

Scanning Setup Guide for ISIS Applications

Using the ISIS Driver

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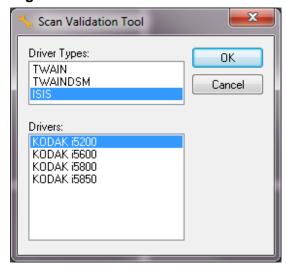
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The information in this guide provides procedures for using the ISIS Driver as well as descriptions of the features. The same features should be available on the user interface of the scanning application you are using.

This guide describes the default ISIS Driver interface. Your application may change the ISIS Driver user interface to better suit its purpose. If your application provider has customized the ISIS Driver interface, it may not match the default screen configurations as described in this guide.

Starting the SVT Diagnostics/Scan Validation Tool

 Select Start>Programs>Kodak>Document Imaging>SVT Diagnostics.



- 2. Select **ISIS** for the Driver Type and the **KODAK i5200 (i5600, i5800, i5850)** as the driver and click **OK**.
- 3. Click the one of the Image Display mode buttons to enable the image preview panels.

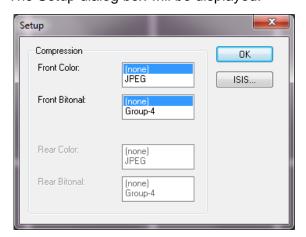


4. Click the **Setup** icon on the main Scan Validation Tool screen.



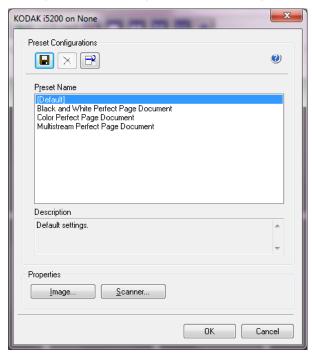
NOTE: For a description of the icons on this screen, see the next section, "Scan Validation Tool dialog box".

The Setup dialog box will be displayed.



5. Click **ISIS**. The Preset Configurations dialog box will be displayed. This dialog box maintains a list of saved driver settings.

You can save, delete or import a preset; or select a preset that is already set up or one you want to modify.



6. Click **Image** to configure settings associated with the image.

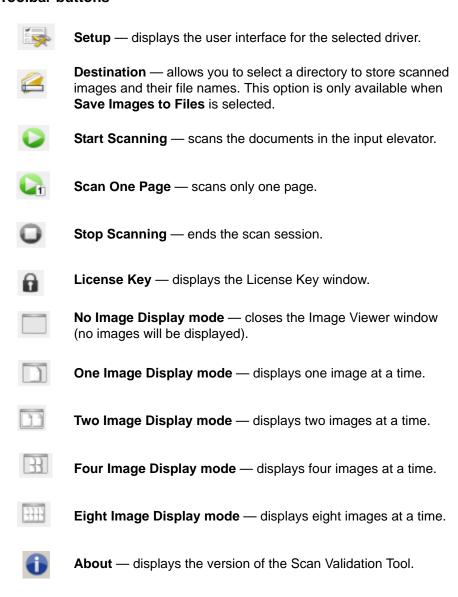
The following sections provide descriptions and procedures for configuring Image settings. See the section later in this chapter entitled, "Configuring Scanner settings" for scanner configuration procedures.

The Scan Validation Tool dialog box

The Scan Validation Tool (SVT) is a diagnostic application provided by Kodak. The SVT user interface allows access to all the features of the scanner and is a good way to verify that the scanner is working properly. The Scan Validation Tool allows you to verify scanner functionality using the ISIS Driver.



Toolbar buttons



Save Images to Files — when selected, will save the images to the specified directory.

Display Every — enter the sampling rate of the images you want to display while scanning. For example, to see every image, enter a value of 1. To see every 10th image, enter a value of 10.

Total — displays the total number of images scanned during the current Scan Validation Tool session.

 To access the ISIS Driver (or TWAIN Datasource), double-click the Setup icon on the Scan Validation Tool dialog box to access the main Scanner window.

Last File — displays the full path and file name for the last stored image.

Configuring Image settings

The main ISIS Driver window provides a set of default tabs for configuring images. You can select each of these tabs and make any choices necessary to meet your scanning needs.

