

Kodak
i600
Series Scanners



User's Guide

KODAK iInnovation Series Scanners

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1 Introduction

This User's Guide provides information and procedures for the *Kodak i600 Series Scanners*. The information in this guide is for use with all of the *i600 Series Scanners* unless otherwise noted.

Chapter 1, Introduction — provides general information about the *i600 Series Scanners* including a product description, scanner features, safety information and user precautions.

Chapter 2, Getting Started — includes specifications and instructions on how to install the *Kodak i600 Series Scanner*. Also provides an overview of internal and external scanner components.

Chapter 3, Using the Scanner — includes information on how to prepare your documents for scanning, document feeder and output tray adjustments, scanner calibration and how to scan documents.

Chapter 4, Using the Document Printer — provides procedures for using and maintaining the Document Printer.

Chapter 5, Maintenance — provides maintenance procedures for the *i600 Series Scanners*, including replacement procedures for the feed module, separation roller and imaging guides.

Chapter 6, Troubleshooting — provides a description of the LED indicators, a problem solving chart, procedures for clearing a document jam and a listing of error messages.

Appendix A, Accessories — provides a description of the optional accessories that can be purchased to support the *Kodak i600 Series Scanners*. Instructions for using these accessories are included with the accessory.

Appendix B, Specifications — provides a listing of the specifications for the *Kodak i600 Series Scanners*.

Scanner models

- *Kodaki620* Scanner is a desktop duplex color scanner with an automatic document feeder that runs at 80 pages per minute which includes a document printer.
- *Kodaki640* Scanner is a desktop duplex color scanner with an automatic document feeder that runs at 100 pages per minute which includes a document printer.
- *Kodaki660* Scanner is a desktop duplex color scanner with an automatic document feeder that runs at 120 pages per minute which includes a document printer.

Optional accessories

Kodak Feeder Kit for Ultra-Lightweight Paper — allows you to feed lightweight paper from a paper weight range of 3 to 9 kg (7 to 20 lbs).

Kodak White Background Accessory — if you are scanning translucent documents, this accessory will reduce black background bleed-through which produces whiter images.

See Appendix A, *Accessories* for more information.

Scanner features

- Excellent paper handling, image quality, and reliability.
- Color or grayscale at the same speed as bi-tonal.
- Includes the Brightness and Contrast Control which allows you to create custom color tables.
- Simultaneous bi-tonal and color image output.
- Simultaneous bi-tonal and grayscale image output.
- Handles a broad range of paper weights and sizes.
- Easy installation.
- ISIS and TWAIN device drivers are included on a CD that is packed with each scanner.
- International language support.
- Ergonomic design.
- 500-sheet elevator tray.
- Energy Star compliant (also known as “sleep” mode).
- Document printing capabilities.
- Electronic red, green and blue color dropout.
- Output resolutions include:
 - Bi-tonal: 200, 240, 300, 400 dpi
 - Grayscale and Color: 100, 150, 200, 240, 300 dpi
- Multi-feed detection by multiple ultrasonic sensors as well as by length detection.

- Automatic and manual feeding.
- JPEG compression allows color and grayscale images to be viewed in most image viewers.
- Image processing features include: iThresholding, Adaptive Threshold Processing, orthogonal rotation, color, bi-tonal and grayscale deskew, auto-crop, aggressive cropping, error diffusion, toggle patch, auto-color balancing (auto-white balancing) to ensure good color balance after calibration, and more.
- Easily replaceable feed module and separation roller.

Speed/capacity (throughput)

The following speeds (pages per minute) are for color and grayscale output.

Resolution (dpi)		Landscape Letter			Portrait Letter		
Color/Gray	Bi-tonal	i620	i640	i660	i620	i640	i660
100	-	80	100	120	69	83	96
150	-	80	100	120	69	83	96
200	200	80	100	120	69	83	96
240	240	53	66	80	46	55	64
300	300	53	66	80	46	55	64
-	400	53	66	80	46	55	64

Supporting documentation

The following documentation is available to support the *Kodak i600* Series Scanners:

- **Image Processing Guide**, A-61504 — available in PDF format on the Installation CD. This guide provides information for
- **Quick Tips Guide**, A-61501— intended to be used as a quick reference for basic scanner use.
- **FireWire Installation Information**, A-61511 — this installation information is packed with the FireWire cable and should be used to make the required FireWire cable connections.
- **White Background Accessory Instructions**, A-61503 — when you purchase the White Background Accessory these instructions are included and provide a description of how to install the accessory.
- **Ultra-Lightweight Feeder Accessory Instructions**, A-61190 — when you purchase the Ultra-Lightweight Feeder Accessory these instructions are included and provide a description of how to use the Ultra-Lightweight Feed Module.

Safety information

Warning labels



CAUTION: Moving parts, avoid contact.



CAUTION: Hot surface, avoid contact.

MSDS

Material Safety Data Sheets (MSDS) are available on the Kodak website at: www.kodak.com/go/msds. When accessing the MSDSs from the website, you will be required to provide the catalog number of the consumable you want the Material Safety Data Sheet for. See Chapter 5, "Supplies and accessories" for consumables and catalog numbers.

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 length should be kept short, using a hair net if needed, or tying long hair up in a bundle.
- Remove all other loose objects from the area that could be drawn into the machine.
- Take sufficient breaks to maintain mental alertness.

Supervisors should review their practices and make compliance with these precautions a part of the job description for operation of the scanner or any mechanical device.

Gas springs warning

If the gas springs exhibit a sign of decayed performance, call Service for replacement. Do not attempt to repair.

Safety and regulatory agency approvals

The *Kodak i600 Series Scanners* conform to all applicable national and international product safety and electronic emission regulatory requirements. This includes, but is not limited to, the following:

Country or Region	Safety Approval	Safety Mark	Electromagnetic Compatibility	EMC Mark
Australia			AS/NZS 3548(Class A)	C-Tick
Canada	CAN/CSA-C22.2 No. 60950 Standard	C - UL	Canada ICES - 003 Issue 3 (Class A)	
China	GB4943-1995	CCC "S&E"	GB 9254 (Class A) GB 17625.1	CCC "S&E"
European Union		CE	EN 55022 ITE Emissions (Class B) EN61000-3-2 Powerline harmonics EN 61000-3-3 Flicker EN 55024 ITE Immunity	CE
Germany	EN 60950	TUV GS		
International			CISPR 22 Class B	
Japan			VCCI (Class A)	
Taiwan			CNS 13438 (Class A)	BSMI
United States	UL 60950	UL	CFR 47 Part 15 Subpart B (FCC Class A)	

Environmental information

- The *Kodak i600 Series Scanners* contain lead in the circuit board solder. Disposal of this material may be regulated due to environmental considerations. For disposal or recycling information, please contact your local authorities or, in the USA, visit the Electronics Industry Alliance website: www.eiae.org.
- The product packaging is recyclable.
- The i600 Series Scanners are Energy Star compliant.

EMC statements

United States

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 own expense.

Japan

This is a Class A product based on the standard of the Voluntary Control Council for interference by information Technology Equipment (VCCI). If this equipment is used in a domestic environment, radio disturbance may arise. When such trouble occurs, the user may be required to take corrective action.

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A情報技術装置です。この装置を家庭環境で使用すると電波障害を引き起こすことがあります。この場合には使用者が適切な対策を講ずるよう要求されることがあります。

Taiwan

WARNING: This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

警告使用者：

這是甲類的資訊產品，在居住的環境中使用時，可能會造成射頻干擾，在這種情況下，使用者會被要求採取某些適當的對策。

Peoples Republic of China

WARNING: This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

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Acoustic emission

Maschinenlärminformationsverordnung – 3, GSGV
Der arbeitsplatzbezogene Emissionswert beträgt <70 db(A).
[Machine Noise Information Ordinance — 3, GSGV
The operator-position noise emission value is <70 dB(A).]

Power system connection

This product is also designed for Norwegian IT power system with phase-to-phase voltage 230V.

2 Getting Started

Site specifications

Place the scanner:

- In a clean area with temperature and relative humidity typical of an office environment,
- on a stable, level work surface,
- within 1.52 metres (5 feet) of an electrical power outlet.

IMPORTANT: Only use the scanner indoors in a dry location.

For more information about the scanner specifications, refer to Appendix B, *Specifications*.

System requirements

Following is the minimum recommended system configuration to run Kodak i600 Series Scanners.

NOTE: The actual performance of the system depends on 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.

- Intel PC (or compatible) with a Pentium IV 2 GHz processor
- PCI slot
- Microsoft Windows 2000 Professional, Windows Me, Windows 98SE, Windows XP (Professional/Home)
- 512 MB RAM
- Monitor
- Mouse

Registering your scanner

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

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.

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 connect the scanner.*

Installing the IEEE-1394 card in the host computer

Install the IEEE-1394 (FireWire) card according to the directions supplied with the IEEE-1394 card.

IMPORTANT: *Use proper precautions to avoid static when you install the IEEE-1394 card in your computer. Make sure the computer power cord is disconnected.*

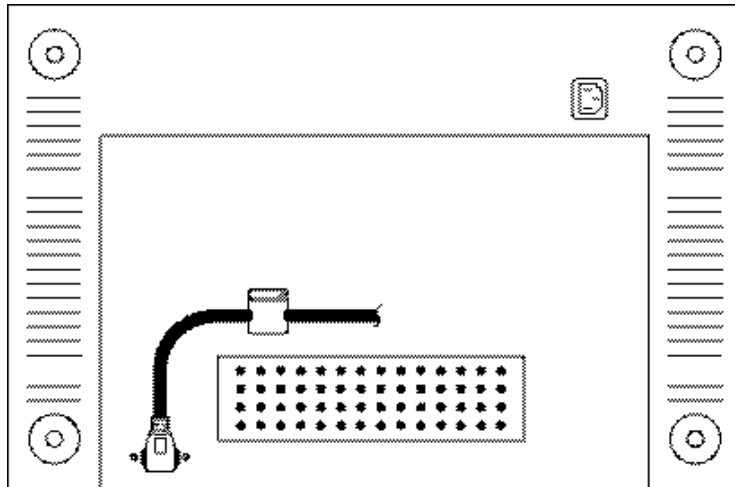
Installing the Kodak Driver software

1. Insert the *Kodak i600 Series Scanners* installation CD in the CD-ROM drive. The installation program starts automatically.
2. Follow the on-screen instructions to install the TWAIN Data Source, ISIS Driver and the *Kodak Scan Validation Tool*.
3. Shut down the host computer.

Installing the FireWire cable

An IEEE-1394 six-pin connector is provided on the rear panel of the scanner for IEEE-1394 connectivity.

1. Plug the end of the cable with the right angle into the scanner (see the following illustration).



2. Connect the other end of the cable into the IEEE-1394 card outlet in the host computer. Be sure that it is installed correctly and properly seated.

CAUTION: DO NOT FORCE THE CONNECTOR. If the cable is not properly connected, it could cause damage to the scanner.

Attaching the power cord

The *Kodak i600 Series Scanner* is packed with a set of power cords.

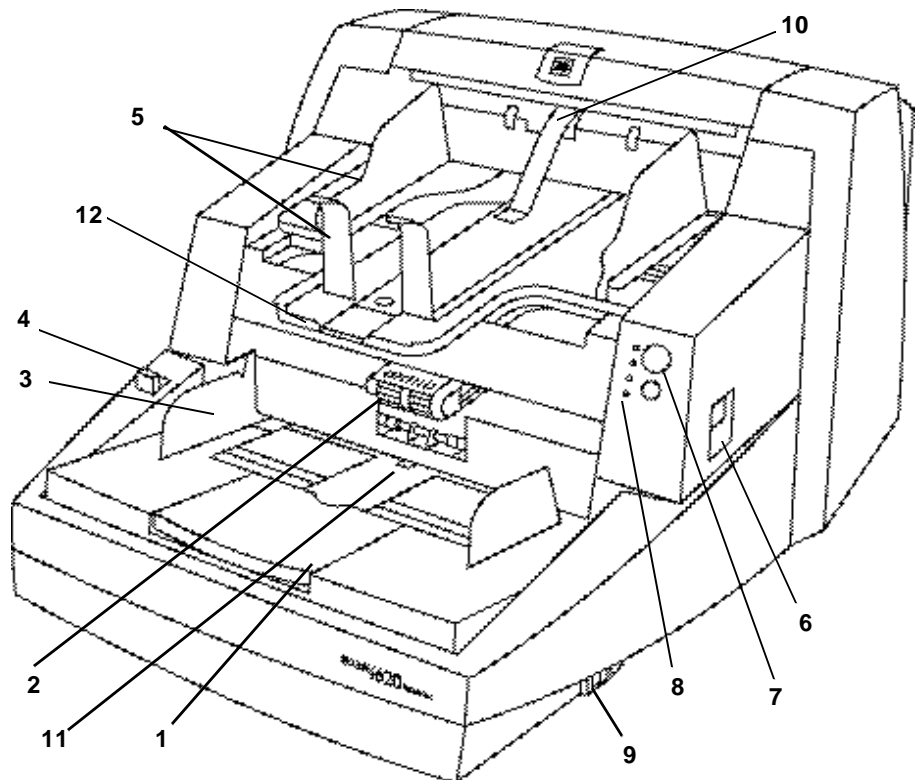
1. Select the power cord which complies with your electrical requirements and attach it.
2. Turn on the scanner and wait until the top green LED is lit indicating the scanner has completed power-up self-test and is idle.

Powering up the host computer

- Turn the power on to the host computer.

Scanner components

Front view



- 1 **Elevator tray extender** — open the elevator tray extender to accommodate long documents.
- 2 **Feed module** — provides smooth document feeding of various sizes, thicknesses and textures.
CAUTION: Moving parts, avoid contact.
- 3 **Elevator tray side guides** — slide the guides in or out to accommodate the document size you want to scan. Side guides can be left-, center- and right-adjusted to accommodate documents of various widths.
- 4 **Gap Release lever** — allows you to manually adjust the space between the feed module and separation roller for documents that require special handling.
- 5 **Output tray and End stop** — collects the scanned documents. The output tray width and end stop length can be adjusted.

6 POD release latch — push up the POD release latch when you need to access the inside of the scanner.

7 Stop/Pause and Start/Resume buttons —



Pause (white with red triangle) button: to temporarily stop scanning.



Resume (green) button: to start scanning.

8 LEDs— illuminate or flash from top to bottom as follows:



Illuminates when the power is turned on and the scanner is idle. This indicator will flash if the scanner is in “sleep” or lamp saver mode.



illuminates when the scanner is enabled and/or scanning, and flashes when the scanner is powering up.



flashes when a document has jammed in the transport or when a multi-feed has been detected. Illuminates when a user-correctable error has been detected.



Illuminates when you need to call Service.

Refer to Chapter 6, *Troubleshooting*, for complete descriptions of the LED indicators.

