Kodak

i100 Series Scanners

User's Guide

Kodak

Contents

Introduction

Before you install and operate your *Kodak* i100 Series Scanner, take a few minutes to read through this guide. It contains important information about installing, using, and maintaining your scanner.

- *Kodak* i150 Scanner is a desktop *simplex* color scanner with an automatic document feeder.

- *Kodak* i160 Scanner is a desktop *duplex* color scanner with an automatic document feeder.

Scanner features

- Excellent paper handling, image quality, and reliability

- Color at the same speed as bi-tonal and grayscale

- Simultaneous color and bi-tonal output

- Aggressive cropping capability to eliminate residual black border on any image edges

- Easy to use and maintain

- Handles a broad range of paper weights and sizes

- Small footprint; fits easily on a desktop or table

- Low noise level

- Easy installation

- ISIS and TWAIN device drivers are included on a CD that is packed with each scanner

- International language support

- Automatic overlap/multifeed detection

- Both scanner models support multiple electrical power requirements for use worldwide

- Electronic red, green, and blue color dropout

Paper transport features

- Automatic and manual feeding
- Multifeed detection by document length and/or document thickness
- Automatic document feeder (ADF) with operator-assisted "infinite" and single-sheet feeding

Speed/capacity (throughput)

The following speeds in pages per minute (ppm) are for color, grayscale, and bi-tonal output.

Resolution	Landscape (A4)		Portrait (Letter)	
	i150 Scanner	i160 Scanner	i150 Scanner	i160 Scanner
150 dpi	53 ppm	53 ppm (106 ipm)	41 ppm	41ppm (82 ipm)
200 dpi	40 ppm	40 ppm (80 ipm)	31 ppm	31 ppm (62 ipm)
300 dpi	27 ppm	27 ppm (54 ipm)	21 ppm	21 ppm (42 ipm)

Image quality features

- iThresholding, Adaptive Threshold Processing (ATP), image compression, despeckle, and dithering for bi-tonal scanning
- Image capture optical resolution: 300 dpi
- Image output resolution: 75/100/150/200/240/300/400/600 dpi for bi-tonal, grayscale, and color scanning

NOTE: Throughput speed at 400 dpi and 600 dpi is dependent upon your PC configuration.

- Auto-color balancing (auto-white balancing) to ensure good color balance
- Pixel and color correction for the best color image quality
- Five levels of JPEG compression allow images to be viewed in many image viewers
- Optional White Background Accessory with auto-crop and deskew (simplex only)

Maintenance

- Easily replaceable feed module and separator module
- Easy one-step paper jam clearance
- LED indicators for power, ready, error, and operating conditions

Preparing documents for scanning

- A batch of documents to be fed into the scanner must be arranged so that the leading edges of all documents are aligned and centered under the automatic document feeder. This allows the feeder to introduce documents into the scanner one at a time. Documents must be positioned **face down** for scanning.

- Staples and paper clips in documents may damage the scanner. Remove all staples and paper clips before scanning.

- Torn, damaged, or crushed pages can be transported successfully through the scanner. However, no scanner can transport every possible type of damaged paper. If in doubt about whether a specific damaged document can be transported through the scanner, place the document in a clear protective sleeve. Sleeves should be manually fed, one at a time, **folded edge first, while lifting the gap release lever**.

- When scanning documents in a clear protective sleeve, the input tray guides must be adjusted to accommodate the width of the sleeve.

NOTE: Kodak scanners have been tested with a range of documents that represent the broad spectrum of document types found in the most common business applications. Optimal scanner performance is achieved when scanning documents within the recommended document specifications. Scanning documents that are outside of these specifications may lead to undesirable results in terms of scanner reliability, image quality, and/or consumable life.

Recommended documents

The following chart lists the recommended document attributes.

Materials	• Virgin and recycled papers • Photographic papers	• Clear protective sleeves meeting the size and thickness requirements in this section
Paper Types	• Bond • Laser	• Inkjet • Offset
Paper Weights	The document feeder handles a broad range of paper weights from 50 to 200 g (9 to 110 lb.)	
Minimum Document Size (Width x Length)	8.9 x 6.4 cm (3.5 x 2.5 in.)	
Maximum Document Size (Width x Length)	29.7 x 43.2 cm (11.7 x 17 in.)	
Paper Inks	NOTE: All inks on the paper must be dry before scanning is started. • Standard offset printing • Thermal transfer • Inkjet printer • Handwriting inks	
Correction Fluids	NOTE: All correction fluids on the paper must be dry before scanning is started. • Liquid Paper® • Wite-out® • Tipp-Ex® • Other, similar correction fluids	
Document Batch Height for Automatic Feeding	When feeding batched documents, the maximum height of the batched documents is 10.2 mm (0.4 in.) or approximately 150 sheets of 60 g (16 lb.) paper.	

Safety information

- When placing the scanner, make sure that the electrical power outlet is located within 1.52 metres (5 feet) of the scanner and is easily accessible.

CAUTION: The scanner and power supply must only be used indoors in a dry location.

- Material Safety Data Sheets (MSDS) for information about chemicals used in Kodak products are available on the Kodak web site at **www.kodak.com/go/MSDS**. Refer to Appendix B, "Supplies and Accessories," for catalog number information.

Warning labels

CAUTION: Moving parts. Avoid contact.

CAUTION: Hot surface. Avoid contact.

WARNING: The scanner cover must be in place and closed during scanner operation.

User precautions

Users and their employer need to observe the common sense precautions applicable to the operation of any machinery. These include, but are not limited to, the following:

- Do not wear loose clothing, unbuttoned sleeves, etc.

- Do not wear loose jewelry, bracelets, bulky rings, long necklaces, etc.

- Hair should be kept short, using a hair net if needed or by tying long hair up in a bundle.

- Remove all loose objects from the area that could be drawn into the machine.

- Take sufficient breaks to maintain mental alertness.

- Follow the recommended Kodak cleaning procedures. Do not use air, liquid or gas spray cleaners. These cleaners only displace the dust, dirt or debris to another location within the scanner, which could cause the scanner to malfunction.

Supervisors should review their practices and make the compliance with these precautions a part of the job description for the operator of the *Kodak* i100 Series Scanners and any other mechanical devices.