This section describes the ISIS Driver default interface (as it is presented through the Scan Validation Tool). Your host application may modify the interface by not displaying some tabs or limiting the options presented.

NOTE: The **Image Mode** and **Toggle Patch** selections are available with all of the Image tabs (e.g., Main, Layout, Image Processing, etc.).

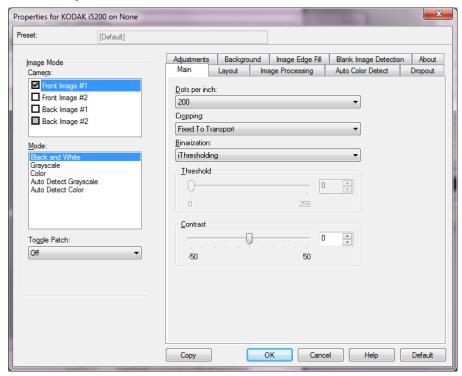


Image Mode — select one of the camera options:

 Camera — the selections in the Camera box list the available sides (front and back) of an image where you can define individual image processing values. Options include: Front Image #1, Front Image #2, Back Image #1 and Back Image #2.

The *Kodak* Scanner drivers allow you to control the camera settings independently. Some settings apply only to black and white images, others apply to color/grayscale images.

- Mode select one of the following modes:
 - **Black and White**: if you want your electronic image to represent all elements of your document in black and white.
 - **Grayscale**: if you want your electronic image to have a range of varying shades of gray from black to white.
 - **Color**: if you want your electronic image to be in color.
 - **Auto Detect Grayscale**: sets auto color detect for grayscale. See the section entitled, "Auto Color Detect tab" for more information.
 - **Auto Detect Color**: sets auto color detect for color. See the section entitled, "Auto Color Detect tab" for more information.

Toggle Patch — indicates you want to tell the scanner, via a toggle patch document, if the document is color/grayscale or black and white.

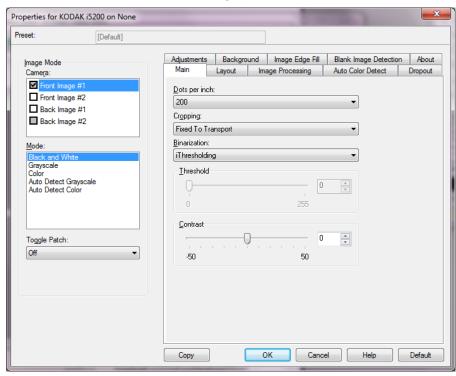
- Off: no patches will be used.
- **Same Side**: only the side which recognizes the patch sheet will toggle.
- **Both Sides**: a patch will be recognized on either the front or the back side.

Buttons — the buttons on the bottom of the window apply to all tabs:

- Copy this function is only available when scanning two-sided documents. The Copy button provides a convenient way to set up the color, grayscale or black and white image settings on one side and transfer them to the other. For example, if you highlight and set up Front Image #1, you can use the Copy button to duplicate those settings for Back Image #1.
- OK saves the values set on all tabs.
- Cancel closes the window without saving any changes.
- Help displays on-line help about the options available on the selected window.
- **Default** resets the values on all tabs to the factory defaults.

Main tab

The Main tab provides the following options:



Dots per inch (dpi) or resolution — indicates the scanning resolution, which largely determines the quality of the scanned image. The greater the resolution, the better the reproduction. However, scanning at a higher resolution also increases scanning time and file size.

Select a resolution value from the drop-down list. The default is 200 dpi. Available resolutions are: 100, 150, 200, 240, 300, 400, 500 and 600 dpi.

Cropping — allows you to capture a portion of the document being scanned. All cropping options can be used with color/grayscale and black and white images. Front and Back cropping are independent, however, for dual stream scanning, color/grayscale and black and white cropping must be the same per side. Only one cropping option can be assigned per image.

- **Automatic:** dynamically adjusts the cropping window for different document sizes based on the edges of the image.
- Aggressive: eliminates any residual black border on any image edges. In order to achieve this, there is a possibility that a small amount of image data from the edge of the document may be lost.
- Fixed to Transport: (used for batches of same-sized documents)
 allows you to define the area to be imaged. Fixed to Transport
 cropping is used in conjunction with paper size and page layout and
 assumes you are center-feeding your documents. If you are not using
 center feeding, you must select the Layout tab to define your scan
 area. See the section entitled, "Layout tab" later in this guide.