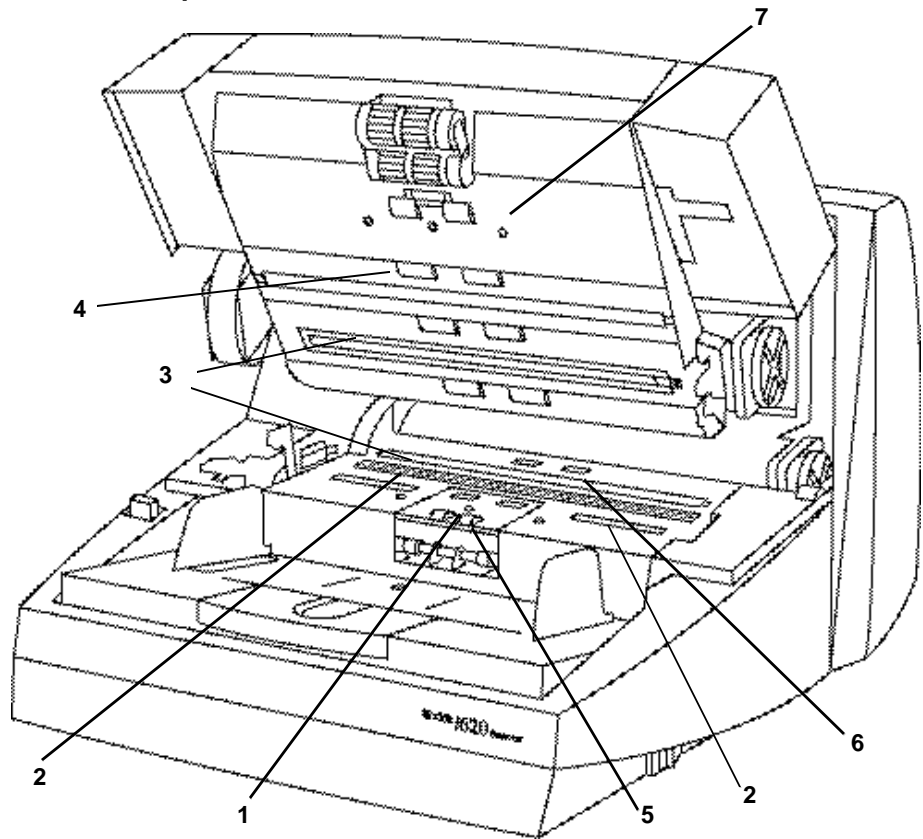
9 Power switch — press the power switch on (I) or off (O) as required.

10 Exit deflector (optional) — aids in document stacking.

11 Paper Present Sensor — detects the presence of documents in the elevator tray.

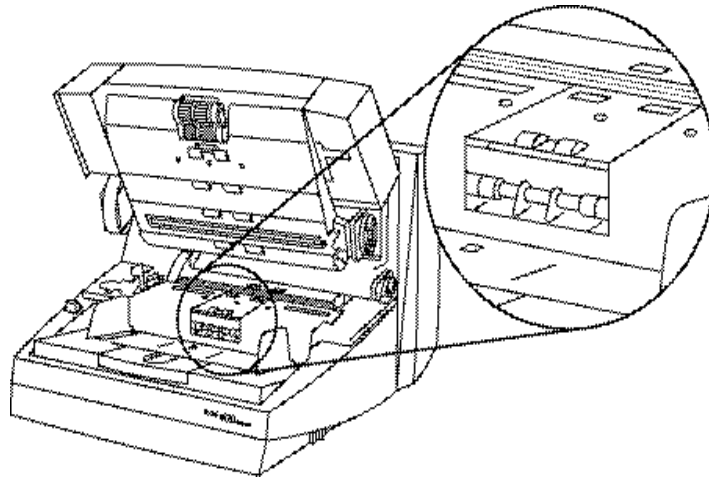
12 Height Adjustment Wire — located underneath the output tray (not shown in illustration), this wire can be pulled out to raise the front of the output tray.

Internal components

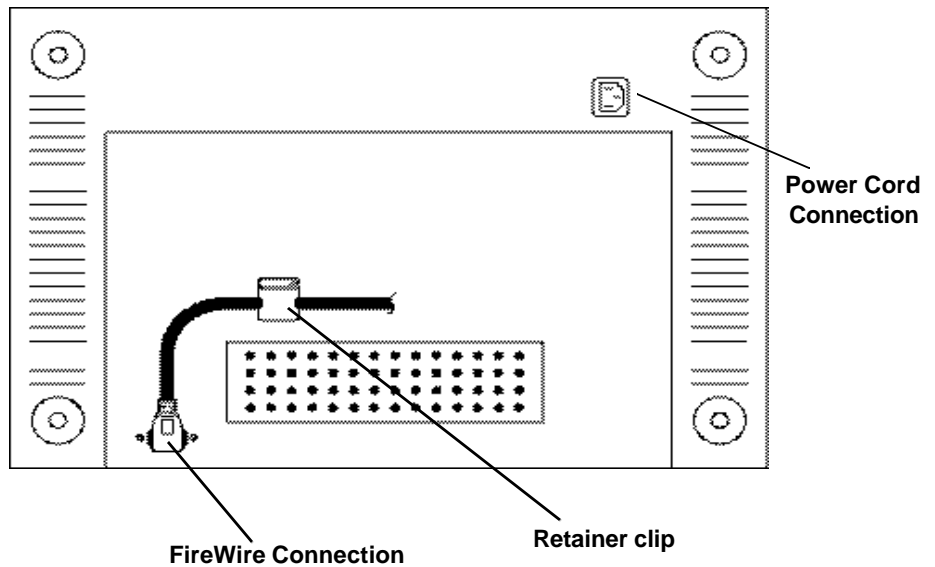


- 1 **Separation roller** — provides smooth document feeding of various sizes and textures one document at a time.
- 2 **Ink blotter strips** — collects residue from the Document Printer.
- 3 **Imaging guides** — the scanner has an upper and lower imaging guide. It is important to keep the imaging guides clean to obtain optimum image quality.
CAUTION: Hot surface, avoid contact.
- 4 **NFR rollers** — transports the documents through the paper path.
- 5 **Pre-separation pad** — provides smooth document feeding of various sizes and textures one document at a time.
- 6 **Drive rollers** — transports documents through the paper path.

- 7 Paper path sensors** — the scanner has 3 (ultrasonic) multi-feed detection sensors, 1 (optical) paper path sensor and 1 (optical) paper present sensor. These sensors detect the presence of documents in the elevator tray and documents in the paper path during feeding and imaging.



Rear view



Power Cord Connection — provides power to the scanner. The scanner is packed with six power cords. Choose the power cord appropriate for your location and connect it accordingly. Connect the power cord first to the scanner, then to the wall outlet.

FireWire (IEEE-1394) Connection — before connecting the FireWire cable, be sure that power to the scanner is off. See the FireWire instructions packed with the scanner for connection instructions. After connection, place the cable in the retainer clip located above the connector.

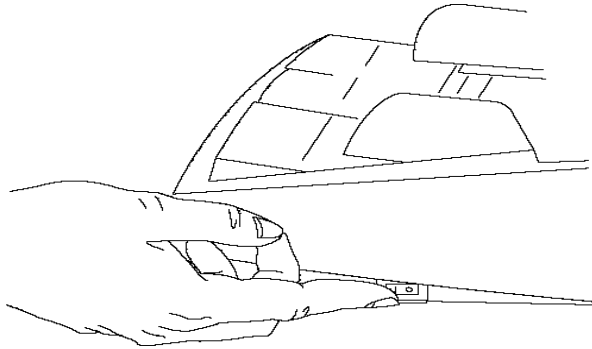
3 Using the Scanner

This chapter provides the following operational procedures:

- Turning on/off the scanner
- Starting, stopping, pausing and resuming the scanner
- Document preparation
- Adjusting the side guides and output tray
- Scanning documents
- Feeding long documents
- Continuous and manual feeding
- Calibration

Turning the scanner on and off

- Press the button on the scanner's lower right-side (I) to power it up.



- Press the button on the scanner's lower right-side (O) to power it down.

After you power up the scanner, wait until for it to complete self-test. When completed, the top green indicator light will remain on and constant. If this does not occur, refer to Chapter 6, "Indicator lights" for more information.

IMPORTANT: Always power up the scanner to its ready state before powering up or restarting the host computer.

Starting and stopping scanning

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

If your application does not automatically start the scanner transport, begin the scanning process by pressing the **Start/Resume** button on the scanner.

NOTE: Before you start scanning, make sure the scanner is ready for operation, which is indicated by the top green indicator light being on and constant.

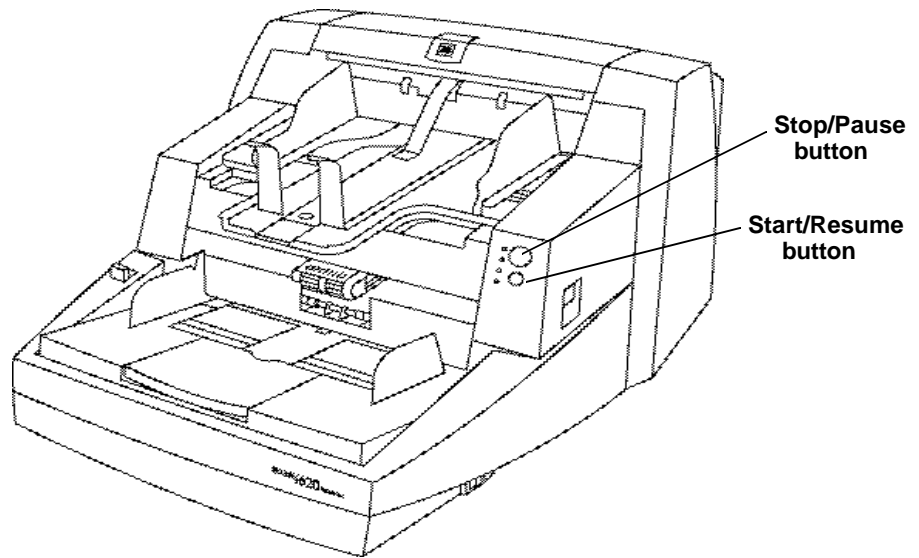
Manually pausing and resuming the scanner

While scanning documents:

- Press the **Stop/Pause** button on the scanner to stop scanning.

NOTE: Your application may configure the scanner with a transport timeout function which signals an End of Job. If you do not start/resume scanning before the timeout expires, you cannot continue scanning without restarting the job from the host application.

- Press the **Start/Resume** button on the scanner to restart scanning after it has been paused.



Automatically pausing and resuming the scanner

During scanning the scanner monitors its own internal image buffer memory. In order to prevent overwriting images before the host computer can retrieve them, the scanner will automatically pause the feeder while waiting for the host computer to read existing images.

The scanner automatically resumes scanning by restarting the feeder once image buffer memory is cleared. To avoid this situation be sure your host computer meets the minimum system requirements as referred to in Chapter 2.

Document preparation

Before you begin scanning documents, make certain the documents can be fed through the scanner easily.

- A batch of documents to be fed into the scanner must be arranged so the leading edges of all documents are aligned and centered under the feed module; this allows the feeder to introduce documents into the scanner one at a time.
- Staples and paper clips in documents may damage the scanner and documents. Remove all staples and paper clips before scanning.
- Documents with missing corners, perforated edges, hole punches in the margins, irregular and curled edges, 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 with the lead edge of the document aligned with the folded edge of the sleeve. Sleeves should be manually fed, one at a time, folded edge first, while using the gap release lever. Ultrasonic multi-feed detection is not recommended when using plastic sleeves.

NOTE: When scanning documents in a clear protective sleeve, the elevator tray side guides must be aligned to accommodate the width of the sleeve.

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 listed below. Scanning documents outside of these specifications may lead to undesirable results in terms of scanner reliability, image quality, and/or consumable life.

Materials:

- Virgin, recycled and photographic papers
- Clear protective sleeves meeting the size and thickness requirements in this section

Paper Types: Bond, Laser, Inkjet, Offset

Paper Weights: The elevator tray handles a broad range of paper weights from 45 to 200 g/m² (12 to 110 lb.). The *Kodak Feeder Kit for Ultra Lightweight Paper* can handle paper weights from 25 to 75 g/m² (7 to 20 lbs).

Minimum Document Size: 6.4 x 6.4 cm (2.5 x 2.5 in.). Documents as small as 5 cm (2 in.) (i.e. business cards) can be center-fed, in portrait orientation one at a time.

Maximum Document Size: 30.5 x 66 cm (12 x 26 in.). Documents larger than 43 cm (17 in.) require operator assistance.

Paper inks: All inks on the paper must be dry before scanning is started. This includes: Standard offset printing, Inkjet printer, Thermal transfer, Handwriting inks.

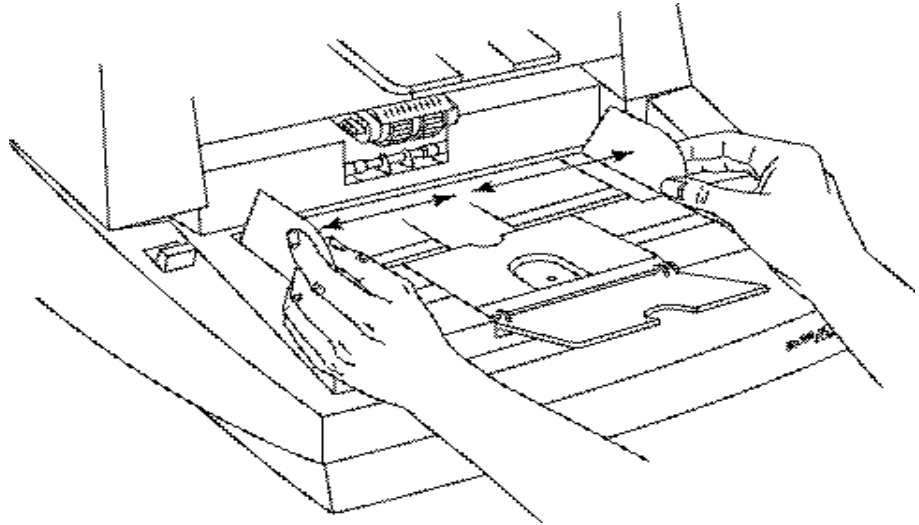
Correction Fluids: Liquid Paper®, Tipp-Ex®, Wite-out®, and other similar correction fluids.

Feeder Capacity: The elevator tray can hold up to 500 sheets of 75 g/m² (20 lb.) paper.

Adjusting the side guides

To accommodate multiple applications with variable feeding requirements, the side guides can be adjusted for right-, left- or center-edge feeding. Center-feeding is recommended for best paper handling performance. The side guides can be moved together or independently to achieve offset feeding.