Safety and regulatory agency approvals

The *Kodak* i100 Series Scanners conform to applicable national and international product safety and electronic emission regulatory requirements. This includes, but is not limited to, the following:

Kodak i100 Series Scanners Regulatory Agency Approvals				
Country or Region	**Safety Approval**	**Safety Mark**	**Electromagnetic Compatibility**	**EMC Mark**
Australia			AS/NZS CISPR22 Class B	C-Tick
Canada	CAN/CSA-C22.2 No. 60950-00	C - UL	Canada ICES - 003 Issue 3 Class B	
China	GB4943	CCC "S&E"	GB 9254 Class B GB 17625.1 Harmonics	CCC "S&E"
European Union		CE	EN 55022 ITE Emissions Class B EN 61000-3-2 Powerline harmonics EN 61000-3-3 Flicker EN 55024 ITE Immunity	CE
Germany	EN 60950	TUV GS		
International	IEC 60950		CISPR 22 Class B	
Japan			VCCI Class B	VCCI
Taiwan			CNS 13438 Class B	BSMI
United States	UL 60950	UL	CFR 47 Part 15 Subpart B FCC Class B	

Environmental information

• The *Kodak* i100 Series Scanners are designed to meet worldwide environmental requirements.

• The i100 Series Scanners' power supply cord jacket and the solder on the circuit boards contain lead. Disposal of lead may be regulated due to environmental considerations. For disposal or recycling information, contact your local authorities, or in the U.S.A., visit the Electronics Industry Alliance web site at www.eiae.org.

• Guidelines are available for the disposal of consumable items that are replaced during maintenance or service; follow local regulations or contact Kodak locally for more information.

• The product packaging is recyclable.

• Parts are designed for reuse or recycling.

Acoustic emission

Maschinenlärminformationverordnung — 3, GSGV
Der arbeitsplatzbezognene Emissionswert beträgt <70 dB(A).

[Machine Noise Information Ordinance — 3, GSGV
The operator-position noise emission value is <70 dB(A).]

Power system

This product is designed for connection to IT power systems.

EMC statements

United States

FC KODAK i150 / i160 Scanner

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

• Reorient or relocate the receiving antenna.

• Increase the separation between the equipment and receiver.

• Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

• Consult the dealer or an experienced radio/TV technician for help.

Japan

This is a Class B product based on the standard of the Voluntary Control Council for interference by information Technology Equipment (VCCI). If this is used near a radio or television receiver in a domestic environment, it may cause radio interference. Install and use the equipment according to the instruction manual.

この装置は、情報処理装置等電波障害自主規制協議会（ＶＣＣＩ）の基準に基づくクラスＢ情報技術装置です。この装置は、家庭環境で使用することを目的としていますが、この装置がラジオやテレビジョン受信機に近接して使用されると、受信障害を引き起こすことがあります。
取扱説明書に従って正しい取り扱いをして下さい。

Installing the Scanner

Site specifications

Place the scanner:

- in a clean area with temperature and relative humidity typical of an office environment

CAUTION: The scanner and power supply must only be used indoors in a dry location.

- on a stable, level work surface capable of supporting the following weights:

    - i150 Scanner: 10.80 kg (23.75 lb.)

    - i160 Scanner: 12.61 kg (27 lb.)

- within 1.52 metres (5 feet) of an electrical power outlet

NOTE: For more information about the scanner specifications, refer to Appendix A, *Specifications*.

System requirements

Minimum system configuration

To operate the scanner, the following minimum configuration is required.

NOTE: The actual performance of the system depends upon the scanning application, choice of scanning parameters, and the host computer configuration. If the scanner is not performing at the optimal speed, a faster computer and/or more RAM may be necessary to obtain the rated throughput.

- IBM PC (or compatible) with a Pentium III 1 GHz processor

    - i160 Scanner: for scanning at 300 dpi with deskew, you will need at least a 1.8 GHz processor for bi-tonal scanning or a 2.5 GHz processor for color scanning.

- Microsoft Windows 98SE, Windows Millennium Edition (Me), Windows 2000 Professional, or Windows XP

- 100 MB of available hard disk space (200 MB is recommended)

- 128 MB of RAM

- Monitor (VGA)

- Mouse

Recommended system configuration

To operate the scanner at its optimum speed, the following configuration (or better) is recommended.

NOTE: The actual performance of the system depends on the scanning application, choice of scanning parameters, and the host computer configuration.

- IBM PC (or compatible) with a Pentium IV 2.5 GHz processor
- Microsoft Windows 98SE, Windows Millennium Edition (Me), Windows 2000 Professional, or Windows XP
- 200 MB of available hard disk space
- 512 MB of RAM
- Monitor (VGA)
- Mouse

Unpacking the scanner

The scanner box contains the following items:

- *Kodak* i100 Series Scanner
- Input tray
- Output tray
- Power supply
- Power cord(s)
- Installation CD
- *Kodak* Capture Software *Lite* CD
- Read Me Now sheet
- User's Guide (printed English version; User's Guide .pdf files in nine other languages are included on the Installation CD)
- Registration sheet
- IEEE FireWire Kit

NOTE: Save all packing materials for possible future use.

Registering your scanner

It is very important that you register your scanner so Kodak can provide you with the best possible service and support. Registering your scanner will help us provide you with firmware and hardware updates as they become available.

NOTE: The scanner must be registered before any service support can be provided.

You can register your scanner's new equipment warranty online at **www.kodak.com/go/DIwarrantyregistration**.

For more information about Kodak's service and support options, contact your reseller of Kodak Document Imaging products or visit us on the web at **www.kodak.com/go/DIserviceandsupport**.

Removing the foam sheet

The scanner is packed with a foam sheet inside to protect the rollers during shipping. This foam sheet must be removed before you can begin scanning.