Relative to Document: (zone processing): (used for batches of same-sized documents) — zone processing is a floating fixed crop window (the zone) located relative to the upper left corner of a document. It allows you to select an area on the document to be delivered in either color/grayscale or black and white format (a separate window for both black and white and color/grayscale may be defined). Different parameters may be selected for both the front and back of the image.

This option may be used in conjunction with Automatic cropping where a separate color/grayscale or black and white area to be saved is desired. It is useful in applications where a photograph, signature, embossment or seal appears in a consistent area for an application (you may want that small area in color/grayscale and the rest in black and white). To define a zone, select the Layout tab.

Binarization — these options work on grayscale images and outputs a black and white electronic image. Their strength lies in the ability to separate the foreground information from the background information even when the background color or shading varies, and the foreground information varies in color quality and darkness. Different types of documents may be scanned using the same image processing parameters and results in excellent scanned images.

Best - Intelligent QC: this performs the same analysis as
 iThresholding with the additional benefit of Intelligent QC (Quality
 Control). For challenging documents the grayscale version of the
 document is produced, allowing you final control over image quality
 within your application software.

NOTE: This option is only available with *Kodak* Capture Pro Software. Refer to the software's documentation for more information.

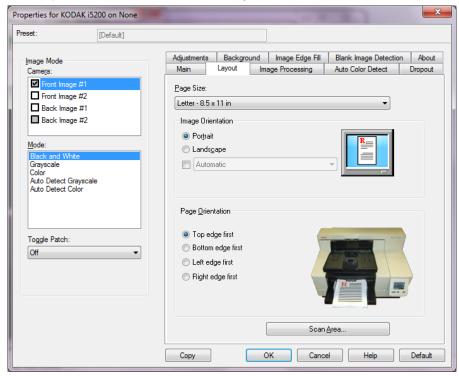
- iThresholding: allows the scanner to dynamically evaluate each document to determine the optimal threshold value to produce the highest quality image. This allows scanning of mixed document sets with varying quality (e.g., faint text, shaded backgrounds, color backgrounds) to be scanned using a single setting thus reducing the need for document sorting. When using iThresholding, only Contrast can be adjusted.
- Fixed Processing (FP): used for black and white and other high contrast documents. If Fixed Processing is selected, only Brightness can be adjusted.
- Adaptive Thresholding (ATP): separates the foreground information in an image (e.g., text, graphics, lines, etc.) from the background information e.g., white or non-white paper background). When using Adaptive Thresholding, Brightness and Contrast can be adjusted. Use this option when scanning similar type documents.

Threshold (Brightness) — this option is available when you select **Fixed Processing** or **Adaptive Thresholding (ATP)**. This option allows you to change the black and white image to be darker or lighter. The higher the threshold value, the darker the image. Use the slider to select a value from 0 to 255. The default is 9.

Contrast — adjusts how much of the faint detail you want to see in the output image. The higher the contrast value, the more faint lines will be shown in the image. The lower the contrast value, the clearer (or less detailed) the output image will be. If contrast is set too high, you may get lines or black areas in your output image that you do not want. If the contrast is set too low, some letters or lines may not show in the output image. Select a contrast value from -50 to 50. The default is 50.

Layout tab

The Layout tab provides the following options:



Page Size — the default page size is set when a scanner is first selected. You can choose a different page size using the drop-down list. Page size should be set to the **Scanner's maximum** when using the **Automatic**, **Aggressive** or **Photo** cropping option.

Image Orientation

- **Portrait**: displays the image orientation in the shape of a conventional portrait, where height is greater than width.
- Landscape: displays the image orientation in the shape of a conventional landscape painting, where width is greater than height.
- Automatic the scanner will analyze each document to determine how it was fed and will rotate the image to the proper orientation.
 - Automatic default to 90: the scanner will analyze the content
 of each document to determine how it was fed and will rotate the
 image to the proper orientation. If the scanner cannot determine
 how the document was fed, it will rotate the image 90 degrees.
 - Automatic default 180: the scanner will analyze the content of each document to determine how it was fed and will rotate the image to the proper orientation. If the scanner cannot determine how the document was fed, it will rotate the image 180 degrees.
 - Automatic default 270: the scanner will analyze the content of each document to determine how it was fed and will rotate the image to the proper orientation. If the scanner cannot determine how the document was fed, it will rotate the image 270 degrees.