1. Pull the side guides all the way out and then push them together (toward the center) to reset or center them.



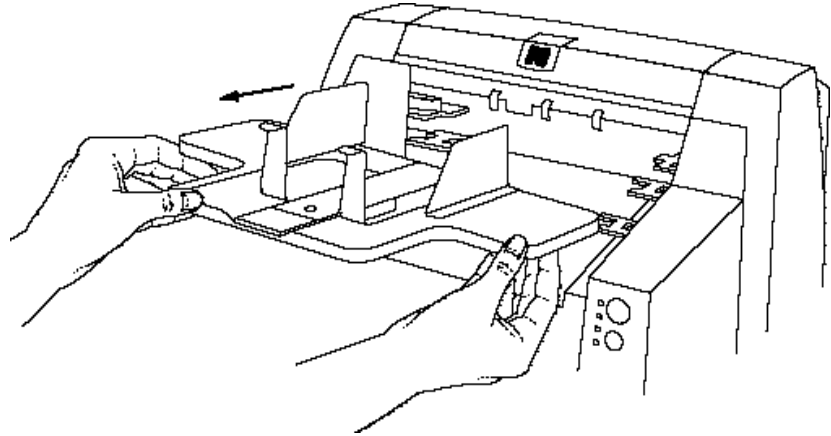
2. Open the side guides slightly wider than the documents you will be feeding.
3. Place the documents in the elevator tray.
4. Adjust the side guides to fit the documents.

Adjusting the back of the output tray

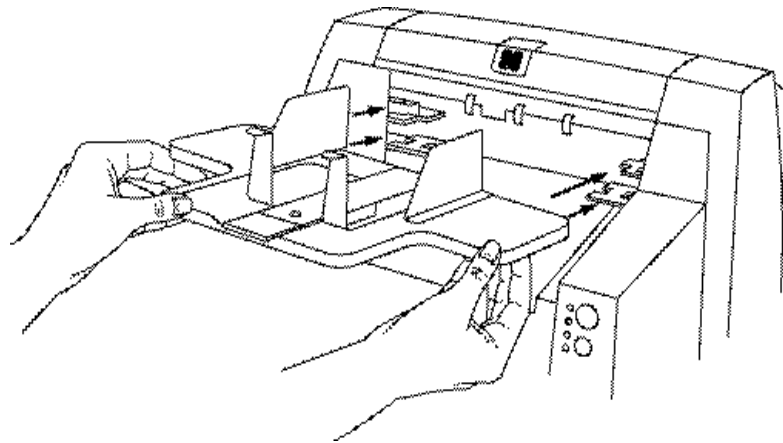
Different paper types stack differently. The output tray can be set in either one of two positions. In addition you can raise the front of the output tray to lift the front edge of the documents.

To raise or lower the back of the output tray:

1. Lift the front of the output tray and pull it out of the detent position.



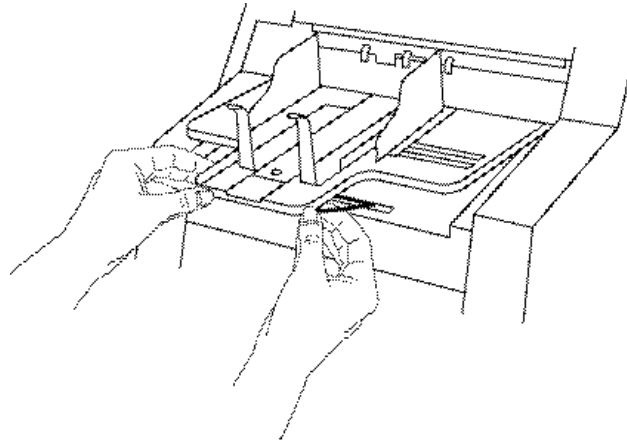
2. Set the back of the tray either in the upper position or lower position as desired.



Adjusting the front of the output tray

To raise the front of the output tray:

1. Lift the front of the output tray and pull it out of the detent position.
2. Swing the height adjustment wire out from underneath the output tray and insert it into the groove on the printer access cover.

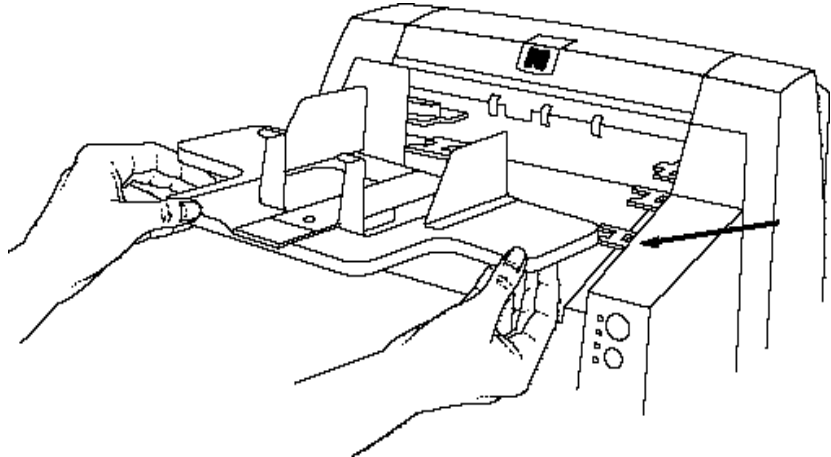


3. When finished using the output tray in this position, tuck the height adjustment wire back into position.

**Adjusting the output tray
for long documents from
37 cm (14.5 in.) to 43 cm
(17 in.)**

To adjust the output tray to accommodate long documents from 37 cm (14.5 in.) to 43 cm (17 in.):

1. Lift the front of the output tray and pull it out of the detent position.
2. Place the output tray in the forward detent position.

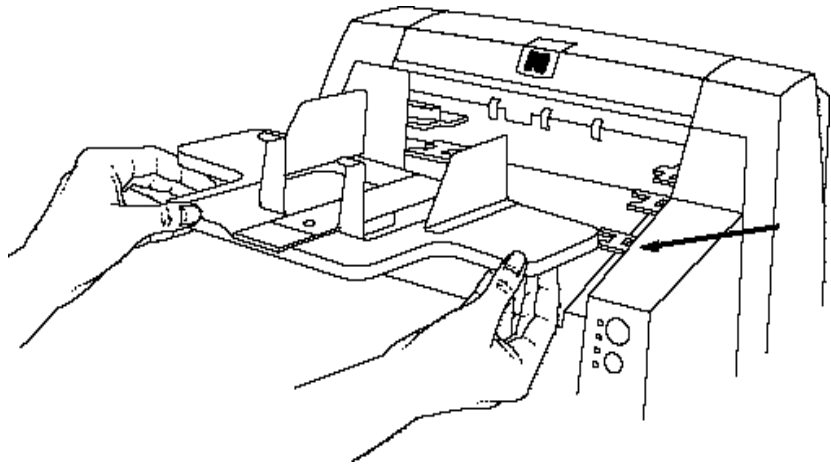


3. Gently push down on the left side of the output tray until it snaps into place.
4. Adjust the output tray end stop to accommodate long (or short) documents by pulling the end stop forward (or backward).
5. Remove the exit deflector.

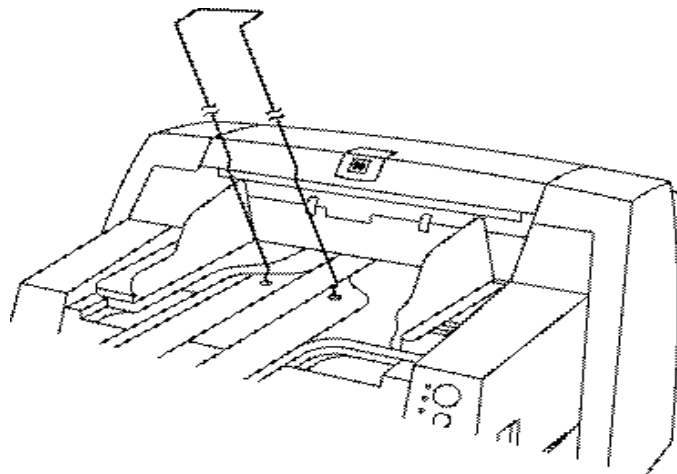
**Adjusting the output tray
for long documents from
43 cm (17 in.) to 66 cm
(26 in.)**

An output tray document extender is available for scanning documents from 43 cm (17in.) to 66 cm (26 in.). Contact your Kodak Field Engineer (1-800-3KODAK3) to order the document extender (Part No. 5EF754).

1. Lift the front of the output tray and pull it out of the detent position.
2. Place the output tray in the forward detent position.



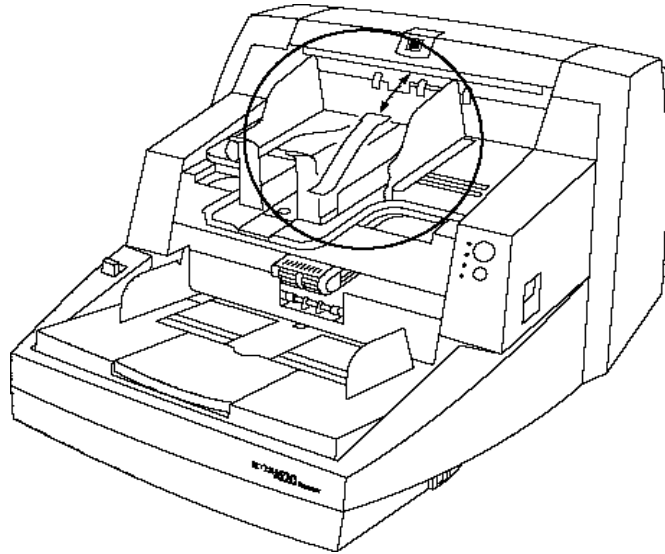
3. Gently push down on the left side of the output tray until it snaps into place.
4. Remove the end stop.
5. Remove the exit deflector.
6. Install the output tray document extender.



Exit deflector

The optional exit deflector aids in document stacking. When feeding long documents it is suggested that the exit deflector be removed.

The exit deflector can be pulled out of place or pushed into place as required.



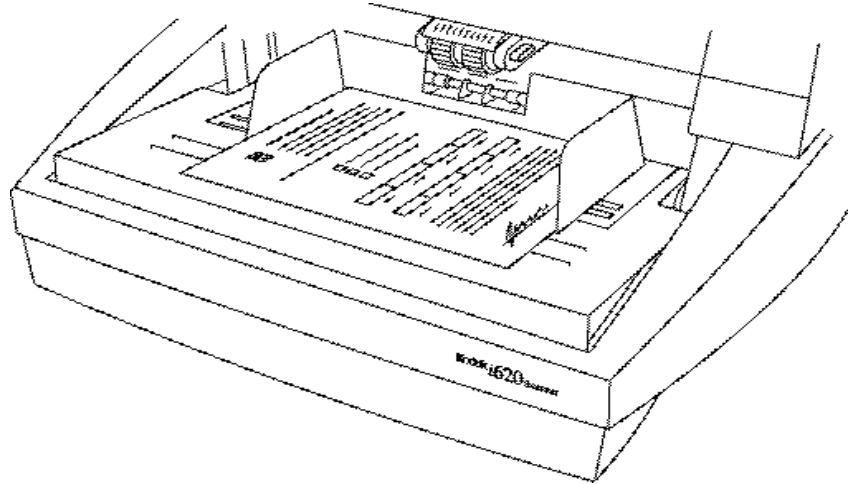
Automatic feeding

To scan a batch of documents, follow the guidelines for size, type, quantity, etc., outlined in the “Document preparation” section.

For faster throughput, place documents into the elevator tray 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 stack of the documents in the elevator tray so it covers the paper present sensor.



3. Adjust the elevator tray side guides.
4. Adjust the output tray position, if necessary.
5. Adjust the output tray end stop, if necessary.
6. Depending on how your scanner is set up, your documents will automatically start scanning, or you may need to press the Start/Resume button to begin scanning.

Continuous feeding

Continuous feeding can be used when you want to scan small batches of documents (less than 25).

When the scanner is configured for continuous feeding, the elevator tray is raised to a position where approximately 25 documents can be loaded. The elevator tray will remain in this position to allow more documents to be loaded to the bottom of the stack.

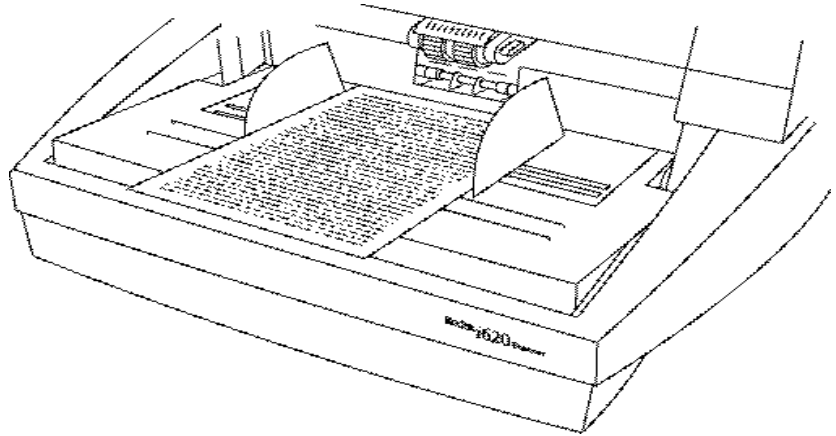
To continuously feed documents, follow Steps 1 through 6 above. As the documents are being scanned, you can continuously add a batch of documents to the bottom of the stack.

NOTE: Depending on how your scanner is configured, the transport will stop when the Transport Timeout has been reached.

Manual feeding

To manually feed documents:

1. Position the document you want to feed in the elevator tray so that the paper present sensor is covered.

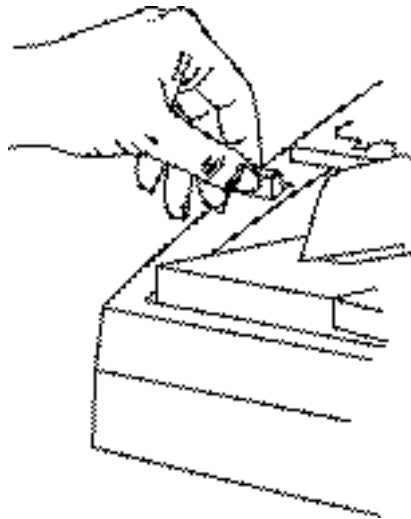


2. Press **Start/Resume**.

Feeding documents that require special handling

The gap release lever allows you to manually adjust the space between the feed module and separation roller for documents that require special handling; i.e. documents that are badly torn. If you are in doubt about whether a damaged document can be transported through the scanner, use the gap release lever and manually feed the document. Using the scanner in continuous feed mode is recommended when handling special documents.

1. Press and hold the gap release lever — this provides clearance to ease document feeding.



2. Push the document into the elevator tray. If more than one document is to be scanned, feed them one at a time.
3. After the document(s) has been fed, release the gap release lever.

