Computer

NOTE: This chapter is identical with Chapter 8 (in the PC Platform portion of this manual). It is repeated in both places for your convenience.

This chapter describes how to use the film and slide holders with the Scanner. You will learn how to:

- ▶ Load film negatives into the film holder
- ▶ Load slides into the slide holder
- ▶ Load each of the holders into the Scanner

The chapter is divided into two sections: loading 35 mm film/slides and loading film sizes other than 35 mm.

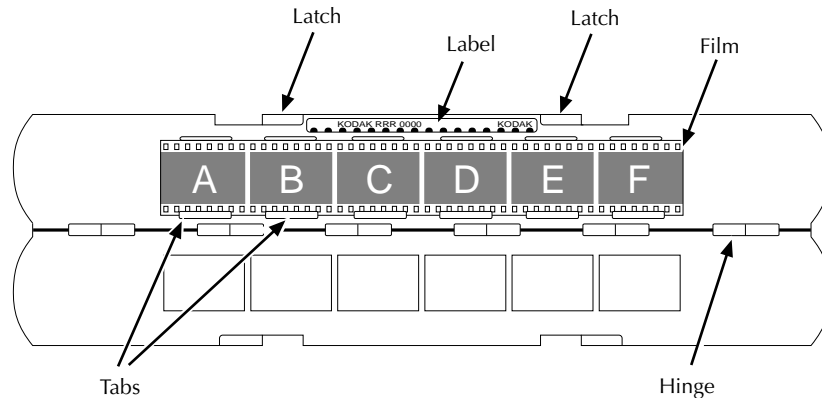
▶ Loading the Film and Slide Holders — Macintosh Computer ◀ 4-1

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Loading 35 mm Film and Slides

Loading 35 mm Film into the 35 mm Film Holder

Up to six frames from a strip of 35 mm film of any length can be positioned for scanning at one time. Refer to the diagram below to load film into the 35 mm film holder.



1. Use the two latches opposite the hinge to open the 35 mm film holder.
2. Hold the 35 mm film holder in front of you with the label "**KODAK RRR 0000 KODAK**" at the top and facing you.
3. Place your 35 mm film into the 35 mm film holder so that:
 - ▶ Images are facing you as you would see them in real life (not mirror-imaged).
 - ▶ Any edge printing on the film is readable from left to right.

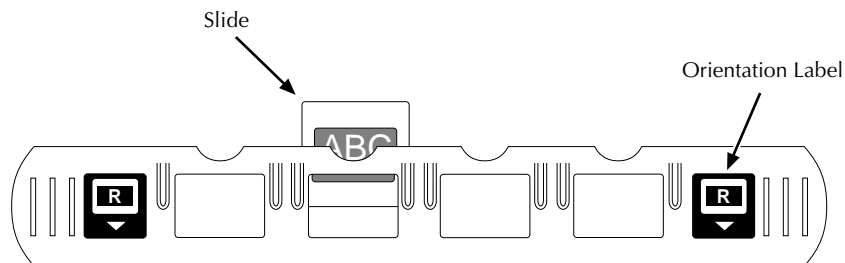
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4. Tuck the lower edge of the film under the tabs that run along the hinge.
5. Center the film so that each frame aligns with a frame in the film holder.
6. Snap the film holder shut.

The holder is now ready to be placed into the Scanner.

Loading 35 mm Slides into the Slide Holder

The slide holder can accommodate up to four 35 mm slides at a time. Standard slides up to .12 in. (3 mm) thick will fit into the slide holder. Refer to the diagram below to load slides.



1. Orient the slide holder as shown above with the orientation labels facing you.
2. Place your slide into the slide holder so that images are facing you as you would see them in real life (not mirror-imaged).
3. (Optional) Place additional slides into the holder as desired.

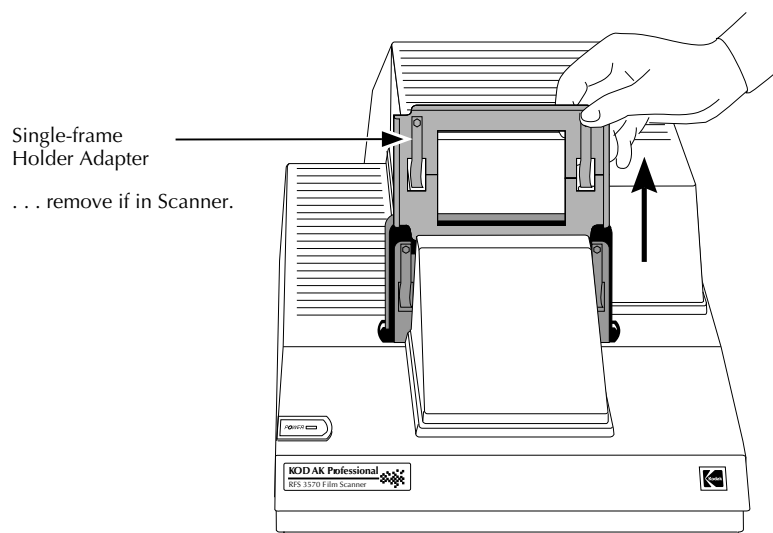
The holder is now ready to be placed into the Scanner.

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Loading 35 mm Film and Slide Holders into the Scanner

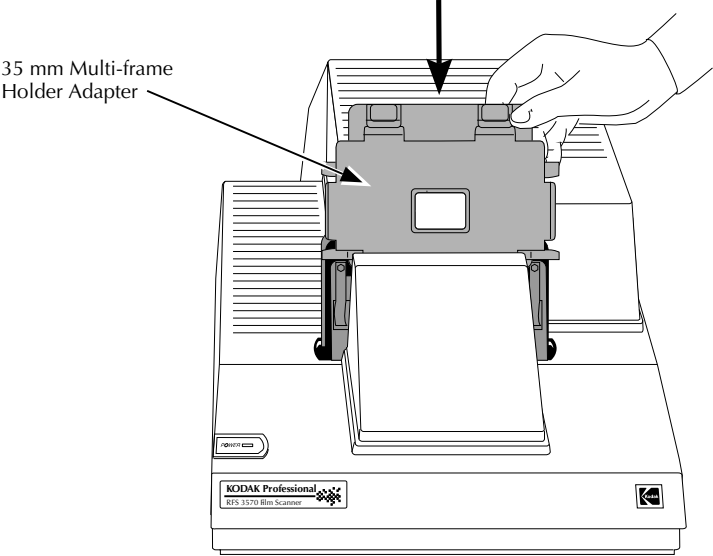
To load a 35 mm film or slide holder into the Scanner:

1. If the single-frame holder adapter is in the Scanner, remove it.



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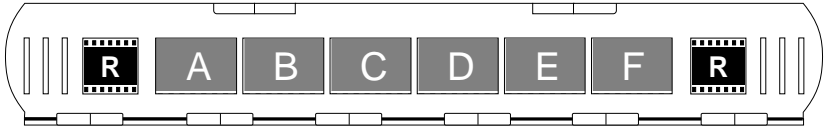
- 2. If the 35 mm multi-frame holder adapter is not in the Scanner, put it in place in the Scanner in the orientation shown.



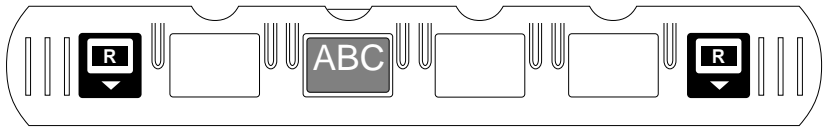
.....

3. Orient the film or slide holder as follows:

Film Holder: Make sure that the two orientation labels face you, that the film images read in the direction of the letter "R," and that the "R" is right-side up. In this position, the film will be oriented correctly.



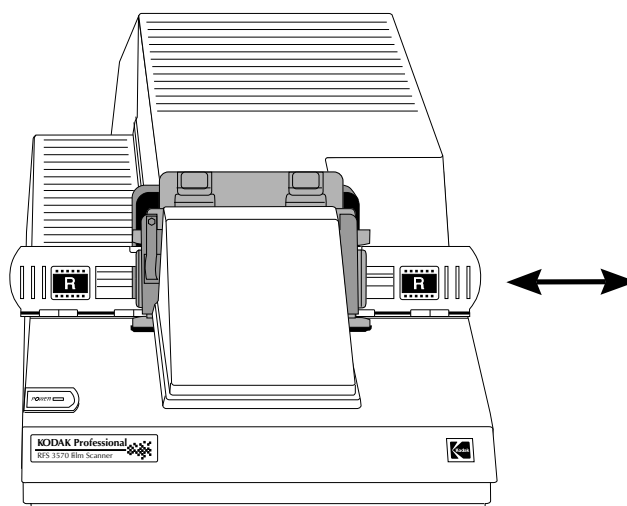
Slide Holder: Make sure that the two orientation labels face you, that the slide images read in the direction of the letter "R," and that the "R" is right-side up. In this position, the slides will be oriented correctly.



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- Slide the holder into the left or right opening of the 35 mm multi-frame holder adapter.

NOTE: Since the slide holder is thicker than the film holder, you may need to use more force to move the slide holder from side to side than you will need for the film holder.



- As you move the holder from side to side, you will feel it “drop” into place at each frame; this indicates that the holder is correctly positioned in the gate.

NOTE: If the holder slides freely without dropping into place, you have loaded the holder backwards or upside-down. Remove the holder, orient it in the proper direction, and reinsert it.

The 35 mm film or slide holder is now properly inserted into the Scanner.

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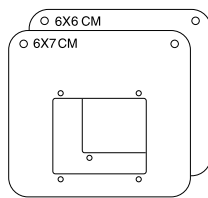
Loading Film Sizes Other Than 35 mm

Loading Film into the Film Holder

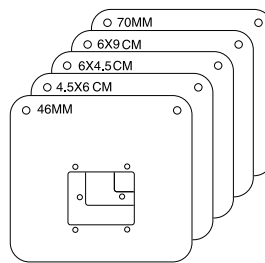
Follow the steps below to load film sizes other than 35 mm into their film holders.

1. Select the film holder to match the film size you will scan. Notice that a label on the holder indicates its size.

Supplied with Scanner

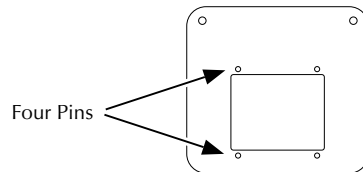


Optional
(Refer to Appendix I to order)

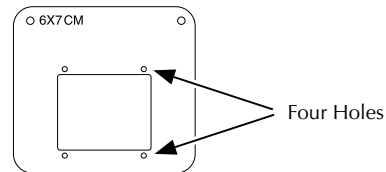


2. Separate the selected film holder into its two parts. (The 6x7 cm size has been used for the illustrations in this section.)

Bottom of Holder

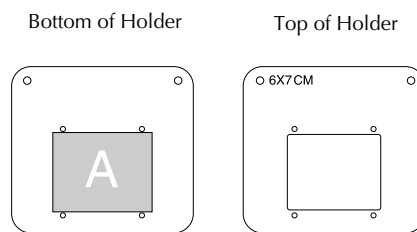


Top of Holder



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3. Place your film in the bottom of the film holder so that:
 - ▶ Images are facing you as you would see them in real life (not mirror-imaged).
 - ▶ Any edge printing on the film is readable from left to right.

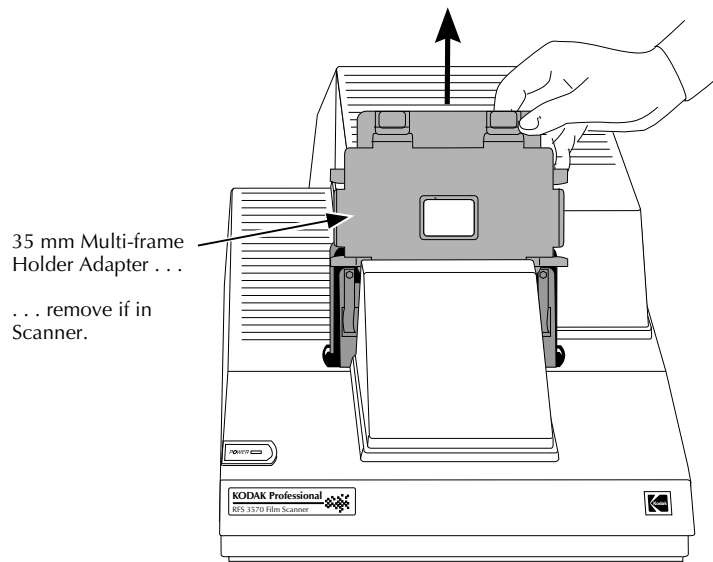


- ▶ Film in strips can be placed into the film holder, but should be handled with extreme care to avoid damaging the film.
4. Center the film so that the frame aligns with the hole in the holder.
 5. Place the top of the film holder over the bottom so that to top is aligned over the four pins.

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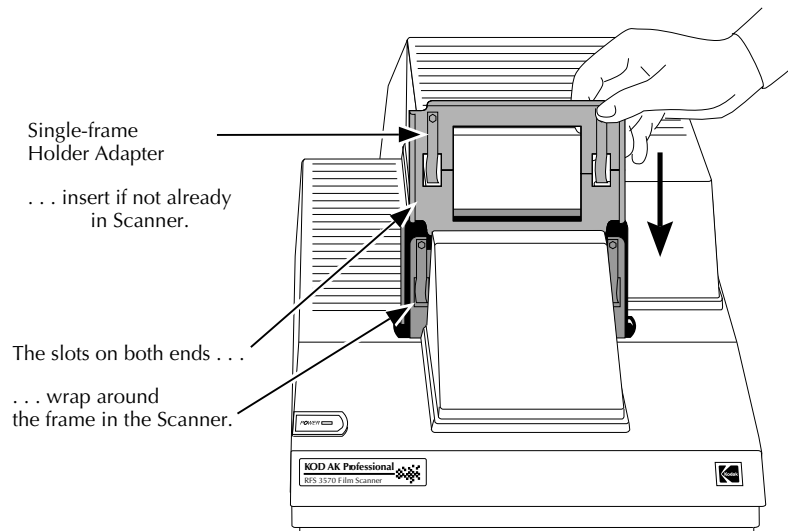
Loading Film Holders (Other Than 35 mm Sizes) into the Scanner

1. If the 35 mm multi-frame holder adapter is in the Scanner, remove it.



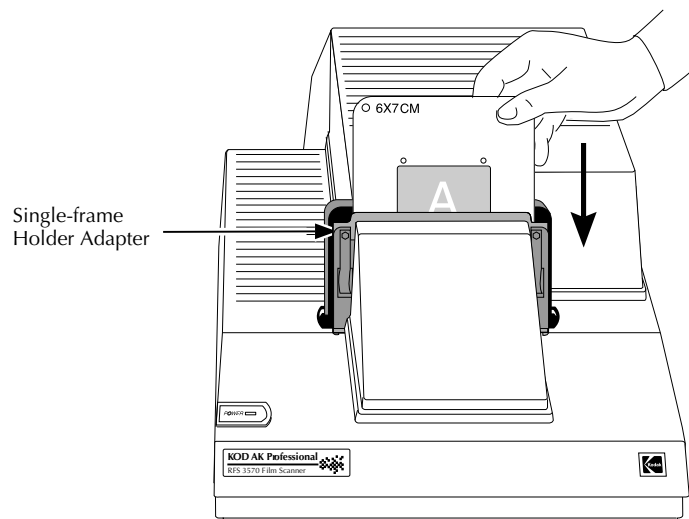
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2. If the single-frame holder adapter is not in the Scanner, put it in place in the Scanner.

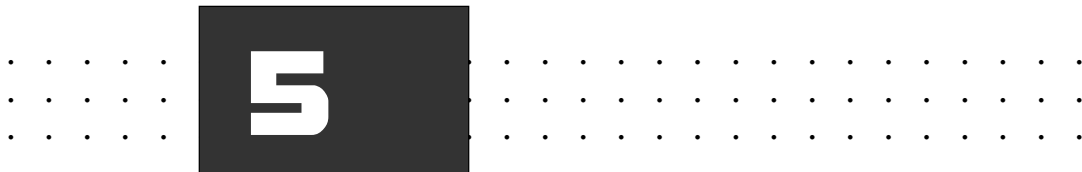


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3. Place the film holder into the Scanner by sliding it down completely into place behind the single-frame holder adapter; be certain that the film holder is aligned with the indentation in the frame in the Scanner.



The film holder is now properly inserted into the Scanner.



Using the KODAK Driver for Adobe Photoshop Software — Macintosh Computer

This chapter describes how to:

- ▶ Display the KODAK Driver window.
- ▶ Use Scanner buttons and indicators to control the scan.
- ▶ Produce a scan and have it appear in an untitled Adobe Photoshop window. You can then use Adobe Photoshop to edit the image and save the image as a file on your Macintosh hard disk.
- ▶ Turn off the Scanner.

The end of the chapter includes a full reference section of all software features.

▶ Using the KODAK Driver for Adobe Photoshop (Macintosh) ◀ 5-1

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We assume you are familiar with the operation of your Macintosh Computer and Adobe Photoshop, and that you have your Scanner connected properly to your Macintosh Computer as described in "Installing the Scanner Hardware" in Chapter 3.

We also assume you have read and are familiar with the material contained in:

- ▶ "Important Safeguards and Precautions" at the front of this manual.
- ▶ "Installing the KODAK Driver for Adobe Photoshop Software" in Chapter 3.
- ▶ "Loading the Film and Slide Holders — Macintosh Computer" in Chapter 4.

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Displaying the KODAK Driver Window

Follow the steps in this section each time that you want to acquire data from the Scanner from within Adobe Photoshop.

1. With your computer, Scanner, and other SCSI devices (if present) turned off, turn on the Scanner by pressing the (I) end of the power switch on the back of the Scanner. The POWER indicator light, a small green light at the top front left corner of the Scanner, turns on.
You'll hear the system perform a self-test by moving its internal mechanism. Then the Scanner is ready for use—no warm-up is required.

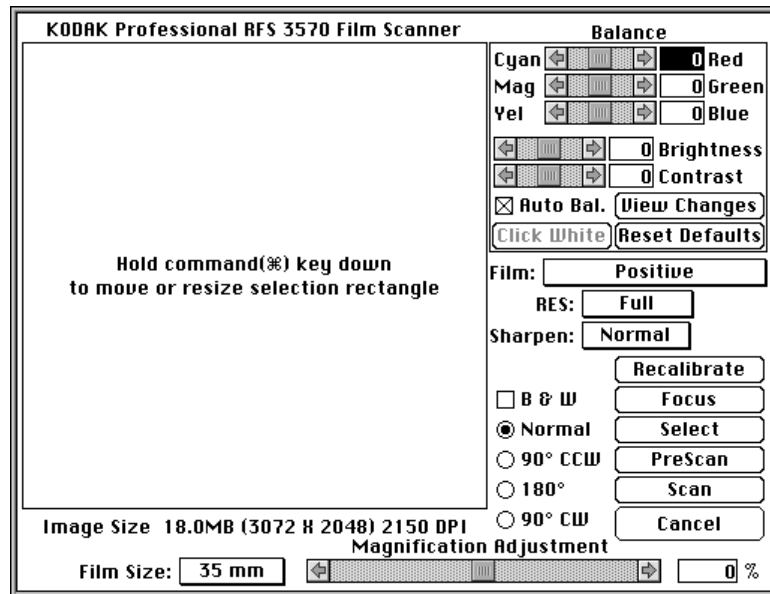
CAUTION: Always turn on the Scanner before you turn on your computer; it is important that you follow this procedure.

2. If other SCSI devices are present, turn them on. (SCSI devices can be turned on in any order.)
3. Turn on your Macintosh Computer.
4. Run Adobe Photoshop.
5. Choose KODAK RFS 3570 from the ACQUIRE submenu of the Adobe Photoshop FILE menu. (The submenu may show other options.)

NOTE: If the Scanner choice does not appear on the submenu, follow the directions in "Installing the KODAK Driver for Adobe Photoshop Software" in Chapter 3 to ensure that the driver files are properly installed on your hard disk.

If you see a message that "The Scanner was not found . . ." refer to this message in "Appendix D — Messages from KODAK Drivers."

6. Wait, and when start-up is complete, the KODAK Driver window appears.



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Producing Scanned Images

In this section, you will load your film or slides into the Scanner and then generate scans by making selections from the KODAK Driver window.

In the following steps you will make a series of adjustments and pre-scans while working in the KODAK Driver window. When you are satisfied with the adjustments you have made, you will click **SCAN**; a scan occurs — with the adjustments you have made applied to the resultant data — and the scan data appears in a Photoshop Window.

IMPORTANT: As you complete the steps below you may be prompted with instructions requiring that you the remove the film holder and so on to allow the Scanner to refocus. Two actions — changing the film size and/or changing the magnification — result in the need for the Scanner to recalibrate and focus. If you are in an environment where you rarely change these settings then you will only rarely need to allow the Scanner to recalibrate and focus; however, if you often change either or both of these settings then you will need to allow the Scanner to recalibrate and focus more frequently. In either environment, the Scanner software will prompt you — as described in more detail in the following steps — with the exact actions you must complete. Be sure to follow those steps carefully.

Loading the Film Holder

Follow directions in Chapter 4 “Loading the Film and Slide Holders — Macintosh Computer” to:

1. Load the film or slide holder.
2. Place the holder in the Scanner.

NOTE: Do not have a high level of direct light around the film holder area of the Scanner.

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Operating the KODAK Driver

Follow the steps in this section to use the controls on the KODAK Driver window.

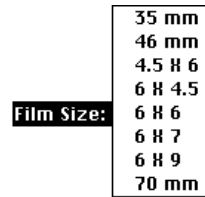
NOTE: As you use the Scanner, the settings you have in effect each time you leave the KODAK Driver are retained and will be in effect the next time you use the driver.

Set the Film Type

1. Set the film type to match your film by choosing the film type from the large number of choices on the FILM popup menu.

Set the Film Size

2. If the FILM SIZE does not match the film you will scan, choose the correct size from the FILM SIZE popup menu.



PreScan the Image (and Calibrate the Scanner)

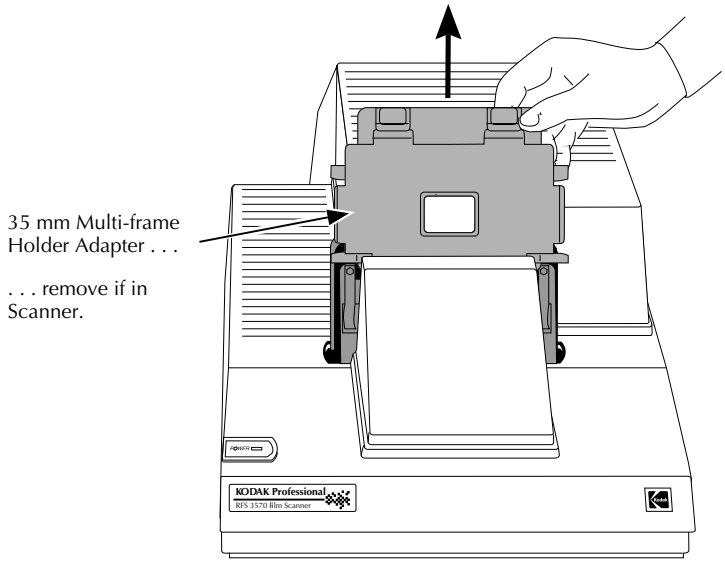
3. Click PRESCAN. When you have completed parts A through E of this step, a color image of the photo currently in position will appear in the KODAK Driver window. You can use this image to determine whether additional adjustments are needed before final scanning. If B & W is on (see below), the prescan appears in black-and-white.

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Wait as a “Calibration Procedure” alert box appears; follow the directions it contains as outlined in detail in parts A through E of this step. (Calibration is required each time the Scanner is turned on.)

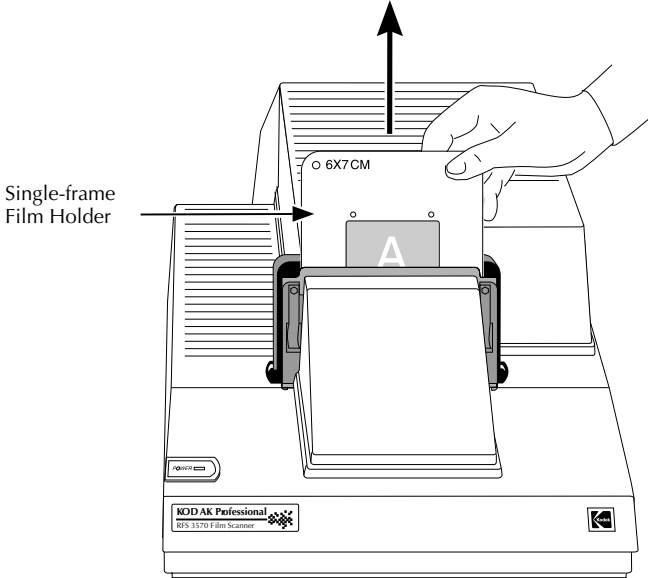
IMPORTANT: Image quality will be degraded significantly if the steps below are not followed with care.

- A. If the 35 mm multi-frame holder adapter is in the Scanner, remove the adapter and film holder.



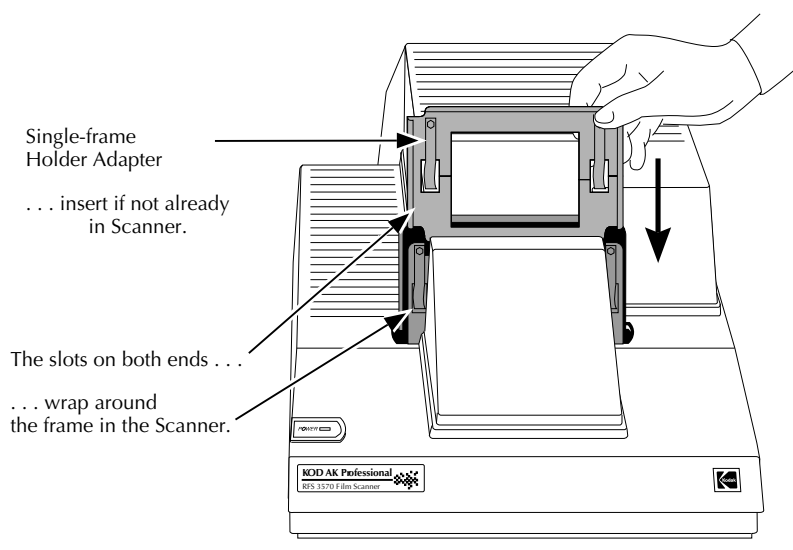
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B. If a single-frame film holder is in the Scanner, remove it.