1. Lift the scanner out of the box and place it on a stable, level work surface that is capable of supporting it.

2. Lift up the scanner door release to unlatch and open the scanner door.

3. Remove the foam sheet.

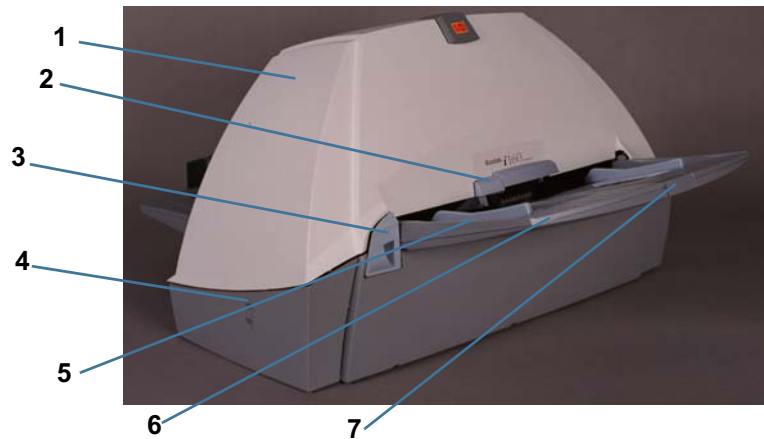4. Lower the scanner door and press it down firmly until it latches into place.
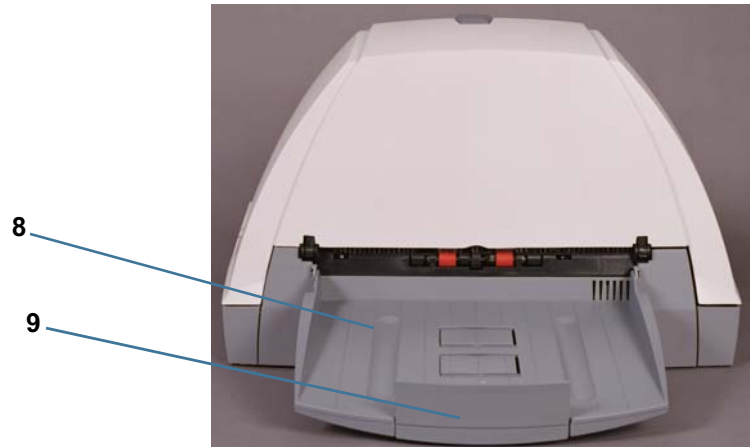
Scanner components

Front

1 **Scanner door**
2 **Gap release lever**
3 **Scanner door release**
4 **LEDs**
5 **Paper guides**
6 **Input tray**
7 **Input tray extender**

Rear

8   Output tray
9   Output tray extender

Side

1   **Output tray extender**
2   **Output tray**
3   **IEEE-1394 (FireWire) port**
4   **Power input**
5   **Input tray**
6   **Input tray extender**
7   **Service LEDs**
8   **Upper imaging guide access door (i160 Scanner only)**
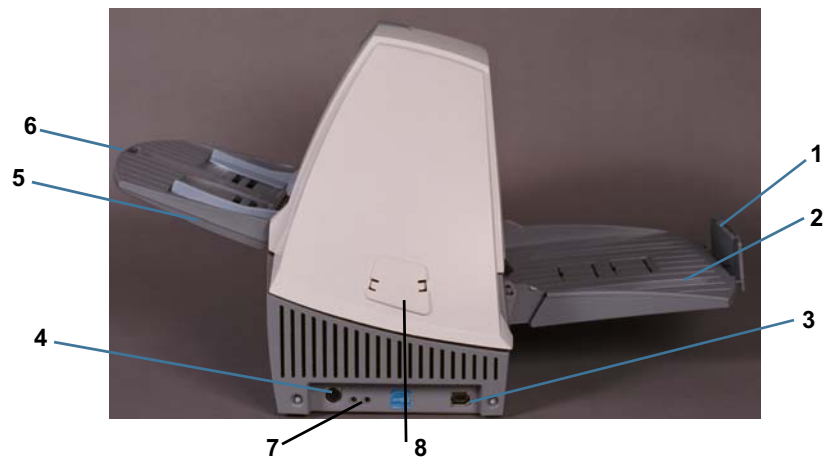
Side

1   **Red indicator**
2   **Green indicator**

See the section entitled, "Indicator lights" in the *Troubleshooting* section for more information regarding these indicators.
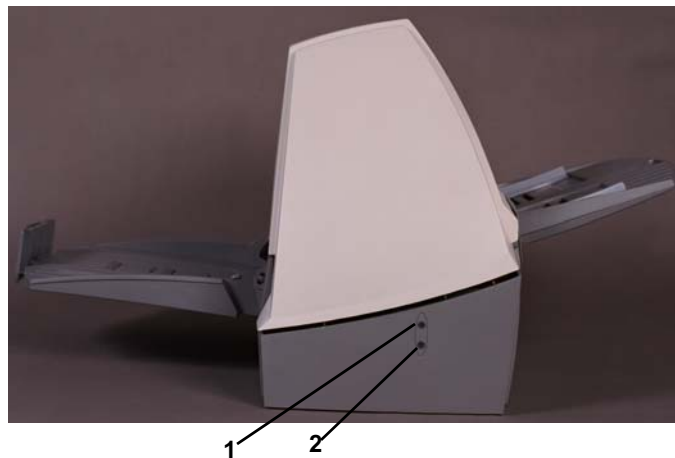
Internal

1   **Separator module**
2   **Normal force rollers**
3   **Rear drive roller cover**
4   **Front drive roller cover**
5   **Feed module**

Making connections

Follow the instructions for installing the IEEE-1394 (FireWire) card and the *Kodak* Driver Software before you plug the scanner into the host computer.

IMPORTANT: *You must install the software on the host computer before you install the scanner.*

Installing the IEEE-1394 (FireWire) card in the host computer
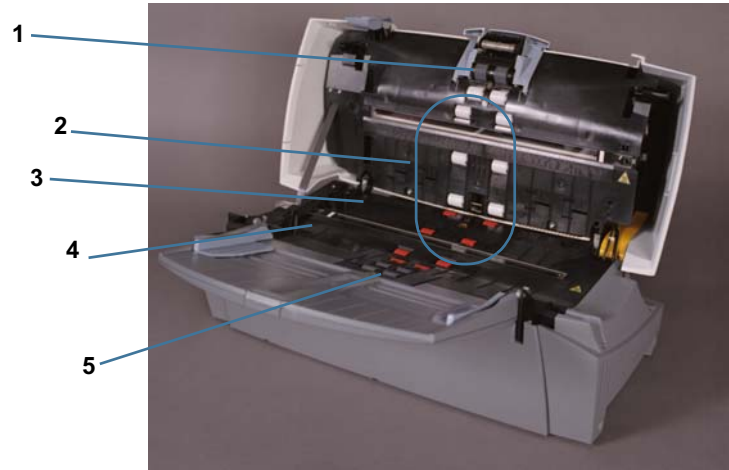
An IEEE-1394 six-pin connector is provided on the rear panel of the scanner for IEEE-1394 (FireWire) connectivity.