Calibrating the scanner

There are two types of calibration that can be performed on the i600 Series Scanners: Image calibration and Ultrasonics calibration.

- **Image 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.

IMPORTANT: If the White Background Accessory is installed, it must be replaced with the black background strip, and the scanner must be rebooted prior to calibration.

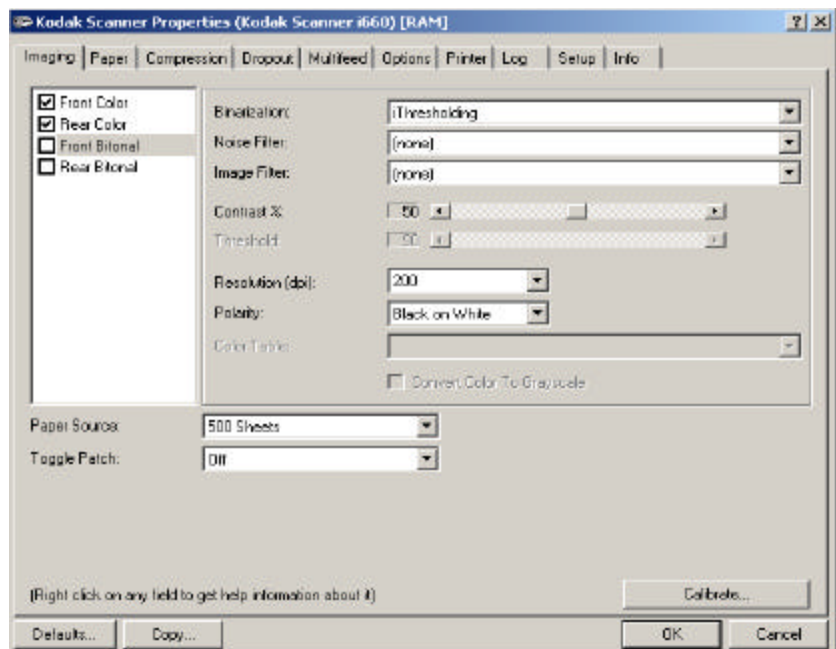
- **Ultrasonics calibration:** ensures that the ultrasonics system that detects multi-feeds and document edges is properly adjusted for best performance. Frequent calibration is not needed or recommended.

Image calibration

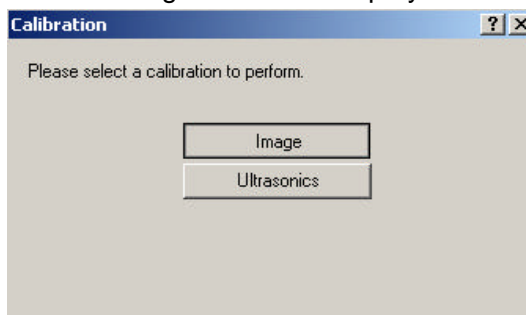
Use the calibration target provided with your scanner. Be sure to use a good, clean calibration target. Additional calibration targets can be ordered. See Chapter 5, “Supplies and accessories” for ordering information.

NOTE: The screens shown in this section are for the TWAIN Data Source. Your scanner may be different.

1. Open the pod and clean the imaging guides. Refer to the section entitled, “Cleaning the imaging guides” in Chapter 5 for procedures.
2. If the lamps have not been on, allow the lamps to warm up for 90 seconds.
3. Center the side guides in the elevator tray and output tray.
4. Place the calibration target in the elevator tray.
5. Click **Calibrate** on the Imaging tab.



The Calibration dialog box will be displayed:



6. Select **Image**. Calibration begins. A confirmation box is displayed when calibration is complete.
7. Click **OK**.

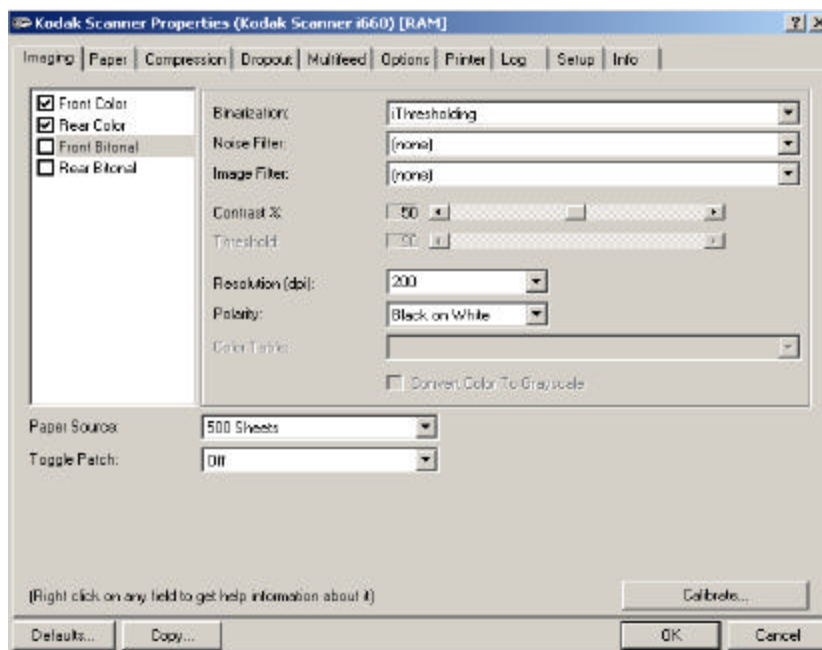
NOTE: If calibration fails, check the Operator Log for details. See Chapter 6, "Accessing the Operator Log" for more information. You must wait at least 90 seconds before calibrating again.

Ultrasonics calibration

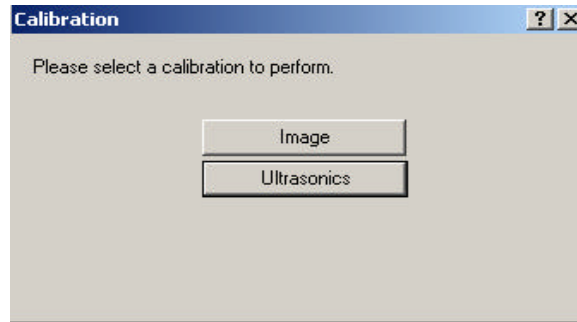
Use only an A4 size / 75-80 g/m² or lettersize / 20 lb. bond paper to perform an Ultrasonics calibration.

NOTE: The screens shown in this section are for the TWAIN Data Source. Your scanner may be different.

1. Center the side guides in the elevator tray and output tray.
2. Place the paper in the elevator tray in portrait orientation.
3. Click **Calibrate** on the Imaging tab.



The Calibration dialog box will be displayed:



4. Select **Ultrasonics**. Calibration begins. A confirmation box is displayed when calibration is complete.
5. Click **OK**.

NOTE: If calibration fails, check the Operator Log for details. See Chapter 6, "Accessing the Operator Log" for more information.

4 The Document Printer

The *Kodak* i600 Series Scanners include a factory-installed, pre-configured document printer. The printer operates at full scanner speed, and prints on the document before scanning on the front side of the document (top side as placed in the elevator tray). The document printer can add a date, time, fixed string, and/or sequential number on document fronts.

NOTE: Due to the pre-scan location of the printer, if a toggle patch is scanned, it will be printed on and could potentially cause problems with the recognition of the patch by the scanner. It is recommended that printing not be enabled when using the toggle patch.

IMPORTANT: Clean the scanner's paper path components daily when using the document printer.

Overview

The document printer is unique in that the document print string can be configured to include both literal (static) information (i.e., information that stays the same for each document, such as batch name or operator) and dynamic information (i.e., information that may change for each page scanned, such as sequential document number). The software controls static fields; any information that the software allows you to enter can be sent to the printer.

For detailed information, see the Image Processing Guide for *Kodak* i600 Series Scanners, A-61405. This guide can be downloaded from www.Kodak.com/go/docimaging.

All printer controls and functions are accessible through ISIS and TWAIN drivers. Printing must be enabled or disabled for each scan session. A maximum of 40 characters, which can include any alphanumeric and special characters from the printable ASCII character set is allowed. Characters from the following font are supported: Microsoft Global IME 5.01.

Dynamic print field options

Sequential Document Number — the starting sequential document number is specified by the host during job setup, and has a maximum of nine digits. You may suppress the printing of leading zeros. The sequential number increments by one for each document scanned.









If the sequential number rolls over (e.g., three digits are specified, and the number 1000 is reached), the scanner stops and displays an error.

Date — this field can be specified to be in MMDDYYYY, DDMMYYYY, or YYYYMMDD format. Date delimiters (dash, slash, comma, or blank separators) may be specified and will be counted as part of the 40-character string length limit.

Time — this field is in the format HH:MM, where HH is in 24-hour format. The hours and minutes are separated with a colon (:). This field therefore uses five characters of the 40-character limit.

Control of the Printer — any combination of dynamic and static fields is allowed as long as the total print string does not exceed 40 characters. There is no “default” print string. The format of the print string, along with the starting sequential document number, if used, is created on the host and is downloaded to the scanner at the beginning of each scan session.

Characters can be printed in the following sizes and orientations:

Small Comic	
Small Cinema	
Small Comic 180	
Small Cinema 180	
Large Comic	
Large Cinema	
Large Comic 180	
Large Cinema 180	

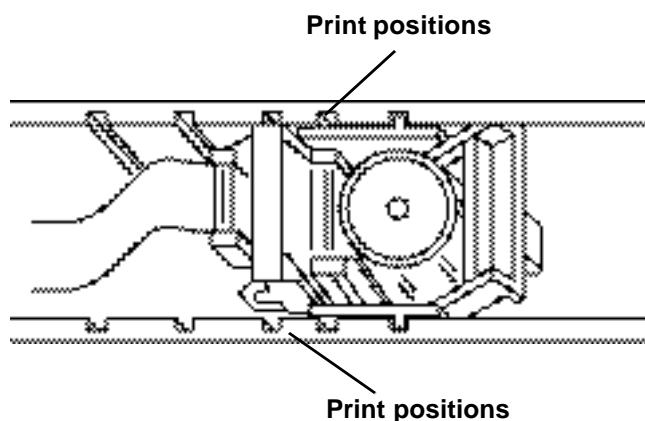
Printing cannot be done within 0.89 cm (0.35 in.) of the leading or trailing edge of the document. Printing within 0.89 cm (0.35 in.) of the side edge of a document is not recommended.

Changes to the print string, other than those that change automatically (e.g., date, time, sequence counter) require a host command to restart the printer. You must initiate a change between documents or batches. Changes cannot be done automatically or between documents “on the fly.”

NOTES:

- The minimum document width for using the document printer is 10 cm (4 in.) with adjustable side guides.
- The print cartridge must be installed prior to powering on the scanner, or it could result in errors when printing is attempted.

The document printer can be manually placed in 11 horizontal print positions.



Printer specifications

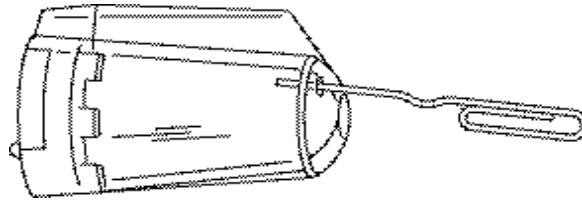
Characteristic	Description
Maximum lines	1
Print locations (horizontal)	11, manually set
Print locations (vertical)	Set by host
Print orientation	Cine, Cine 180, Comic and Comic 180
Font size	2 selectable, large and small
Ink cartridge	HP51604A or compatible
Print side	Front (pre-scan)
Minimum printing distance from document edge	0.89 cm (0.35 in.)
Static fields available	User-specified via host
Dynamic fields available	Up to nine-digit sequential document number, date, four-digit time
Languages supported	Any phonetic language (for example, Danish, Dutch, English, Finnish, French, German, Italian, Norwegian, Portuguese, Spanish, Swedish, Half-width Katakana)

Purging an ink cartridge

One ink cartridge is included with the i600 Series Scanners. Additional ink cartridges can be ordered. See Chapter 5, "Supplies and accessories".

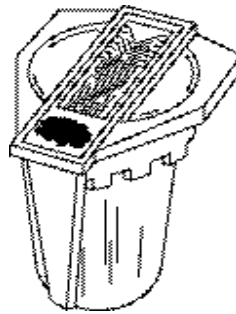
You must purge the ink cartridge before installing it.

1. Remove the ink cartridge from the box and inner wrappings.
2. Hold the cartridge and insert a straightened paper clip into the larger hole on the top of the ink cartridge.



3. Rotate the ink cartridge until the bottom is face up.
4. Gently press the paper clip against the side of the ink bladder until a small bead of ink appears on the ink flow point on the ink cartridge bottom.

CAUTION: Do not puncture the ink bladder with the paper clip.



5. Remove the paper clip.
6. Allow the ink bead to absorb back into the ink cartridge.
7. Blot the excess ink with a lint-free tissue.

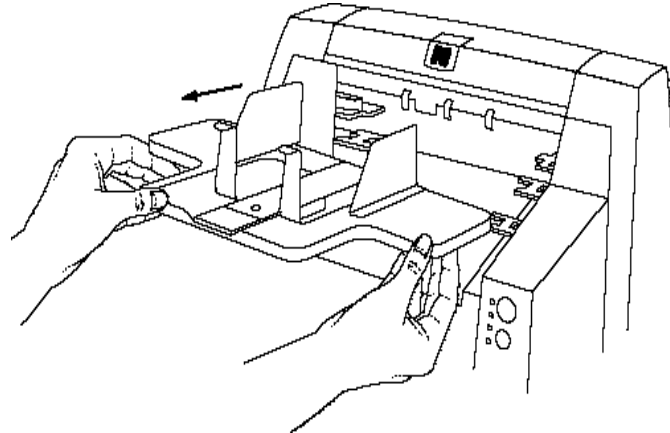
CAUTION: Do not touch the ink flow point or you may cause improper ink flow.

IMPORTANT: If you get ink on your hands, wash them with soap and water.

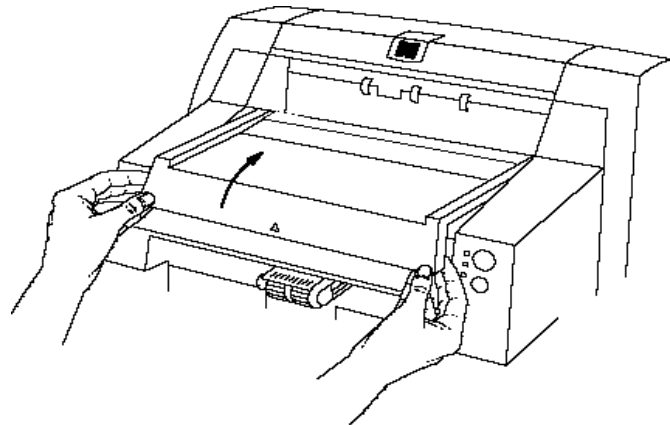
Accessing the document printer

When changing the ink cartridge, setting printer positions or replacing the ink cartridge carrier, you will need to access the document printer.