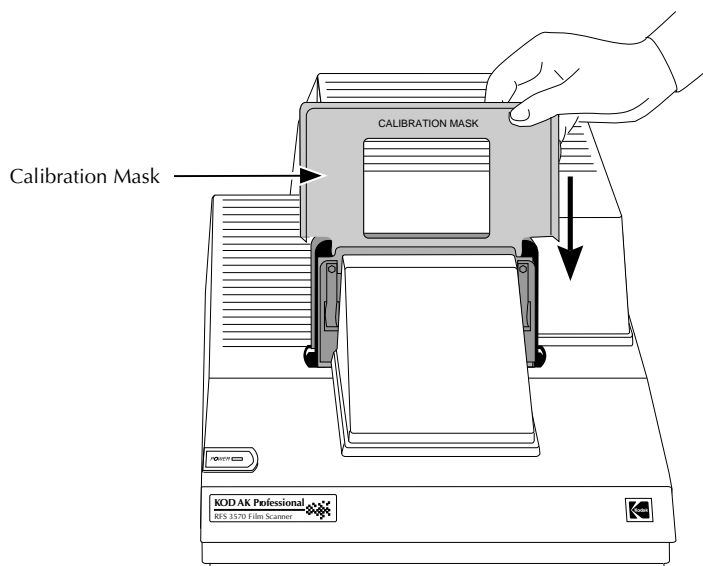
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- C. If the single-frame holder adapter is not in the Scanner, put it in place in the Scanner. Do so by holding it in the orientation shown below with the slots (at the left and right of the adapter) facing forward, and then slide the slots all the way down over the edges of the front of the metal frame in the Scanner.



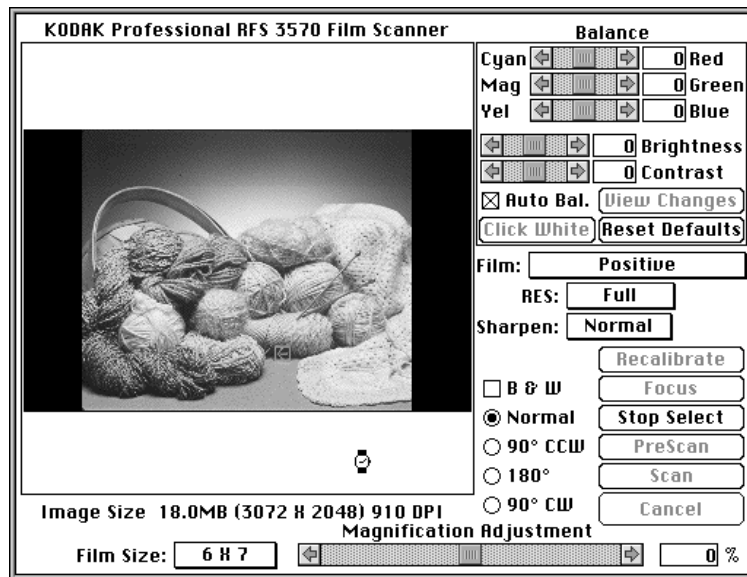
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- D. Put the calibration mask into the Scanner. As you insert it into the Scanner, the words "Calibration Mask" should face forward as shown below. The raised lip on the back of the mask should align with the indentation in the rear frame in the Scanner. Slide the mask all the way down in the Scanner; the words "Calibration Mask" should not be visible.



- E. Click OK. The Scanner will then display several messages. As prompted, wait for calibration to complete, reinsert the appropriate film holder — with film in place — and wait while focusing occurs and your image appears in the Driver window.

NOTE: In addition to calibration, the control program for the Scanner — called firmware — is now copied from your computer to the Scanner. This occurs each time you complete this process.



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Change the Magnification Adjustment

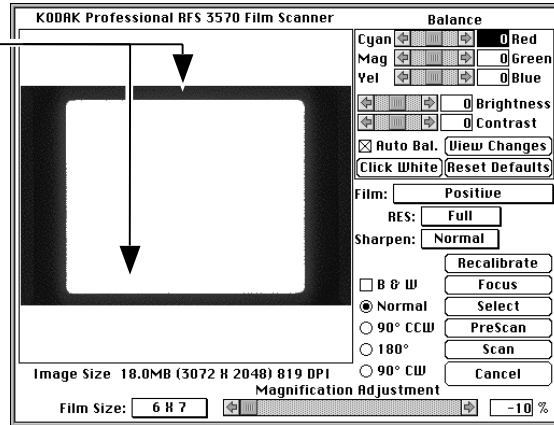
- 4. (Optional) Change the MAGNIFICATION ADJUSTMENT if desired by moving its slider or typing an integer value from -10 to 10 in the text box to the right of the slider. The illustrations below for a 6x7 image demonstrate the operation of this adjustment. (The film has been removed from the holder to emphasize the border in these illustrations.)

NOTES: If you change the magnification adjustment, the Scanner must refocus. As prompted by the message that occurs, remove a film holder if present and place the calibration mask into the Scanner as explained in an earlier step of this section. Follow additional prompts as they appear to: remove the calibration mask, replace the film holder (with your film in it), and wait for focusing to complete.

The magnification adjustment for each film size is maintained from work session to work session.

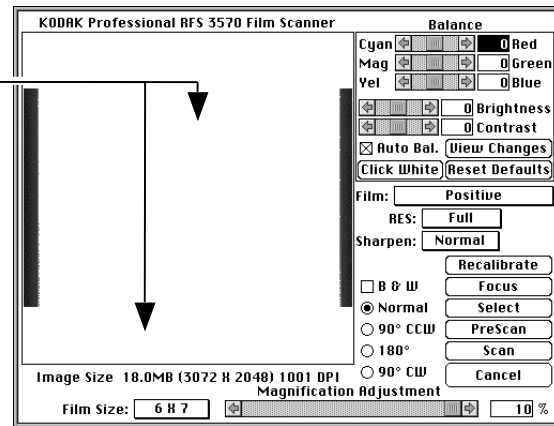
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Black borders above and below the image indicate underscanning . . .



... which occurs at the negative end of the slider.

Missing image above and below the scan area indicate overscanning . . .



... which occurs at the positive end of the slider.

► Using the KODAK Driver for Adobe Photoshop (Macintosh) ◀ 5-13

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You determine the “optimal” setting for your images. To ensure that as many pixels of the imager as possible are used for you images, your image should fill the scanning area vertically. This will typically occur with the slider in the middle (nominal) range of the scanner either at, or within a few percentage points either way, of the center of the slider.

However you may wish to use other settings. To ensure that you obtain all of the image for one piece of film after another, you may wish to leave magnification at the negative end (underscanning) of the magnification slider. On the other hand if you always have “extra” space around the portion of the image you want to use, then you may wish to leave magnification at the positive end (overscanning) of the magnification slider.

The most recently used magnification setting for each film size is maintained from one work session to the next in the preferences file for the Scanner.

PreScan the Image Again

- 5. If you have changed the MAGNIFICATION ADJUSTMENT in the previous step, click PRESCAN to see the result of the changed magnification setting; repeat steps 4 and 5 as desired.

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Select the Image

6. A. (Optional) Click SELECT.

NOTE: If you have changed the film size, the Scanner must recalibrate and focus. As prompted by the messages that appear, remove a film holder if present and place the calibration mask into the Scanner. Follow additional prompts as they appear to: remove the calibration mask, replace the film holder (with your film in it), and wait for recalibration and focusing to complete.

A low-resolution black-and-white scan occurs every two seconds, with the image displayed in the window. (The SELECT button changes to STOP SELECT. Scanning will stop automatically after 10 minutes if no additional action is taken.)

- B. (Optional) If you are using 35 mm film or slides, and you do not see the image you want, move the film or slide holder to the left or right — while scans continue — until you see the image you want. (Because scanning may occur while you are moving the holder, you may see blurred images until after you stop moving the holder.)
- C. If you are using film sizes other than 35 mm, and you do not see the image you want, click STOP SELECT, remove the film holder, center the desired image in the holder, reinsert the holder, and click SELECT again.
- D. When you see the image you want, click STOP SELECT.
- E. Click PRESCAN to obtain a color image in the KODAK Driver window.

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Set Auto Balance

- (Optional) Set AUTO BAL. For most customers the AUTO BAL suggested setting of "on" will automatically provide the proper "scene" balance. However, you may need to turn off AUTO BAL for certain images such as computer generated graphics or scenes with dominant colors. If you change this setting, click VIEW CHANGES to see the effect of the change.

NOTE: If the original prescan only needs fine color and/or brightness adjustments, do not turn off AUTO BAL; instead, adjust color and/or brightness as described in "Change Color Levels" and "Change Brightness" below.

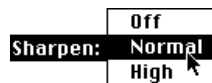
Rotate the Image

- (Optional) Click 90° CCW, 180°, or 90° CW to rotate the image 90° counterclockwise (CCW), 180°, or 90° clockwise (CW), respectively. Click NORMAL to display the image as it is oriented in the film or slide holder.

Sharpen the Image

- (Optional) Use the SHARPEN popup menu to adjust the level of edge definition between image elements (pixels). Choose OFF, NORMAL or HIGH; HIGH provides the most definition. Later, when you click SCAN, the time required to complete the scan will increase slightly if you select NORMAL or HIGH.

NOTE: There is no immediate response when a SHARPEN option is selected; instead this choice takes effect later when you click PRESCAN or SCAN.



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Set the Image to Black and White

10. (Optional) Click B & W to have all subsequent actions — including the final scan — occur in black and white.

Focus the Image

11. (Optional) Use the Scanner to focus your image:

NOTE: You could focus the image without Step A below; however Step A is helpful when working with an image that contains one area that is sharper than the rest of the image.

A. Drag the pointer, pulling the selection rectangle around the portion of the image that is the sharpest (in the best focus); the area should contain a significant amount of detail.

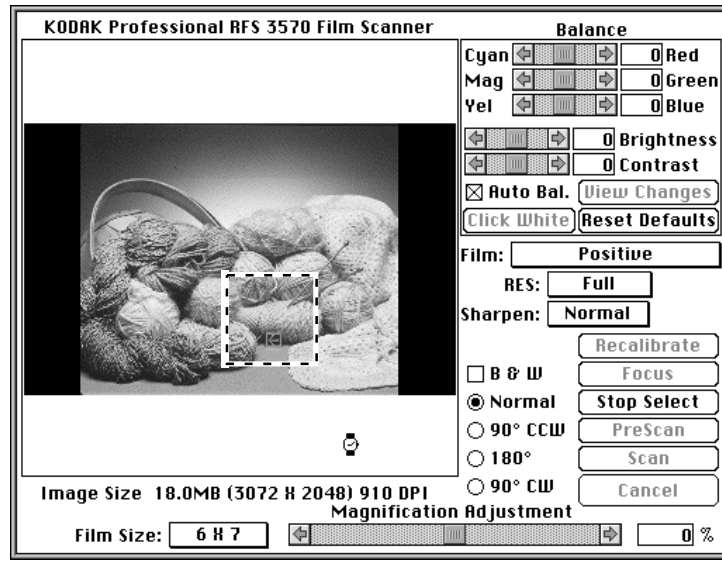
NOTES: The focusing algorithm operates on the area inside the selection rectangle, optimizing on your selection and focusing the rest of the image accordingly.

To change the size of an existing selected area, press and hold down the Command (⌘) key. With the key down, when you move the crossbar cursor over the edge of the selection rectangle, the crossbar turns into arrows. Drag the mouse on any corner or side of the selection rectangle, changing the size of the selection rectangle. Then release the Command (⌘) key and mouse button.

To move an existing selection rectangle, place the crossbar cursor inside the selection rectangle. Press and hold down the Command (⌘) key; the crossbar becomes a hand. Drag the cursor, moving the selection rectangle to its new location. Then release the Command (⌘) key and mouse button.

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To deselect an area, click once inside or outside the selection rectangle.



- B. Click FOCUS. You will hear one buzz after another during the focusing process. A PRESCAN is done automatically once FOCUS is complete, and the image appears.
- C. Click once to remove the selection rectangle; this will ensure that later when you do a scan you obtain the full image, not just the small portion within the focus rectangle.

Change Color Levels

12. (Optional. For color images only.) Adjust color levels with the automated method (A) and/or manual method (B).

- A. Use *CLICK WHITE*. This method automatically adjusts color balance via a user-selected gray or white portion of the image.

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Click the **CLICK WHITE** button, then click a neutral spot in the image known to be gray or white. (Do not click a dark shadow or a bright highlight or overexposed area.) This action automatically displays changes in the image window and repositions the color sliders in the **BALANCE** area of the window.

NOTES: Once clicked, the name of the **CLICK WHITE** button changes to **CLICK NOW**, a prompt indicating that you should click the image. You can also cancel without clicking the image by clicking the **CLICK NOW** button. The **BRIGHTNESS** slider may move; however, **CLICK WHITE** does not optimize on brightness, and you may still need to adjust brightness as described next in "Change Brightness."

- B. *Adjust the balance sliders.* Use this method when there is no known gray or white spot in the image or when additional fine adjustments are desired after using method A.

Drag the red/cyan, green/magenta, and/or blue/yellow sliders as desired; then click **VIEW CHANGES** to see the effect of the changes.

NOTES: If desired, click on the **RESET DEFAULTS** button to return all balance settings to 0 (for the current film type selected). Otherwise, current settings will be saved from one work session to the next for the selected film type until they are changed.

When you move the pointer over the image, the arrow pointer becomes a cross-hair pointer, and red (R), green (G), and blue (B) values at the location of the pointer appear near the lower right-hand corner of the image.

Change Brightness

- 13. (Optional) Use the scroll bars or type new values (-20 to 20) to adjust the overall brightness of the image. Click **VIEW CHANGES** to see the result of the new values.

NOTE: If desired, click on the **RESET DEFAULTS** button to return all balance settings to 0 for the current film type selected. Otherwise, current settings will be saved from one work session to the next for the selected film type until they are changed.

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Change Contrast

14. (Optional) Use the scroll bars or type new values (-10 to 10) to adjust the contrast among image elements (pixels). Click VIEW CHANGES to see the result of the new values.

NOTES: A contrast adjustment is a gamma adjustment.

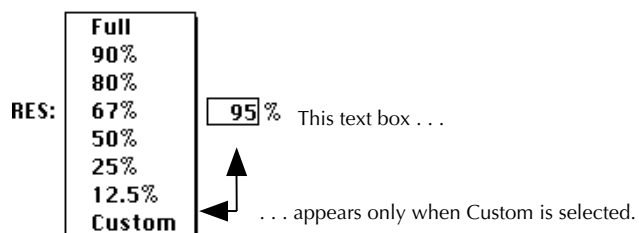
If desired, click on the RESET DEFAULTS button to return all balance settings to 0 for the current film type selected. Otherwise, current settings will be saved from one work session to the next for the selected film type until they are changed.

Choose the Resolution

15. Choose the resolution you want from the RES (resolution) popup menu. The FULL choice provides the greatest resolution and provides the largest amount of data from the Scanner; if you want a lower resolution, choose other percentages from this menu.

Additionally, you can choose CUSTOM from the RES popup menu and type a value from 1 to 100 in the text box that appears to the right of the RES menu.

NOTE: Different resolutions produce different image sizes, as shown in the IMAGE SIZE information below the image in the KODAK Driver window. Total scan time will vary with different resolutions, and some resolutions may take longer to scan on some computers depending on the processor and amount of memory in the computer.



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“Crop” the Image

16. Follow part A or part B of this step depending on whether or not you want to crop the image.
 - A. If you do not want to crop the image, click once on the image to remove the selection (cropping) rectangle.
 - B. If you want to crop the image, drag the mouse within the image, pulling the selection rectangle around the portion of the image you wish to scan; this “crops” the image. Only the cropped area will be scanned into Photoshop (see next step); if you do not select a specific portion, the entire image will be scanned. Note that *IMAGE SIZE*, shown below the image, changes to reflect the size of the area you have selected.

NOTES: To change the size of an existing selected area, press and hold down the Command (⌘) key. With the key down, when you move the crossbar cursor over the edge of the selection rectangle, the crossbar turns into arrows. Drag the mouse on any corner or side of the selection rectangle, changing the size of the selection rectangle. Then release the Command (⌘) key and mouse button.

To move an existing selection rectangle, place the crossbar cursor inside the selection rectangle. Press and hold down the Command (⌘) key; the crossbar becomes a hand. Drag the cursor, moving the selection rectangle to its new location. Then release the Command (⌘) key and mouse button.

To deselect an area, click once inside or outside the selection rectangle.

Scan the Image into Photoshop

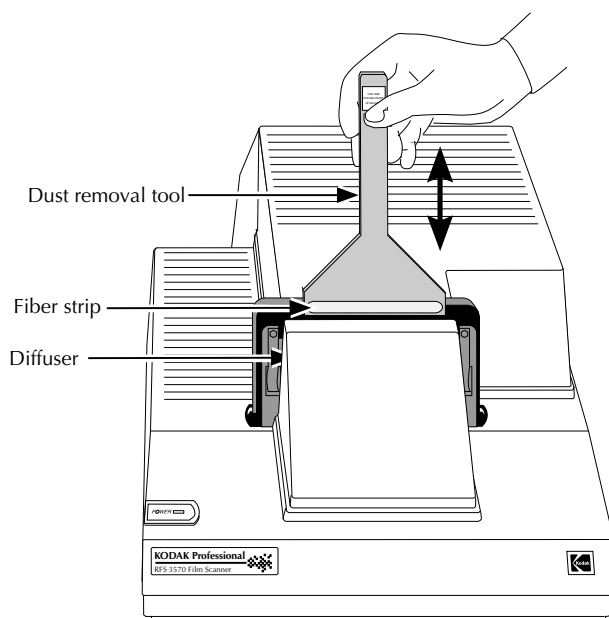
17. Click *SCAN*. The KODAK Driver window closes, a progress box appears, and then the scan appears in a Photoshop window.

NOTE: If this is the first time that you are completing a scan during this work session, or if you notice water spots or bubbles in the scanned image at any

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time while working with the scanner, clean the scanner “diffuser” (a 3 x 4-inch piece of white plastic), as summarized in this note, and as fully described at the end of “Appendix C — Troubleshooting.”

- A. Remove the calibration mask and single frame holder adapter or multi-frame holder.
- B. Orient the dust removal tool as shown below, and with an up and down motion, clean the surface of the diffuser making sure the fiber strip makes contact with the diffuser.



- C. Remove the dust tool, replace the mask and holder, and rescan the image.
- D. If the problem continues, use the scanner software RECALIBRATE button as described in “Appendix C — Troubleshooting.”

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18. (Optional) Edit the image as desired.

Scan Additional Images

19. (Optional) To scan additional images, begin by choosing KODAK RFS 3570 from the ACQUIRE submenu of the Adobe Photoshop FILE menu, and then repeat the steps of this section.

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Turning Off the Scanner

When your scans are complete, quit Adobe Photoshop and turn off your computer and the Scanner as follows:

CAUTION: The Scanner must be turned off (and on) only when your Macintosh computer is off.

1. (Optional) Save any open Photoshop images to the computer hard disk.

IMPORTANT: If you click in the close box of the window of an acquired — but unedited — image (or choose CLOSE from the FILE menu), the window will close without asking you if you want to save the image and the image will not be saved. Therefore, be sure you save any acquired images you do not want to lose before closing image windows.

2. Choose QUIT from the Adobe Photoshop FILE menu.
3. Wait as the application quits and you are returned to the Apple Finder.
4. Remove the film or slide holder from the Scanner.
5. Turn off your Macintosh computer.
6. Turn off the Scanner.
7. Cover the scanner with the supplied dust cover.

IMPORTANT: Because dust buildup in the scanner can affect image quality, it is important to cover the scanner whenever the power is off.

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Reference: Buttons and Indicators

90° CCW Rotates the image 90° counterclockwise.

90° CW Rotates the image 90° clockwise.

180° Rotates the image 180°.

ABOUT PLUG-IN This option, available on the Apple menu () for Adobe Photoshop 2.5 and beyond, displays the version number of the KODAK Driver. For the same information from earlier versions of Photoshop, choose ABOUT PHOTOSHOP from the Apple menu and then click ABOUT PLUG-INS.

AUTO BAL For most customers the AUTO BAL suggested setting of “on” will automatically provide the proper “scene” balance. However, you may need to turn off AUTO BAL for certain images such as computer generated graphics or scenes with dominant colors. If you change this setting, click VIEW CHANGES to see the effect of the change.

NOTE: If the original prescan only needs fine color and/or brightness adjustments, do not turn off AUTO BAL; instead, adjust color and/or brightness as described earlier in this chapter.

B & W Obtains only black-and-white data from the Scanner when on (X appears in the box). Red and blue scanner flashes are disabled; only green data are obtained from the Scanner.

NOTE: There is no immediate response when the B & W setting changes; instead this choice takes effect later when you click PRESCAN or SCAN.

BALANCE Adjusts color balance for the scan. We recommend that you make color adjustments in the KODAK Driver window first and fine-tune color later in Adobe Photoshop, if necessary.

NOTE: Refer to “Change Color Levels” earlier in this chapter for additional information on this option.

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- BRIGHTNESS** Adjusts the level of brightness of the entire image.
NOTE: Refer to “Change Brightness” earlier in this chapter for additional information on this option.
- CANCEL** Leaves the KODAK Driver and returns you to Adobe Photoshop without returning any scan data. (Pressing ESC or holding down the Command (⌘) key, pressing the period key, then releasing both keys produces the same result.)
- CLICK NOW** See **CLICK WHITE**.
- CLICK WHITE** Automatically adjusts color balance via a user-selected gray or white portion of the image.
Click the **CLICK WHITE** button, then click a neutral spot in the image known to be gray or white. (Do not click on a dark shadow or a bright highlight or overexposed area.) This action automatically displays changes in the image window and repositions the color sliders in the **BALANCE** area of the window.
NOTES: Once clicked, the name of the **CLICK WHITE** button changes to **CLICK NOW**, a prompt indicating that you should click the image. You can also cancel without clicking the image by clicking the **CLICK NOW** button.
The **BRIGHTNESS** slider may move; however, **CLICK WHITE** does not optimize on brightness, and you may still need to adjust brightness as described earlier in this chapter in “Change Brightness.”
- CONTRAST** Adjusts the level of contrast among the elements of the image.
NOTES: A contrast adjustment is a gamma adjustment. Refer to “Change Contrast” earlier in this chapter for additional information on this option.
- Crop** Selects a portion of the image you want to scan. To crop, drag the cursor around the portion of the image you wish to

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scan — leaving a selection rectangle in the image. Then click **SCAN** to scan the cropped area into Adobe Photoshop, resulting in a smaller image size.

NOTES: To change the size of an existing selected area, press and hold down the Command (⌘) key. With the key down, when you move the crossbar cursor over the edge of the selection rectangle, the crossbar turns into arrows. Drag the mouse on any corner or side of the selection rectangle, changing the size of the selection rectangle. Then release the Command (⌘) key and mouse button.

To move an existing selection rectangle, place the crossbar cursor inside the selection rectangle. Press and hold down the Command (⌘) key; the crossbar becomes a hand. Drag the cursor, moving the selection rectangle to its new location. Then release the Command (⌘) key and mouse button.

To deselect an area, click once inside or outside the selection rectangle.

FILM

Choose the film type you want from this popup menu. **POSITIVE**, **NEGATIVE** and many other choices are provided. Select **POSITIVE** when scanning positive film and **NEGATIVE** when scanning negative film.

NOTE: Some film types include a letter code. Use these values to match the film type from this popup menu to the edgeprint codes printed on your negatives from KODAK Professional Films.

FILM SIZE

Choose the film size from this menu to match the film you will scan.

NOTE: Refer to “Set the Film Size” earlier in this chapter for additional information on this option.

FOCUS

Focuses the entire image. You can obtain a better overall focus by first dragging the mouse to create a selection rectangle around the portion of the image that is in the best focus (and contains a significant amount of detail). Then click **FOCUS**.

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- GAMMA A measure of contrast in photographic images. See CONTRAST.
- IMAGE SIZE Displays the quantity of data that will be returned from the scan. Image size depends on the resolution selected, on whether B & W is selected, and on whether you've cropped the image. Higher resolutions, color images, and full images produce more scan data than lower resolutions, B & W scans, and cropped images. The dots-per-inch (DPI) of the scan for the selected settings is also displayed.
- MAGNIFICATION ADJUSTMENT Adjusts the magnification of the image, allowing you to ensure that as many pixels of the imager as possible are used for your image.
NOTE: Refer to "Change the Magnification Adjustment" earlier in this chapter for additional information on this option.
- NORMAL (rotation) Displays the image as oriented within the film or slide holder.
- PRESCAN Produces a scan in the KODAK Driver window that you can view and use to determine whether additional adjustments are needed before final scanning. Unlike the SCAN button, this choice does not load the scanned image data into Adobe Photoshop.
- RECALIBRATE Used as part of the procedure to eliminate "bubbles" or "water spots" from scanned images that may appear as a result of dust on the scanner diffuser.
NOTE: For full details of eliminating "bubbles" or "water spots" from scanned images, refer to "Appendix C — Troubleshooting."
- RES Allows you to select from FULL, or a variety of percentages. Additionally, you can choose CUSTOM from the RES popup

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menu and type a value from 1 to 100 in the text box that appears to the right of the RES menu.

NOTES: Different resolutions produce different image sizes, as shown in the IMAGE SIZE information below the image. Total scan time will vary with different resolutions, and some resolutions may take longer to scan on some computers depending on the processor and amount of memory in the computer.

Image Size for the selected resolution appears beneath the image.

RESET DEFAULTS Resets the color, brightness and contrast levels to zero for the current film type selected.