1. Install the IEEE-1394 (FireWire) card in the host computer as described by the instructions included with the card.

WARNING: **Installation of the connector in the wrong orientation will damage the scanner and IEEE-1394 FireWire card.**

IMPORTANT: *Use proper precautions to avoid static when you install the IEEE-1394 (FireWire) card in your computer.*

2. Power up the host computer after the IEEE-1394 (FireWire) card installation is complete.

Installing the *Kodak* Driver Software

1. Insert the *Kodak* i100 Series Installation CD in the CD-ROM drive.

    The installation program starts automatically.

2. Follow the on-screen instructions to install the TWAIN and ISIS drivers and the *Kodak* Scanner Validation Tool.

Installing the IEEE-1394 (FireWire) cable

1. Attach the end of the IEEE-1394 (FireWire) cable to the IEEE-1394 port on the back of the scanner as shown.

2. Attach the other end of the IEEE-1394 (FireWire) cable to the host computer.

WARNING: **Make sure that the position of the IEEE-1394 (FireWire) cable connector end correlates to the IEEE-1394 port configuration before you plug the cable in. Damage to the scanner will occur if the cable is attached in the wrong position.**

IMPORTANT: *The i100 Series Scanner should be the only item plugged into the IEEE-1394 (FireWire) card on the host computer.*

Power setup

One or more power cords may be supplied with the scanner. Use only the cord required for your power type. Dispose of any unneeded power cords properly.

Use only the power supply that was provided with the scanner.

CAUTION: The scanner and power supply must only be used indoors in a dry location.

IMPORTANT: Do not substitute another power supply model or another manufacturer's power supply.

1. Press the side labeled "O" on the power switch to make sure that the power is off.

Power switch

NOTE: The power switch is on the power supply.

2. Attach the power cord for your power type to the power supply.

3. Attach the power supply to the power input on the back of the scanner.

Beaded end of IEEE 1394 cable

4. Plug the power cord into a power outlet.

NOTE: Make sure that the power outlet is located within 1.52 metres (5 feet) of the scanner and is easily accessible.

5. Press the side labeled "I" on the power switch to power up the scanner.

After you power up the scanner, the red and green indicator lights will illuminate. After approximately one minute, both lights go out. When the green indicator light comes back on, the scanner is installed and ready to begin scanning. However, the host computer may require several seconds to detect the scanner.

For best calibration and scanning results, allow the scanner lamps to warm up for at least three minutes.

If you are installing the scanner on a computer that is running Windows 2000, the following screen may appear.
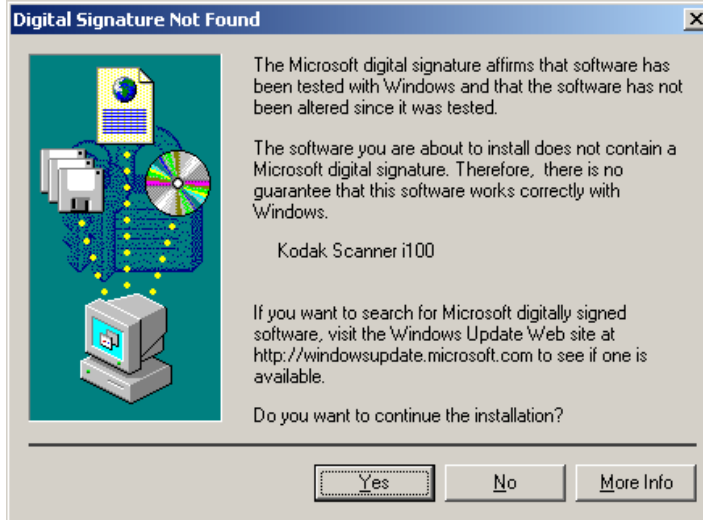
- Select **Yes**. Kodak has successfully tested the i100 Series Scanners with Windows 2000. Your scanner is now installed.

If you are installing the scanner on a computer that is running Windows XP, the following screen may appear.
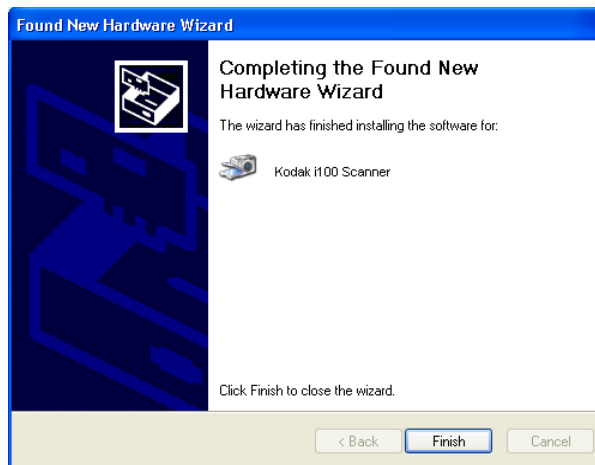
1. Select **Next**. The following screen appears.

2. Select **Continue Anyway**. Kodak has successfully tested the i100 Series Scanners with Windows XP. The following screen appears.

3. Select **Finish**. Your scanner is now installed.

Input and output trays

The input and output trays snap into place. They also may be adjusted to fit different document sizes. The input and output trays also may be folded flat up against the scanner to save space when the scanner is not in use.

Output tray   Input tray

Attaching the input tray

1. Locate the input tray slots (large holes) on the scanner.

2. Align the input tray pins with the slots.

3. Press the input tray until it snaps into place.

NOTE: Opening the scanner door may make it easier to see the slots and align and install the tray.