1. Remove the output tray.



2. Open the printer access cover.



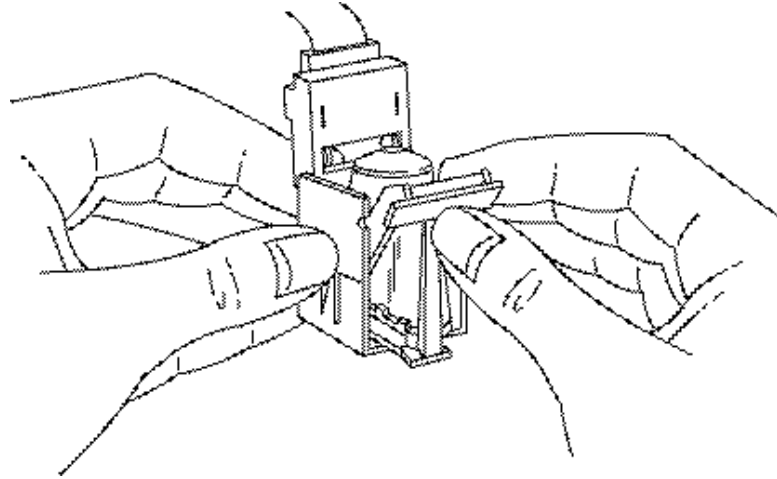
3. Do the function you wish to perform (i.e. change ink cartridge, change the printer position, etc.).
4. Close the printer access cover and reinstall the output tray when finished replacing parts or setting a new printer position.

Installing an ink cartridge

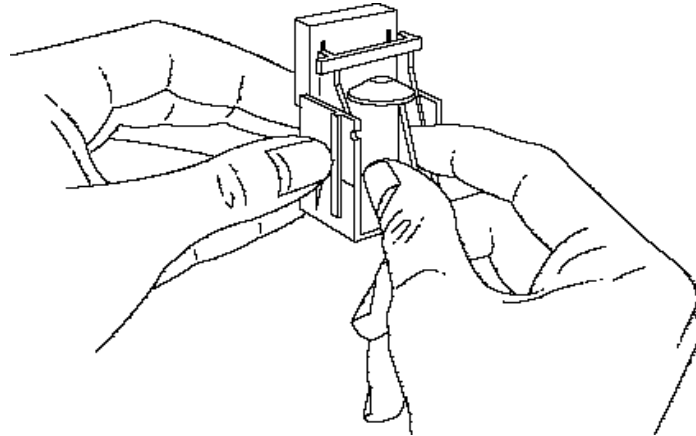
You must purge the ink cartridge before installing it (refer to “Purging an ink cartridge” earlier in this chapter).

NOTE: Additional ink cartridges can be ordered. See Chapter 5, “Supplies and accessories”

1. Access the document printer.
2. Slide the green ink cartridge carrier out of its slot.
3. Raise the locking bar if it is not already in the raised position.



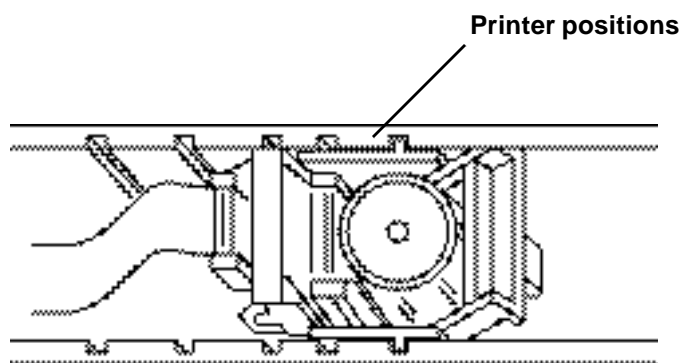
4. Remove the empty ink cartridge, if one is present.



5. Dispose the empty ink cartridge in accordance with all federal, state and local laws.
6. Insert a new, purged ink cartridge.
7. Lower the locking bar around the ink cartridge.

IMPORTANT: If you get ink on your hands, wash them with soap and water.

- Slide the green ink cartridge carrier into the desired printer position.

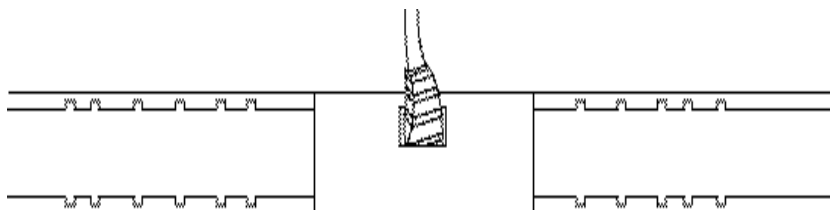


NOTE: You may change printer positions. Refer to the following section, "Setting the printer position."

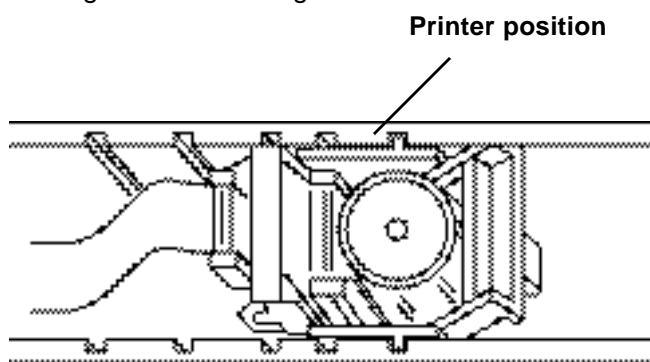
Setting the printer position

There are 11 possible positions for the printer. Make sure that the printer is in the correct position for your documents.

- Remove the output tray and open the printer access cover.
- Locate the printer positioning slots.



- Determine which position is suitable for your printing needs.
- Slide the green ink cartridge carrier out of its slot.
- Slide the green ink cartridge carrier into the desired slot.



NOTE: The side guides can also be adjusted (or offset) to accommodate the desired print position.

Document printing problems

If you are having problems printing on scanned documents:

- The tip of the ink cartridge may be plugged. Purge (prime) the ink cartridge (refer to “Purging an ink cartridge” in this chapter). If the ink still does not flow properly, replace the ink cartridge. Dispose of used ink cartridges properly.
- Verify that the ink cartridge is not empty. The ink bladder inside the cartridge is flat when it is empty.
- Make sure that the ink cartridge is properly installed in the documentprinter.
- Make sure that the ink cartridge is located in the correct position for printing.
- Make sure that the ink cartridge carrier is properly seated in its slot.
- Verify that all printer connectors are securely fastened and that the printer cables are not folded or creased.
- Verify that the printer has been enabled through the ISIS or TWAIN Driver and that the expected print string has been specified.
- Conduct a print test using the ISIS or TWAIN Driver.

Document printer maintenance

The ink cartridges and ink blotter strips used in the document printer need replacing occasionally.

Expected life of document printer components

- Document printer ink cartridge: approximately 75,000 characters per cartridge, based on font size, character selection and use of bolding.
- Ink blotter strips: replace as necessary when soiled.
- Ink cartridge carrier: replace only if the original carrier has been lost or damaged.

Replacing an ink cartridge

Refer to “Installing an ink cartridge” in this chapter for information about replacing an empty ink cartridge.

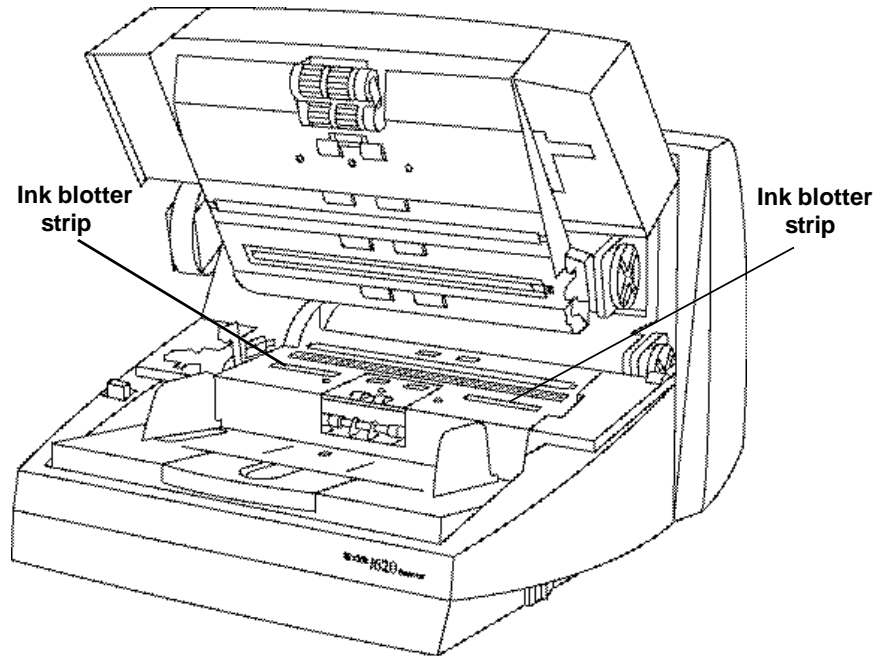
NOTE: To order additional ink cartridges, refer to Chapter 5, “Supplies and accessories”.

Replacing the ink blotter strips

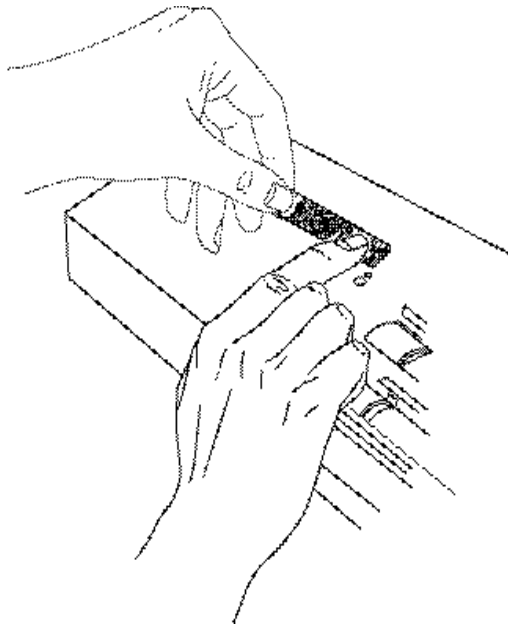
The ink blotter strips collect ink overflow. They should be replaced as necessary. Replacement blotter strips are included with the i600 Series Scanners.

To order additional ink blotter strips, refer to Chapter 5, "Supplies and accessories".

1. Open the pod.
2. Locate the two ink blotter strips.

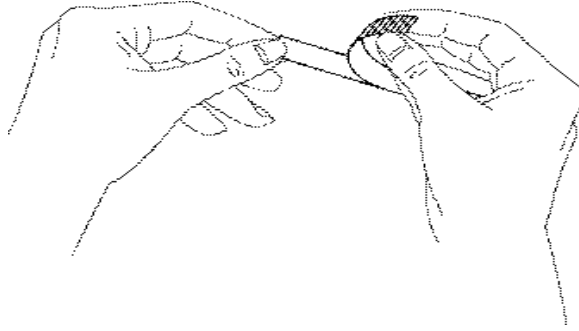


3. Grasp an ink blotter strip and carefully pull it off the transport channel.

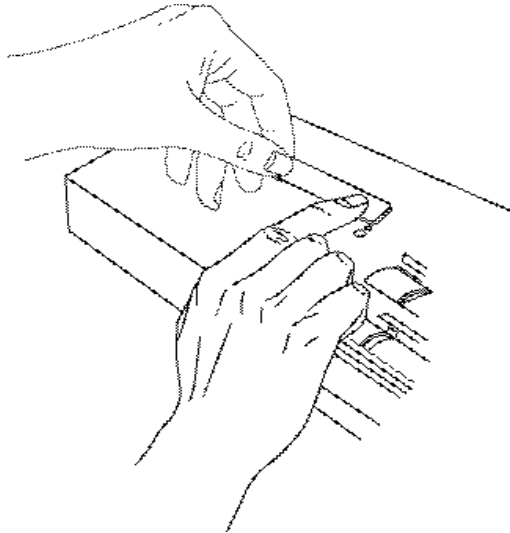


4. Discard the soiled strip.
5. Remove the other blotter strip if necessary, and discard it.

6. Remove the backing from the new blotter strip.



7. Align the blotter strip in the transport channel.



Make sure that you align the blotter strips in the transport channel before pressing the adhesive side into the channel.

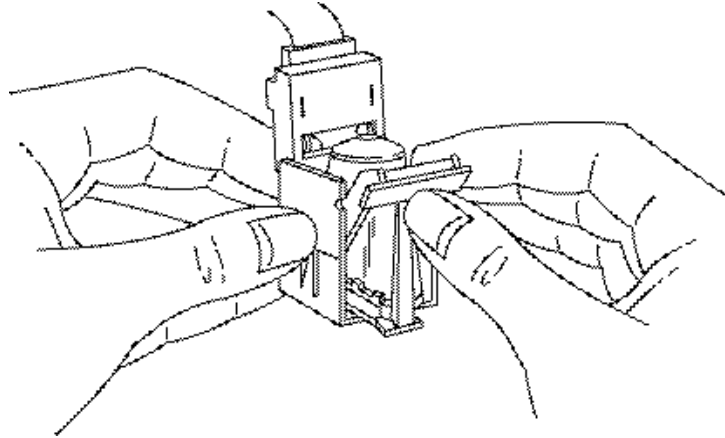
8. Press the blotter strip firmly into the channel.
9. Repeat Steps 6 - 8 for the other blotter strip if necessary.
10. Close the pod.

Replacing the ink cartridge carrier

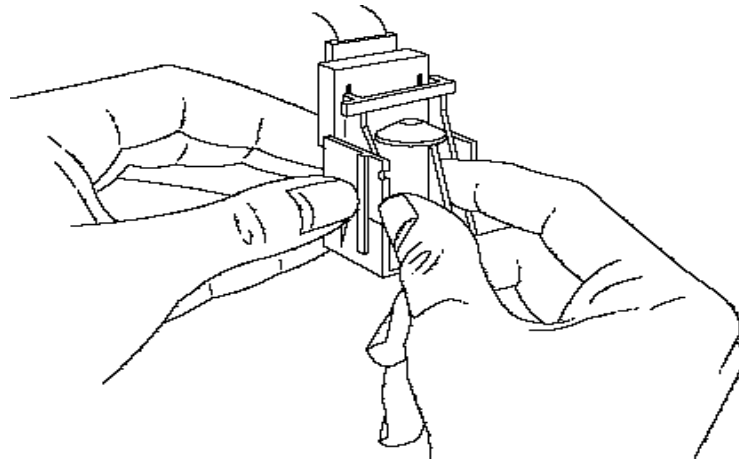
Under normal conditions, the ink cartridge carrier should not need to be replaced. If you do need to replace the carrier because it is broken or is not getting a good electrical connection, refer to Chapter 5, "Supplies and accessories" for ordering information.