SCAN Produces the final scan of the image with the current settings, closes the KODAK Driver window and creates an untitled Adobe Photoshop window displaying the scanned image.

SELECT Generates low resolution black-and-white scans which appear in the KODAK Driver window every two seconds, thus allowing you to view the image in position in the Scanner. Scanning will stop automatically after 10 minutes if no additional action is taken.

NOTE: Refer to "Select the Image" earlier in this chapter for additional information on this option.

SHARPEN Sharpens the overall image and defines the edges among image elements (pixels). Choose from HIGH, NORMAL, or OFF.

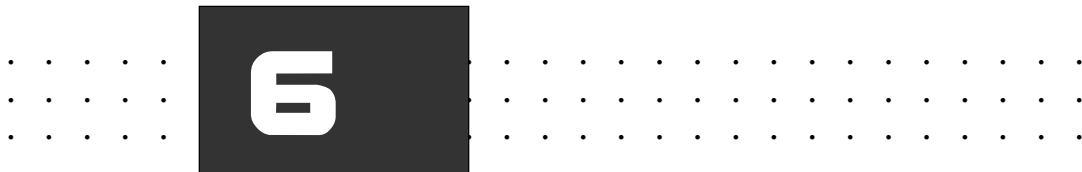
Version Number The version number for the KODAK Driver for Adobe Photoshop software can be obtained while working in the Finder. Locate and select the KODAK 3570 icon, then choose GET INFO from the FILE menu. The version number appears in the GET INFO window.

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VIEW CHANGES Using the last scanned or prescanned image, this button produces an image on which you observe the results of any changes you make to the color, brightness, and/or contrast settings in the **BALANCE** area of the **KODAK Driver** window. You can use this choice after each set of adjustments to view changes before final scanning.

NOTE: Normally no scanning occurs, so **VIEW CHANGES** is faster than using **PRESCAN**. Like **PRESCAN**, it does not load an image into Adobe Photoshop. However, **VIEW CHANGES** does scan the image:

- ▶ When the Scanner is first accessed and **VIEW CHANGES** is selected before **SCAN** or **PRESCAN** has been selected.
- ▶ When the last image scanned or prescanned was black-and-white and you select **VIEW CHANGES** with the **B & W** box now unchecked.



Before You Begin — PC

NOTE: Before you continue, complete and submit the enclosed Warranty Registration card. You should also read “Appendix A — Software License Agreement” and “Appendix B — Warranty.”

Check the following lists to ensure that you have the appropriate hardware and software.

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Required Hardware

Computer

An 80386 or higher computer that has: a minimum of 8 megabytes (MB) random access memory (RAM) (32 MB RAM or more is recommended for fastest scan times) that can operate Windows 3.1; a minimum of 25 MB of free space on its hard disk; a SCSI port (see below).

Display

VGA or higher-resolution Windows-compatible display, minimum 640 x 480 pixel screen size. A high-quality color monitor displays the best images. (The quality of the scan is not affected by the monitor in use.)

Display Card (Graphics Adapter)

Use the appropriate display card for the display in use; we recommend a 16-bit or 24-bit display card. A 16-bit card can display up to 32,768 or 65,536 colors depending on the card, while a 24-bit card can display more than 16.7 million colors.

NOTE: The display card must have a Windows-compatible driver.

SCSI Interface

ASPI (Advanced SCSI Programming Interface) Windows host adapter such as those from Adaptec, Inc. running EZ-SCSI 4.01 or later.

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Required Software

- ▶ Microsoft Windows, version 3.1, Windows 95.
- ▶ A TWAIN compliant software application. The Kodak driver for use with TWAIN-compliant PC applications can be used with Adobe Photoshop 3.0.5 or higher with Windows 95, and may also work with other software applications that support TWAIN specifications.

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Optional Printers

Suggested printers for use with the scanner appear in “Appendix I — Optional Equipment & Spare parts List.” In the United States, contact Kodak at 1-800-CD-KODAK for detailed information on printer options and accessories and to obtain ordering catalog numbers; in Canada call 1-800-465-6325, and elsewhere outside the United States contact your local Kodak representative.



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Installation (Hardware and Software) — PC

Follow the steps in this section to —

- ▶ Install the Scanner hardware.
- ▶ Install the KODAK TWAIN Driver for use with your PC TWAIN compliant software.

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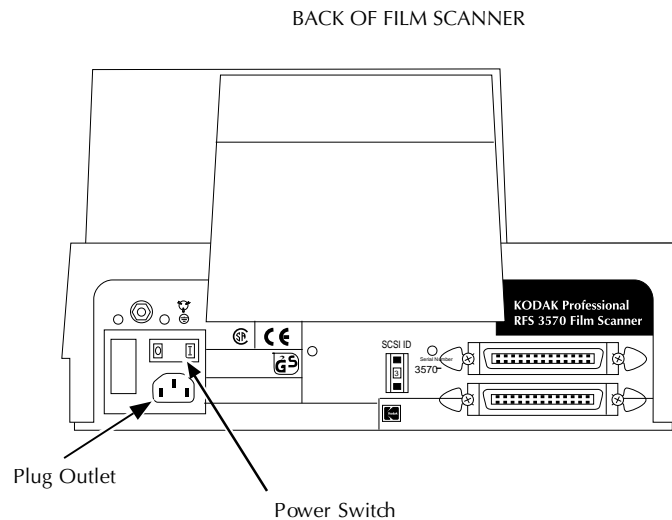
Installing the Scanner Hardware

Follow these instructions to connect the Scanner to a power source, to connect the Scanner to your computer, and to set the Scanner SCSI identification number.

Connecting the Scanner to a Power Source

Follow these steps to connect your Scanner to a power source:

1. Remove any remaining packing material from the Scanner and place the Scanner on either side of your computer. (You should retain the original shipping carton and packing materials.)
2. Press the O end of the power switch on the back of the Scanner to be sure that the Scanner power is off.
3. Plug the appropriate end of the supplied power cable into the plug outlet of the Scanner and the other end into a power source.



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Installing a SCSI Host Adapter

CAUTION: Only trained and qualified technical personnel should perform the following procedures. You should contact a computer service professional to configure and install an ASPI SCSI host adapter such as those from Adaptec, Inc. running EZ-SCSI 4.01 or later.

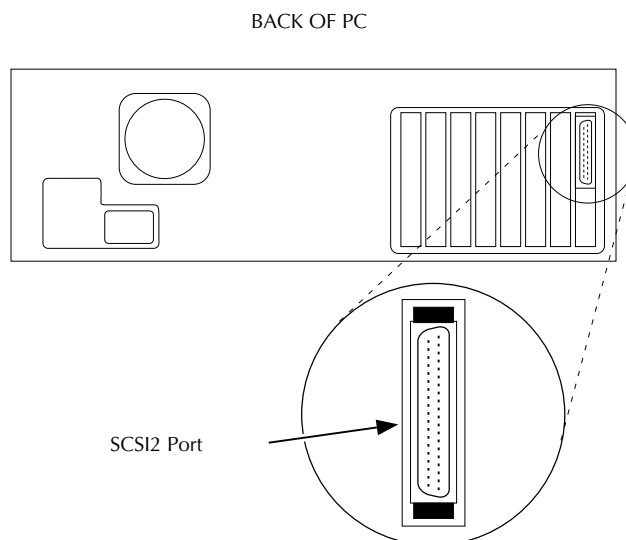
The installer should read all manufacturers' instructions for both the computer and the host adapter before installing the adapter in your computer.

For Qualified Technical Personnel Only

1. Turn off the power to the computer and all peripherals (turn off the computer first).
2. If the termination power setting on your SCSI host adapter is disabled, change its setting to enable it.

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3. Install the SCSI Host Adapter for your PC according to the manufacturer's installation instructions. When installation is complete, a SCSI2 connector should be available on the back of your PC, as shown in one example below. Different PCs have different connectors. The figures in this chapter are intended to illustrate a typical PC.



Connecting the Scanner to Your Computer

Follow the instructions in this section to connect the Scanner, a non-terminated SCSI device, to your computer.

Select the appropriate instructions from the two sets that follow, according to whether or not other external SCSI devices are connected.

- ▶ Continue below at "If No External SCSI Devices Are Connected" if no external SCSI devices are connected.
- ▶ Or continue at "If External SCSI Devices Are Connected" later in this chapter if external SCSI devices are connected.

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If No External SCSI Devices Are Connected

Complete these steps if no SCSI devices are connected to your computer; otherwise proceed to “If External SCSI Devices Are Connected” later in this chapter.

CAUTION: Whenever connecting or disconnecting SCSI cables, be sure power is turned off on all devices in the SCSI chain, including the computer and the Scanner (turn off the computer first).

1. Select the cable with the 50-pin SCSI2 HD connector at one end and the 50-pin SCSI connector at the other end.

NOTE: You will need to obtain this cable if it is not supplied with your host adapter.

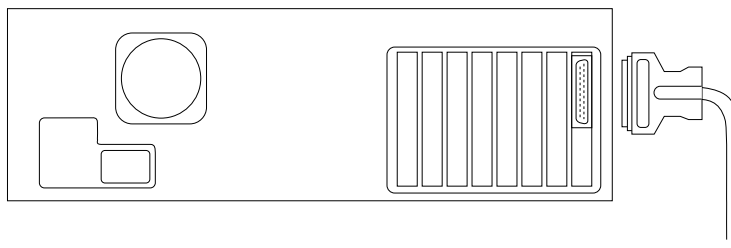
50-pin SCSI2 HD Connector

50-pin SCSI Connector



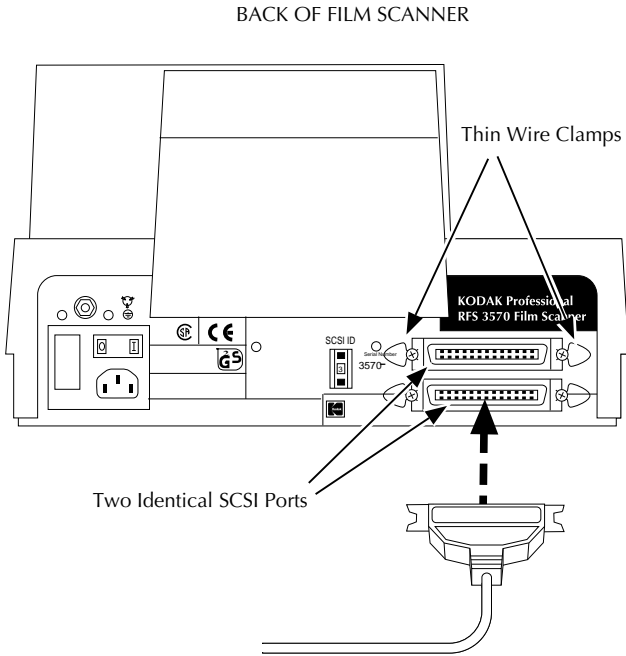
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2. Attach the 50-pin SCSI2 HD connector of the cable to the SCSI port on the back of the computer. Make sure the cable connector is well seated by pressing it into place firmly, so that the spring clips on the connector snap onto the SCSI port.



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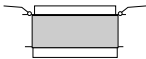
- 3. Attach the other end of the cable to either of the identical SCSI ports on the back of the Scanner. Seat the connector firmly and pinch the thin wire clamps shut.



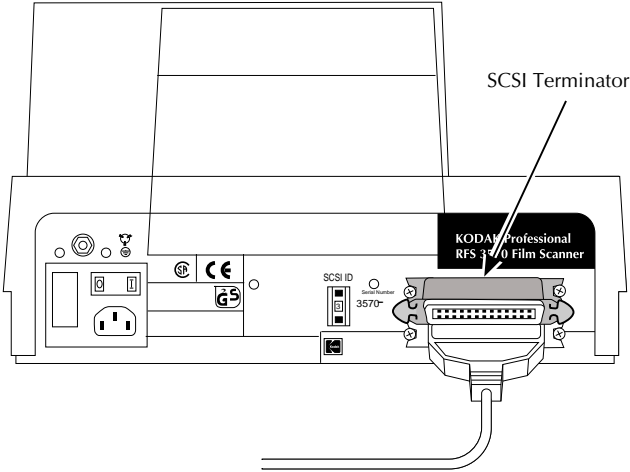
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- 4. Attach a SCSI terminator (supplied with the Scanner) to the empty SCSI port on the Scanner, seat the terminator firmly, and then pinch the thin wire clamps shut.

Terminator



BACK OF FILM SCANNER



- 5. Continue at "Setting the Scanner SCSI Identification Number" later in this chapter.

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If External SCSI Devices Are Connected

Complete these steps if one or more external SCSI devices are connected to your computer; otherwise continue at “Setting the Scanner SCSI Identification Number” later in this chapter.

CAUTION: Whenever connecting or disconnecting SCSI cables, be sure power is turned off on all devices in the SCSI chain, including the computer and the Scanner (turn off the computer first).

IMPORTANT: The SCSI chain mentioned in this section must be connected to a supported SCSI host adapter. (Refer to “Required Hardware” in Chapter 6.)

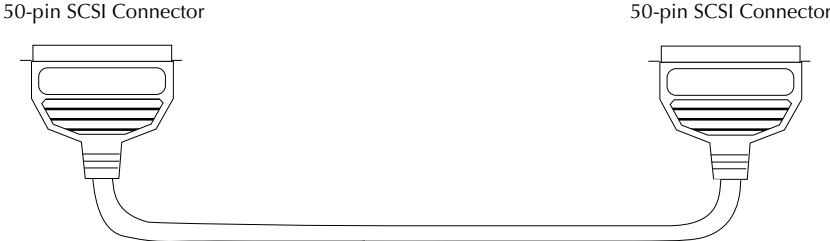
Multiple SCSI devices are connected to the computer in a chain. The following steps will help you determine where you should place the Scanner in that chain — either at the end of the chain, or in the middle of the chain.

NOTE: The total cable length connecting all devices must not exceed 15 feet (4.6 meters).

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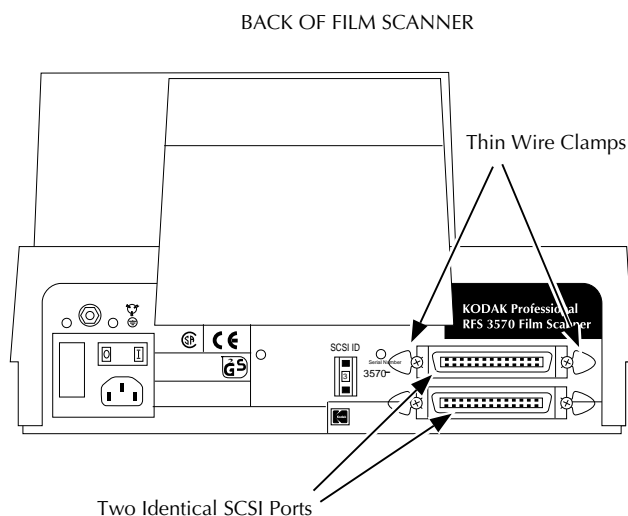
1. Select your SCSI cable with identical 50-pin SCSI connectors at each end.

NOTE: This cable is not packed with the Scanner but is available through Kodak. Refer to "Appendix I — Optional Equipment & Spare Parts List." This cable is also widely available from computer retailers; if you obtain a cable from one of these sources, be certain to obtain a high quality cable with a continuous EMI shield over the cable and connectors.



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2. Locate the two identical SCSI ports and thin wire clamps on the back of the Scanner.



3. Determine if the connected SCSI devices are terminated or not. The Scanner is a non-terminated SCSI device. To do so:
 - A. First look for an external SCSI terminator on the devices; if you find one, remove it.
 - B. Because some devices contain internal terminators, also check the instructions for your devices to determine if they are terminated internally.

NOTE: The Scanner does not have an internal terminator.

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4. Select the appropriate instructions from the two sets that follow, according to whether or not an external device is terminated internally.
 - A. Continue on the next page if none of the connected devices is terminated internally.
 - B. Or continue at “Follow these steps if one of the connected devices is terminated internally” later in this chapter if one of the connected devices is terminated internally.

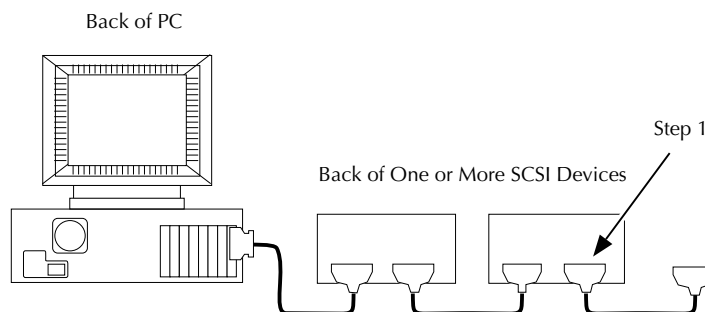
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Follow these steps if none of the connected devices is terminated internally (and any external terminator found in the SCSI chain has been removed):

NOTE: In the following steps, you will place the Scanner at the end of the chain of connected devices. In fact, you can place the Scanner anywhere in the chain as long as you add a terminator to the last device in the chain.

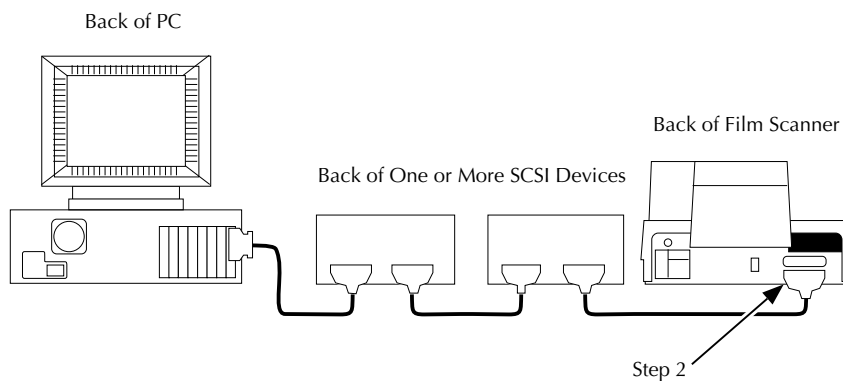
1. Attach one end of your 50-pin to 50-pin SCSI cable to the empty SCSI port on the last device in the chain. Seat the connector firmly, and pinch the thin wire clamps shut.

NOTE: This cable is not packed with the Scanner but is available through Kodak. Refer to "Appendix I — Optional Equipment & Spare Parts List." This cable is also widely available from computer retailers; if you obtain a cable from one of these sources, be certain to obtain a high quality cable with a continuous EMI shield over the cable and connectors.

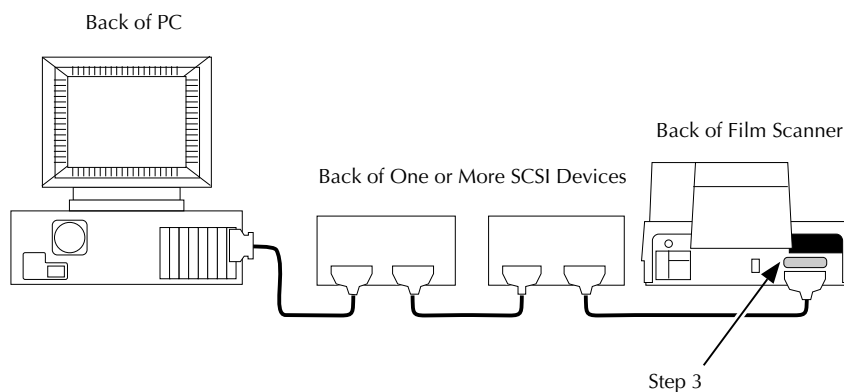


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2. Attach the other end of the 50-pin to 50-pin SCSI cable to either of the identical SCSI ports on the back of the Scanner. Seat the connector firmly and pinch the wire clamps shut.



3. Attach the SCSI terminator (supplied with the Scanner) to the empty SCSI port on the Scanner, seat the terminator firmly, and pinch the wire clamps shut.



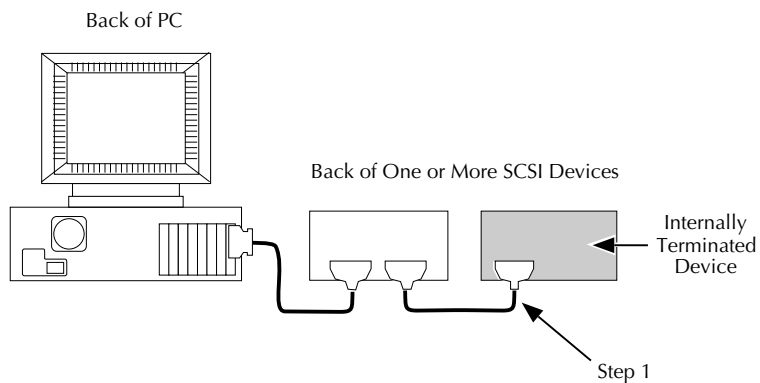
4. Continue at "Setting the Scanner SCSI Identification Number" later in this chapter.

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Follow these steps if one of the connected devices is terminated internally:

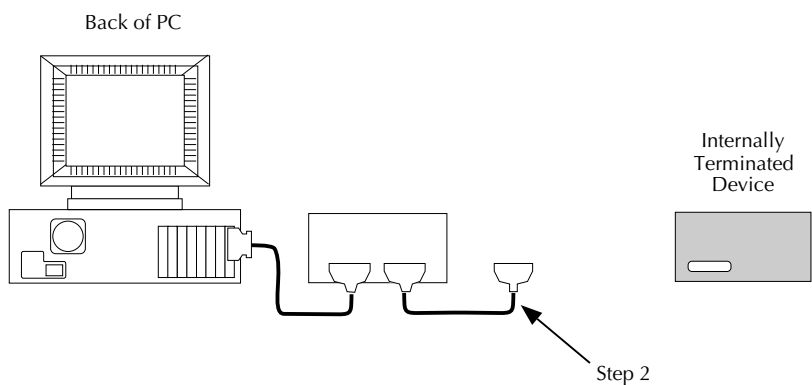
NOTE: In the following steps, you will place the Scanner in the chain just before the terminated device. (You can place the Scanner anywhere in the chain between the terminated device and the PC.)

1. Locate the cable leading to the internally terminated device. The terminated device should be the last device.

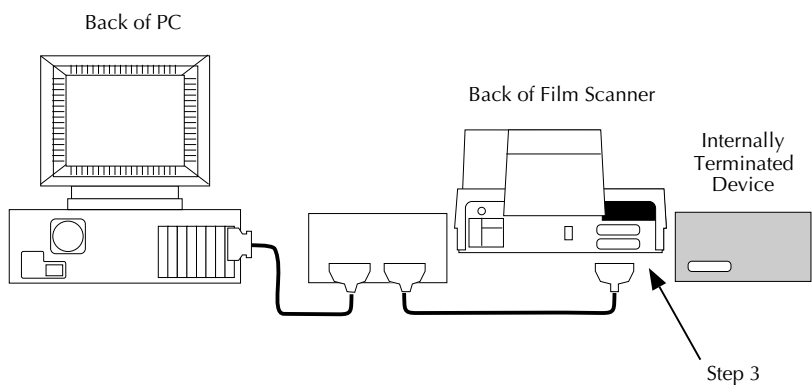


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2. Disconnect the end of that cable from the internally terminated device. Do not disconnect the other end of the cable.

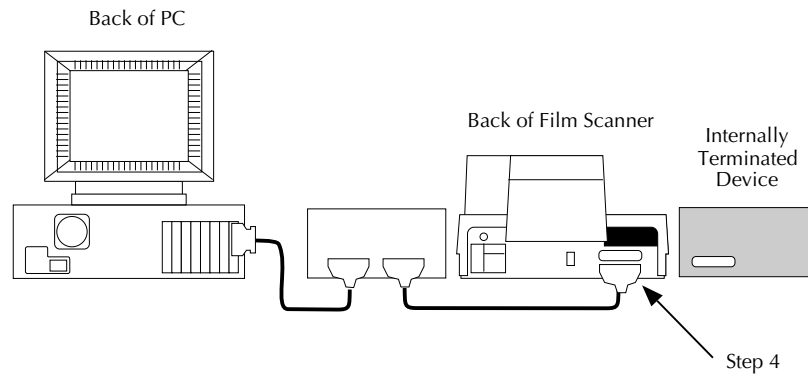


3. Position the Scanner so that you can connect it in the chain before the terminated device.



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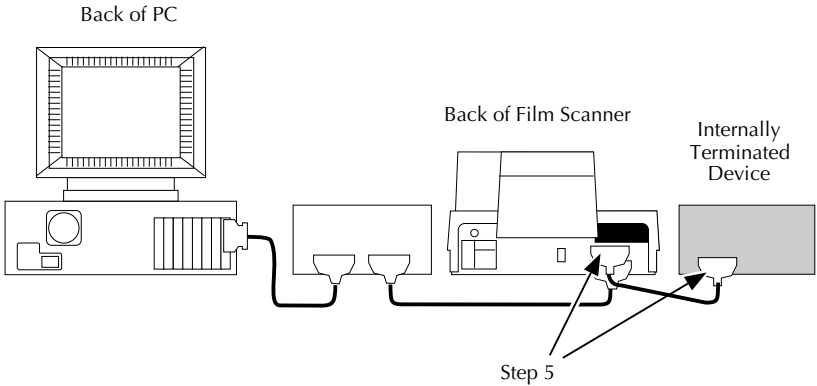
4. Attach the end of the cable you just disconnected to either of the identical SCSI ports on the back of the Scanner. Seat the connector firmly and pinch the thin wire clamps shut.



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- 5. Attach the Scanner to the internally terminated device by plugging one end of your 50-pin to 50-pin SCSI cable into the empty SCSI port on the Scanner and the other end into the empty SCSI port on the terminated device. Seat both connectors firmly and pinch both wire clamps shut.