Attaching the output tray

1. Locate the output tray slots on the scanner.

2. Align the output tray pins with the slots.

3. Press the output tray until it snaps into place.

Tray extenders and side guides

• Both the input and output trays have extenders to accommodate long documents. Grasp the tray extender and pull it out to the desired position.

• The output tray has 3 document stops that can be raised to accommodate the collection of small documents after they have been scanned.

• The input tray has side guides that allow you to adjust the feeder to fit different document sizes. Grasp the side guides and slide them to the desired position.
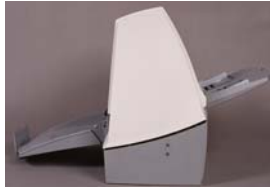

Output
tray extender   Document
stops   Input tray extender

Adjusting the output tray   The adjustable output tray has three possible positions.

| **Lowest position for long documents** | **Middle position for letter or A4 documents** | **Highest position for checks** |

- Set the output tray to the lowest position when you are scanning long documents.

- Set the output tray to the middle position when you are scanning letter- or A4-size documents.

- Set the output tray to the highest position with the first document stop raised when you are scanning checks.

- Use the highest position with the second document stop raised when you are scanning documents that are 14 cm (5.5 in.) long.

1. Grasp the tray on each side.

2. Lift up the tray and move it up or down to the desired position.

Closing the input and output trays   You can move the scanner trays out of the way when the scanner is not in use.

1. Grasp the input tray.

2. Lift up the input tray until it rests against the scanner front.

3. Grasp the output tray.

4. Lift up the output tray until it rests against the scanner back.

Using the Scanner

Starting and stopping scanning

Scanning is controlled by software developed for your application. To start and stop scanning, refer to the documentation provided with your software.

Automatic feeding

To scan a batch of documents, follow the guidelines for size, type, quantity, etc., in the *Introduction* section. For faster throughput, feed documents into the automatic document feeder (ADF) in landscape orientation (longer side as the leading edge).

IMPORTANT: Staples and paper clips in documents may damage the scanner. Remove all staples and paper clips before scanning.

1. Align the leading edges of the stacked documents.

2. Position the leading edge of the documents **face down** and centered in the ADF.

3. Adjust the document feeder guides.

4. Adjust the output tray position, if necessary.

5. Pull out the output tray extender, if necessary.

6. Start scanning.

Continuous feeding

Continuous feeding allows you to place additional batches of documents in the feeder for "infinite" feeding (with operator assistance).

- When only a few documents from one batch remain in the feeder, place the next batch **face down** on top of those documents.

Manual feeding

Follow the guidelines for document size, type, weight, quantity, etc., in the *Introduction* section. Position the leading edge of the document **face down** and centered in the ADF, then start scanning.

Damaged documents   You can scan torn or fragile documents through the automatic document feeder if they are placed in a protective plastic sleeve.

1. Place the damaged document into a protective sleeve.
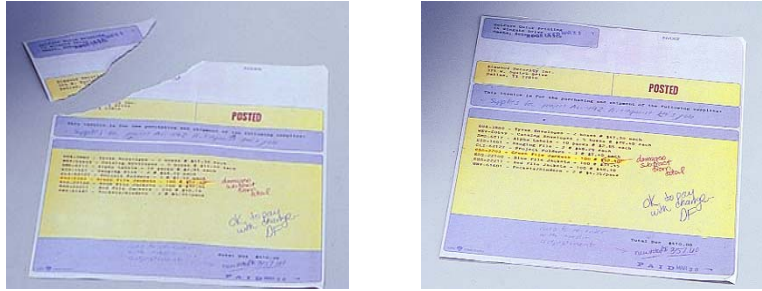
2. Position the sleeve **face down**, folded edge first, and centered in the ADF.

3. Lift the gap release lever, if necessary (this provides more clearance to ease document feeding).

Gap release lever

4. Start scanning.

Maintenance

Cleaning the scanner

The scanner will collect dust and other debris during routine scanning. For optimal scanner performance, follow the detailed cleaning instructions in this section and clean the feed module rollers, separator module rollers, imaging guides, transport area, and paper path at least once per week. Clean the scanner and paper path daily if you are scanning carbonless paper or newsprint.

Use only these cleaning materials:

Item	CAT No.
Kodak Digital Science Roller Cleaning Pads (24)	853 5981
Staticide Wipes for *Kodak* Scanners (144)	896 5519
Kodak Digital Science Transport Cleaning Sheets (50)	169 0783

IMPORTANT: *Staticide Wipes contain isopropanol which can cause eye irritation and dry skin. Wash your hands with soap and water after performing maintenance procedures. Refer to the Material Data Safety Sheet (MSDS) for more information. The MSDS is available on the Kodak web site at* **www.kodak.com/go/MSDS***.*

The roller cleaning pad contains sodium lauryl ether sulfate and sodium silicate which can cause eye irritation. Refer to the MSDS for more information.

Allow all rollers to dry completely before using the scanner.

Use only non-flammable cleans such as those provided through Kodak Parts Services.

Do not use cleaners in confined areas, use with adequate ventilation.

Do not use cleaners on hot surfaces. Allow surfaces to cool to ambient temperature before use.

NOTES: The use of any other cleaning materials could damage your scanner.

Use fresh cleaning material unless otherwise indicated.

In addition to the recommended cleaning supplies, you may use a vacuum cleaner to remove debris from the scanner.

Some debris from the rubber tires on the feed module and separator module is normal. Tire debris does not always mean that the tires are worn or damaged. After cleaning, inspect the tires for wear and replace the separator module or feed module if necessary.

To order cleaning supplies, refer to Appendix B, *Supplies and Accessories*.