To replace the ink cartridge carrier:

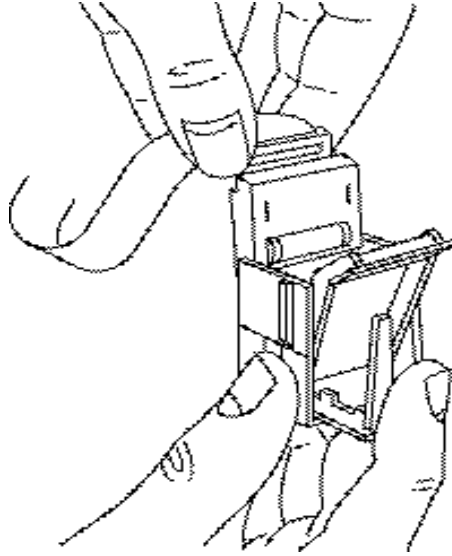
1. Access the document printer.
2. Slide the green ink cartridge carrier out of its slot.
3. Raise the locking bar if it is not already in a raised position.



4. Remove the ink cartridge, if one is present.



5. Squeeze the metal strips on the connector and pull the connector away from the ink cartridge carrier.



6. Push the connector firmly into a new ink cartridge carrier.
7. Replace the ink cartridge.
8. Lower the locking bar around the ink cartridge.
9. Slide the green ink cartridge carrier back into its slot.
10. Close the printer access cover.
11. Reinstall the output tray.

5 Maintenance

This chapter provides:

- a list of supplies and accessories
- a list of cleaning tools and materials
- procedures for opening the pod
- cleaning procedures for:
 - paper path
 - drive rollers
 - feed module tires
 - separation roller tires
 - imaging guides
- replacement procedures for:
 - feed module and tires
 - separation roller and tires
 - pre-separation pad

IMPORTANT: Scanner components marked with a green tab indicate operator-accessible parts.

The scanner collects dust and other debris during routine scanning. It is recommended that you thoroughly clean the scanner at least once a week and the paper path daily if you are using the Document Printer or if you are scanning carbonless paper or newsprint.

Depending on scanning volumes you may need to clean some parts more frequently than others.

NOTES:

- Some debris from the rubber tires on the feed module and separation roller 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 separation roller or feed module if necessary.
- A recommended cleaning sequence includes vacuuming inside the scanner, cleaning the rollers with a Transport Cleaning Sheet, cleaning any remaining residue from the feed module, separation roller or drive rollers and cleaning the imaging guides.
- Using unapproved cleaning fluids or solvents may damage the rubber tires.

Supplies and accessories

Contact your scanner supplier to order supplies.

Item	CAT No.
<i>Kodak Feeder Consumables Kit for i600 Series Scanners</i>	108 4755
<i>Kodak Feeder Kit for Ultra Lightweight Paper / for i600 Series Scanners</i>	896 5279
<i>Kodak Extra-Large Feeder Consumables Kit / for i600 Series Scanners</i>	842 6157
<i>Kodak Imaging Guide Set / for i620/i640/i660 Scanners</i>	197 6703
<i>Kodak Printer Ink Cartridge Carrier</i>	838 4885
<i>Kodak Printer Ink Cartridges (qty 10)</i>	135 5155
<i>Kodak Digital Science Transport Cleaning Sheets (qty 50)</i>	169 0783
<i>Kodak Printer Ink Blotters / for i200/i600 Series Scanners</i>	840 5425
<i>Kodak Digital Science Roller Cleaning Pads (qty 24)</i>	853 5981
<i>Staticide Wipes for Kodak Scanners (qty 144)</i>	896 5519
<i>Kodak Calibration Targets (qty 5)</i>	127 1436

NOTE: Items and catalog numbers are subject to change.

Cleaning tools and materials

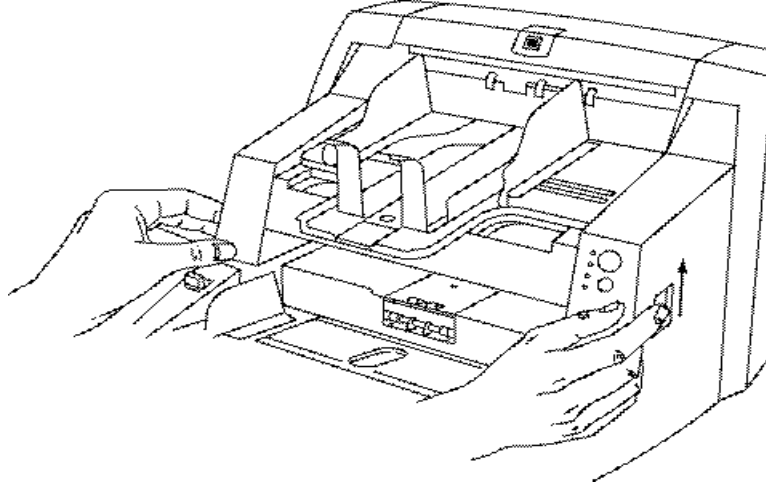
Use only these cleaning tools and materials when performing routine maintenance on your scanner. Use of any other cleaning materials could damage your scanner.

- *Kodak Digital Science* Transport Cleaning Sheets
- *Kodak Digital Science* Roller Cleaning Pads
- Staticide Wipes for *Kodak* Scanners
- A vacuum cleaner to remove dust and debris from the scanner

Opening the pod

When cleaning or replacing parts, you will need to open the pod to obtain access to the paper transport, separation roller and imaging guides.

1. Power down the scanner.
2. Push up on the pod release lever.
3. Open the pod.



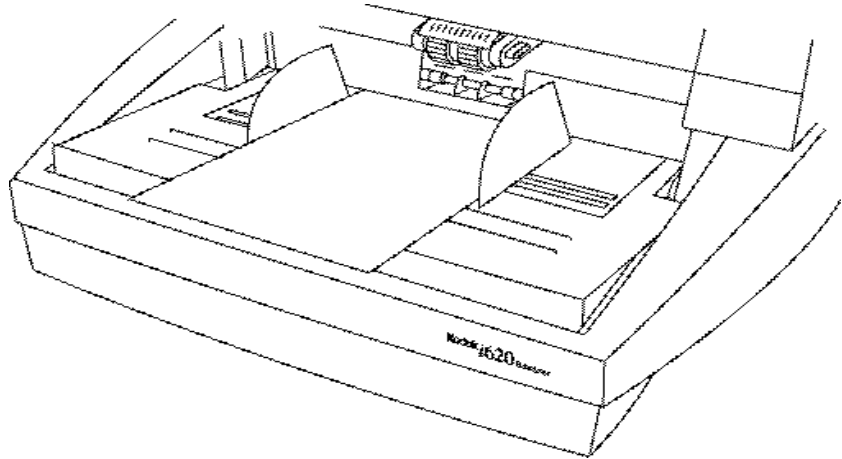
4. Close the pod when finished cleaning internal components or replacing parts.
5. Power on the scanner.

Cleaning the paper path

The paper path should be cleaned every day. Use a vacuum cleaner to clean all the operator-accessible areas of the scanner.

When the dust and debris has been cleaned, feed a Transport Cleaning Sheet several times through the transport.

1. Remove the wrapping from the Transport Cleaning Sheet.
2. Adjust the elevator tray and output tray sides guides to accommodate 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 elevator tray and output tray side 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 the cleaning sheet gets very dirty, discard it and use a new one.

Cleaning the drive rollers, feed module and separation roller tires

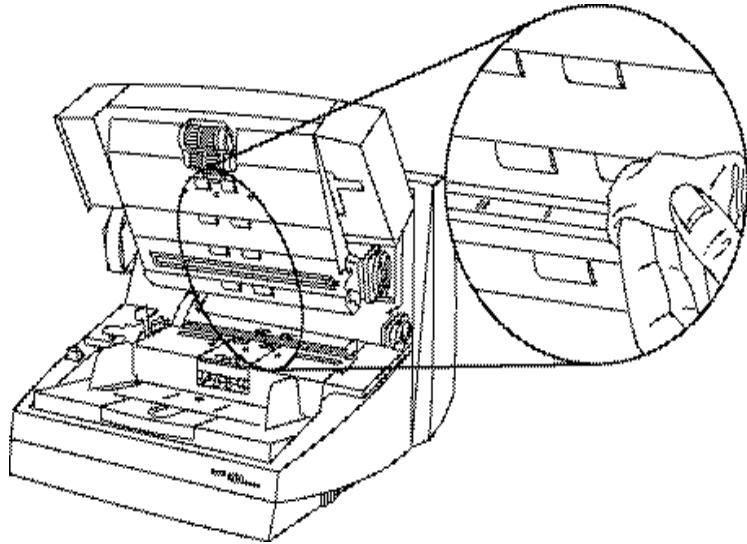
Daily cleaning of the drive rollers, feed module tires and separation roller tires prevent ink, toner, dust and paper contaminants from collecting on the rollers, which help documents to separate properly when feeding. More frequent cleaning may be necessary depending on throughput and document type. If residue remains on the drive rollers, feed module tires or separation roller tires after running a Transport Cleaning Sheet, follow the cleaning procedures below.

NOTE: When cleaning any rollers/tires, allow the rollers/tires to dry completely before scanning.

Cleaning the drive rollers

1. Open the pod.
2. Manually rotate and wipe the NFR and drive rollers with a roller cleaning pad.

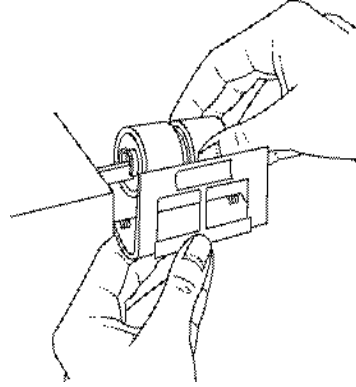
IMPORTANT: The roller cleaning pad contains sodium lauryl ether sulfate and sodium silicate which can cause eye irritation. Refer to the MSDS for more information.



3. Dry the rollers with a lint-free cloth.

Cleaning the separation roller tires

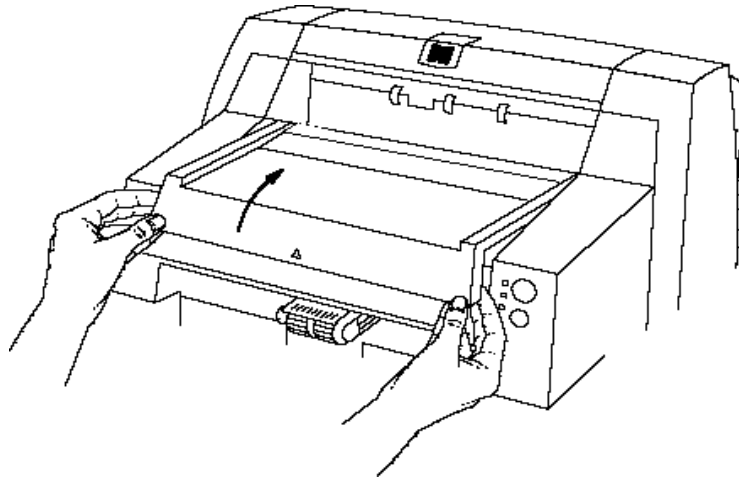
4. Pull the separation pad holder forward and remove the separation roller.



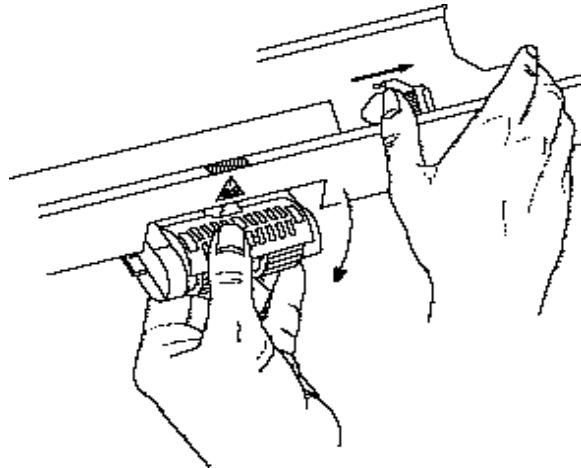
5. Manually rotate and wipe the separation roller tires with a roller cleaning pad. For best results wipe parallel to the ribs in order to remove any residue between the ribs.
6. Inspect the tires. If the tires show signs of wear or damage, replace the separation roller. See "Replacement procedures" later in this chapter.
7. Reinstall the separation roller and close the pod.

Cleaning the feed module tires

1. Remove the output tray.
2. Lift up the printer access cover.

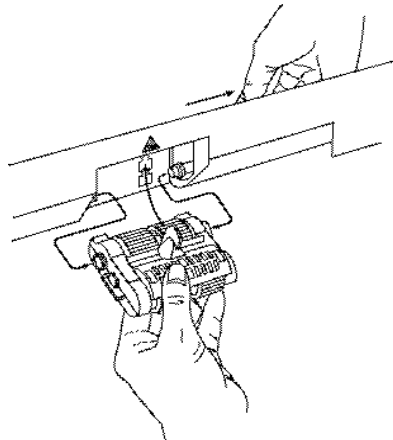


3. Open the pod.
4. Push the release lever (located underneath the printer access cover) to the right to release and remove the feed module.



5. Manually rotate and wipe the feed module tires with a roller cleaning pad. For best results wipe parallel to the ribs in order to remove any residue between the ribs.
6. Inspect the tires. If the tires show signs of wear or damage, replace the feed module tires. See "Replacement procedures" later in this chapter.

7. Reinstall the feed module by aligning the pins and fitting it into position. Verify that the feed module is securely in place and moves freely after you install it.



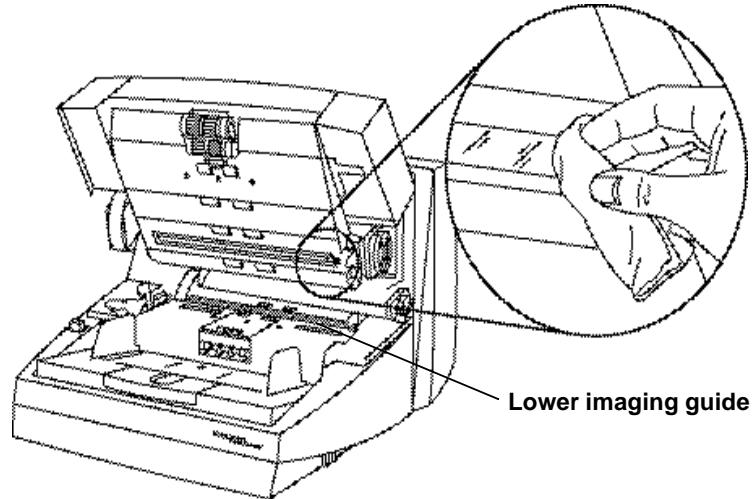
8. Close the pod.
9. Close the printer access cover and reinstall the output tray.