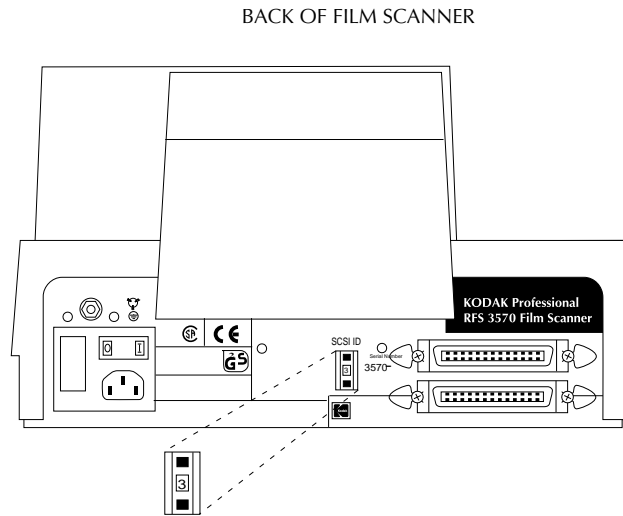
NOTE: This cable is not supplied with the Scanner but is available through Kodak. Refer to "Appendix I — Optional Equipment & Spare Parts List." This cable is also widely available from computer retailers; if you obtain a cable from one of these sources, be certain to obtain a high quality cable with a continuous EMI shield over the cable and connectors.



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Setting the Scanner SCSI Identification Number

Follow the steps below to set the SCSI identification (ID) number for the Scanner. You set the number by gently pushing buttons at the top and bottom of the SCSI ID switch on the back of the Scanner as described in this section.



SCSI ID Switch
(Do not use 0, 7, 8, or 9)

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Each SCSI device connected to the same computer must have a different SCSI ID number.

1. If SCSI devices other than the Scanner are connected to your computer, determine their SCSI identification numbers so that you can select a different number for the Scanner. (If necessary, refer to the documentation for those devices to determine how to find their numbers.)
2. If your PC has an internal SCSI disk drive(s), determine its SCSI identification number(s) so that you can select a different number for the Scanner.
3. Double-check to make sure that the power to the Scanner is off (O). (The O end of the switch should be pressed in and the green light at the top left front corner of the Scanner should be off.)
4. Set the Scanner to an unused number by pressing the bottom button to go to a higher number or the top button to go to a lower number. Do not assign the number of any other attached SCSI device, do not assign the number used by your SCSI host adapter, and never assign 8 or 9; additionally, consult your SCSI host adapter manual to see if other SCSI IDs should not be used. Assign high ID numbers to devices used most frequently.

NOTE: Make sure the power to the Scanner is off if you change its ID number at a later time.

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KODAK TWAIN Driver

This section describes how to install the KODAK TWAIN Driver available for use with the Scanner.

TWAIN is a set of written specifications developed by a consortium of vendors, that when implemented in software allows you to acquire data from a peripheral (such as a film scanner or digital camera) directly into your software application (such as image-editing software) without leaving the application. Software that incorporates the specifications is called "TWAIN compliant." TWAIN compliant software applications should be able to obtain image data from any TWAIN compliant source of data, such as the KODAK driver described in this chapter.

The availability of the KODAK Driver for TWAIN compliant PC applications means that you may be able to use the Scanner with the growing number of software applications that support the TWAIN specifications.

When you use the Scanner, you can install and use the TWAIN compliant driver for use with ASPI (Advanced SCSI Programming Interface) Windows host adapters such as those available from Adaptec, Inc. running EZ-SCSI 4.01 or later.

IMPORTANT: This KODAK Driver is intended for use with applications that are ASPI compliant for Windows, and not for use with applications that are ASPI compliant for other operating platforms.

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Installing TWAIN Compliant KODAK Driver

NOTES: We assume that a technician has installed a supported SCSI host adapter in your PC. If that has not occurred, obtain and install an ASPI compliant host adapter such as those available from Adaptec, Inc. running EZ-SCSI 4.01 or later.

To use an ASPI compliant SCSI host adapter, you must install the Windows ASPI files that accompany it. The KODAK Driver for use with ASPI compliant Windows host adapters will not work properly unless these files have been installed.

The process described in this section automatically:

- ▶ Creates a subdirectory named "TWAIN" in the Windows directory. (If you have other TWAIN compliant devices, this subdirectory may already exist; if so, a new one is not created.)
- ▶ Creates (if one does not already exist), a "RFS3570" subdirectory within the "TWAIN" directory.
- ▶ Places a set of files within the "RFS3570" subdirectory.

Follow these steps to install the KODAK Driver for TWAIN compliant PC applications for use with the Scanner. This is a onetime operation that you must perform before you can obtain images from the Scanner.

1. Turn on your PC.
2. If it has not been configured to start automatically, start Microsoft Windows by typing WIN at the DOS prompt (C:\>) and pressing Enter; then make sure that you are in the Program Manager.
3. Locate the diskette labeled "KODAK Driver for use with (TWAIN Compliant) KODAK Professional RFS 3570 Film Scanner."
4. If the diskette is not locked, lock it by sliding the tab on the back to reveal a small hole. This will prevent the contents of the disk from being changed inadvertently, and may aid in preventing the spread of computer viruses to this diskette.

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5. Insert the diskette into your floppy drive.
6. Open the README file for the installation process by following these steps:
 - A. Choose RUN from the FILE menu.
 - B. Type A:\README.TXT (type B:\README.TXT if the diskette is in drive B) in the command line.
 - C. Click OK; the file opens.
 - D. After reading the file, choose EXIT from the FILE menu; you are returned to the Program Manager.
7. Continue the installation process by following these steps:
 - A. Choose RUN from the FILE menu.
 - B. Type A:\SETUP (type B:\SETUP if the diskette is in drive B) in the command line.
 - C. Click OK.
 - D. Install the software by following all instructions as they appear.
8. You see the TWAIN Driver install screen; follow these steps.
 - A. Choose the driver option that matches the SCSI host adapter installed in your computer. Indicate which driver you want to install by clicking "on" (an X appears to the left of the choice when it is on) the ASPI driver for TWAIN.

IMPORTANT: The ASPI driver is intended for use with applications that are ASPI compliant for Windows, and not for use with applications that are ASPI compliant for other operating platforms.

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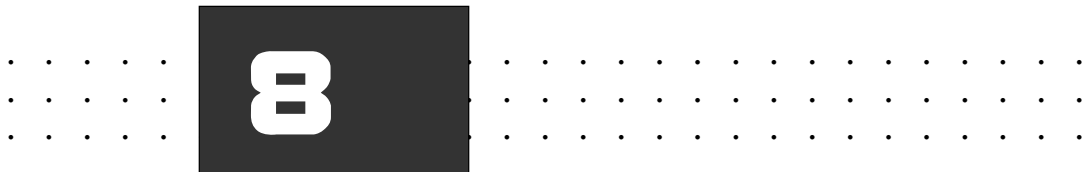
- B. Click `INSTALL`; wait as a box indicates progress in completing the installation.
- C. When you see the TWAIN installation complete screen, click `VIEW README`.

IMPORTANT: There are two README files. The one you read at step 6 above applied to the installation process. This README file applies to using the TWAIN drivers.

This file can be reread at a later time. It is stored on your hard drive at path `WINDOWS\TWAIN\RFS3570\README.WRI`.

- D. After reading the file, choose `EXIT` from the `FILE` menu.

The KODAK Driver is now available for your use with TWAIN compliant PC applications as described in subsequent chapters.



Loading the Film and Slide Holders — PC

NOTE: This chapter is identical with Chapter 4 (in the Macintosh Platform portion of this manual). It is repeated in both places for your convenience.

This chapter describes how to use the film and slide holders with the Scanner. You will learn how to:

- ▶ Load film negatives into the film holder
- ▶ Load slides into the slide holder
- ▶ Load each of the holders into the Scanner

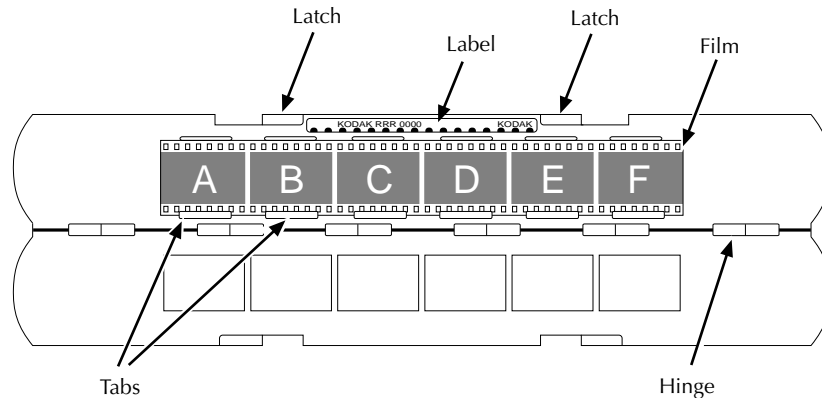
The chapter is divided into two sections: loading 35 mm film/slides and loading film sizes other than 35 mm.

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Loading 35 mm Film and Slides

Loading 35 mm Film into the 35 mm Film Holder

Up to six frames from a strip of 35 mm film of any length can be positioned for scanning at one time. Refer to the diagram below to load film into the 35 mm film holder.



1. Use the two latches opposite the hinge to open the 35 mm film holder.
2. Hold the 35 mm film holder in front of you with the label “**KODAK RRR 0000 KODAK**” at the top and facing you.
3. Place your 35 mm film into the 35 mm film holder so that:
 - ▶ Images are facing you as you would see them in real life (not mirror-imaged).
 - ▶ Any edge printing on the film is readable from left to right.

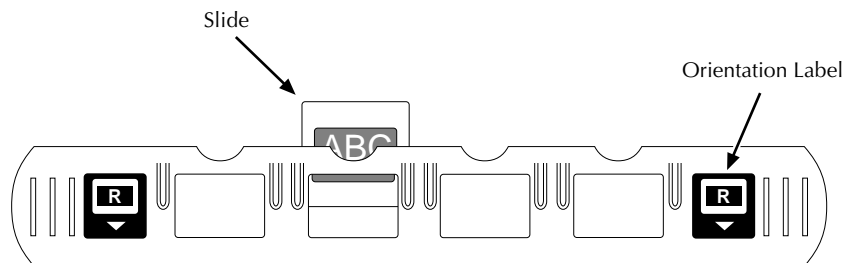
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4. Tuck the lower edge of the film under the tabs that run along the hinge.
5. Center the film so that each frame aligns with a frame in the film holder.
6. Snap the film holder shut.

The holder is now ready to be placed into the Scanner.

Loading 35 mm Slides into the Slide Holder

The slide holder can accommodate up to four 35 mm slides at a time. Standard slides up to .12 in. (3 mm) thick will fit into the slide holder. Refer to the diagram below to load slides.



1. Orient the slide holder as shown above with the orientation labels facing you.
2. Place your slide into the slide holder so that images are facing you as you would see them in real life (not mirror-imaged).
3. (Optional) Place additional slides into the holder as desired.

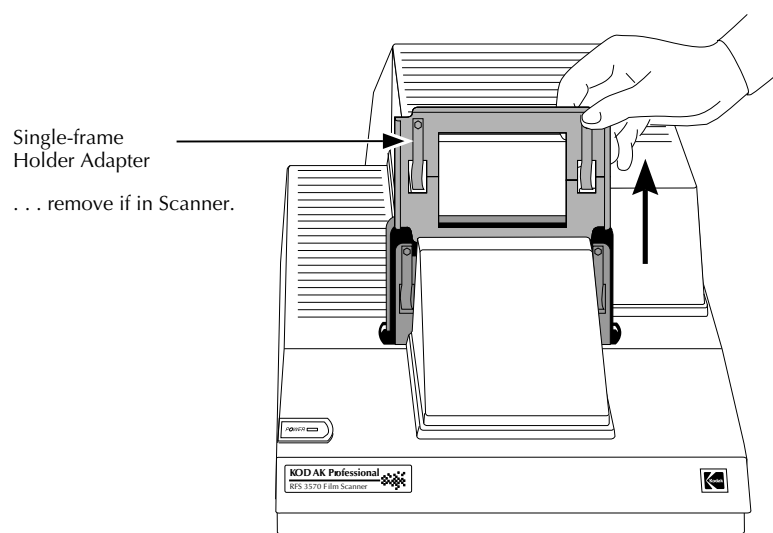
The holder is now ready to be placed into the Scanner.

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Loading 35 mm Film and Slide Holders into the Scanner

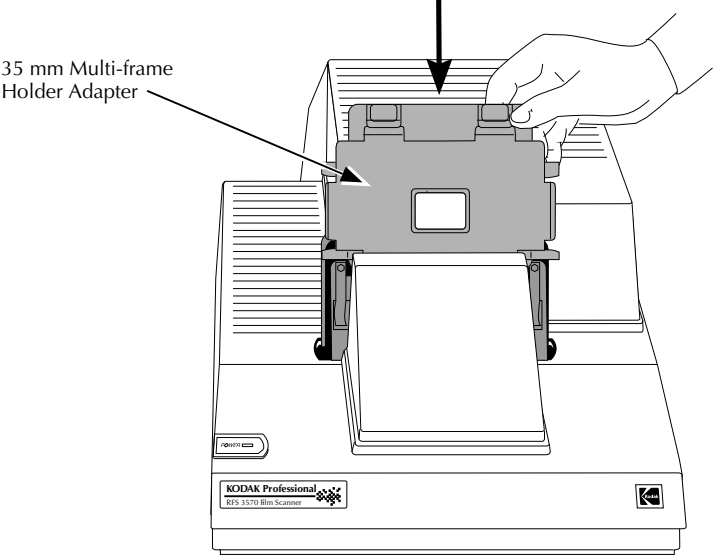
To load a 35 mm film or slide holder into the Scanner:

1. If the single-frame holder adapter is in the Scanner, remove it.



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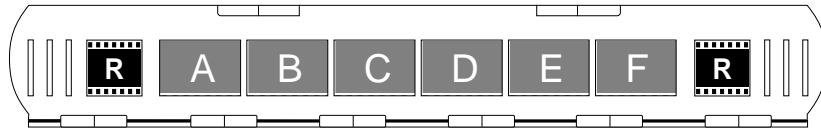
- 2. If the 35 mm multi-frame holder adapter is not in the Scanner, put it in place in the Scanner in the orientation shown.



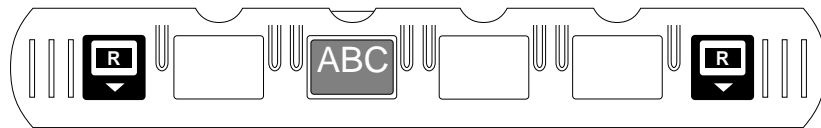
.....

3. Orient the film or slide holder as follows:

Film Holder: Make sure that the two orientation labels face you, that the film images read in the direction of the letter "R," and that the "R" is right-side up. In this position, the film will be oriented correctly.



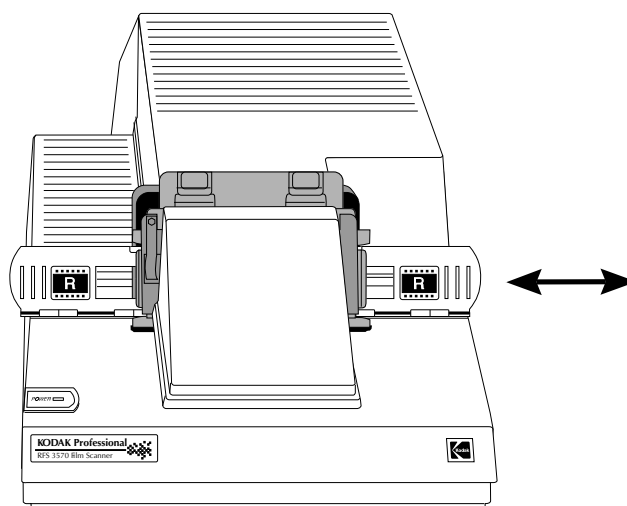
Slide Holder: Make sure that the two orientation labels face you, that the slide images read in the direction of the letter "R," and that the "R" is right-side up. In this position, the slides will be oriented correctly.



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- Slide the holder into the left or right opening of the 35 mm multi-frame holder adapter.

NOTE: Since the slide holder is thicker than the film holder, you may need to use more force to move the slide holder from side to side than you will need for the film holder.



- As you move the holder from side to side, you will feel it “drop” into place at each frame; this indicates that the holder is correctly positioned in the gate.

NOTE: If the holder slides freely without dropping into place, you have loaded the holder backwards or upside-down. Remove the holder, orient it in the proper direction, and reinsert it.

The 35 mm film or slide holder is now properly inserted into the Scanner.

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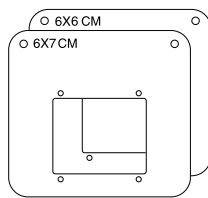
Loading Film Sizes Other Than 35 mm

Loading Film into the Film Holder

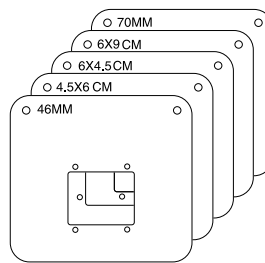
Follow the steps below to load film sizes other than 35 mm into their film holders.

1. Select the film holder to match the film size you will scan. Notice that a label on the holder indicates its size.

Supplied with Scanner

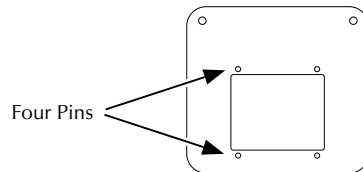


Optional
(Refer to Appendix I to order)

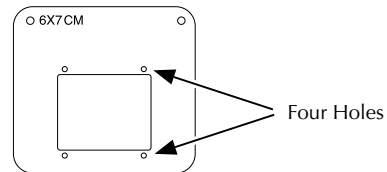


2. Separate the selected film holder into its two parts. (The 6x7 cm size has been used for the illustrations in this section.)

Bottom of Holder

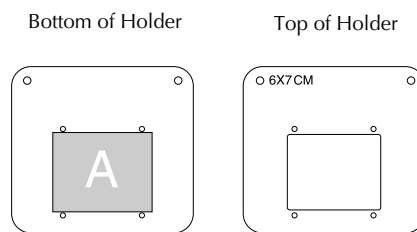


Top of Holder



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3. Place your film in the bottom of the film holder so that:
 - ▶ Images are facing you as you would see them in real life (not mirror-imaged).
 - ▶ Any edge printing on the film is readable from left to right.

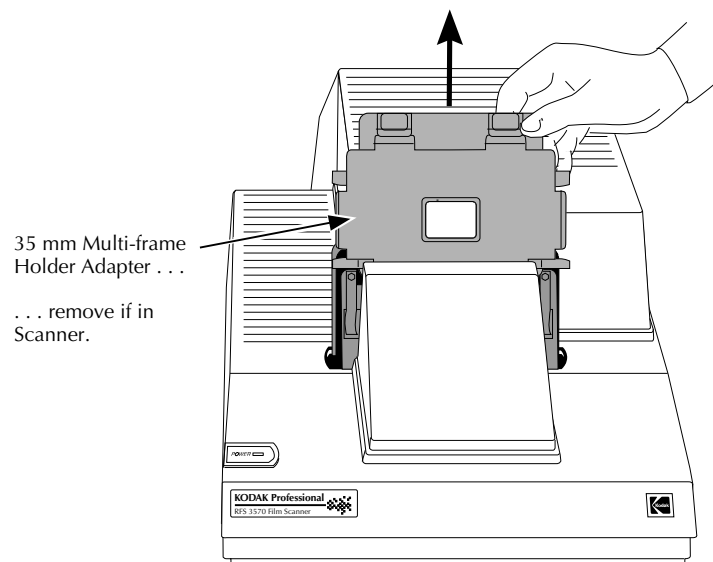


- ▶ Film in strips can be placed into the film holder, but should be handled with extreme care to avoid damaging the film.
4. Center the film so that the frame aligns with the hole in the holder.
 5. Place the top of the film holder over the bottom so that to top is aligned over the four pins.

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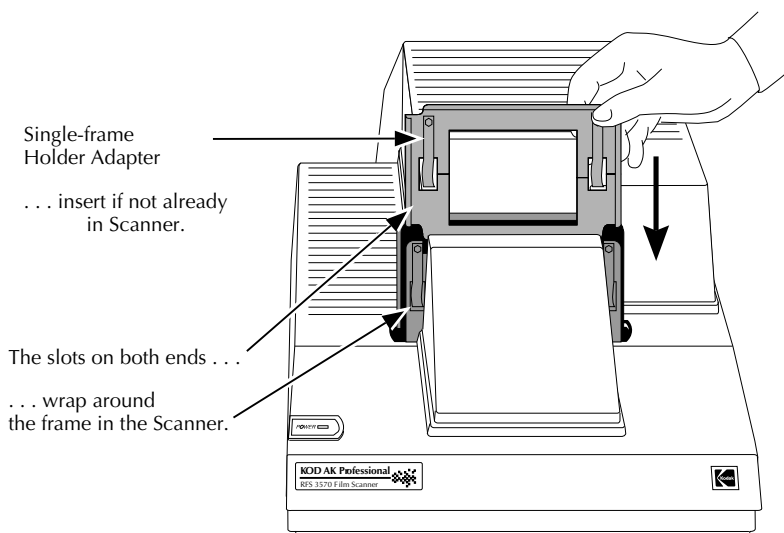
Loading Film Holders (Other Than 35 mm Sizes) into the Scanner

1. If the 35 mm multi-frame holder adapter is in the Scanner, remove it.



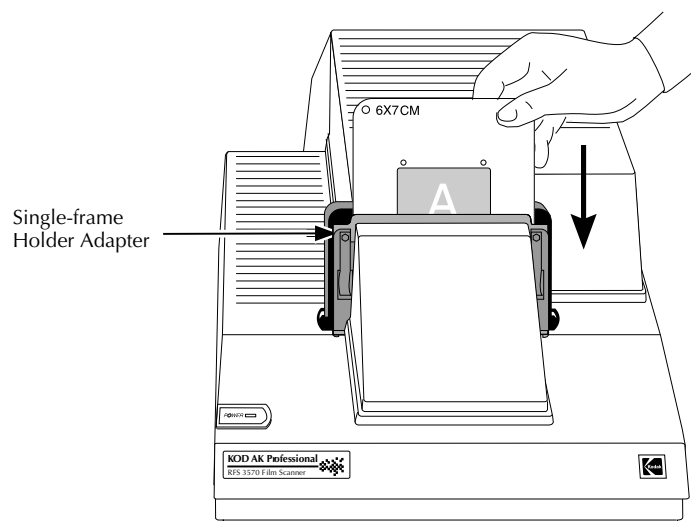
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2. If the single-frame holder adapter is not in the Scanner, put it in place in the Scanner.

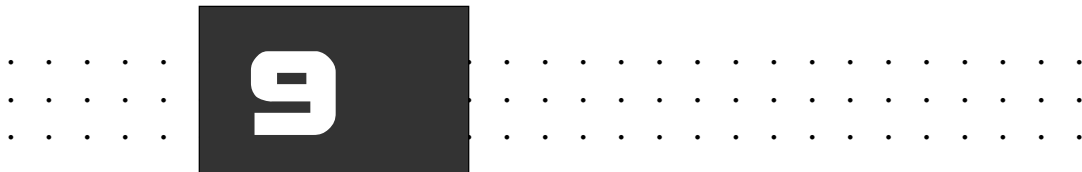


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3. Place the film holder into the Scanner by sliding it down completely into place behind the single-frame holder adapter; be certain that the film holder is aligned with the indentation in the frame in the Scanner.



The film holder is now properly inserted into the Scanner.



Using KODAK Driver with Windows Applications — PC

This chapter describes how to use the KODAK TWAIN Driver with applications software on your PC. With a KODAK Driver, you can acquire images from the Scanner into your applications software and then save the images as files on your computer hard disk.

This chapter describes how to:

- ▶ Use a KODAK Driver for TWAIN compliant PC applications to access the KODAK Driver window.
- ▶ Use Scanner buttons and indicators to control the scan.
- ▶ Produce a scan and have it appear in an untitled window in your TWAIN compliant application.
- ▶ Turn off the Scanner.

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The end of the chapter also includes a full reference section of all software features.

We assume you are familiar with the operation of your PC and appropriate applications software in the Windows environment, and that you have your Scanner connected properly to your PC as described in “Installing the Scanner Hardware” in Chapter 7.

We also assume you have read and are familiar with the material contained in:

- ▶ “Important Safeguards and Precautions” at the front of the manual.
- ▶ “Installing the KODAK Drivers for Use with Your PC” in Chapter 7.
- ▶ “Loading the Film and Slide Holders — PC” in Chapter 8.

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Using a KODAK Driver for TWAIN Compliant PC Applications

Not all TWAIN compliant applications provide access to TWAIN drivers in the same way. As a result, for demonstration purposes this section provides an example using the KODAK Driver with Adobe Photoshop 3.0.5 for Windows.

If you use other software, refer to its documentation to determine if it is TWAIN compliant, and if it is, how it provides access to TWAIN drivers.

You should first :

1. With your computer, scanner, and other SCSI devices (if present) turned off, turn on the Scanner by pressing the (I) end of the power switch on the back of the Scanner. The POWER indicator light, a small green light at the top front left corner of the Scanner, turns on.

You'll hear the Scanner perform a self-test by moving its internal mechanism. Then the scanner is ready for use — no warm-up is required.

CAUTION: Always turn on the Scanner before you turn on your computer; it is important that you follow this procedure.

2. If other SCSI devices are present, turn them on. (SCSI devices can be turned on in any order.)
3. Turn on your PC.

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4. If it has not been configured to start automatically, start Microsoft Windows by typing `WIN` at the DOS prompt (`C:\>`) and pressing Enter.

NOTE: As you use a variety of TWAIN compliant software, it may be helpful to know how the TWAIN specifications expect applications to perform. The specifications provide for a consistent software interface by encouraging software developers to include two specific commands — `SELECT SOURCE` and `ACQUIRE` — on the `FILE` menu. The specification intends that users should first choose `SELECT SOURCE` which should display a list of TWAIN compliant device drivers installed on the system. After the user selects a driver from the list, he/she should be returned to the application. The user should then choose `ACQUIRE` which should open access to the device and allow the user to obtain image data. However, all software does not implement the specifications as intended.

IMPORTANT: Some image-editing software takes all available RAM by default at start-up. The TWAIN driver will not work if this occurs. To avoid the problem, set the memory preference for your application (often found on the `FILE` menu) so that there is at least one megabyte of free RAM.