Cleaning the separator module

1. Power down the scanner.

2. Remove any documents from the feeder area.

3. Lift up the scanner door release to unlatch the scanner door.

4. Pull up to open the scanner door.

5. Remove the separator module by pulling it down and lifting it off.
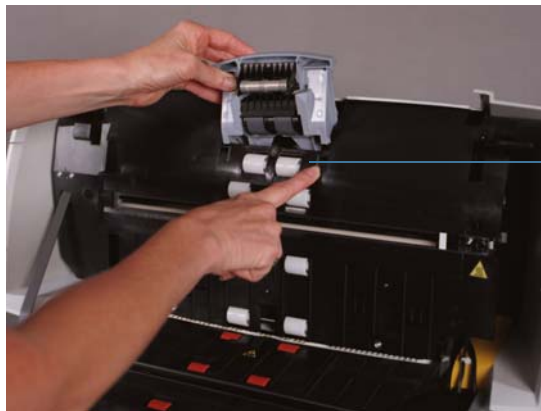
Release separator module

6. Manually rotate and wipe the separator module rollers with a roller cleaning pad.

7. Inspect the rollers.

   If the separator roller tires show signs of wear or damage, replace the tires or the separator module.

8. Insert the separator module and align the shaft ends.

9. Press until the separator module clicks into place.

10. Go to the next section to clean the feed module.

Cleaning the feed module

1. Push against the raised edge on the left side of the front drive roller cover to the side and pull the cover up and out to remove it.

Front roller cover

NOTE: You may need to lift the input tray slightly to remove the front roller cover.

2. Remove the feed module by pushing it to the right and lifting it out.

Feed module

3. Manually rotate and wipe the feed module rollers with a roller cleaning pad.

4. Inspect the feed module.

   If the feed module tires show signs of wear or damage, replace the tires or the feed module.

5. Remove any dust or debris from the tray area under the feed module and the front roller cover.

6. Insert the feed module by aligning the pins and pushing it toward the right to fit it into position.

7. Re-install the front drive roller cover.

8. Go to the next section to clean the drive rollers and transport area.

Cleaning the drive rollers and transport area

1. Manually rotate and wipe the drive rollers with a roller cleaning pad.
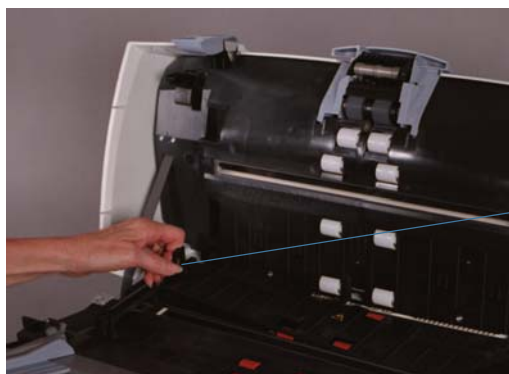

2. Clean any dust or debris in the slots around the drive rollers.

3. Wipe the upper and lower transport areas with a roller cleaning pad.

4. Dry the transport area with a dry Staticide Wipe.

5. Push against the raised edge on the left side of the rear roller cover and pull the cover up and out to remove it.

Rear drive roller cover

6. Remove any dust or debris under the rear drive roller cover.

7. Re-install the rear drive roller cover.

8. Go to the next section to clean the imaging guides.

Cleaning the imaging guides

Clean the exposed (top side) surfaces of the imaging guides. You do not need to remove the imaging guides for cleaning unless there is dust or dirt on the underside of the imaging guide. If you need to remove the imaging guides, follow the instructions for "Installing the *Kodak* Imaging Guide Set for i100 Series Scanners".

1. Wipe the upper and lower imaging guides with a Staticide Wipe.

2. Dry the imaging guides with a dry Staticide Wipe.

3. Lower the scanner door and press it down firmly until it latches into place.

4. Go to the next section to clean the paper path.

Cleaning the paper path

1. Remove the wrapping from the Transport Cleaning Sheet.

2. Adjust the paper feeder guides to fit the cleaning sheet.

3. Feed the cleaning sheet (adhesive side up) through the scanner in portrait orientation until all residue is removed from the drive rollers.

4. Adjust the feeder guides to fit, then feed the cleaning sheet (adhesive side up) through the scanner in landscape orientation until all residue is removed from the drive rollers.

5. Using the same cleaning sheet, repeat Steps 3 and 4, but feed the cleaning sheet through the scanner with the adhesive side down until all residue is removed from the drive rollers.

NOTE: When a cleaning sheet gets very dirty, discard it and use a new one.

Replacing parts

Customer-replacement parts (feed module, separator module, pre-separation pad, roller tires, imaging guides) and installation instructions are available in the following kits:

Item	CAT No.
Kodak Feeder Consumables Kit for i100 Series Scanners (1 complete feed module, 1 complete separator module, 2 pre-separation pads, 24 roller tires)	124 1066
Kodak Extra-Large Feeder Consumables Kit for i100 Series Scanners (5 complete feed modules, 5 complete separator modules, 10 pre-separation pads, 120 roller tires)	821 5808
Kodak Imaging Guide Set (1 upper guide, 1 lower guide)	120 0278
Calibration Target (12" x 12")	127 1436
Kodak White Background Accessory	829 3599

Use only these replacement parts in your scanner.

The expected life of customer-replaceable parts is shown below.

• *Kodak* Separator Module for i100 Series Scanners:
  200,000 document pages

• *Kodak* Feed Module for i100 Series Scanners:
  500,000 document pages

• *Kodak* Image Guides for i100 Series Scanners:
  replace when guides are scratched or damaged

NOTES: The composition of the roller materials was engineered to provide the ultimate in feeding reliability across the broadest range of document types, sizes, and thicknesses. Expected life figures are offered as guidelines for operations that follow the recommended scanner cleaning procedures in this section and that scan document types within the recommended paper types (refer to "Preparing Documents for Scanning" in the *Introduction* section).

Your experience may vary. Certain paper types (such as carbonless paper or newsprint), failure to clean regularly, and/or use of non-recommended cleaning solvents can shorten roller life.

To order replacement parts, refer to Appendix B, *Supplies and Accessories*.

Calibrating the scanner

Calibration optimizes the optical system in your scanner in order to achieve the best overall quality of scanned images. Frequent calibration is not needed or recommended. Calibration instructions can be found in the Image Processing Guide for *Kodak* i100 Series Scanners. A copy of this guide (PDF file) can be found on the installation CD.

Troubleshooting

Indicator lights

There are two indicator lights — one red, one green — on the scanner that provides information about what the scanner is doing.