Page Orientation — allows you to select the way you place your documents in the scanner, Top edge first, Bottom edge first, Left edge first or Right edge first.

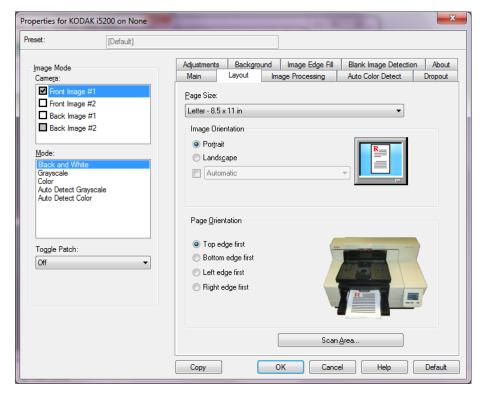
Scan Area — displays the Scan Area dialog box. The Scan Area options are only available for images when the cropping option is **Fixed to Transport** or **Relative to Document**. See the next section entitled, "The Scan Area dialog box" for more information.

Scan Area dialog box

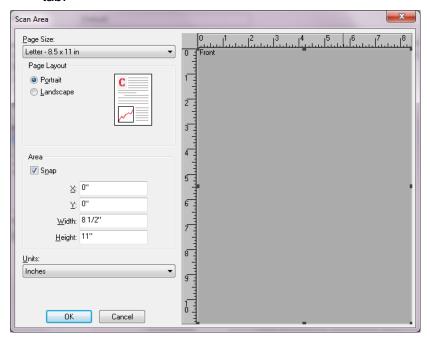
The Scan Area dialog box allows you to define the amount of image data which is returned to the host.

NOTE: Select the desired Camera Mode (e.g., Front Image #1, Front Image #2, Back Image #1 and/or Back Image #2).

 Select Scan Area on the Layout tab to access the Scan Area dialog box.



NOTE: The Scan Area dialog box is only available when **Fixed to Transport** or **Relative to Document** is selected on the Main tab.



Page Size — the default paper size is set when a scanner is first selected. You can choose a different paper size using the drop-down list.

NOTE: Page Size also appears on the Layout tab. If you make a change on the Scan Area dialog box, the same selection appears on the Layout tab and vice versa.

Page Layout

- **Portrait:** displays the image orientation in the shape of a conventional portrait, where height is greater than width.
- Landscape: displays the image orientation in the shape of a conventional landscape painting, where width is greater than height.

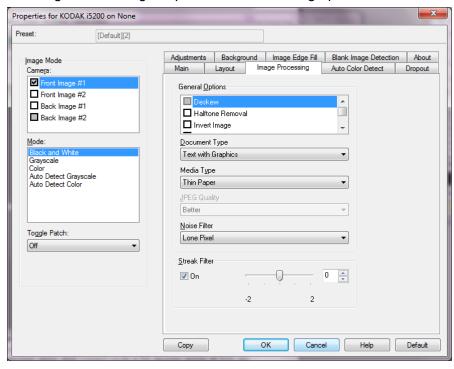
Area

- Snap enable this option to control the dimensions of the preview area to fixed 0.3175 cm (1/8-inch) increments. This option is not available in Pixels mode.
- X: the distance from the left end of the scanner to the left-edge of the scanning area.
- Y: the position from the top end of the document to the top end of the scanning area.
- Width: the width of the scanning area.
- Height: the height of the scanning area.

Units — select whether you want the area to be defined in **Pixels**, **Inches** or **Centimeters**.

Image Processing tab

The Image Processing tab provides the following options:



General Options

Deskew — automatically straightens a document within ±0.3
degrees of the leading edge of the document. Deskew can detect up
to a 45-degree skew and correct up to a 24-degree angle at 200 dpi
or a 10-degree skew angle at 300 dpi. This option is only available
when Automatic is selected.

NOTE: To prevent data loss, the document must have all four corners within the image path.