Adobe Photoshop 2.5 and 3.0 for Windows

Once you have installed the TWAIN driver(s) as described in Chapter 7, and are in Windows, you use the driver by following these steps.

NOTE: Refer to the “Important” statement just above.

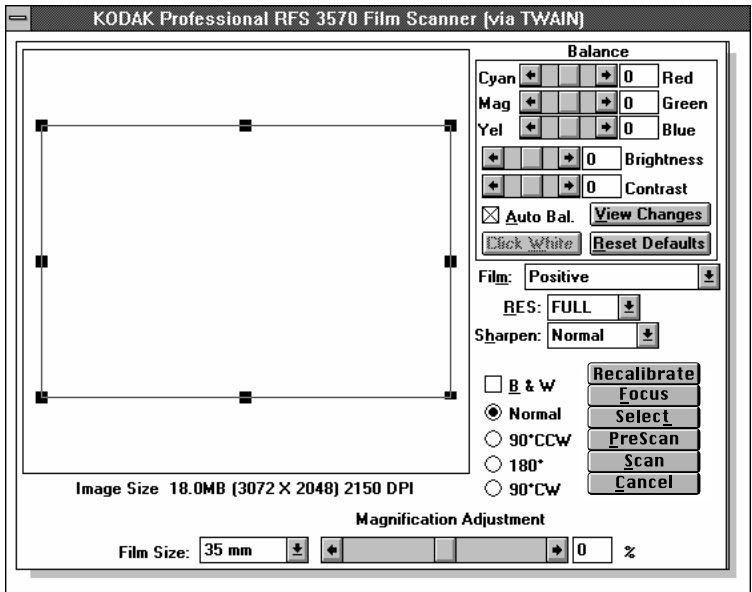
1. Run Adobe Photoshop for Windows.
2. Choose `SELECT TWAIN SOURCE` on the `ACQUIRE` submenu on the Adobe Photoshop `FILE` menu; the `SELECT SOURCE` dialog box appears.
3. Click the scanner choice.
4. Click `SELECT`; you are returned to Adobe Photoshop.

NOTE: The choice of source, and other settings you establish while using the driver, are maintained in a preferences file for the TWAIN compliant driver; you do not need to repeat steps 2 through 4 each time you use the driver.

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- 5. Choose TWAIN (TWAIN ACQUIRE in Adobe Photoshop 3.0) on the ACQUIRE submenu on the FILE menu.
- 6. Wait, and when start-up is complete, the KODAK Driver window appears.

NOTE: If you see a message that “The Scanner was not found . . .” refer to this message in “Appendix D — Messages from the KODAK Drivers.”



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Producing Scanned Images

In this section you will load your film or slides into the Scanner and then generate scans by making selections from the KODAK Driver window.

In the following steps you will make a series of adjustments and pre-scans while working in the KODAK Driver. When you are satisfied with the adjustments you have made, you will click `SCAN`; a scan occurs — with the adjustments you have made applied to the resultant data — and the scan data appears in a window in your software application.

IMPORTANT: As you complete the steps below you may be prompted with instructions requiring that you remove the film holder and so on to allow the Scanner to refocus. Two actions — changing the film size and/or changing the magnification — result in the need for the Scanner to recalibrate and focus. If you are in an environment where you rarely change these settings then you will only rarely need to allow the Scanner to recalibrate and focus; however, if you often change either or both of these settings then you will need to allow the Scanner to recalibrate and focus more frequently. In either environment, the Scanner software will prompt you — as described in more detail in the following steps — with the exact actions you must complete. Be sure to follow these steps carefully.

Loading the Film Holder

Follow directions in Chapter 8, “Loading the Film and Slide Holders — PC” to:

1. Load the film or slide holder.
2. Place the holder in the Scanner.

NOTE: Do not have a high level of direct light around the film holder area of the Scanner.

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Operating the KODAK Driver

Follow the steps in this section to use the controls on the KODAK Driver window.

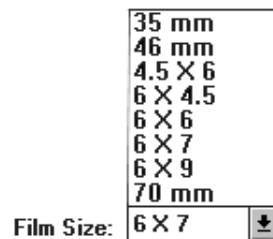
NOTE: As you use the Scanner, the settings you have in effect each time you leave the KODAK Driver are retained and will be in effect the next time you use the driver.

Set the Film Type

1. Set the film type to match your film by choosing the film type from the large number of choices on the FILM drop down list box.

Set the Film Size

2. If the FILM SIZE does not match the film you will scan, choose the correct size from the FILM SIZE drop down list box.



PreScan the Image (and Calibrate the Scanner)

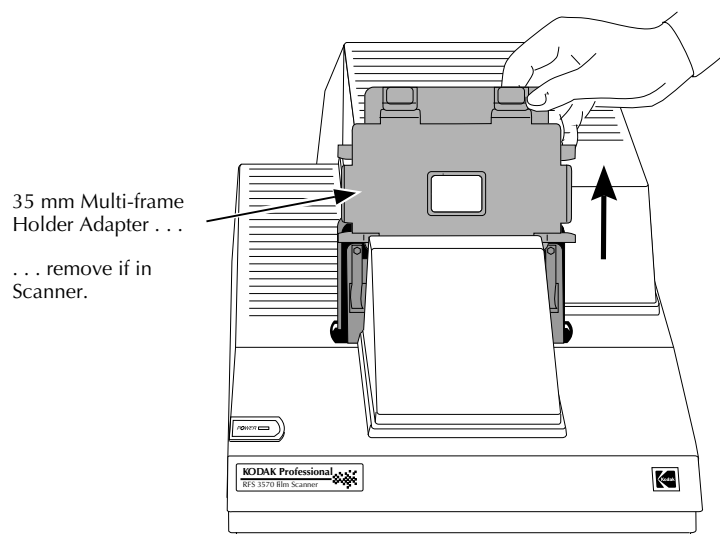
3. Click PRESCAN. When you have completed parts A through E of this step, a color image of the photo currently in position will appear in the KODAK Driver window. You can use this image to determine whether additional adjustments are needed before final scanning. If B & W is on (see below), the prescan appears in black-and-white.

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Wait as a “Calibration Procedure” alert box appears; follow the directions it contains as outlined in detail in parts A through E of this step. (Calibration is required each time the Scanner is turned on.)

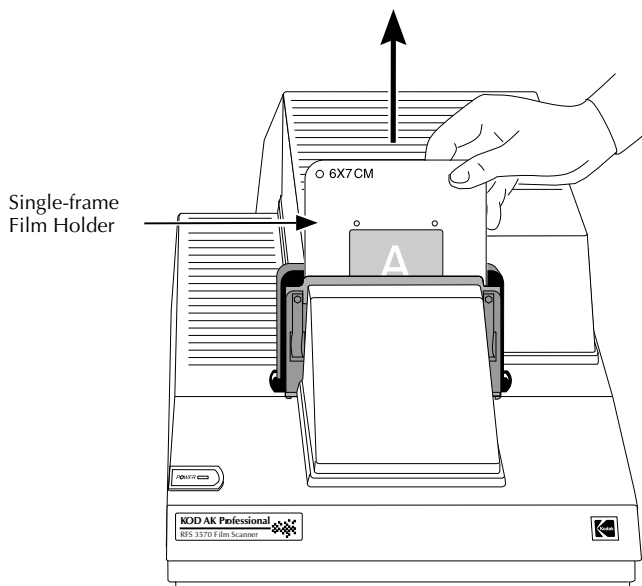
IMPORTANT: Image quality will be degraded significantly if the steps below are not followed with care.

- A. If the 35 mm multi-frame holder adapter is in the Scanner, remove the adapter and film holder.



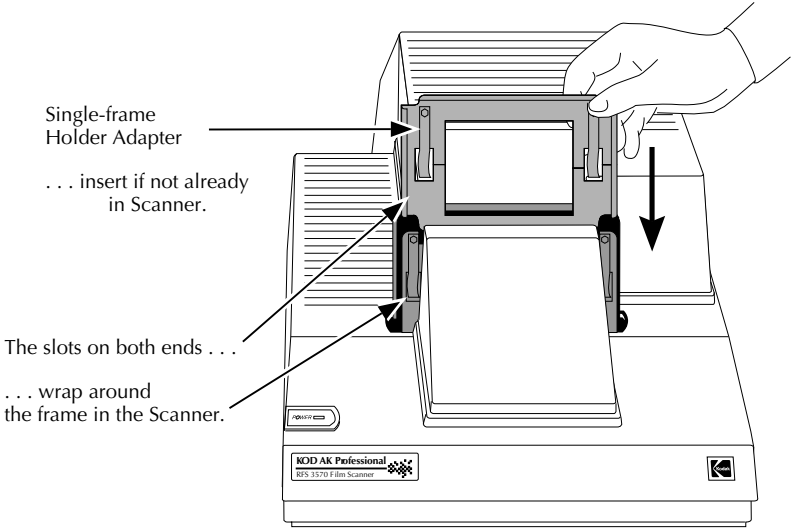
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B. If a single-frame film holder is in the Scanner, remove it.



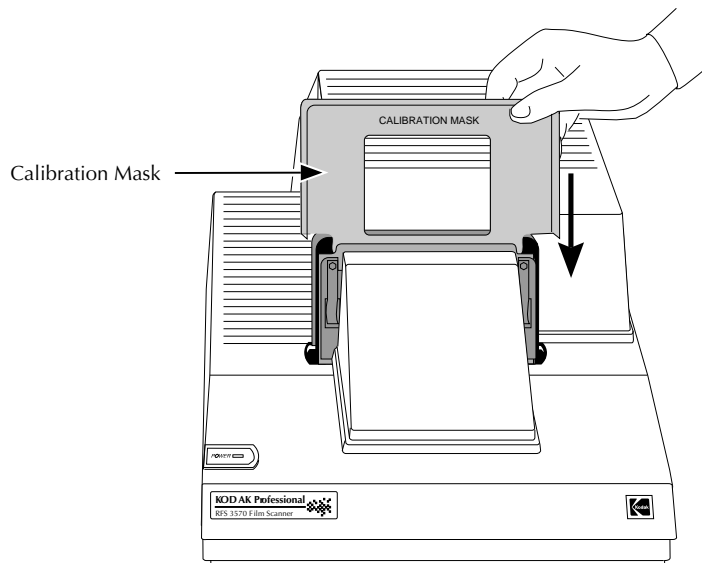
.....

C. If the single-frame holder adapter is not in the Scanner, put it in place in the Scanner. Do so by holding it in the orientation shown below with the slots (at the left and right of the adapter) facing forward, and then slide the slots all the way down over the edges of the front of the metal frame in the Scanner.



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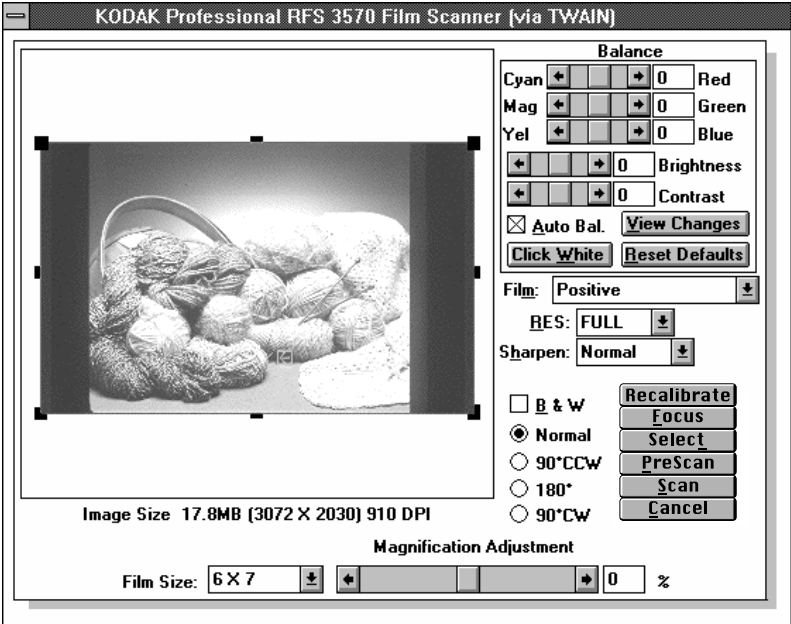
- D. Put the calibration mask into the Scanner. As you insert it into the Scanner, the words "Calibration Mask" should face forward as shown below. The raised lip on the back of the mask should align with the indentation in the frame in the Scanner. Slide the mask all the way down in the Scanner; the words "Calibration Mask" should not be visible.



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E. Click OK. The Scanner will then display several messages. As prompted, wait for calibration to complete, reinsert the appropriate film holder — with film in place — and wait while focusing occurs and your image appears in the Driver window.

NOTE: In addition to calibration, the control program for the Scanner — called firmware — is now copied from your computer to the Scanner. This occurs each time you complete this process.



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Change the Magnification Adjustment

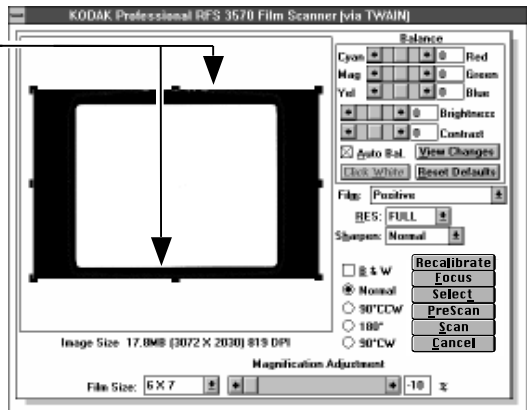
- 4. (Optional) Change the *MAGNIFICATION ADJUSTMENT* if desired by moving its slider or typing an integer value from -10 to 10 in the text box to the right of the slider. The illustrations below for a 6x7 image demonstrate the operation of this adjustment. (The film has been removed from the holder to emphasize the border in these illustrations.)

NOTES: If you change the magnification adjustment, the Scanner must refocus. As prompted by the message that occurs, remove a film holder if present and place the calibration mask into the Scanner as explained in an earlier step of this section. Follow additional prompts as they appear to: remove the calibration mask, replace the film holder (with your film in it), and wait for focusing to complete.

The magnification adjustment for each film size is maintained from work session to work session.

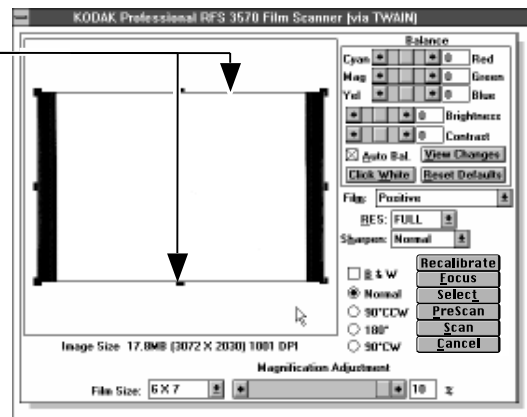
.....

Black borders above and below the image indicate underscanning . . .



. . . which occurs at the negative end of the slider.

Missing image above and below the scan area indicate overscanning . . .



. . . which occurs at the positive end of the slider.

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You determine the “optimal” setting for your images. To ensure that as many pixels of the imager as possible are used for you images, your image should fill the scanning area vertically. This will typically occur with the slider in the middle (nominal) range of the scanner either at, or within a few percentage points either way, of the center of the slider.

However you may wish to use other settings. To ensure that you obtain all of the image for one piece of film after another, you may wish to leave magnification at the negative end (underscanning) of the magnification slider. On the other hand if you always have “extra” space around the portion of the image you want to use, then you may wish to leave magnification at the positive end (overscanning) of the magnification slider.

The most recently used magnification setting for each film size is maintained from one work session to the next in the preferences file for the Scanner.

PreScan the Image Again

5. If you have changed the MAGNIFICATION ADJUSTMENT in the previous step, click PRESCAN to see the result of the changed magnification setting; repeat steps 4 and 5 as desired.

Select the Image

6. A. (Optional) Click SELECT.

NOTE: If you have changed the film size, the Scanner must recalibrate and focus. As prompted by the message that occurs, remove a film holder if present and place the calibration mask into the Scanner. Follow additional prompts as they appear to: remove the calibration mask, replace the film holder (with your film in it), and wait for recalibration and focusing to complete.

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A low-resolution black-and-white scan occurs every two seconds, with the image displayed in the window. (The **SELECT** button changes to **STOP SELECT**. Scanning will stop automatically after 10 minutes if no additional action is taken.)

- B. (Optional) If you are using 35 mm film or slides, and you do not see the image you want, move the film or slide holder to the left or right — while scans continue — until you see the image you want. (Because scanning may occur while you are moving the holder, you may see blurred images until after you stop moving the holder.)
- C. If you are using film sizes other than 35 mm, and you do not see the image you want, click **STOP SELECT**, remove the film holder, center the desired image in the holder, reinsert the holder, and click **SELECT** again.
- D. When you see the image you want, click **STOP SELECT**.
- E. Click **PRESCAN** to obtain a color image in the **KODAK Driver** window.

Set Auto Balance

- 7. (Optional) Set **AUTO BAL**. For most customers the **AUTO BAL** suggested setting of “on” will automatically provide the proper “scene” balance. However, you may need to turn off **AUTO BAL** for certain images such as computer generated graphics or scenes with dominant colors. If you change this setting, click **VIEW CHANGES** to see the effect of the change.

NOTE: If the original prescan only needs fine color and/or brightness adjustments, do not turn off **AUTO BAL**; instead, adjust color and/or brightness as described in “Change Color Levels” and “Change Brightness” below.

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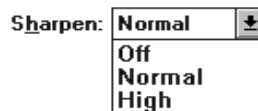
Rotate the Image

- (Optional) Click 90° CCW, 180°, or 90° CW to rotate the image 90° counterclockwise (CCW), 180°, or 90° clockwise (CW), respectively. Click NORMAL to display the image as it is oriented in the film or slide holder.

Sharpen the Image

- (Optional) Use the SHARPEN drop down list box to adjust the level of edge definition between image elements (pixels). Choose OFF, NORMAL, or HIGH; HIGH provides the most definition. Later, when you click SCAN, the time required to complete the scan will increase slightly if you select NORMAL or HIGH.

NOTE: There is no immediate response when a SHARPEN option is selected; instead this choice takes effect later when you click PRESCAN or SCAN.



Set the Image to Black and White

- (Optional) Click B & W to have all subsequent actions — including the final scan — occur in black and white.

Focus the Image

- (Optional) Use the Scanner to focus your image:

NOTE: You could focus the image without Step A below; however Step A is helpful when working with an image that contains one area that is sharper than the rest of the image.

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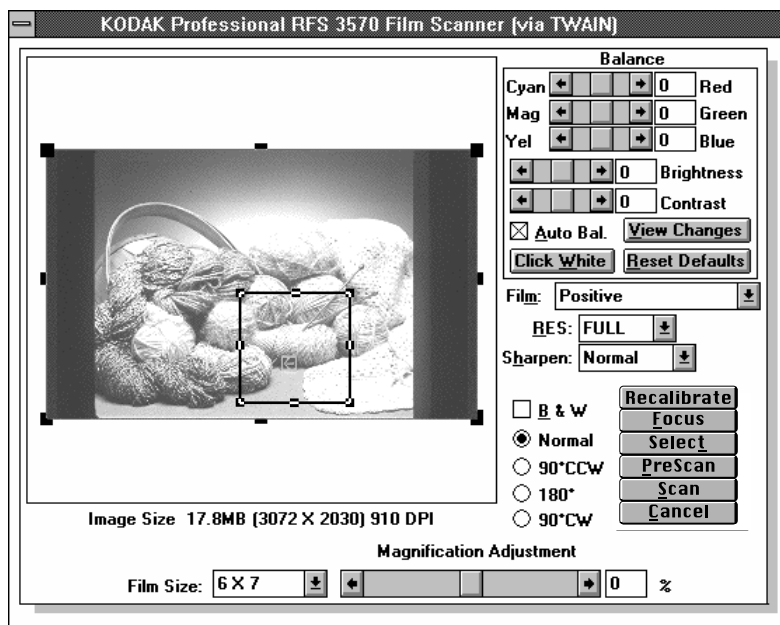
- A. Drag the handle(s) of the selection rectangle around the portion of the image that is sharpest (in the best focus); the area should contain a significant amount of detail.

NOTES: The focusing algorithm operates on the area inside the selection rectangle, optimizing on your selection and focusing the rest of the image accordingly.

To change the size of an existing selected area, drag a handle to make the rectangle bigger or smaller.

To move the selection rectangle, place the pointer inside the rectangle, and drag the rectangle to its new location.

To deselect an area, click once inside or outside the selection rectangle.



- B. Click Focus. You will hear one buzz after another during the focusing process. A PRESCAN is done automatically once Focus is complete, and the image appears.

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- C. Click once to remove the selection rectangle; this will ensure that later when you do a scan you obtain the full image, not just the small portion within the focus rectangle.

Change Color Levels

12. (Optional. For color images only.) Adjust color levels with the automated method (A) and/or manual method (B).

- A. *Use CLICK WHITE.* This method automatically adjusts color balance via a user-selected gray or white portion of the image.

Click the **CLICK WHITE** button, then click a neutral spot in the image known to be gray or white. (Do not click a dark shadow or a bright highlight or overexposed area.) This action automatically displays changes in the image window and repositions the color sliders in the **BALANCE** area of the window.

NOTES: Once clicked, the name of the **CLICK WHITE** button changes to **CLICK NOW**, a prompt indicating that you should click the image. You can also cancel without clicking the image by clicking the **CLICK NOW** button. The **BRIGHTNESS** slider may move; however, **CLICK WHITE** does not optimize on brightness, and you may still need to adjust brightness as described next in "Change Brightness."

- B. *Adjust the balance sliders.* Use this method when there is no known gray or white spot in the image or when additional fine adjustments are desired after using method A.

Drag the red/cyan, green/magenta, and/or blue/yellow sliders as desired; then click **VIEW CHANGES** to see the effect of the changes.

NOTES: If desired, click on the **RESET DEFAULTS** button to return all balance settings to 0 (for the current film type selected). Otherwise, current settings

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will be saved from one work session to the next for the selected film type until they are changed.

When you move the pointer over the image, the arrow pointer becomes a cross-hair pointer, and red (R), green (G), and blue (B) values at the location of the pointer appear near the lower right-hand corner of the image.

Change Brightness

13. (Optional) Use the scroll bars or type new values (-20 to 20) to adjust the overall brightness of the image. Click VIEW CHANGES to see the result of the new values.

NOTE: If desired, click RESET DEFAULTS to return all balance settings to 0 for the current film type selected. Otherwise, current settings will be saved from one work session to the next for the selected film type until they are changed.

Change Contrast

14. (Optional) Use the scroll bars or type new values (-10 to 10) to adjust the contrast among image elements (pixels). Click VIEW CHANGES to see the result of the new values.

NOTES: A contrast adjustment is a gamma adjustment.

If desired, click RESET DEFAULTS to return all balance settings to 0 for the current film type selected. Otherwise, current settings will be saved from one work session to the next for the selected film type until they are changed.

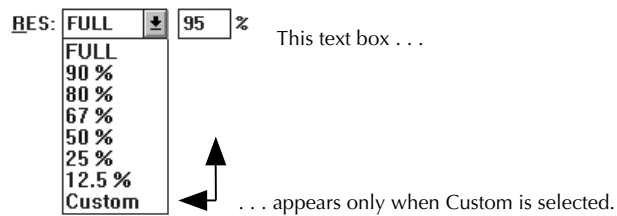
Choose the Resolution

15. Choose the resolution you want from the RES (resolution) drop down list box. The FULL choice provides the greatest resolution and provides the largest amount of data from the Scanner; if you want lower resolution, choose other percentages from this menu.

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Additionally, you can choose CUSTOM from the RES drop down list box and type a value from 1 to 100 in the text box that appears to the right of the RES menu.

NOTES: Different resolutions produce different image sizes as shown in the IMAGE SIZE information below the image in the KODAK Driver window. Total scan time will also vary with different resolutions, and some resolutions may take longer to scan on some computers depending on the processor and amount of memory in the computer.



“Crop” the Image

16. Follow part A or part B of this step depending on whether or not you want to crop the image.
 - A. If you do not want to crop the image, click once on the image to remove the selection (cropping) rectangle.
 - B. If you want to crop the image, drag the handle(s) of the selection rectangle around the portion of the image you wish to scan; this “crops” the image. (The fastest way to select an area is to drag a handle from one corner to its desired location, and then to drag the handle from the opposite corner to its desired location.) Only the cropped area will be scanned into your application (see next

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step); if you do not select a specific portion, the entire image will be scanned. Note that **IMAGE SIZE**, shown below the image, changes to reflect the size of the area you selected.

NOTES: To change the size of an existing selected area, drag a handle to make the rectangle bigger or smaller.

To move the selection rectangle, place the pointer inside the rectangle, and drag the rectangle to its new location.

To deselect an area, click once inside or outside the selection rectangle.

Scan the Image

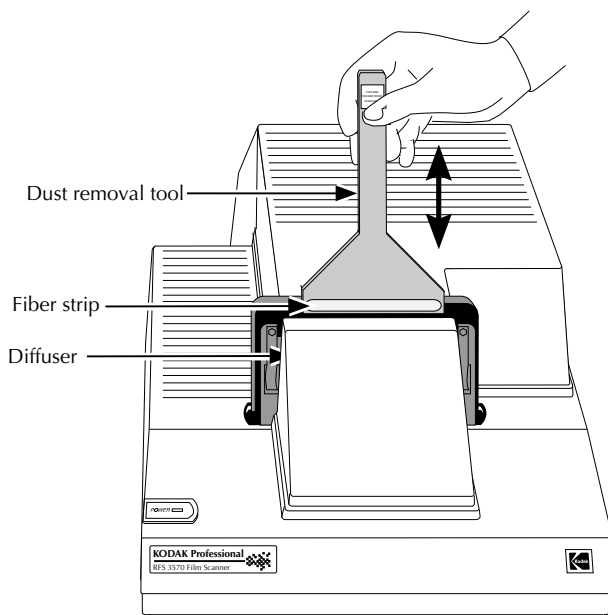
17. Click **SCAN**. The **KODAK Driver** window closes and the scan appears in a window in your software application.