Red indicator

Green indicator
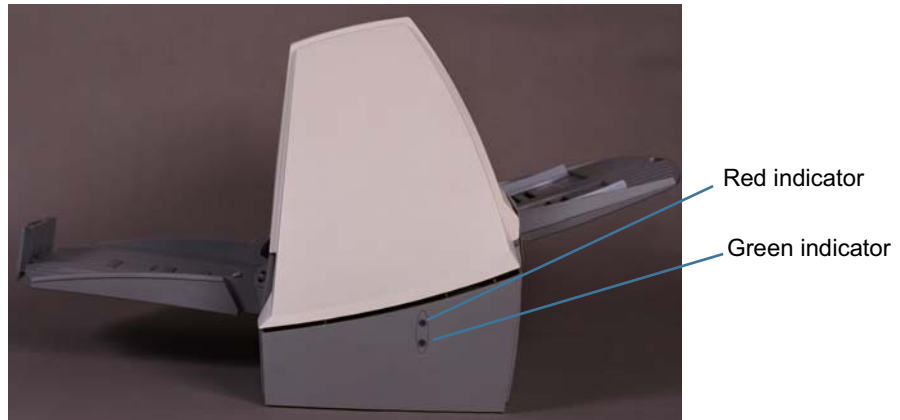
Green on — scanner is ready to scan

Green flashing — scanner is busy

Red on — an error condition exists (refer to "Problem solving" in this section for help with some common error conditions)

Red and green on — scanner is powering up

After you power up the scanner, the red and green indicator lights will illuminate. After approximately one minute, both lights go out. When the green indicator light comes back on, the scanner is ready to begin scanning. However, the host computer may require several seconds to detect the scanner.

Service indicator lights

After you power up the scanner both LEDs are on.

Red — CPU not running code. The red indicator will go out after about 30 seconds. This indicator will always be off, unless you are downloading firmware or calibrating the scanner.

**Green** — the green indicator is on at all times.

Lamps

The scanner has a lamp saver feature to prolong lamp life. The lamps shut off after five minutes of scanner idle time.

Clearing document jams

1. Remove any documents from the feeder area.

2. Lift up the scanner door release to unlatch the scanner door.

3. Pull up to open the scanner door.

4. Locate the jammed document and remove it.

5. Lower the scanner door and press it down firmly until it latches into place.

Adjusting the separator module tension

Most documents will feed perfectly fine with the default separator module tension. However, there may be times when you are scanning documents that are lighter or heavier than normal. Two additional positions for the separator module spring allow you to adjust the tension to improve the scanning of these types of documents. The spring can be placed in one of the two channels or it can be released and left on the flat surface.
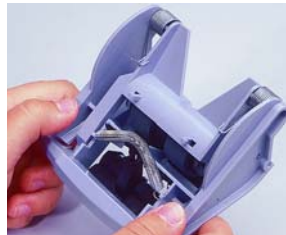
Heavy documents   **Normal documents (default position)**   **Light documents**

1. Power down the scanner.

2. Remove any documents from the feeder area.

3. Lift up the scanner door release to unlatch the scanner door.

4. Pull up to open the scanner door.

5. Remove the separator module by pulling it down and lifting it off.

6. Pull the spring gently into the position you want.

7. Insert the separator module and align the shaft ends.

8. Press until the separator module clicks into place.

9. Lower the scanner door and press it down firmly until it latches into place.

System is not responding

If the scanner and/or host computer are not responding, perform the following steps.

1. Power down the computer.

2. Power down the scanner.

3. Disconnect the IEEE-1394 (FireWire) cable from the IEEE-1394 port on the back of the scanner.

4. Power up the computer.

5. Power up the scanner.

    After you power up the scanner, the red and green indicator lights will illuminate. After approximately one minute, both lights go out. When the green indicator light comes back on, the scanner is ready to begin scanning. However, the host computer may require several seconds to detect the scanner.

6. Wait until the scanner light is green and no longer in the power-up mode.

7. Attach the IEEE-1394 (FireWire) cable to the IEEE-1394 port on the back of the scanner.

8. Wait a few moments for the host computer's operating system to recognize the scanner.

    The scanner is now ready to use.

Color image quality

Color image quality is highly subjective. Here are some things to consider when scanning in color:

*   The difference in the color outputs of scanners, printers, and monitors can affect the perception of the scanned document.

*   Computer displays and printer output can vary from model to model, and from manufacturer to manufacturer. An image may be acceptable on one display and unacceptable on another.

*   Area lighting (fluorescent, natural, incandescent) can affect color perception.

*   The appearance of a colored area within an image can be perceived differently, based on what surrounds it.

*   The characteristics and condition of a document can have an impact on color consistency.

*   Color requirements may differ between environments (e.g., in a business document environment, images are generally viewed on a monitor, whereas in a "print on demand" environment, scanned images are printed).

To ensure that your scanner is delivering the best image:

*   Clean the scanner. Contamination within the scanner degrades image quality. (Refer to the *Maintenance* section for cleaning information.)

Problem solving

Occasionally, you may experience a problem with your scanner. In many cases, you can easily fix the problem yourself. To perform suggested maintenance, refer to the *Maintenance* section. You may also need to check your scanning application.

Problem	Possible Solution
The scanner will not scan/ feed documents	Make sure that: • the power cord is plugged in and the power is on. • the scanner access door is completely closed. • the proper power-up sequence was followed, the scanner's green light is on, and the software has enabled scanning. • documents are making contact with the feed module. • the height of batched documents is less than 10.2 mm (0.4 in.) or approximately 150 sheets of 60 g (16 lb.) paper. • documents meet specifications for size, weight, and type, etc. • for thicker documents, you lift the gap release button during feeding. • you check the feed module and separator module for signs of wear, and replace these parts if necessary. You can also power the scanner down and power up again or follow the instructions in "System Is Not Responding" in this section.
Calibration has failed	Make sure that: • the lamps have been on at least three minutes. • you are using a proper calibration target. Use the 12 in. x 12 in. square calibration target (CAT No. 127 1436). • the transport area is clear of obstructions.
Documents are jamming	Make sure that: • the output tray and guides are adjusted for the length of documents being scanned. • all jammed documents have been removed from the paper transport area. • documents meet specifications for size, weight, and type, etc. • all staples and paper clips have been removed from the documents. • the separator module and feed module are clean and properly installed. • the drive rollers are clean. • the imaging guides are clean.
"False" paper jams are occurring	• Make sure that the paper transport area is clean.
35.6 cm (14 in.) or longer documents are not feeding or are jamming	Make sure that the input and output tray extenders are pulled out to provide support for long documents.