Cleaning the imaging guides

The imaging guides should be cleaned daily and replaced when they are heavily scratched and defects show in the image.

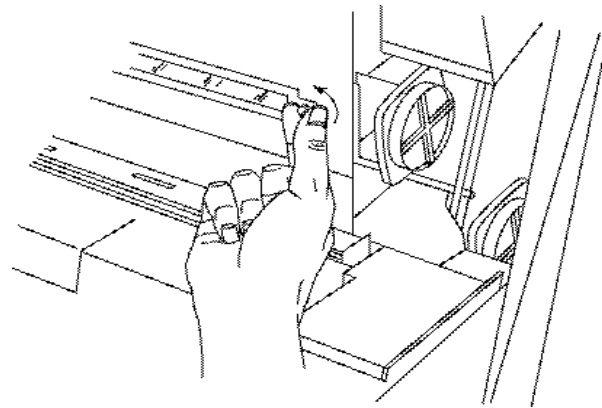
1. Open the pod.
2. Allow the scanner to cool, with the lamps off, for 5 minutes before proceeding.
3. Wipe the upper and lower imaging guides with a Staticide Wipe.

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 MSDS for more information.



If cleaning the exposed side of the imaging guides does not result in satisfactory image quality, then do a more thorough cleaning by removing and cleaning the imaging guides:

4. Turn the screw on each end of the upper imaging guide to remove the imaging guide from its position.



5. Clean the imaging guide thoroughly with a Staticide wipe.

NOTE: Handle the imaging guides carefully as to not put fingerprints on the guides.

6. Reinstall the upper imaging guide.
7. Repeat Steps 3 - 5 to clean the lower imaging guide.

Replacement procedures

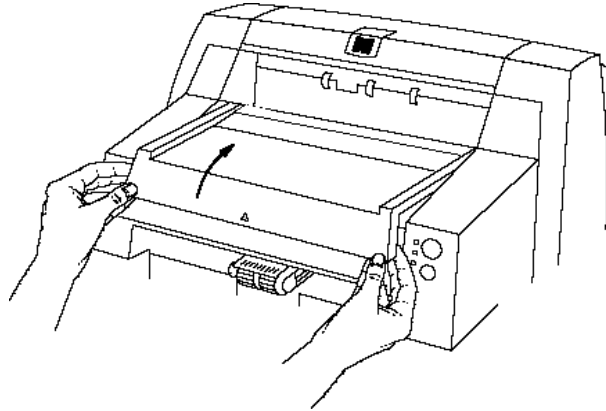
This section provides procedures for replacing the following parts. Use the list below as a guideline for frequency of replacement.

- **Feed Module tires and Separation Roller tires** — tire life will vary depending upon paper types, environment and cleanliness. Nominal tire life will be approximately 500,000 documents; results will vary. Degradation of feeder performance, multiple feeds, stoppages, etc. indicate a need to change tires. Change all the tires on the feed module and separation roller at the same time.
- **Feed Module and Separation Roller** — it is recommended that you install a new feed module and separation roller approximately every 4th tire change. Install a new feed module and separation roller at the same time.
- **Pre-separation Pad** — it is recommended that you change the pre-separation pad approximately every 250,000 documents.
- **Imaging Guides** — replace when the imaging guides are heavily scratched and defects show in the image.

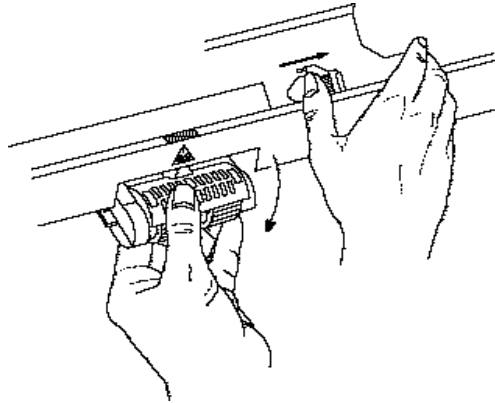
Replacing the feed module or feed module tires

To replace the feed module or feed module tires:

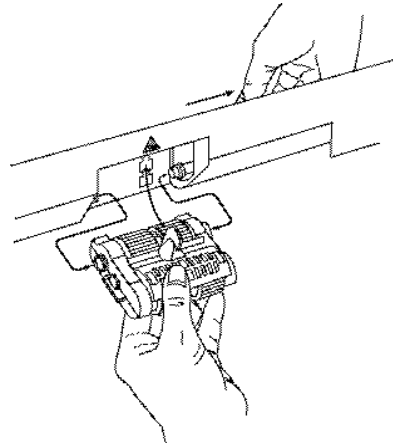
1. Remove the output tray.
2. Lift up the printer access cover.



3. Open the pod.
4. Push the release lever (located underneath the printer access cover) to the right to release and remove the feed module.



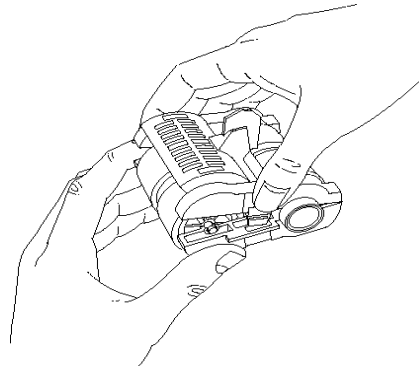
5. If you are just replacing the feed module:
 - Insert the new feed module by aligning the pins and fitting it into position. Verify that the feed module is securely in place and moves freely after you install it.



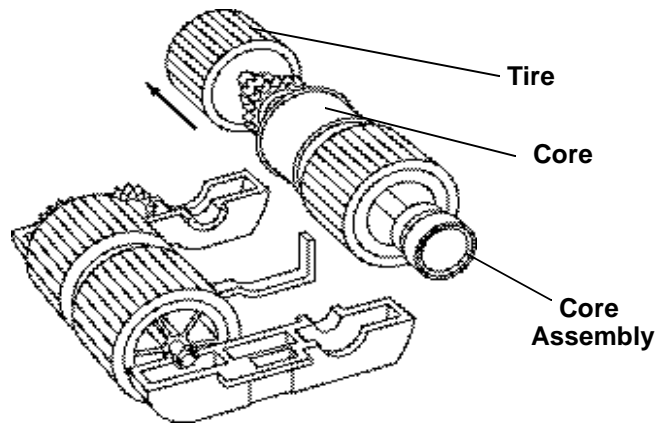
- Close the pod and the printer access cover.
- Reinstall the output tray.

If you want to replace the tires, proceed as follows:

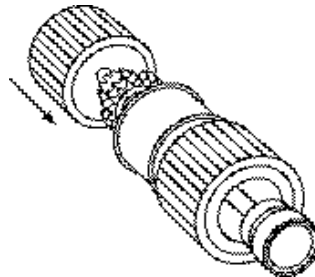
6. With one hand, press the locking tabs (one on each side) while holding the bottom housing with the other hand, pull the upper housing up and away from the rollers.



7. Remove one core assembly.
8. Replace each tire by sliding the tire off the core.

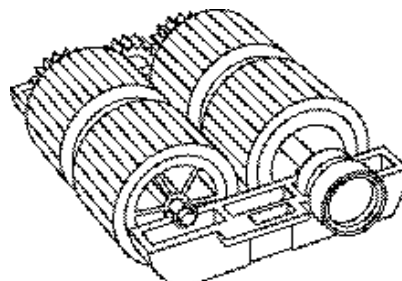


9. Install each new tire by gently pulling it over the core.

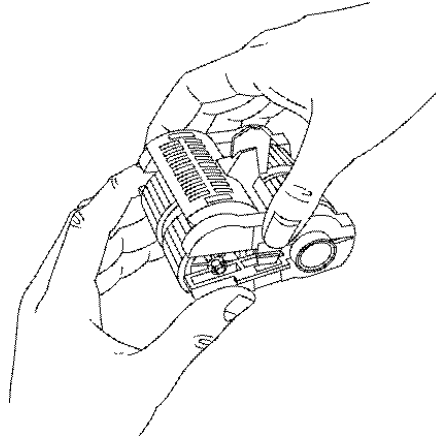


IMPORTANT: Do not overstretch the tire; it may tear.

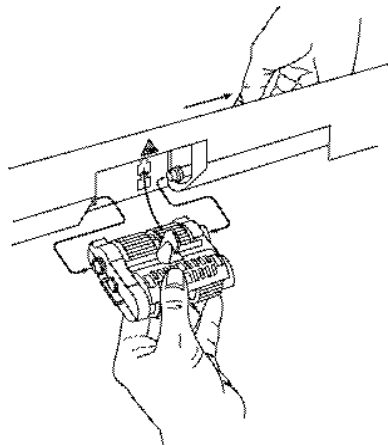
10. Replace the core assembly in the feed module.



11. Repeat the replacement procedure outlined above for the other core assembly.
12. Align the tabs on the upper housing with the slots on the lower housing.



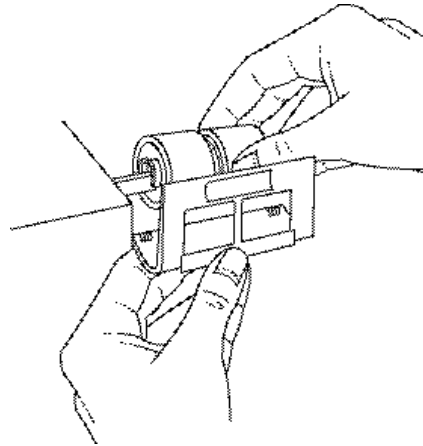
13. Press the upper and lower housings together until they snap into place.
14. Reinstall the feed module by aligning the pins and fitting it into position. Verify that the feed module is securely in place and moves freely after you install it.



15. Close the pod.
16. Close the printer access cover.
17. Reinstall the output tray.

Replacing the separation roller or separation roller tires

1. Open the pod.
2. Pull the separation pad holder forward and remove the separation roller.



If you want to replace the separation roller, do Steps 3 and 4. If you want to replace the separation roller tires, go to Step 5.

3. Insert the new separation roller. Be sure to line up the slots on the separation roller with the holders.
4. Push the separation roller holder back in place and close the pod.

To replace the tires:

5. Replace each tire by sliding the tire off the core.
6. Install each new tire by gently pulling it over the core.

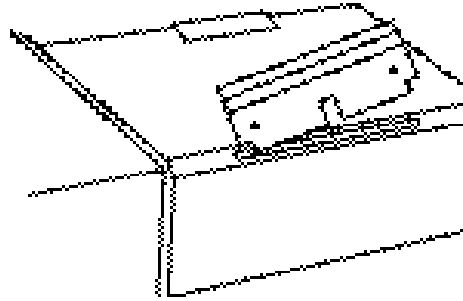
IMPORTANT: Do not overstretch the tire; it may tear.

7. Reinstall the separation roller. Be sure to line up the slots on the separation roller with the holders.
8. Push the separation roller holder back in place and close the pod.

Replacing the pre-separation pad

Change the pre-separation pad when the frequency of double-fed documents increases.

1. Open the pod.
2. Remove the pre-separation pad.



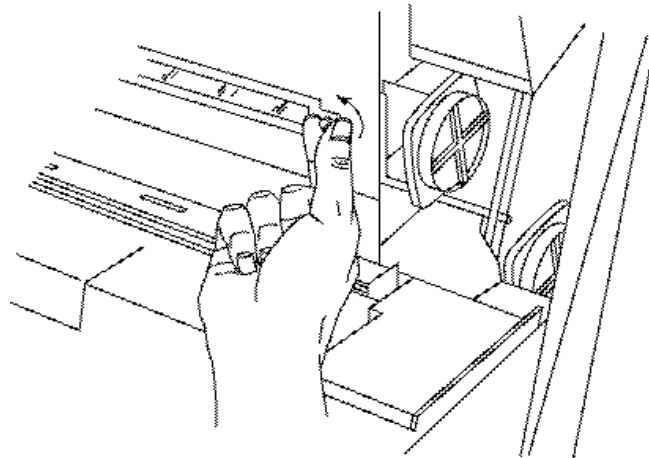
3. Install the new pre-separation pad. Be sure it snaps into place.
4. Close the pod.

Replacing the imaging guides

The imaging guides should be replaced when they are heavily scratched and defects show in the image.

NOTE: Handle the imaging guides carefully as to not put fingerprints on the guides.

1. Open the pod.
2. Turn the screw on each end of the upper imaging guide to remove the imaging guide from its position.



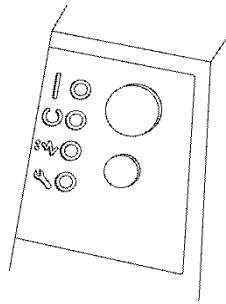
3. Install the new imaging guide and turn the screws to secure the imaging guide.
4. Repeat Steps 2 and 3 to replace the lower imaging guide.
5. Close the pod.

6 Troubleshooting

This chapter provides:






- A description of the indicator lights located on the front of the scanner.
- Information about accessing the Operator Log.
- Instructions on how to clear a document jam.
- A problem solving chart.
- A message listing of possible errors you may encounter while using the scanner.






Indicator lights


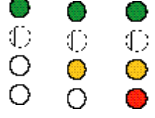




There are four indicator lights on the front of the scanner. See the table below for LED meanings:

LED indicators

-  = green, Power
-  = green, Ready
-  = yellow, Jam/User correctable
-  = red, Service/Error
-  = Indicates when an indicator is flashing

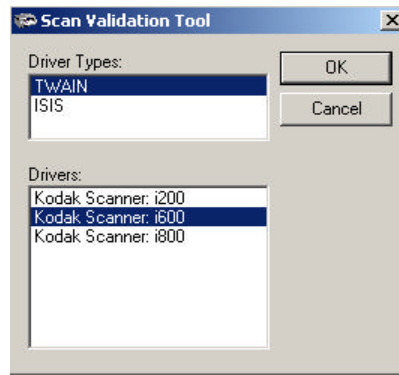
Led display	Description
	Scanner is in sleep or lamp saver mode. To return to Ready state: <ul style="list-style-type: none"> • press the Start/Resume button on the scanner or enable scanning from the host, or • add paper to an empty elevator tray, or remove paper from the elevator tray.
	Scanner is powered on and idle.
	Scanner is idle and a document jam or multi-feed has been detected. See Operator Log for details.
	Scanner is idle and has detected a user-correctable error. See Operator Log for details.
	Scanner is idle and has detected a hardware/software error. Cycle power on the scanner. If the condition persists, see the Operator Log for details. If the condition cannot be cleared, call Service.