NOTE: If this is the first time that you are completing a scan during this work session, or if you notice water spots or bubbles in the scanned image at any time while working with the scanner, clean the scanner “diffuser” (a 3 x 4-inch piece of white plastic), as summarized in this note, and as fully described at the end of “Appendix C — Troubleshooting.”

A. Remove the calibration mask and single frame holder adapter or multi-frame holder.

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- B. Orient the dust removal tool as shown below, and with an up and down motion, clean the surface of the diffuser making sure the fiber strip makes contact with the diffuser.



- C. Remove the dust tool, replace the mask and holder, and rescan the image.
 - D. If the problem continues, use the scanner software RECALIBRATE button as described in "Appendix C — Troubleshooting."
18. (Optional) Edit and/or save the image as desired.

Scan Additional Images

- 19. (Optional) To scan additional images, begin by accessing the KODAK Driver window, and then repeat the steps of this section.

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Turning Off the Scanner

When your scans are complete, exit from your application and turn off your computer and the Scanner as follows:

CAUTION: The Scanner must be turned off (and on) *only* when your computer is off.

1. (Optional) Save any open images to the computer hard disk.

IMPORTANT: If you click in the close box of the window of an acquired — but unedited — image (or choose **CLOSE** from the **FILE** menu), in some applications the window will close without asking you if you want to save the image and the image will not be saved. Therefore, be sure you save any acquired images you do not want to lose before closing image windows.

2. Choose **EXIT** from the **FILE** menu.
3. Wait as the application quits.
4. Choose **EXIT WINDOWS** from the **FILE** menu to close Windows.
5. Remove the film or slide holder from the Scanner.
6. Turn off your computer.
7. Turn off the Scanner.
8. cover the scanner with the supplied dust cover.

IMPORTANT: Because dust buildup in the scanner can affect image quality, it is important to cover the scanner whenever the power is off.

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Reference: Buttons and Indicators

- 90° CCW Rotates the image 90° counterclockwise.
- 90° CW Rotates the image 90° clockwise.
- 180° Rotates the image 180°
- ABOUT SCANNER Displays version information for the KODAK Driver. May not be available in all applications.
- AUTO BAL For most customers the AUTO BAL suggested setting of “on” will automatically provide the proper “scene” balance. However, you may need to turn off AUTO BAL for certain images such as computer generated graphics or scenes with dominant colors. If you change this setting, click VIEW CHANGES to see the effect of the change.
NOTE: If the original prescan only needs fine color and/or brightness adjustments, do not turn off AUTO BAL; instead, adjust color and/or brightness as described earlier in this chapter.
- B & W Obtains only black and white data from the Scanner when on (X appears in the box). Red and blue scanner flashes are disabled; only green data is obtained from the Scanner.
NOTE: There is no immediate response when the B & W setting changes; instead this choice takes effect later when you click PreScan or Scan.
- BALANCE Adjusts color balance for the scan. We recommended that you make color adjustments in the KODAK Driver window first and fine-tune color later in your application, if necessary.
NOTE: Refer to “Change Color Levels” earlier in this chapter for additional information on this option.

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- BRIGHTNESS** Adjusts the brightness level of the entire image.
NOTE: Refer to “Change Brightness” earlier in this chapter for additional information on this option.
- CANCEL** Exits from the KODAK Driver and returns to your application without returning any scan data. (Pressing ESC produces the same result.)
- CLICK NOW** See **CLICK WHITE**.
- CLICK WHITE** Automatically adjusts color balance via a user-selected gray or white portion of the image.
Click the **CLICK WHITE** button, then click a neutral spot in the image known to be gray or white. (Do not click a dark shadow or a bright highlight or overexposed area.) This action automatically displays changes in the image window and repositions the color sliders in the **BALANCE** area of the window.
NOTES: Once clicked, the name of the **CLICK WHITE** button changes to **CLICK NOW**, a prompt indicating that you should click the image. You can also cancel without clicking the image by clicking the **CLICK NOW** button.
The **BRIGHTNESS** slider may move; however, **CLICK WHITE** does not optimize on brightness, and you may still need to adjust brightness as described earlier in this chapter in “Change Brightness.”
- CONTRAST** Adjusts the contrast level among image elements.
NOTES: A contrast adjustment is a gamma adjustment.
Refer to “Change Contrast” earlier in this chapter for additional information on this option.
- Crop** Selects a portion of the image you want to scan. To crop, drag the handle(s) of the selection rectangle around the portion of the image you wish to scan. Then click **SCAN** to

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scan the cropped area into your application, resulting in a smaller image size.

NOTES: To change the size of an existing selected area, drag a handle to make the rectangle bigger or smaller. To move the selection rectangle, place the pointer inside the rectangle, and drag the rectangle to its new location. To deselect an area, click once inside or outside the selection rectangle.

FILM Choose the film type you want from this drop down list box. POSITIVE, NEGATIVE, and many other choices are provided. Select POSITIVE when scanning positive film and NEGATIVE when scanning negative film.

NOTE: Some film types include a letter code. Use these values to match the film type from this drop down list to the edgeprint codes printed on your negatives from KODAK Professional Films.

FILM SIZE Choose the film size from this drop down list box to match the film you will scan.

NOTE: Refer to "Set the Film Size" earlier in this chapter for additional information on this option.

FOCUS Focuses the entire image. You can obtain a better overall focus by clicking and dragging the mouse to create a selection rectangle around the portion of the image that is in the best focus (and contains a significant amount of detail). Then click FOCUS.

GAMMA A measure of contrast in photographic images. See CONTRAST.

IMAGE SIZE Displays the quantity of data that will be returned from the scan. Image size depends on the resolution selected, whether B & W is selected, and whether you've cropped the image. Higher resolutions, color images, and full images produce more scan data than lower resolutions, B & W scans, and cropped images.

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MAGNIFICATION ADJUSTMENT Adjusts the magnification of the image, allowing you to ensure that as many pixels of the imager as possible are used for your image.

NOTE: Refer to “Change the Magnification Adjustment” earlier in this chapter for additional information on this option.

NORMAL (rotation) Displays the image as oriented within the film or slide holder.

PRESCAN Produces a scan in the KODAK Driver window that you can view and use to determine whether additional adjustments are needed before final scanning. Unlike the **SCAN** button, this choice does not load the scanned image data into your application.

RECALIBRATE Used as part of the procedure to eliminate bubbles or water spots from scanned images that may appear as a result of dust on the scanner diffuser.

NOTE: For full details of eliminating bubbles or water spots from scanned images, refer to “Appendix C — Troubleshooting.”

RES Allows you to select from Full or a variety of percentages. Additionally, you can choose **CUSTOM** from the **RES** drop down list box and type a value from 1 to 100 in the text box that appears to the right of the **RES** list box.

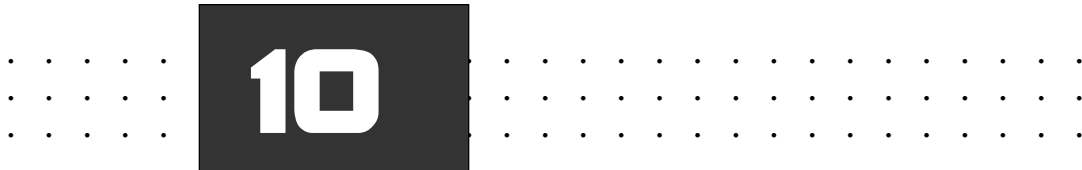
NOTE: Different resolutions produce different image sizes as shown in the **IMAGE SIZE** information below the image. Total scan time will also vary at different resolutions, and some resolutions may take longer to scan on some computers depending on the processor and amount of memory in the computer.

Image size for the selected resolution appears beneath the image.

RESET DEFAULTS Resets the color, brightness, and contrast levels to zero (for the current film type selected).

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- SCAN** Produces the final scan of the image at the current settings, closes the KODAK Driver window, and creates an untitled window displaying the scanned image in your application.
- SELECT** Generates low-resolution black and white scans which appear in the KODAK Driver window every two seconds, thus allowing you to view the image in position in the Scanner. Scanning will stop automatically after 10 minutes if no additional action is taken.
- NOTE:** Refer to "Select the Image" earlier in this chapter for additional information on this option.
- SHARPEN** Sharpens the overall image and defines the edges among image elements (pixels). Choose from HIGH, NORMAL, or OFF.
- Version Number** The version number for the KODAK TWAIN Driver appears in the title line at the top of the KODAK Driver window.
- VIEW CHANGES** Using the last scanned or prescanned image, this button produces an image on which you observe the results of any changes you make to the color, brightness, and/or contrast settings in the BALANCE area of the KODAK Driver window.
- NOTE:** Normally no scanning occurs so VIEW CHANGES is faster than using PRESCAN. Like PRESCAN, it does not load an image into your application. However, VIEW CHANGES does scan the image:
- ▶ When the Scanner is first accessed and VIEW CHANGES is selected before SCAN or PRESCAN has been selected.
 - ▶ When the last image scanned or prescanned was black-and-white and you select VIEW CHANGES with the B & W box now unchecked.



Appendices

This section includes the following appendices.

A — Software License Agreement

B — Warranty

C — Troubleshooting

D — Messages from KODAK Drivers

E — Replacing the Fuse

F — Updating the KODAK Driver

G — Repacking Instructions

H — Problem Report Form

I — Optional Equipment & Spare Parts List

J — Specifications

K — Glossary

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Appendix A — Software License Agreement

EASTMAN KODAK COMPANY

YOU SHOULD CAREFULLY READ THE FOLLOWING TERMS AND CONDITIONS BEFORE OPENING THE DISKETTE PACKAGE(S). OPENING THE DISKETTE PACKAGE(S) INDICATES YOUR ACCEPTANCE OF THESE TERMS AND CONDITIONS. IF YOU DO NOT AGREE WITH THEM, YOU SHOULD PROMPTLY RETURN THE DISKETTE PACKAGE(S) UNOPENED, ALONG WITH THE ACCOMPANYING MATERIALS.

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You assume responsibility for selection of the software to achieve your intended results, and for installation, use, and results obtained from the software.

License

You may:

- a. use the software;
- b. copy the software onto one or more computers only for the purpose of operating the equipment with which this software was provided (the "Related Equipment") or into any machine-readable form for backup purposes in support of your use of the software;
- c. transfer the software and license to another party to whom you also transfer the Related Equipment, if the other party agrees to accept the

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You must reproduce and include the copyright notice on any copy of the software.

YOU MAY NOT USE, COPY OR TRANSFER THE SOFTWARE, OR ANY COPY, IN WHOLE OR IN PART, EXCEPT AS EXPRESSLY PROVIDED FOR IN THIS LICENSE.

IF YOU TRANSFER POSSESSION OF THE RELATED EQUIPMENT OR ANY COPY OF THE SOFTWARE TO ANOTHER PARTY, YOUR LICENSE IS AUTOMATICALLY TERMINATED.

Term

The license is effective until terminated. You may terminate it at any time by destroying the software together with all copies in any form. It will also terminate upon conditions set forth elsewhere in the Agreement or if you fail to comply with any term or condition of this Agreement. You agree upon such termination to destroy the software together with all copies in any form.

Limited Warranty

Kodak warrants the diskettes on which the software is furnished to be free from defects in materials and workmanship under normal use for a period of ninety (90) days from the date of delivery to you as evidenced by a copy of your receipt.

Kodak does not warrant that the functions contained in the software will meet your requirements or that the operation of the software will be uninterrupted or error free.

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THE SOFTWARE IS PROVIDED 'AS IS' WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO QUALITY AND PERFORMANCE OF THE SOFTWARE IS WITH YOU. IF THE SOFTWARE PROVES DEFECTIVE, YOU (AND NOT KODAK OR YOUR DEALER) ASSUME THE ENTIRE COST OF ALL NECESSARY SERVICING, REPAIR, OR CORRECTION.

Some states do not allow the exclusion of implied warranties, so the above exclusion may not apply to you. This warranty gives you specific legal rights and you may also have other rights that vary from state to state.

Limitations of Remedies

Kodak's entire liability and your exclusive remedy shall be:

1. the replacement of any diskette not meeting Kodak's "Limited Warranty" that is returned to Kodak or your dealer with a copy of your receipt, or
2. if Kodak or the dealer is unable to deliver a replacement diskette that is free of defects in materials or workmanship, you may terminate this Agreement by returning the software.

IN NO EVENT WILL KODAK BE LIABLE TO YOU FOR ANY DAMAGES, INCLUDING ANY LOST PROFITS, LOST SAVINGS, OR OTHER INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE SOFTWARE EVEN IF KODAK OR YOUR DEALER HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES, OR FOR ANY CLAIM BY ANY OTHER PARTY.

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Some states do not allow the limitation or exclusion of liability for incidental or consequential damages, so the above limitation or exclusion may not apply to you.

General

You may not sublicense, assign, or transfer the license or the software, except as expressly provided in this Agreement. Any attempt otherwise to sublicense, assign, or transfer any of the rights, duties, or obligations hereunder is prohibited.

This Agreement will be governed by the laws of the State of New York. Should you have any questions concerning this Agreement, you may contact Kodak at 1-800-CD-KODAK.

YOU ACKNOWLEDGE THAT YOU HAVE READ THIS AGREEMENT, UNDERSTAND IT, AND AGREE TO BE BOUND BY ITS TERMS AND CONDITIONS. YOU FURTHER AGREE THAT IT IS THE COMPLETE AND EXCLUSIVE STATEMENT OF THE AGREEMENT BETWEEN US, WHICH SUPERSEDES ANY PROPOSAL OR PRIOR AGREEMENT, ORAL OR WRITTEN, AND ANY OTHER COMMUNICATIONS BETWEEN US RELATING TO THE SUBJECT MATTER OF THIS AGREEMENT.

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Appendix B — WARRANTY

KODAK Professional RFS 3570 Film Scanner

THIS WARRANTY IS LIMITED TO THE UNITED STATES. THIS WARRANTY APPLIES ONLY FOR SERVICING EQUIPMENT ORIGINALLY PURCHASED IN THE UNITED STATES.

Warranty Time Period

Kodak warrants your KODAK Professional RFS 3570 Film Scanner to be free from malfunctions and defects in both materials and workmanship for 12 months from the date of purchase.

Warranty Repair Coverage

If this equipment does not function properly during the warranty period, due to defects in materials or workmanship, Kodak will at its option, either repair or replace the equipment, without charge, subject to the conditions and limitations stated herein. Such repair service will include all labor as well as any necessary adjustments and/or replacement parts in order to maintain the equipment in an operating condition consistent with Kodak's specifications. Kodak will also provide telephone assistance during the warranty period.

Unless a specific Kodak warranty is communicated to the purchaser in writing by a Kodak company, no other warranty or liability exists beyond the information contained above, even though defect, damage or loss may be by negligence or other act.

If replacement parts are used in making repairs, these parts may be remanufactured, or may contain remanufactured materials. If it is neces-

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sary to replace the entire system, it may be replaced with a remanufactured system. If it should become necessary to repair or replace a malfunctioning or defective system, the provisions of this warranty shall apply to the repaired or replaced system until 30 days from the date of return, or until the end of the original 12 month warranty period, whichever is later.

Please save your proof of purchase (sales receipt) as Kodak reserves the right to confirm the date of purchase BEFORE permitting any repairs to be made.

Outside the United States

In countries other than the United States, terms of this warranty may be different. Unless a specific Kodak warranty is communicated to the purchaser in writing by a Kodak company, no other warranty or liability exists beyond the information contained above, even though defect, damage or loss may be by negligence or other act.

How to obtain service

In the United States, call Kodak at 1-800-CD-KODAK.

In Canada call 1-800-465-6325.

In other countries, call your nearest Kodak representative.

If service is required, your Kodak representative will instruct you to return the unit to the nearest service center for repair and will issue a return authorization number. You will be responsible for providing dated proof of purchase to verify warranty coverage. The enclosed Problem Report Form (Appendix H) should also be completed and returned with the equipment.

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DO NOT RETURN ANY DEFECTIVE EQUIPMENT TO KODAK WITHOUT PRIOR AUTHORIZATION FROM THE KODAK INFORMATION CENTER (KIC).

When shipping the KODAK Professional RFS 3570 Film Scanner, the defective equipment shall be packed in its original packing material and shipping is the customer's responsibility. If the original packing material is unavailable, then repacking will be at the owner's expense. The owner is responsible for the shipping charges to Kodak, and Kodak is responsible for the return shipping charges.

Repair turnaround is anticipated to be approximately five working days from receipt of the unit in Rochester, NY.

Limitations

This warranty does not cover circumstances beyond Kodak's control; service or parts to correct problems resulting from the use of attachments, accessories or alterations not marketed by Kodak; service required as a result of relocation; unauthorized modifications or service; failure to pack your scanner according to repacking instructions; misuse, abuse, or failure to follow Kodak's operating instructions; failure to use Kodak-supplied items.

KODAK MAKES NO OTHER WARRANTIES, EXPRESS, IMPLIED, OR OF MERCHANTABILITY OF THIS EQUIPMENT. Repair or replacement without charge are Kodak's only obligation under this agreement.

Kodak will not be responsible for any consequential or incidental damages resulting from the purchase, lease, use, or improper functioning of this equipment, even if loss or damage is caused by the negligence or other fault of Kodak.

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Such damages for which Kodak will not be responsible include, but are not limited to, loss of revenue or profit, downtime costs, loss of use of the equipment, cost of any substitute equipment, facilities or services or claims of your customers for such damages.

This limitation of liability will not apply to claims for injury to persons or damage to property caused by the sole negligence or fault of Kodak or by persons under its direction or control.

EASTMAN KODAK COMPANY
KODAK Professional Imaging
Customer Equipment Services Division

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Appendix C — Troubleshooting

Hardware

Trouble	Possible Cause(s)	Suggested Solution(s)
No power. POWER light on top front left of Scanner is not on.	Power cord loose or not plugged in at one or both ends.	Make sure all plugs are securely seated.
	Power not turned on.	Press button (I) on rear of Scanner.
	No power at power source.	Repair power source and/or try another power source.
	The Scanner fuse has blown.	Replace it once as described in Appendix E; if it blows again contact Kodak.
Computer will not start.	The computer is malfunctioning.	Disconnect the Scanner and try the computer again; if the computer still will not start have it repaired.
	SCSI cable connected to computer is longer than 15 feet (4.6 meters).	Reconfigure or remove one or more SCSI devices so that cable lengths are less than 15 feet (4.6 meters) in total.
	There is a SCSI ID conflict.	Shut down all equipment. Correct the SCSI ID conflict. Refer to Chapter 3 (Macintosh) or Chapter 7 (PC). Restart and try again. (A SCSI ID conflict can occur after the Scanner has been in successful use if an additional device is connected to the computer and results in a SCSI ID conflict, or if the Scanner is connected to a different computer and results in a SCSI ID conflict with that system.)

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Software

Trouble	Possible Cause(s)	Suggested Solution(s)
Macintosh. Computer crashes or you lose files or folders from your Macintosh computer hard disk.	You are using System 7.0 or System 7.0.1 and are not using the System Tuner version 1.1.1.	Put the System Tuner version 1.1.1 or higher in your System Folder, or consider upgrading to System 7.1 or 7.5.
Macintosh. When using Adobe Photoshop on the Macintosh Computer, the Acquire command on the File menu is dimmed, or if not dimmed the Scanner choice does not appear on the menu.	The KODAK Driver files are not in the correct location on your hard disk.	Follow the directions in "Installing the KODAK Driver for Adobe Photoshop Software" in Chapter 3 to ensure that the driver files are properly installed on your hard disk.
PC. The Scanner choice does not appear on the menu or list box of your PC application as expected.	The KODAK Driver files are not installed, are installed improperly, have been deleted, or have been corrupted.	Install, or reinstall, the KODAK Driver files on you PC as described in Chapter 7.

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Image

Trouble	Possible Cause(s)	Suggested Solution(s)
Spots or other unwanted shapes appear in the image.	Defects in film.	Substitute another image (if available) or correct the defect(s) while working with the image in Photoshop.
	Dirt on film	Remove and clean film. Try again.
	Dust has accumulated on the diffuser glass.	Clean the diffuser as described at the end of this appendix and try again.
The image appears blank after scanning.	Unexposed portion of 35 mm film being scanned.	Move 35 mm Holder left or right until image is scanned.
	Empty portion of 35 mm Holder being scanned.	Move 35 mm Holder left or right until image is scanned, or load film into Holder if it is empty.
	The Holder is empty.	Load film into Holder.
Scanned image is reversed.	Film reversed in Holder.	Ensure that the film is properly loaded in the Holder. Refer to Chapter 4 (Macintosh) or Chapter 8 (PC).
Images with consistently too-high or too-low contrast when using Adobe Photoshop.	Monitor gamma may not be calibrated properly.	Make sure your monitor gamma is calibrated properly, per instructions in your Photoshop manual.
Scanned image is the negative of the actual image.	Incorrect film type selected.	Choose correct film type on the Film popup menu in the Driver window, and re-scan image.

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Trouble	Possible Cause(s)	Suggested Solution(s)
Monitor image is monochrome.	Monochrome monitor in use.	Your monitor is not capable of displaying a color image; however, images scanned in color retain all color data and are acquired into your image editing application with all colors intact.
	Macintosh computer monitor is not set properly on Control Panel.	Choose Control Panel(s) from the Apple menu. Find and open Monitors. Click Colors, then click the largest value in list box. Close and try again.
	PC monitor is not set properly for color.	Follow the manufacturer's instructions for setting color for your monitor and video adapter.
High-contrast black-and-white image.	Macintosh computer Monitor not set properly on Control Panel.	Choose Control Panel(s) from the Apple menu. Find and open Monitors. Click Colors, then click the largest value in list box. Close and try again.
	PC monitor is not set properly for color.	Follow the manufacturer's instructions for setting color for your monitor and video adapter.
	Your monitor does not support enough color depth.	Upgrade your color display card.
A partial image is acquired in a window in your PC application.	Pressing ESC to cancel an acquire may result in this condition in some applications.	Close the window without saving it, reenter the KODAK Driver window, and rescan the image.
Only a small portion of the full image was acquired.	The focus rectangle is still in place over the prescan image; only the area within the rectangle was acquired.	Repeat the steps to obtain the scan; however, after the focus step, click once to remove the focus rectangle.

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Trouble	Possible Cause(s)	Suggested Solution(s)
There are excessive patterns (noise) in the image.	The Scanner is being operated outside its ambient temperature range. (Perhaps the Scanner has been stored or transported at temperatures outside its range.)	Allow the Scanner to return to its operating range (refer to Appendix J). Then recalibrate the Scanner by turning off the computer, then the Scanner. Turn on the Scanner then the computer. Try again.
Colors not scanned properly for images with dominant color or for computer generated graphics.	"Auto Bal" is not set properly.	Turn the "Auto Bal" setting on the Driver window to off and try again.
Other image problems occur.	The Scanner was calibrated with film in place, or without the calibration mask, or with the wrong configuration of the calibration mask.	Shut down the computer and Scanner; restart. (This will force a calibration to occur.) Perform calibration as described in Chapter 5 (Macintosh) or Chapter 9 (PC).
	Light in the area of the film holder is interfering with Scanner operation.	Do not have a high level of direct light around the film holder area of the Scanner.
The scanner is not able to focus.	The scanner was not set-up properly during calibration.	Turn off the computer and the scanner for at least 15 seconds before restarting your computer system. Perform the calibration steps again; be certain that only the calibration mask (not film or film holder) is in the scanner.
A scanned image is out of focus (there is soft focus).	The scanner is partially focusing on the edge of the film holder.	Drag the selection rectangle around the sharpest portion of the image (the area in best focus). Click Focus. Click to deselect the focus area. Rescan the image.
	The film is warped or not flat in the film holder.	

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Avoiding “Water Spots” or “Bubbles” When Scanning

This section describes steps you take to avoid the appearance of unwanted circular shaped objects — appearing like water spots, dimples, bubbles, or blisters — in scanned images. These objects occur when dust collects on the surface of the diffuser (a 3” x 4” piece of white plastic) in the scanner, producing unwanted results. The two-part procedure described in this section combines using a dust removal tool to clean the diffuser with a software RECALIBRATE button.

Follow these procedures:

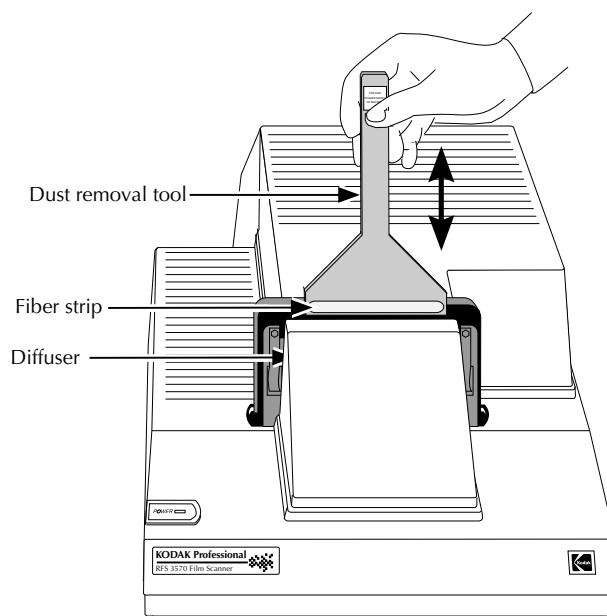
- ▶ The first time you perform a scan during each work session.
- ▶ At any time if you notice water spots or bubbles in the scanned image.

Using the Dust Removal Tool

1. Remove the calibration mask and single-frame holder adapter or multi-frame holder from the scanner.

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2. Orient the dust removal tool as shown below, with the label on the tool (and the fiber strip) facing the front of the scanner; in this position the dust removal tool is behind the diffuser.



3. Clean the surface of the diffuser with an up and down motion; make sure the fiber strip makes contact with the diffuser.
4. Remove the dust removal tool, replace the holder and mask, and rescan the image.

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Using the Recalibrate Button

Follow these steps if bubbles still appear in the scanner image after cleaning the diffuser.

1. Focus the image using the procedure described in Chapter 5 (Macintosh) or 9 (PC).
2. Click the RECALIBRATE button.
3. Follow instructions as they appear on the screen.
4. Click SCAN and continue normal scanning activity.