Problem	Possible Solution
Image quality is poor or has decreased	Make sure that: • the scanner is clean. Refer to the *Maintenance* section.
The lamps shut off too soon	The lamps in the i100 Series Scanners will turn off after 5 minutes of no scanner activity. If the lamps are off, but the scanner has not yet gone into sleep mode (default 15 minutes), there will be a delay of about 5 seconds for the lamps to warm up again. The default setting is 15 minutes, and if not changed to another value between 16 and 60 minutes, the lamps will turn off after 5 minutes of no scanner activity. If you set the timeout to a new value greater than 15 minutes, you must scan at least one document for that setting to be enabled. After this setting has been enabled, it will be enforced until a new setting is selected or the scanner is powered off and back on.
Documents are skewed during scanning	Make sure that: • the document side guides are adjusted to fit the documents being fed. • documents are being fed perpendicular to the feed module. • documents are being fed in the center of the ADF. • all staples and paper clips have been removed from the documents. • the feed module, separator module, and drive rollers are clean.
Scanner pauses excessively during scanning	Make sure that: • the host computer meets minimum requirements for scanning. • there is enough free space on the hard disk drive. • all other applications are closed. • the scanner has the correct amount of memory installed for the documents being scanned. You can also try changing the scanning options (compression, etc.) in your scanning software.
Documents are multifeeding	Make sure that: • the leading edges of all batched documents are centered in the ADF so that each document will come in contact with the feed rollers. • the feed module and separator module are clean and not worn. • documents with an unusual texture or surface are fed manually.
Roller marks or streaks appear on documents after scanning	Clean the feed module, separator module, and drive rollers. Refer to the *Maintenance* section.
Vertical lines appear on the image	• Clean the imaging guides. Refer to the *Maintenance* section. • Calibrate the scanner. Refer to the *Maintenance* section.

Transporting the scanner

If it becomes necessary to transport the scanner after installation, you must repack the scanner using the original packaging materials. If you do not have the original packaging materials, contact your supplier.

1. Power down the computer.

2. Power down the scanner.

3. Disconnect the power cord from the back of the scanner.

4. Disconnect the IEEE-1394 (FireWire) cable from the IEEE-1394 port on the back of the scanner.

5. Place the foam end caps on each end of the scanner.

6. Place the scanner in the box.

7. Place the power cord and power supply in the box.

8. Tape down the input and output trays to secure them.

9. Close the box.

   The scanner is now ready for moving.

Appendix A Specifications

Scanner Type	i150 Scanner: simplex color scanner with automatic document feeder
	i160 Scanner: duplex color scanner with automatic document feeder
Image Capture Resolution	75 dpi to 300 dpi color and bi-tonal
ADF Scanning Speed	i150 Scanner/i160 Scanner:
	40 ppm: 200 dpi landscape A4
	31 ppm: 200 dpi portrait letter
Scanning Output	Bi-tonal, 256-level, 8-bit grayscale, 24-bit color
Output Resolution	75 to 600 dpi
File Format Output	Color: compressed JPEG, uncompressed TIFF
	Grayscale: compressed JPEG, uncompressed TIFF
	Bi-tonal: G4 TIFF, uncompressed TIFF
Scan Area	i150/i160 Scanners:
	Width: 6.4 to 29.7 cm (2.5 to 11.7 in.)
	Length: 8.9 to 43.2 cm (3.5 to 17 in.)
Input Tray Capacity	150 sheets of 60 g (16 lb.) bond paper
Recommended Daily Volume	i150/i160 Scanner: up to 1,000 pages/day
Light Source	Xenon lamp
Electrical Requirements	100-127V, AC 50/60 Hz
	200-240V, AC 50/60 Hz
Scanner Power	24 Vdc/4 A, operating
Power Source	Phihong PSM 156U-240
	IMPORTANT: Do not substitute another power supply model or another manufacturer's power supply.
Scanner Dimensionsr	***Kodak* i150 Scanner** Height: 23.6.1 cm (9.3in.) without trays 36.8 cm (14.4 in.) with trays folded up
	***Kodak* i160 Scanner** Height: 36.1 cm (14.2 in.) without trays 36.5 cm (14.4 in.) with trays folded up
	***Kodak* i150 and i160 Scanners** Width: 54.7 cm (21.5 in.)
	Depth: 23.6 cm (9.3 in.) without trays 30.0 cm (11.8 in.) with trays folded up
Scanner Weight	i150 Scanner: 8.9 kg (19.75 lb.)
	i160 Scanner: 10.4 kg (23 lb.)
Host Connection	IEEE-1394 (FireWire) interface, 6-pin connector

Operating Temperature	15 to 35°C (59-95°F)
Humidity	15 to 76% (dry bulb)
Power Consumption	i150/i160: <9.5W
Heat Load	600 BTU
Altitude	Up to 2440 m (8000 ft)
Acoustic Noise	Data was measured in accordance with DIN 45 635, ANSI S12.10-1985, and ISO 7779 in a semi-anechoic chamber. • Operating: < 60 dB • Standby: < 40 dB

Appendix B   Supplies and Accessories

Contact your scanner supplier to order supplies.

Item	CAT No.
Kodak Feeder Consumables Kit for i100 Series Scanners (1 complete feed module, 1 complete separator module, 2 pre-separation pads, 24 roller tires)	124 1066
Kodak Extra-Large Feeder Consumables Kit for i100 Series Scanners (5 complete feed modules, 5 complete separator modules, 10 pre-separation pads, 120 roller tires)	821 5808
Kodak Imaging Guide Set	120 0278
Kodak White Background Accessory / for i100 Series Scanners	829 3599
Kodak Digital Science Transport Cleaning Sheets (50)	169 0783
Kodak Digital Science Roller Cleaning Pads (24)	853 5981
Staticide Wipes for *Kodak* Scanners (144)	896 5519

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