Led display	Description
	<p>Scanner is in sleep mode and has detected a hardware error. Cycle power on the scanner. If the condition persists, see the Operator Log for details. If the condition cannot be cleared, call Service.</p>
	<p>Scanner warm-up sequence.</p>
	<p>Scanner is enabled. Start/Resume and Stop/Pause buttons are available.</p>
	<p>Scanner is enabled and scanning is allowed. Start/Resume and Stop/Pause buttons are available, however a warning condition has been detected. See the Operator Log for details. (e.g., clean the imaging guides, calibrate the scanner, etc.)</p>

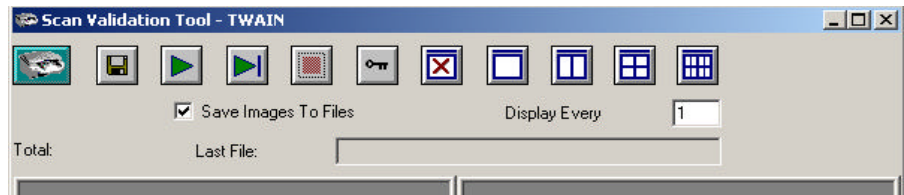
Accessing the Operator Log

The Operator Log is accessed through the Scan Validation Tool.

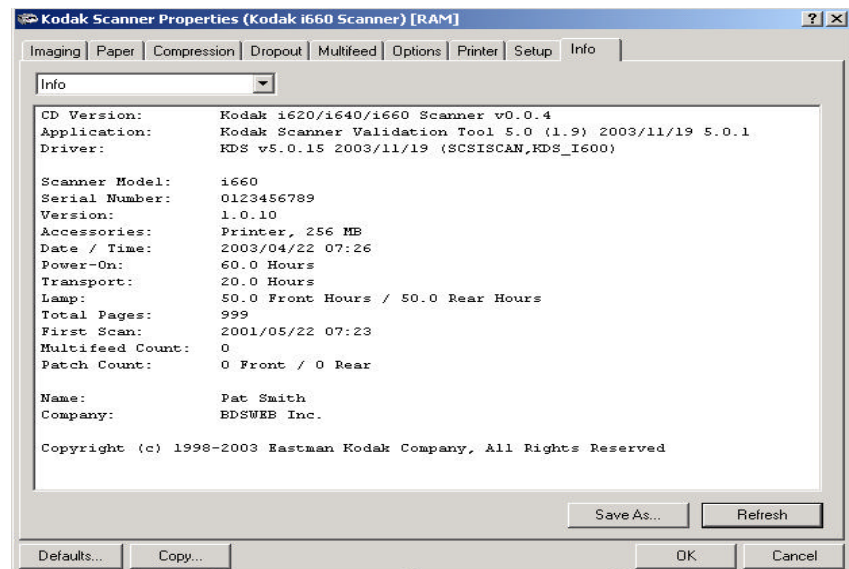
1. Select **Start>Programs>Kodak>Document Imaging>Scan Validation Tool**.



2. From the Driver Types box, select **TWAIN**.
3. From the Drivers box, select **Kodak Scanner: i600** and click **OK**. The main Scan Validation Tool screen will be displayed:



4. Select the Scanner icon.
5. Select the Info tab.



6. From the drop down box, select **Operator Log**. The Operator Log will be displayed. Any messages that were posted to the Operator Log will be displayed in the window. See the section entitled, "Message listing" later in this chapter for an explanation of error messages.

Clearing a document jam

Follow the procedures below for clearing a document jam:

1. Remove the documents that have been scanned from the exit tray.
2. Open the pod.
3. Remove any jammed documents from inside the transport.
4. Close the pod.

NOTE: The following procedure is a general guideline. Your procedure may be different depending on how your application is set up.

5. Verify the last document that was scanned correctly.
6. Place any documents that were not scanned at the top of the batch.
7. Place the documents in the elevator tray and begin scanning.

Problem solving

Use the chart below as a guide to check possible solutions to problems you may encounter when using the *Kodak i600 Series Scanner*.

Problem	Possible Solution
Scanner does not power on	<p>Make sure that:</p> <ul style="list-style-type: none"> • the power cord is plugged securely into the receptacle in the back of the scanner. • the wall outlet is not defective (call a licensed electrician). • the power switch is on.
The scanner will not scan/feed documents	<p>Make sure that:</p> <ul style="list-style-type: none"> • the power cord is plugged in and the power is on. • all doors are completely closed. • the scanner is enabled from the host. • documents are making contact with the feed module. • for documents that require special handling, press the gap release lever during feeding. • the documents meet specifications for size, weight, etc. • if you are feeding small documents, be sure that the documents are covering the paper present sensor on the elevator tray. • you check the feed module and separation roller for signs of wear and replace these parts if necessary. • a very dark document on the bottom of a stack can sometimes confuse the paper present sensor. Place a white sheet of paper at the bottom of the stack and scan again.
Image quality is poor or has decreased	<p>Make sure that:</p> <ul style="list-style-type: none"> • the imaging guides are clean. See Chapter 5, "Cleaning the imaging guides". • the scanner has been calibrated. See Chapter 3, "Calibrating the scanner". <p>If unsatisfactory image quality persists, call Service.</p>

Problem	Possible Solution
Calibration has failed	<p>Make sure that:</p> <ul style="list-style-type: none"> • you are using the proper calibration target and it is oriented correctly for the type of calibration you are performing. The Image calibration target and Ultrasonics calibration target are different. • the imaging guides are clean. • the transport is clear of obstructions. • the sensors are clean. <p>If unsatisfactory image quality persists, call Service.</p>
Documents are jamming	<p>Make sure that:</p> <ul style="list-style-type: none"> • the output tray and side guides are adjusted for the length of the documents being scanned. • all jammed documents have been removed from the transport area. • documents meet specifications for size, weight, height or batched documents, etc. • the sensors are clean. • the separation roller, feed module, and pre-separation pad are clean and properly installed. • the transport rollers are clean.
Long documents are not feeding or are jamming	<p>Make sure that:</p> <ul style="list-style-type: none"> • the elevator tray extender is pulled out to provide support for long documents. • the output tray is adjusted for the length of the documents being scanned. • the output tray is installed properly.
Roller marks appear on the documents after scanning	Clean the feed module rollers, separation rollers and transport rollers.
Vertical streaks appear on the image	<p>Make sure that:</p> <ul style="list-style-type: none"> • when you calibrate the scanner that you are using a good, clean calibration target and that the imaging guides are clean. Use the calibration target provided with your scanner. • the imaging guides are clean. See Chapter 5, "Cleaning the imaging guides".
The document printer is not printing as desired	<p>If you are having problems printing on scanned documents:</p> <ul style="list-style-type: none"> • the tip of the ink cartridge may be plugged. Purge the ink cartridge as instructed in Chapter 4, <i>The Document Printer</i>. If the ink still does not flow properly, replace the ink cartridge. Dispose of used ink cartridges properly. • verify that the ink cartridge is not empty. The ink bladder inside the ink cartridge is flat when it is empty. • make sure that the ink cartridge is properly installed in the Document Printer. • make sure that the ink cartridge is located in the correct position for printing. • make sure that the ink cartridge carrier is properly seated in its slot. • verify that all printer connectors are securely fastened and that the printer cable is securely attached. • verify that the printer has been enabled through the host and that the expected print string has been specified.
White lines appear at the top of the image and run through the documents	<ul style="list-style-type: none"> • The imaging guides may be dirty. See Chapter 5, "Cleaning the imaging guides". • Check for scratches on the imaging guides. If scratches are on the imaging guides, replace them.

Message listing

Following is a list of messages and corrective actions you can take if one of the following messages is encountered.

Operator Log Message	Description/Action
Background accessory changed while powered up	Background Accessory was changed while the scanner was powered on. Turn the power off to the scanner, wait a few seconds and power the scanner back on.
Calibration failed	Try to calibrate the scanner again. Be sure you are using the correct calibration target. See Chapter 3, "Calibrating the scanner". Clean the imaging guides. See Chapter 5, <i>Maintenance</i> for procedures. If the problem persists, call Service.
Calibration is suggested	It is suggested that you calibrate the scanner when the current batch of documents has completed.
Calibration succeeded	Informational message. The scanner has been successfully calibrated.
Calibration target is too narrow	A 12 x 12-inch calibration target is required for Image calibration.
Call Service	Indicates a condition that cannot be cleared by the operator.
Check document preparation	Make sure the leading edges of the documents are aligned. See Chapter 3, "Document preparation" for more information.
Close pod and re-enable scanner	The pod may have been opened and not closed properly when scanning was attempted. Be sure the pod is completely closed.
Folded corner detected	A folded corner was detected. The transport was cleared and stopped.
Folded corner detected, transport halted	A folded corner was detected. The transport was stopped.
Image buffer exceeded threshold	The feeder has stopped and the transport is still running because the scanner's internal image buffer is almost full. Processing will resume after the host computer has successfully retrieved enough images to allow the scanner to continue. Be sure your host computer meets the recommended specifications to avoid this condition.
Image outside document area	Based on relative cropping parameters, the image to be generated from this document would be outside the document area. Make sure the relative cropping offset, width and length are correct and that the correct document is being scanned.
Image size exceeds available memory	The image buffer is too small with the current settings (e.g., the resolution is too high). Lower the resolution setting before scanning the next batch of documents.
Jam in transport	A document is lodged in the transport. Clear the paper path. See "Clearing a document jam," earlier in this chapter for procedures. One or more documents that passed through the transport were not scanned. Refeed all documents for which images were not obtained.
Lamps not ready for calibration	Calibration was attempted before the lamps were warmed up. Wait until the lamps have completely warmed (90 seconds) and try the calibration again.

Operator Log Message	Description/Action
Lamps not ready for scanning	Scanning was attempted before the lamps were warmed up. Wait until the lamps have completely warmed and try to scan again.
Lamps ready for calibration	The lamps are warmed and the scanner is ready for calibration.
Lamps ready for scanning	The lamps are warmed and scanning can now be started.
Lamps timed out	The lamps were turned off due to inactivity.
Lower imaging guide dirty	The lower imaging guide is dirty. Follow the cleaning procedures outlined in Chapter 5, <i>Maintenance</i> to clean the imaging guides.
Missing feed module or sensor error	<ul style="list-style-type: none"> • The feed module is not installed or not installed properly. See Chapter 5, <i>Maintenance</i> for correct installation procedures. • There is too much paper in the elevator tray and it is holding the feed module up. Elevator tray capacity is 500 sheets. Remove some documents from the elevator tray. • Clean the sensors. If the problem persists, call Service.
Multi-feed detected	A multi-feed has been detected due to an ultrasonic multi-feed condition. Always check your host monitor to verify images as overlapped documents may need to be rescanned. This condition may be caused by poor document separation; replace the separation roller tires and pre-separation pad. See Chapter 5, <i>Maintenance</i> for procedures.
Multi-feed detected	A multi-feed has been detected and the transport has stopped. Clear the multi-feed and re-enable the scanner. Always check your host monitor to verify images as overlapped documents may need to be rescanned. This condition may be caused by poor document separation; replace the separation roller tires and pre-separation pad. See Chapter 5, <i>Maintenance</i> for procedures.
Multi-feed detected, transport stopped	A multi-feed has been detected and the transport has stopped. Always check your host monitor to verify images as overlapped documents may need to be rescanned. This condition may be caused by poor document separation; replace the separation roller tires and pre-separation pad. See Chapter 5, <i>Maintenance</i> for procedures.
Multi-feed length detected	A document was measured which exceeded the configured maximum allowable length. This may be due to a document overlap.
No paper in elevator tray	The scanner was started with an empty elevator tray. Place the documents you want to scan into the elevator tray and try again.
Page on demand complete	Informational message. The scanner has completed scanning the requested number of documents.
Pod door closed	The pod was closed.
Pod door opened	The pod is not closed completely.
Power on self-test successful	Informational message. The scanner powered on successfully.

Appendix A Accessories

This chapter provides a description for the accessories that are available for use the *Kodak* i600 Series Scanners.

- **Kodak Feeder Kit for Ultra-Lightweight Paper** — allows you to feed lightweight paper from a paper weight range of 3 to 9 kg (7 to 20 lbs). CAT No. 896 5279
- **Kodak White Background Accessory** — if you are scanning translucent documents, this accessory will reduce black background bleed-through while scanning which produces whiter documents. CAT No. 894 9000

Ultra-Lightweight Paper Feed Module

The *Kodak* Feeder Kit for Ultra-Lightweight Paper includes a feed module and separation roller that are specially designed to feed lightweight paper through the scanner transport. This accessory includes the following:

- 2 Feed Modules
- 2 Separation Rollers
- 5 Pre-separation Pads
- 34 Replacement Tires for the Feed Module
- 18 Replacement Tires for the Separation Roller

Instructions for installing the Ultra-Lightweight Paper Feed Module are included with the kit.

White Background Accessory

When you scan translucent documents, the background often appears dark. The *Kodak* White Background Accessory will reduce black background bleed-through while scanning which produces whiter images.

The White Background Accessory comes with two white background strips that replace the two black background strips in the scanner. Instructions for installing the White Background Accessory are included with the kit.

Appendix B Specifications

Scanner Type/Speed	<ul style="list-style-type: none"> • i620 Scanner: duplex color scanner with an automatic document feeder including a document printer, 80 pages per minute (landscape) • i640 Scanner: duplex color scanner with an automatic document feeder including a document printer, 100 pages per minute (landscape) • i660 Scanner: duplex color scanner with an automatic document feeder including a document printer, 120 pages per minute (landscape)
Scanning Output	Bi-tonal, 8-bit grayscale, 24-bit color
Output Resolution	Bi-tonal: 200, 240, 300, 400 Color: 100, 150, 200, 240, 300 Grayscale: 100, 150, 200, 240, 300
File Format Output	JPEG, Group 4 compression, uncompressed
Scan Area	Width: 6.4 to 30.5 cm (2.5 to 12 in.) Length: 6.4 to 66 cm (2.5 to 26 in.)
ADF Capacity	500 sheets of 20 lb. bond paper (up to A3)
Recommended Daily Volume	Up to 20,000 pages/day
Light Source	Dual Xenon lamps
Scanner operational voltage	100 - 240 VAC, 50/60 Hz, 5-3 A
Scanner Dimensions	Height: 40.6 cm (16 in.) Width: 60.9 cm (24 in.) Length: 76.2 cm (30 in.)
Scanner Weight	38.6 kg (85 lbs.)
Host Connection	IEEE-1394 (FireWire) interface, 6-pin connector
Operating Temperature	15 to 35°C (59 to 95°)
Humidity	15 to 75% (dry bulb)
Environmental Factors	Complies with Energy Star requirements Complies with Executive Order 13221
Heat Load	2500 BTU/hr. max
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 dBA Standby: 42 dBA

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