Other Recommendations to Avoid “Water Spots” or “Bubbles”

We suggest that you follow these additional recommendations to avoid the problem of water spots or bubbles in scanned images.

- ▶ Work in a clean environment if possible.
- ▶ Use the supplied dust cover to cover the scanner whenever it is off.
- ▶ Keep the calibration mask in the scanner during idle times.
- ▶ Keep the film and film holders clean.
- ▶ Use an ionizer to reduce the amount of dust settling on the diffuser.
- ▶ Do *NOT* use compressed air or liquid cleaners to clean the diffuser.

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Appendix D — Messages from KODAK Drivers

The KODAK Drivers add new messages to your software application. An explanation of those added messages follows.

NOTE: If you do not find the message below, the message may have been displayed by your software application; refer to the user's manual for your application for explanations of these messages.

Message	Possible Cause(s)	Suggested Solution(s)
"CALIBRATION COMPLETE! 1. REMOVE the CALIBRATION MASK. 2. INSERT appropriate adapter for the desired film holder. 3. INSERT desired film holder, including film. 4. CLICK OK to continue."	The Scanner has completed its calibration.	Follow the prompts in the message to continue the scanning process.

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Message	Possible Cause(s)	Suggested Solution(s)
<p>"CALIBRATION PROCEDURE</p> <ol style="list-style-type: none">1. If using 35 mm multi-frame holder, REMOVE the holder and holder adapter.orIf using single-frame film holder, REMOVE the holder.2. INSERT or CONFIRM that the single-frame film holder adapter is in the scanner.3. INSERT the CALIBRATION MASK behind the single-frame film holder adapter with the label facing forward.4. CLICK OK to begin calibration."	<p>The Scanner must perform a calibration.</p>	<p>Follow the prompts in the message. Chapters 5 (Macintosh) and 9 (PC) provide details, with art work illustrating the parts mentioned in the message.</p>

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Message	Possible Cause(s)	Suggested Solution(s)
"Cannot create the buffer for scanning image."	There is not enough storage or memory to complete the operation.	Create free space on the hard disk by deleting unneeded files, or by backing up files from this disk to another storage device and then deleting the files from this disk. Then try again.
		Be certain that you have the minimum system memory necessary to operate the Scanner with your computer. (Refer to "Required Hardware," in Chapter 6.) If not, have additional memory installed on your computer system.
		Close open image windows within the application and try again.
		Shut down other applications if they are running and try again.

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Message	Possible Cause(s)	Suggested Solution(s)
"Cannot locate the SCSI host adapter."	A supported SCSI host adapter is not installed, or if installed is not working properly.	If necessary have a technician install a supported host adapter. (Refer to "Required Hardware," in Chapter 6.) <hr/> If problems persist, have a technician verify that the host adapter is properly installed and is not faulty, and then try again. If necessary, have the technician repair or replace the adapter.
"Could not acquire PreScan image."	An unexpected, temporary problem occurred with the Scanner that is preventing the retrieval of an image when you click the button.	Try the operation again; if the message reappears shut down the computer system, restart, and try again.
	An unexpected problem has developed with the Scanner software.	If the steps suggested just above do not resolve the problem, reinstall the Scanner software as described in Chapter 3 (Macintosh) or Chapter 7 (PC), and try again.
"Could not acquire Preview image."	Same as "Could not acquire PreScan image" just above.	Same as "Could not acquire PreScan image" just above.
"Could not acquire Select image."	Same as "Could not acquire PreScan image" just above.	Same as "Could not acquire PreScan image" just above.

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Message	Possible Cause(s)	Suggested Solution(s)
"Could not calibrate scanner."	The Film or Slide holder — with film loaded — has been left in the Scanner.	Remove the Holder from the Scanner and try again.
	An unexpected problem has developed with the Scanner software.	If the steps suggested just above do not resolve the problem, reinstall the Scanner software as described in Chapter 3 (Macintosh) or Chapter 7 (PC), and try again.
	An unexpected problem occurred with the Scanner hardware.	Contact Kodak.
"Could not focus scanner."	Focusing could not occur with the currently selected area.	Select another area and try again.
	An unexpected problem occurred with the Scanner hardware.	Contact Kodak.
"Could not scan image."	Same as "Could not acquire Select image" earlier in this section.	Same as "Could not acquire Select image" earlier in this section.

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Message	Possible Cause(s)	Suggested Solution(s)
"File Error: Cannot find WINASPI.DLL." (Appears when using the TWAIN compliant KODAK Driver after selecting the source.)	The TWAIN compliant KODAK Driver for ASPI is installed, but a non-ASPI SCSI Host Adapter and not an ASPI compliant host adapter is installed in the PC.	Obtain an ASPI compliant host adapter, have a technician install it, and then try again.
	The TWAIN compliant KODAK Driver for ASPI is installed, as is an ASPI compliant host adapter, but the Windows ASPI files that accompany the ASPI compliant host adapter are not installed in the PC.	Install the Windows ASPI files that accompany the ASPI compliant SCSI host adapter, then try again.
		If for some reason the Windows ASPI files were not supplied with your host adapter, contact the source of the host adapter to obtain them; then install the files and try again.
		Even though you may have installed ASPI files for other operating platforms (for example for DOS), the Windows ASPI files must be installed to use the KODAK Driver.

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Message	Possible Cause(s)	Suggested Solution(s)
<p>"Firmware download failed. Check SCSI bus."</p> <p>NOTE: Firmware is downloaded automatically to the Scanner the first time that you try to access the Scanner during each work session. If this message appears, the KODAK Driver is unable to download firmware to the Scanner.</p>	<p>The Scanner SCSI ID is set improperly.</p>	<p>Reset the Scanner SCSI ID so that it is different from other devices connected to the computer. To do so, turn off the computer then the Scanner, set the Scanner to a unique SCSI ID, turn on the Scanner then the computer, and try again.</p>
	<p>You have connected the Scanner to a different computer (or to the same computer to which you recently connected an additional SCSI device), and there is now a SCSI ID conflict.</p>	<p>Reset the Scanner SCSI ID so that it is different from other devices connected to the computer. To do so, turn off the computer then the Scanner, set the Scanner to a unique SCSI ID, turn on the Scanner then the computer, and try again.</p>
	<p>An unexpected problem occurred with the Scanner hardware.</p>	<p>If the steps suggested just above do not resolve the problem, reinstall the Scanner software as described in Chapter 3 (Macintosh) or Chapter 7 (PC), and try again.</p>

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Message	Possible Cause(s)	Suggested Solution(s)
<p>“Firmware download failed. Could not load RFS3570.BIN file.”</p> <p>NOTE: Firmware is downloaded automatically to the Scanner the first time that you try to access the Scanner during each work session. If this message appears, the KODAK Driver is unable to download firmware to the Scanner.</p>	<p>An unexpected problem has developed with the Scanner software.</p>	<p>Be certain that the RFS3570.BIN file is placed in the appropriate location on your hard disk as described in Chapter 3 (Macintosh) or Chapter 7 (PC), and try again.</p> <hr/> <p>Reinstall the KODAK Driver files as described in Chapter 3 (Macintosh) or Chapter 7 (PC), and try again.</p> <hr/> <p>Turn off the computer, then the Scanner. Turn on the Scanner then the computer. Try again.</p>
<p>“General failure in transfer. An operation error just occurred.”</p> <p>(Wording may vary.)</p>	<p>A message of this type — which is displayed by your software application and not the TWAIN driver — indicates that the application did not receive the image.</p>	<p>This message should follow a message from the TWAIN driver. Refer to the explanation of the TWAIN driver message in this appendix.</p>

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Message	Possible Cause(s)	Suggested Solution(s)
"Incorrect Firmware Version. Install the latest KODAK Driver for Adobe Photoshop Software."	The Driver is attempting to download firmware to the Scanner but does not find the files it needs.	Reinstall the KODAK Driver for Adobe Photoshop Software as described in Chapter 3, and try again.
"Incorrect Firmware Version. Install the latest TWAIN Compliant KODAK Driver(s)."	The Driver is attempting to download firmware to the Scanner but does not find the files it needs.	Reinstall the KODAK TWAIN Driver as described in Chapter 7, and try again.
"Internal Error nnn. Restart MACINTOSH computer and try driver again. Or replace driver from original disk."	There is an unusual condition with the KODAK Driver for use with Adobe Photoshop on the Macintosh computer.	Choose the driver again from the Acquire submenu. If the problems recurs, shut down your Macintosh computer, restart the computer and Photoshop, and try the driver again. If the condition persists, reinstall the KODAK Driver files as described in Chapter 3, and try again.
"Not enough disk space."	There is not enough room on the disk to save the file.	Choose another disk, if available, and try again. Choose a smaller scanning resolution (RES) and/or drag to crop on the KODAK Driver window, and try again. Create free space on this disk by deleting unneeded files, or by backing up files from this disk to another storage device and then deleting the files from this disk. Then try again.

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Message	Possible Cause(s)	Suggested Solution(s)
"Not enough memory."	There is not enough storage or memory to complete the operation.	With a Macintosh Computer, quit Adobe Photoshop and increase its memory size. (Select Photoshop on the Finder. Choose Get Info from the File menu. Increase the memory size.) Restart Photoshop and try the operation again.
"Not enough memory. Please close other applications to free system resources."	There is not enough storage or memory to complete the operation.	<p>Create free space on the hard disk by deleting unneeded files, or by backing up files from this disk to another storage device and then deleting the files from this disk. Then try again.</p> <p>Be certain that you have the minimum system memory necessary to operate the Scanner with your computer. Refer to Chapter 2 (Macintosh) or Chapter 6 (PC). If not, have additional memory installed on your computer system.</p> <p>Close open image windows within the application and try again.</p> <p>Shut down other applications if they are running and try again.</p>
"Not enough memory to perform scanning, please close other applications or documents to free system resource."	Same as "Not enough memory" just above.	Same as "Not enough memory" just above.

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Message	Possible Cause(s)	Suggested Solution(s)
"Parity error detected during transfer."	A hardware error has been detected in the cabling or in the Scanner.	Verify that all SCSI connections are correct (if necessary turn off all equipment to alter the connections). Try other cables if available. If the problem persists, contact Kodak.
"PLEASE WAIT . . . CALIBRATION IN PROGRESS ▶ DO NOT INSERT holders into Scanner. ▶ WAIT for calibration to complete!"	This message appears normally during calibration.	Wait for calibration to finish before inserting a Holder into the Scanner.
"PLEASE WAIT . . . FOCUSING IN PROGRESS"	Scanner is focusing.	As prompted, wait for focusing to occur.
"Preferences file could not be saved."	The system disk is full, or is write protected (for example on a SyQuest disk), or there is a problem with the system disk.	Create room on the system disk, remove write protection from the system disk, or have the system disk repaired.
"Problem with Magnification hardware."	A hardware problem was detected.	Shut down the computer and the Scanner. Restart and try again. If the problem persists, reinstall the Scanner software as described in Chapter 3 (Macintosh) or Chapter 7 (PC), and try again. If the problem continues contact Kodak.

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Message	Possible Cause(s)	Suggested Solution(s)
“Required Scanner setup file (RFS3570.TBL for input) not available. Try again. If problem persists, reinstall the driver and try again. If unsuccessful, contact Kodak.”	The software Driver is unable to use a required file.	Reinstall the KODAK Driver as described in Chapter 7, and try again. If this is unsuccessful, contact Kodak.
“Required Scanner setup file (RFS3570.TBL for output) not available. Try again. If problem persists, reinstall the driver and try again. If unsuccessful, contact Kodak.”	The software Driver is unable to use a required file.	Reinstall the KODAK Driver as described in Chapter 7, and try again. If this is unsuccessful, contact Kodak.

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Message	Possible Cause(s)	Suggested Solution(s)
<p>“The Scanner was not found. Try the following:</p> <ul style="list-style-type: none"> ▶ Turn on Scanner Power ▶ Check all cables ▶ Check for SCSI ID conflict ▶ Check for blown fuse” 	The SCSI cable is not connected properly.	Verify that the SCSI cable is connected properly between the computer and the Scanner. If not, turn both off, reconnect them, and try again.
	The SCSI cable is defective.	Use another SCSI cable.
	The Scanner SCSI ID is set improperly.	Reset the Scanner SCSI ID so that it is different from other devices connected to the computer. To do so, turn off the computer, then the Scanner. Reset the Scanner SCSI ID. Restart and try again.
	The power to the Scanner is off.	Turn off the computer. Turn on the Scanner, then the computer and try again.
	The Scanner fuse has blown.	Determine the cause of the blown fuse and correct it. Then replace the fuse as described in Appendix E.
	You have connected the Scanner to a different computer (or to the same computer to which you recently connected an additional SCSI device), resulting in a SCSI ID conflict.	Reset the Scanner SCSI ID so that it is different from other devices connected to the computer. To do so, turn off the computer then the Scanner, set the Scanner to a unique SCSI ID, turn on the Scanner then the computer, and try again.

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Message	Possible Cause(s)	Suggested Solution(s)
<p>“The Scanner was not found. Try the following:</p> <ul style="list-style-type: none"> ▶ Turn on Scanner Power ▶ Check all cables ▶ Check for SCSI ID conflict ▶ Verify TWAIN driver matches installed board ▶ Check for blown fuse.” 	<p>Same possible causes as the previous message.</p> <hr/> <p>You have several SCSI host adapters installed, and the Scanner is not connected to the host adapter selected as the TWAIN source.</p>	<p>Same suggested solutions as the previous message.</p> <hr/> <p>Select a different TWAIN source or turn off all equipment and reconnect the Scanner to the desired host adapter.</p>
<p>“This driver may not be compatible with this version of PHOTOSHOP™”</p>	<p>The KODAK Driver and your version of Adobe Photoshop are incompatible.</p>	<p>Adobe Photoshop version 2.0 or higher is required. Upgrade if necessary.</p>
<p>“This driver requires 32 bit QuickDraw to operate.”</p>	<p>You are working with a supported Macintosh Computer but the 32 bit QuickDraw file is missing or damaged.</p> <hr/> <p>The KODAK Driver will not work on an older Macintosh Computer that does not have 32 bit QuickDraw.</p>	<p>Install or reinstall 32 bit QuickDraw.</p> <hr/> <p>You will not be able to use the KODAK Driver on this computer; run the driver on a different computer.</p>
<p>“TWAIN Error. Error opening Data Source. Failure due to unknown causes.” (Appears when attempting to access the image window with a TWAIN acquire command.)</p>	<p>A TWAIN compliant KODAK Driver has not been installed or has been installed improperly in the PC.</p>	<p>Reinstall the driver as described in Chapter 7 and try again.</p>

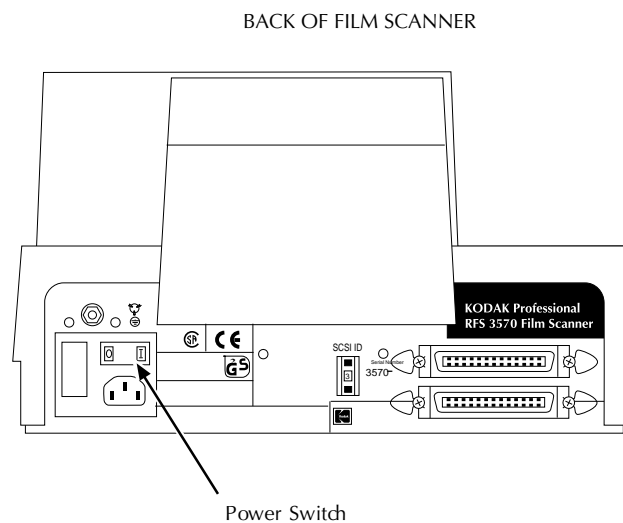
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Appendix E — Replacing the Fuse

Always turn off the Scanner and unplug it prior to replacing the fuse. Follow these instructions to replace the fuse when it has blown, or when moving the Scanner from one electrical service to another.

NOTE: Contact Kodak if you replace the fuse because it has blown, and it immediately blows again.

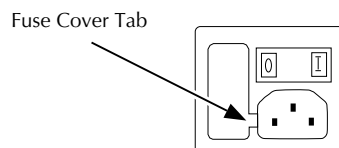
1. Turn off your computer.
2. Verify that the power switch on the back of the Scanner is in the off (O) position by pressing the O end of the power switch.



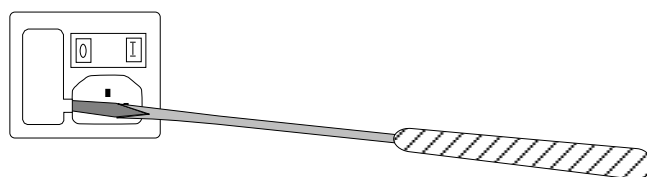
3. Unplug the power cable from the plug outlet cavity on the back of the Scanner.

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4. Notice that the fuse cover has a small tab accessible from the plug outlet cavity.



5. Insert a thin, flat object (like a small screwdriver), beneath the fuse cover tab and twist; the fuse housing pops free.



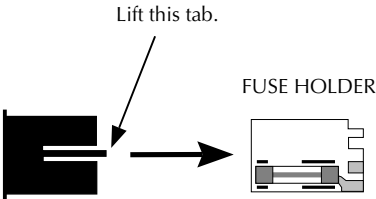
6. Pull the fuse housing out of the Scanner.

FUSE HOUSING

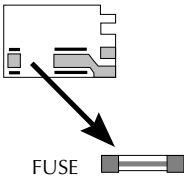


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7. Lift the tab on the fuse housing and slide out the fuse holder.





8. Use your thumb and forefinger to pull the fuse from the fuse holder.



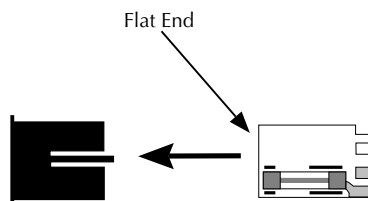
9. Replace the blown fuse with a new fuse, selecting from the table below. (These fuses are commonly available outside of Kodak.)

CAUTION: For continued protection against fire hazard replace only with the same type and rating fuse.

<i>Line Voltage</i>	<i>Fuse Type and Rating</i>		
120V	1.0A	250V	SLO-BLO
100V	T 250V	1.0A	
220-240V	T 250V	1.0A	

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10. With the fuse facing up, insert the flat end of the fuse holder into the fuse housing, and slide the pieces together until they snap together.



11. Slide the fuse housing back into the Scanner; be certain that the tab is aligned properly and that you push the fuse cover until it is flush with the Scanner.

12. Plug the power cable back into the plug outlet. The Scanner is ready for use.

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Appendix F — Updating the KODAK Driver

This appendix provides information on obtaining and installing an updated software driver including:

- ▶ Directions for downloading the software driver electronically from several sources. (We recommend this as the preferred method of obtaining driver updates.)
- ▶ Directions for obtaining the software driver on diskettes directly from Kodak.
- ▶ Directions for installing the software driver and updating scanner firmware once you have obtained the updated version of the driver.

Downloading Software Drivers Electronically

NOTE: The availability of software downloading service described in this section may vary from area to area.

When Kodak prepares updated versions of the software drivers for the scanner, it makes those updates available electronically on a public ftp server. Downloading an update from this network is the quickest way to obtain the most current driver. You receive the driver directly — in a timely way — at your convenience.

Downloading a driver requires: a modem, communications software, a telephone line, and access to this server. These items are not supplied by Kodak.

You access this ftp server using one of the following methods:

- ▶ Via FTP at “ftp ftp.kodak.com/pub/photo-cd/drivers/”
Log-in as “anonymous” using your complete e-mail address as a password. The file “Descriptions.txt” in the drivers directory lists all

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files by product, version, release date, and so on. Find and download the driver for the product you use.

- ▶ Via the World Wide Web at:
“<http://www.kodak.com/productInfo/technicalInfo/driverSupport.shtml>”

This page contains links to driver listings by product type. Find and download the driver for the product you use by following the hyperlinks.

- ▶ Via FTP (or WWW) through America Online (AOL) or CompuServe. A driver description index is posted on AOL (keyword Kodak, and then check the Kodak Information Library) and on CompuServe (“Go Kodak” and then check Library 1). Instructions are also posted describing how to access the Kodak ftp site through the on-line service ftp utility. Find and download the driver for the product you use.

We encourage you to visit our driver site on a regular basis.

Once you have obtained a driver, continue at “Installing the Software Driver” below.

Obtaining Software Updates Directly from Kodak

You can order diskettes containing current versions of the KODAK Driver for Adobe Photoshop Software (Macintosh) and/or the KODAK TWAIN Driver. Refer to the “Appendix I—Optional Equipment & Spare Parts List” for ordering information.

If you obtain software directly from Kodak, install it as described in the next section.

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Installing the Software Driver

This section describes how to update the driver on your hard disk, either the KODAK Driver for Adobe Photoshop Software (Macintosh) or the KODAK TWAIN Driver.

The section assumes that you have downloaded the desired files as described earlier in this appendix, or that you have received a new diskette from Kodak with these files.

Updating the KODAK Driver for Adobe Photoshop Software (Macintosh)

1. Complete all the steps in “Installing the KODAK Driver for Adobe Photoshop Software (Macintosh)” in Chapter 3, except as noted here.
 - ▶ Since you will be replacing files (KODAK RFS 3570 and RFS3570.BIN) with new versions, you may wish to save the older versions of the files by copying them to a backup diskette.
 - ▶ If the files have been downloaded from a network (instead of obtained on a diskette), use the downloaded files from their location on your hard disk (since there is no diskette).
 - ▶ When you copy the new files to the appropriate location on your hard disk, you will be prompted to confirm that you want to replace the existing files. After backing them up, as suggested just above, you can replace the files.
2. Access the new driver by completing the steps in Chapter 5, “Using the KODAK Driver for Adobe Photoshop Software — Macintosh Computer.”

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Updating the KODAK TWAIN Driver (PC)

1. Complete all steps in “Installing TWAIN Compliant KODAK Driver(s)” in Chapter 7, except if the files have been downloaded from a network — instead of obtained on a diskette — run the `SETUP` program from its location on your hard disk rather than from the diskette.
2. Access the new driver by completing the steps in Chapter 9, “Using KODAK Drivers with Windows Applications — PC.”

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Appendix G — Repacking Instructions

If you are having difficulties using your KODAK Professional RFS 3570 Film Scanner, please contact a Kodak representative before returning your unit for service. In the United States, call Kodak at 1-800-CD-KODAK. In Canada call 1-800-465-6325. In other countries, call your nearest Kodak representative. If service is required, your Kodak representative will tell you how to return the unit to the nearest service center for repair and issue a return authorization number.

Please make sure that you have filled out and returned your Warranty Registration card; warranty service will not be provided without return of the Warranty Registration card or dated proof of purchase.

Please follow these instructions if you need to repack your Scanner to ship it to Kodak. Be sure to use the original shipping carton and packing materials! If the original packing materials have been discarded or are not available, packing will be at the owner's expense. A shipping box is available from Kodak Parts Services at additional cost. To order, call Kodak Parts Services at 1-800-431-7278 (fax 1-716-588-3051).

Do not include cables, Film or Slide Holders, software, or manuals in the packaging.

1. Fill out the enclosed KODAK Professional RFS 3570 Film Scanner Problem Report Form (Appendix H). Be certain your return address is complete, and that you have included the return authorization number you received from Kodak.
2. Shut down the computer and Scanner.
3. Disconnect power and SCSI cables from the Scanner.

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4. Remove the Film or Slide Holder from the Scanner.
5. Place the Scanner into the plastic bag and then into the original shipping carton.
NOTE: The plastic bag is important because it protects the Scanner from dirt and scuffing during shipment.
6. Place the completed Problem Report Form (Appendix H) in the shipping carton on top of the Scanner.
7. Close and seal the shipping carton with tape.
8. Ship as instructed by your Kodak representative.

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Appendix H — Problem Report Form

KODAK Professional RFS 3570 Film Scanner

Customer Return Address

Name _____

Company _____

Address _____

City _____ State ____ Zip _____ — _____

Phone () _____

Date _____

Equipment Description

Scanner Serial Number — _____

(See back of Scanner under "Serial Number.")

Return Authorization Number _____

Provided by the Kodak. Refer to "Appendix G — Repacking Instructions" for additional information.

Problem Description

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Appendix I — Optional Equipment & Spare Parts List

Ordering Optional Kodak Equipment from Your Dealer

To order items in this category, contact your dealer. For product information, including detailed information on options and accessories, and to obtain catalog numbers where not provided, in the United States call 1-800-CD-KODAK, in Canada call 1-800-465-6325, and elsewhere contact your local Kodak representative, except as noted below.

NOTE: None of the items described in this section is supplied with the Scanner.

Item Name	Description
KODAK XLS 8650 Digital Printer (raster)	Prints 300 pixels per inch, 24-bit color or eight-bit gray scale images up to 8.5 x 12-inches (21.6 x 30.5-cm) to KODAK EKTATHERM XLS print paper or transparencies. Print time for reflective prints is 1.7 minutes or less at maximum image area including EKTATHERM XTRALIFE (1.2 minutes without EKTATHERM XTRALIFE), and 3.2 minutes or less at maximum image area for transparency material. Kodak's new EKTATHERM XTRALIFE Ribbon, available in color or black, incorporates a laminate patch that: protects a finished reflective print from fingerprints, gives reflective prints additional light-fade stability, and prevents dye from transferring to PVC sleeves and folder. The printer can use the KODAK EKTATHERM Color Proofing Ribbon/CMYK reflective print paper with a new dye set for matching color prepress proofing requirements.
KODAK XLS 8650 PS Digital Printer (raster and postscript)	Includes all features of the printer above, and in addition includes an ADOBE POSTSCRIPT Level 2 language interpreter.

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Item Name	Description
KODAK Digital Science™ Desktop Color Proofer 9000 Digital Printer	Prints 300 pixels per inch, 24-bit color images up to 12.2 x 18-inches (30.9 x 45.7-cm) to KODAK EKTATHERM Color Proofing Ribbon/CMYK reflective print paper. In addition to raster printing, this printer includes an ADOBE POSTSCRIPT Level 2 language interpreter. The printer can use the KODAK EKTATHERM Color Proofing Ribbon/CMYK reflective print paper with a new dye set for matching color prepress proofing requirements.

Name	Catalog No.	Description
RFS 35 mm Negative Film Holder	871-4263	35 mm Negative Film Holder for use with RFS35, RFS 2035, 2035 Plus, and 3570 Film Scanners
RFS 35 mm Slide Holder	869-8011	35 mm Slide Holder for use with RFS35, RFS 2035, 2035 Plus, and 3570 Film Scanners
RFS 4.5 x 6 cm Film Holder	160-5930	4.5 x 6 cm Film Holder for use with RFS 3570 Film Scanner
RFS 46 mm Film Holder	172-2461	46 mm Film Holder for use with RFS 3570 Film Scanner
RFS 6 x 4.5 cm Film Holder	885-3731	6 x 4.5 cm Film Holder for use with RFS 3570 Film Scanner
RFS 6 x 6 cm Film Holder	898-8602	6 x 6 cm Film Holder for use with RFS 3570 Film Scanner
RFS 6 x 7 cm Film Holder	815-2472	6 x 7 cm Film Holder for use with RFS 3570 Film Scanner
RFS 6 x 9 cm Film Holder	857-7207	6 x 9 cm Film Holder for use with RFS 3570 Film Scanner
RFS 70 mm Film Holder	847-0445	70 mm Film Holder for use with RFS 3570 Film Scanner

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Name	Catalog No.	Description
Calibration Mask	180-7296	Calibration mask (light lock gate)
RFS 35 mm Multi-frame Holder Adapter	869-8821	RFS 35 mm Multi-frame Holder Adapter to hold 35 mm multi-frame holders
Single-frame Holder Adapter	851-1586	Single-frame Holder Adapter to use with single frame film holders
Dust Cover	133-9993	
Dust Brush	809-9939	

Ordering Optional Equipment from Other Vendors

To order items in this category, contact the individual vendors listed below.

Kodak assumes no responsibility for your use of third-party optional equipment.

NOTE: None of these items is supplied with the Scanner.

Item Name	Description
Software Drivers	<p>You may be able to obtain software drivers prepared by companies other than Kodak that enable you to use the Scanner on computer platforms in addition to the Macintosh or PC, or with operating systems in addition to the Macintosh operating system or Windows.</p> <p>You may also be interested in developing your own software driver.</p> <p>For information contact Kodak.</p>

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Ordering Spare Parts from Kodak

To order any of the following spare parts for your Scanner, call Kodak Parts Services at 1-800-431-7278 (fax 1-716-588-3051).

Part Name	Part No.	Description
NOTE: The Macintosh and PC cables below are also widely available from computer retailers. If you obtain a cable from one of these sources, be certain to obtain a high quality cable with a continuous EMI shield over the cable and connections.		
25-pin to 50-pin SCSI cable for Macintosh computers	8B5471	
50-pin SCSI to 50-pin SCSI cable for Macintosh computers		This item is not supplied with the Scanner, but is widely available from computer retailers.
50-pin SCSI to 50-pin SCSI2 cable for IBM/Compatible PC computers		This item is not supplied with the Scanner, but is widely available from computer retailers.
50-pin SCSI to 50-pin SCSI cable for IBM/Compatible PC computers		This item is not supplied with the Scanner, but is widely available from computer retailers.

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Part Name	Part No.	Description
KODAK Driver for Adobe Photoshop Software (Macintosh), and KODAK TWAIN Driver (PC, 3.5-inch diskette)		We encourage you to obtain software updates electronically as described in "Appendix F — Updating Your Kodak Software Driver" in this manual. However, you can also order them from Kodak. (In the United States call 1-800-CD-KODAK, in Canada call 1-800-465-6325, and elsewhere contact your local Kodak representative.)
Power cord	590966	
50-pin SCSI terminator	692480	
Shipping box — cardboard	3B5877	

Ordering New Manuals from Kodak

To order an additional user's manual, call Kodak Advertising Distribution at 1-800-233-1650 (fax 1-716-588-4807).

Part Name	Part No.	Description
User's Manual	The part number appears on the last page of this manual.	KODAK Professional RFS 3570 Film Scanner User's Manual.

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Appendix J — Specifications

KODAK Professional RFS 3570 Film Scanner

Power

120 V, 60 Hz, 1.0 A
100V, 50/60 Hz, 1.0 A
220-240 V, 50 Hz, 0.5 A

Warm Up

None required

Color Balance

Automatic with manual fine-tuning

Scanning Resolutions

Preset and selectable custom resolutions, providing up to 2000 DPI depending on film size.

Focus

Built-in Autofocus

Film and Holders

Holder for 35 mm unmounted film strips up to six frames

Holder for 35 mm mounted slides up to four frames

Holders for 120 film format (for 6 x 7 cm and 6 x 6 cm)

Optional Holders available for 6 x 9 cm, 6 x 4.5 cm, 4.5 x 6 cm, 46 mm, and 70 mm

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A/D Accuracy

12-bit A/D conversion

Dynamic Range

12-bits per color

Color/Gray Levels

24 bits per color pixel

8 bits per monochrome pixel

Color Separation

CCD area array sensor

RGB filter wheel

Xenon strobe

Interface/Termination

Small Computer System Interface (SCSI)

The Scanner does not have an internal terminator.

Interface Cards

Macintosh computer: none required

PC: ASPI SCSI host adapter cards such as those from Adeptec, Inc. running EZ-SCSI 4.01 or later.

Scan File Size

18 MB full-resolution color

6 MB full-resolution monochrome

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Approximate Dimensions

13.25 in. (33.7 cm) wide x 21 in. (53.4 cm) long x 8 in. (20.3 cm) high

Approximate Weight (Scanner alone)

16 lbs., 13 oz. (7.5 kg)

Safety

CSA (NRTL/C) — Certified to both US and Canadian standards, TUV

Operating Ambient Temperature Range

60° to 85° F (16° to 29° C)

NOTE: Do not turn on the Scanner unless it is within this range. If the Scanner has been stored or transported outside of this range, allow it to return to within this range before turning it on.

Operating Ambient Humidity Range

20% to 75% relative humidity (non-condensing)

NOTE: If the Scanner is stored or transported in cold temperatures, and then brought into a warm, humid environment, condensation may occur.

Software Drivers

Macintosh computer: KODAK Driver (plug-in) for use with ADOBE PHOTOSHOP

PC: KODAK Drivers for use with supported TWAIN compliant applications. One driver is provided for ASPI SCSI host adapter cards such as those from Adeptec, Inc. running EZ-SCSI 4.01 or later, and another driver is provided for supported Future Domain SCSI host adapter cards. (Refer to Chapter 6.)

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Appendix K — Glossary

This section provides brief explanations of terms used in conjunction with the Scanner. Refer to the Index to find additional reference material about the following terms. In addition, Chapter 5, “Using the KODAK Driver for Adobe Photoshop — Macintosh Computer,” and Chapter 9, “Using the KODAK Drivers with Windows Applications — PC,” contain detailed reference material at the end of the chapters of each term appearing on the KODAK Driver window.

- Access. Reach the KODAK Driver window by making the appropriate choice from a menu of your image editing application.
- Acquire. Move image data into an image editing application from the Scanner. This occurs when you click `SCAN` in the KODAK Driver window. As the image is acquired, the settings you’ve made are applied to the image data.
- BIN file. This file, placed on your hard disk when you install the software, contains firmware, the control programming used by the Scanner. The firmware is automatically copied — downloaded — from your computer hard disk into the Scanner each time you begin a work session.
- CCD (charge coupled device). The type of imager inside the Scanner.
- Download firmware. See BIN file.
- Driver. The software provided by Kodak as part of the Scanner that allows you to access the Scanner from your computer. Also called the “Photoshop driver” on the Macintosh computer platform, and the “TWAIN driver” on the PC platform.
- Firmware. Scanner control programming. See *also* BIN file.
- Imager. The light sensitive object (CCD) positioned within the Scanner that collects light striking it through your film.

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KODAK Driver window. The window displayed by the driver in which a preview of one image appears. The window also displays controls that allow you to manipulate the scanning process.

Photoshop driver. The software provided by Kodak as part of the Scanner that allows you to access the Scanner from your Macintosh computer. Another driver, the "TWAIN driver" provides similar access on the PC platform (including access to the PC version of Photoshop).

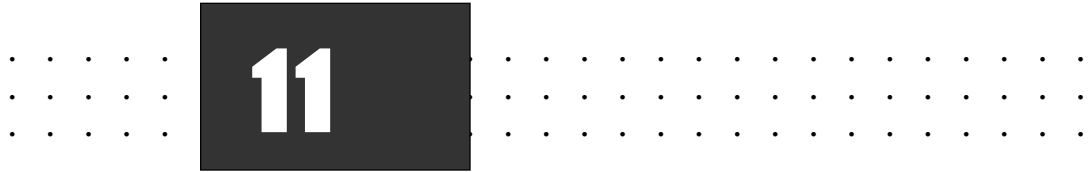
Plug-in. Another name for the driver software. *See also* Driver.

Preview. A single large image displayed in the KODAK Driver window as you manipulate the controls in the window.

POWER on Light. A light at the top left front of the Scanner that when on indicates that the Scanner is on.

TWAIN. A set of written specifications developed by a consortium of vendors, that when implemented in software allows you to acquire data from a peripheral (such as a film scanner or digital camera) directly into your software application (such as an image-editing software) without leaving the application.

TWAIN driver. The software provided by Kodak as part of the Scanner that allows you to access the Scanner from your PC. Another driver, the "Photoshop driver" provides similar access on the Macintosh computer platform.



Index

8-bit video card. *See* Video display card
 8-bits per monochrome pixel J-2
 12-bit color 1-2, J-2
 16-bit video card. *See* Video display card
 24-bit video card. *See* Video display card
 24-bits per color pixel 1-2, J-2
 32-bit QuickDraw 2-2, 2-3, D-14
 90°
 Macintosh 5-16, 5-25
 PC 9-17, 9-25
 90° CCW
 Macintosh 5-16, 5-25
 PC 9-17, 9-25
 90° CW
 Macintosh 5-16, 5-25
 PC 9-17, 9-25
 180°
 Macintosh 5-16, 5-24
 PC 9-17, 9-25
 80386 6-2, 9-25

A

A/D conversion 1-2, J-2
 About Photoshop 5-25
 About Plug-in 5-25
 About Scanner 9-25
 Access K-1
 Accessories vi
 Acquire K-1
 Adaptec, Inc. *See* SCSI, ASPI host adapter
 Adobe Photoshop
 Macintosh 1-2, 2-2, 5-1 to 5-30
 Version number 2-3, 3-21 to 3-22
 PC (Windows) 6-3, 9-3, 9-4 to 9-5
 Version number 9-3
 Plug-ins 3-22, K-2
 PS Prefs 3-22
 Advanced SCSI Programming Interface.
See SCSI, ASPI host adapter
 America Online F-2
 Analog-to-digital conversion 1-2, J-2
 Apple Macintosh Computer. *See*
 Macintosh Computer
 ASPI host adapter. *See* SCSI, ASPI host
 adapter
 Attachments iv
 Auto Bal

Macintosh 5-16, 5-25
 PC 9-16, 9-25
 Autofocus 1-2

B

B (blue). *See* Blue
B & W 1-1
 Macintosh 5-6, 5-17, 5-25
 PC 9-7, 9-17, 9-25, 9-27
Balance 1-2, J-1
 Macintosh 5-16, 5-19, 5-25
 PC 9-16, 9-19, 9-25, 9-26
Black-and-white. *See* B & W
Blue 1-1
 Macintosh 5-19
 PC 9-19 to 9-20, 9-25
BIN files. *See* RFS3570.BIN
Brightness
 Macintosh 5-19, 5-26
 PC 9-20, 9-26

C

Cables
 Message D-13 to D-14
 Power cords v
 Macintosh 3-2
 PC 7-2
 SCSI 1-4
 Length 3-9, 7-9
 Macintosh 3-4 to 3-18
 PC 7-5 to 7-18
 Troubleshooting C-1
 Spare parts 1-4 to 1-5
 Troubleshooting C-1
Calibration 1-2
 Macintosh 5-5, 5-7 to 5-11, 5-12,
 5-15
 Mask 5-10, 5-15, 9-11, 9-15, 1-3
 Messages D-1 to D-2, D-5, D-11
 PC 9-7 to 9-12, 9-15
 Troubleshooting C-5
**Canadian Department of Communica-
 tions vii**
Cancel
 Macintosh 5-26
 PC 9-26

Carton G-1 to G-2, I-5
CCD. *See* Charge Coupled Device
Charge Coupled Device 1-1, J-2, K-1
Class A device vi
Cleaning iv
Click Now
 Macintosh 5-18 to 5-19, 5-26
 PC 9-19 to 9-20, 9-26
Click White
 Macintosh 5-18 to 5-19, 5-26
 PC 9-19 to 9-20, 9-26
Color
 Balance 1-2, J-1
 Macintosh 5-16, 5-19, 5-25
 PC 9-16, 9-19, 9-25, 9-26
 Levels J-2
 Macintosh 5-18 to 5-19
 PC 9-19 to 9-20
 Monitor
 Macintosh 2-2
 PC 6-2
 Negative. *See also* Negative (film
 type) 1-1
 Separation J-2
Command key 5-17, 5-21, 5-26
CompuServe F-2
Condensation J-3
Connector, SCSI. *See* SCSI, Port
Contrast
 Macintosh 5-20, 5-26
 PC 9-26, 9-27
 Troubleshooting C-3
**Control Panel, Macintosh
 Computer C-4**
Compressed air C-7
Crop
 Macintosh 5-21, 5-26 to 5-27
 PC 9-21 to 9-22, 9-26 to 9-27
CSA J-3
Custom (Resolution)
 Macintosh 5-20, 5-28 to 5-29
 PC 9-21, 9-28
CCW. *See* 90° CCW
CW. *See* 90° CW
CYAN
 Macintosh 5-19
 PC 9-19 to 9-20

• • • • •

D

- Dimensions** J-3
- Diffuser** 5-22, 9-22 to 9-23, C-6
- Display.** See **Monitor**
- Display card.** See **Video display card**
- Dithered color, monitor** 1-2
- DOS prompt** 7-22, 9-4
- Downloading drivers** F-1 to F-4
- DPI (resolution)**
 - Macintosh 5-28
 - PC 9-28
- Drivers.** See **KODAK Drivers**
- Dust** iv, 5-22, 5-23, C-6 to C-8
- Dust cover** 5-24, 9-24, C-8, I-3
- Dust removal tool** 5-22, 9-23, C-5, C-6 to C-7, I-3
- Dynamic range** J-2

E

- Electric shock, reducing risk** iii
- Electromagnetic emission** vii
- EMI.** See **Electromagnetic emission**
- ESC**
 - Macintosh 5-26
 - PC 9-26, C-4
- European Standard EN55022** vi
- EZ-SCSI.** See **SCSI, ASPI host adapter**

F

- FCC** vi
- Fiber strip (dust removal tool)** 5-22, 9-23
- Film** J-1
 - Holders** I-2 to I-3, J-1
 - Macintosh 4-2 to 4-12
 - PC 8-2 to 8-12
 - Spare parts** I-2 to I-3
 - Loading**
 - Macintosh 4-1 to 4-12, 5-5
 - PC 8-1 to 8-12, 9-6
 - Negatives.** See **Negative (film type)**
 - Positives.** See **Positive (film type)**
 - Size** J-2
 - Macintosh 5-6, 5-15, 5-27
 - PC 9-7, 9-7, 9-27

Film (continued)

- Types** 1-1, 1-2
 - Macintosh 5-6, 5-27
 - PC 9-7, 9-27
- Fire hazard, preventing** iii, vi
- Firmware** K-1
 - Macintosh 5-11, 5-12
 - PC 9-12
 - Message D-8, D-9
- Focus.** See also **Autofocus** J-1
 - Macintosh 5-5, 5-15, 5-17 to 5-18, 5-27
 - Message D-5, D-11
 - PC 9-6, 9-12, 9-13, 9-15, 9-17 to 9-19, 9-27

FTP F-1

- Full (Resolution)**
 - Macintosh 5-20, 5-28 to 5-29
 - PC 9-20

Fuse E-1 to E-4

- Message** D-13 to D-14
- Replacing** E-1 to E-4
- Specifications** E-3
- Troubleshooting** D-13 to D-14

G

- G (Green).** See **Green**
- Gamma**
 - Macintosh 3-21, 5-20, 5-26, 5-28
 - PC 9-20, 9-27
 - Troubleshooting** C-3

Get Info 5-28

Glossary K-1 to K-2

Graphics adapter. See Video display card

Green 1-1

- Macintosh 5-19
- PC 9-19 to 9-20, 9-25

Grounding iv

H

Hard disk requirements

- Macintosh 2-2
- PC 6-2

Hardware Troubleshooting C-1

Hazards, preventing iii, vi

HDI-30-pin to 50-pin SCSI cable 3-3

- High (Sharpen)**
 - Macintosh 5-16, 5-29
 - PC 9-17, 9-29

Holder. See Film, Holders; and Slides, Holders

Host adapter cards. See SCSI

Humidity range J-3

I

ID, SCSI. See SCSI, ID

Identification, SCSI. See SCSI, ID

Image Troubleshooting C-3 to C-5

Image Size

- Macintosh 5-20, 5-21, 5-28
- PC 9-21, 9-27, 9-28

Installation

- Macintosh 3-1 to 3-22, F-43
- PC 7-1 to 7-24, F-4

Interface cards. See SCSI, Host adapters

Ionizer C-7

K

KODAK Advertising Distribution I-5

KODAK Digital Science Desktop Color Proofer 900 Digital Printer I-2

KODAK Drivers J-3, G-1

- Diskette**
 - Macintosh 3-21
 - PC 7-22
- Driver window** K-3
 - Macintosh 5-3 to 5-29
 - PC 9-8 to 9-29

Installing

- Macintosh 3-21 to 3-22
- PC 7-22 to 7-23

- Spare parts** I-3, I-4 to I-5
- Troubleshooting** C-2 to C-5
- TWAIN.** See **TWAIN**
- Updating** F-1 to F-4
- Using**

- Macintosh 5-1 to 5-23
- PC 9-1 to 9-24

KODAK Parts Services I-4

KODAK Professional Film
 Macintosh 5-27
 PC 9-27
KODAK RFS 3570 (menu choice) 3-22,
 5-3, 5-23
KODAK XLS 8650 printer I-1
KODAK XLS 8650 PS printer I-1

L

Light, power on 5-3, 9-3, K-2
Lightening hazard v
Liquid cleaner C-7
Liquid hazard iv, v
Loading film/slides
 Macintosh 4-1 to 4-12, 5-5
 PC 8-1 to 8-12, 9-6

M

Macintosh Computer 2-1 to 2-3
 Ilfix 3-8, 3-14
 Message D-9
 PowerBook 3-3, 3-5
 Troubleshooting C-1 to C-2

Magenta

Macintosh 5-19
 PC 9-19 to 9-20

Magnification Adjustment

1-2
 Macintosh 5-12 to 5-14, 5-28
 PC 9-6, 9-13, 9-28
 Message D-11

Manual. See *User's Manual, Spare part*

Memory message D-3, D-9 to D-10

Messages D-1 to D-14

Microsoft Windows. See *Windows*

Moisture hazard iv

Monitor

Macintosh 2-2
 PC 6-2
 Troubleshooting C-4

Monochrome 1-1

Mounted slides. See *Slides*

Multi-frame holder adapter

Macintosh 4-5, 4-7, 4-10, 5-7
 PC 8-5, 8-7, 8-10, 9-8
 Spare parts I-3

N

Negative (film type)

Macintosh 5-27
 PC 9-27

Normal (rotation)

Macintosh 5-16
 PC 9-17, 9-28

Normal (Sharpen)

Macintosh 5-16, 5-28, 5-29
 PC 9-17, 9-29

NRTL/C J-3

O

Off (Sharpen)

Macintosh 5-16, 5-29
 PC 9-17, 9-29

Optional Equipment I-1 to I-3

Overscanning

Macintosh 5-13
 PC 9-14

P

Packing materials iii, 3-2, 7-2

Photoshop. See *Adobe Photoshop*

Pixel 1-1

Plug-in modules. See *Adobe Photoshop, Plug-ins*

Port. See *SCSI, Port*

Positive (film type)

Macintosh 5-27
 PC 9-27

Power J-1

Connection
 Macintosh 3-2
 PC 7-2

Cords. See *Cables*

Indicator light 5-3, 9-3, K-2

Sources iv, 3-2

Overloading v

Switch

Macintosh 3-2, 5-3

PC 7-2, 7-20, 9-3

Troubleshooting C-1

PowerBook. See *Macintosh Computer, PowerBook*

Precautions iii to vi

Preferences

Macintosh 5-14
 PC 9-15
 Messages D-11

PreScan

Macintosh 5-6 to 5-11, 5-14, 5-15,
 5-18, 5-28
 PC 9-7 to 9-12, 9-15, 9-19, 9-28

Preview 1-2, K-2

Printers 2-4, 6-4, I-1 to I-2

Problem Report Form H-1

Program Manager 7-22

PS Prefs. See *Adobe Photoshop, PS Prefs*

R

R (red). See *Red*

Radio frequency energy vi

RAM requirements

Macintosh 2-2
 PC 9-4

Read-me

Macintosh 3-21
 PC 6-2, 7-23, 7-24

Recalibrate button 5-22, 5-28, 9-23,
 9-28, C-6 to C-8

Red 1-1

Macintosh 5-19
 PC 9-19 to 9-20, 9-25

Relative humidity J-3

Repacking G-1 to G-2

Replacing fuse. See *Fuse*

RES. See *Resolution*

Reset Defaults

Macintosh 5-19, 5-29
 PC 9-19 to 9-20, 9-28

Resolution 1-2, J-1

Macintosh 5-20, 5-28 to 5-29
 PC 9-20 to 9-21, 9-28

Return authorization G-1

RFS3570.BIN 3-22, K-1

Message D-8

RGB Filter wheel J-2

Rotate image

Macintosh 5-16
 PC 9-17

S

Safeguards iii to vi

Safety specifications J-3

Scan (image)

Macintosh 5-5 to 5-23, 5-29

Command 5-16, 5-21

Message D-5

PC 9-16 to 9-24

Command 9-22, 9-23, 9-26 to 9-27, 9-28, 9-29

SCSI

ASPI host adapter 1-2, 6-2, 7-3, 7-21 to 7-24, J-2, J-3

Cables I-4

Length 3-9, 7-9

Macintosh 3-4 to 3-18

PC 7-5 to 7-18

Troubleshooting C-1

Chain

Macintosh 3-9

PC 7-9

Devices

Macintosh 5-3

PC 7-4, 9-3

Host adapters 1-2, 7-20, J-2, J-3

Installing 7-3 to 7-4

ID

Macintosh 3-19 to 3-20

PC 7-19 to 7-20

Troubleshooting C-2

Interface (PC) 6-2

Messages D-4, D-6, D-7

Port

Macintosh 3-4 to 3-18

PC 6-2

Termination J-2

Macintosh 3-3 to 3-18

PC 7-8 to 7-20

Specification J-2

Terminator I-5

Macintosh 3-8 to 3-18

PC 7-8 to 7-18

Spare Parts I-5

SCSI2 7-4, 7-5

Select (image)

Macintosh 5-15, 5-29

PC 9-15 to 9-16, 9-29

Selection rectangle

Macintosh 5-17, 5-21, 5-27

PC 9-18, 9-21 to 9-22, 9-26 to 9-27

Self test 5-3, 9-3

Service vi

Sharpen 1-2

Macintosh 5-16, 5-29

PC 9-17, 9-29

Shipping G-1 to G-2

Carton spare part I-5

Shock hazard, preventing iii, vi

Single-frame film holder

Macintosh 5-8

PC 9-9

Spare part I-3

Single-frame holder adapter

Macintosh 4-4, 4-11, 5-9

PC 9-10

Spare part I-3

Size, Film. See **Film, Size**

Size of scan J-2

Slides

Holders

Macintosh 4-3 to 4-7

PC 8-3 to 8-7

Spare parts I-2 to I-3

Loading

Macintosh 4-1 to 4-12, 5-5

PC 8-1 to 8-12, 9-6

Thickness accepted

Macintosh 4-3

PC 4-3

SLO-BLO fuse E-3

Software. See **Systems Software**

Software Drivers. See **KODAK Drivers**

Software License Agreement A-1 to A-4

Software Updates. See **KODAK Drivers, Updating**

Spare parts I-4 to I-5

Specifications J-1 to J-3

Stop Select

Macintosh 5-15

PC 9-16

Strobe 1-1, 9-25

Systems software

Macintosh 2-3

Crashes C-2

Tuner 2-3

PC 6-3

Troubleshooting C-2

T

Technical assistance viii

Temperature range J-3

Termination. See **SCSI, Termination**

Terminator. See **SCSI, Terminator**

Transparency 1-1

Troubleshooting viii, C-1 to C-5

Hardware C-1

Image C-3 to C-5

Water spots/bubbles 5-21 to 5-22, C-3, C-6 to C-7

Software C-2

Tuner. See **Systems software, Macintosh, Tuner**

Turn off Scanner

Macintosh 5-24

PC 9-24

TUV J-3

TWAIN 1-2, J-3, K-2

Applications 6-3

Directory 7-22

Drivers 7-21 to 7-24, 9-1 to 9-29

Messages D-6, D-9, D-14

Types. See **Film, Types**

U

Underscanning

Macintosh 5-13

PC 9-14

Updating drivers F-1 to F-4

User's Manual (Spare part) I-5

V

Version number

Macintosh 5-29

PC 9-29

VGA 6-2

.....

Video display card 1-2

Macintosh 2-2

PC 6-2

View Changes

Macintosh 5-16, 5-19, 5-20, 5-30

PC 9-20, 9-25, 9-29

W

Warm up time J-1

Warranty B-1 to B-4

Warranty Registration card 2-1, 6-1

Water hazard iv

Weight J-3

Windows 6-2, 6-3, 9-4

ASPI host adapter. See SCSI, ASPI host adapter

Microsoft 6-3

Windows 95 6-3

World Wide Web F-2

X

Xenon strobe J-2

Y

Yellow

Macintosh 5-19

PC 9-19 to 9-20

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