- Halftone Removal enhances images containing dot matrix text and/or images with shaded or colored backgrounds using halftone screens and effectively eliminates noise caused by the halftone screen.
- Invert Image allows you to select how the black pixels will be stored in the image. By default the black pixels are stored as black and the white pixels are stored as white. Turn this option on if you want the black pixels stored as white and the white pixels stored as black.

NOTE: You may want to change this option if your application misinterprets the image data and stores your image in reverse of what you expect.

 Add Border — allows you to add a fixed amount of border to the left, right, top and bottom edge of the image. This option is not available when Aggressive is selected. **Hole Fill** — allows you to fill in the holes that are around the edges of your document. The types of holes that are filled include: round, rectangular, and irregularly shaped (e.g., double-punched or those having a slight tear that could have occurred when the document was removed from a binder).

• Do not turn **Hole Fill** on if you are scanning photos.

Document Type

- **Text**: when the documents you want to scan contain mostly text.
- Text with Graphics: when the documents you want to scan contain a mix of text, business graphics (bar graphs, pie charts, etc.) and line art.
- **Text with Photographs**: when the documents you want to scan contain a mix of text and photos.
- **Photographs:** when the documents you want to scan are comprised mainly of photos.

Media Type — allows you to select the type of paper you are scanning, based upon the texture/weight. The options are: **Plain Paper, Thin Paper, Glossy Paper, Card Stock** and **Magazine**.

JPEG (Joint Photographic Editor Group) **Quality** — if you choose JPEG compression, select one of the quality options:

- Draft: maximum compression which produces the smallest image size.
- Good: a fair amount of compression but still produces acceptable image quality.
- Better: some compression which produces decent image quality.
- **Best**: minimal compression which produces very good image quality.
- **Superior**: the least amount of compression which produces the largest image size.

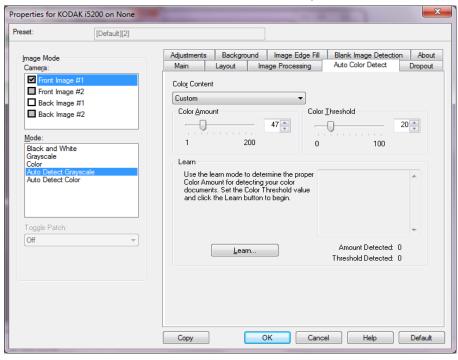
Noise Filter

- None
- Lone Pixel: reduces random noise by converting a single black pixel to white when it is completely surrounded by white pixels or by converting a single white pixel to black when it is completely surrounded by black pixels.
- Majority Rule: sets each pixel based on its surrounding pixels. The
 pixel will become white if the majority of the surrounding pixels are
 white and vice versa.

Streak Filter — allows you to configure the scanner to filter vertical streaks from your images. Streaks are lines which may appear on an image and are not part of the original document. Streaks may be caused by contaminants on your documents (e.g., dirt, dust or frayed edges) or by not following the recommended cleaning procedures for your scanner. Adjust the extent at which the streaks are filtered by moving the slider bar from -2 to 2. The default is 0.

Auto Color Detect tab

The Auto Color Detect tab provides the following options:



Color Content

- Off: this is the default. No color content will be detected.
- Low: documents requiring only a small amount of color to be saved as color or grayscale images. Used for capturing documents that are primarily black text with small logos, or contain small amounts of highlighted text or small colorful photos.
- Medium: documents require more color, as compared with the Low option, before they are saved as color or grayscale images.
- High: documents require more color, as compared with the Medium option, before they will be saved as color or grayscale images. Used for distinguishing documents containing medium- to large-size colorful photos from plain black text. Photos with neutral colors may require adjustments to the Color Threshold or Color Amount values in order to be captured correctly.

 Custom: allows you to manually adjust the Color Amount and/or Color Threshold.

NOTE: When setting Auto Color Detect values, it is suggested that you start with the **Medium** option and scan a typical job set. If too many documents were returned as color/grayscale vs. black and white, then change to the **High** option and re-run the job. If too few documents were returned as color/grayscale vs. black and white, then change to the **Low** option and re-run the job. If none of these options provide the desired result, select **Custom** option to manually adjust Color Amount and/or Color Threshold.

Color Amount: the amount of color that needs to be present in a document before it will be saved as either color or grayscale. As the value of Color Amount increases, more color pixels are required. Valid values are 1 to 200.

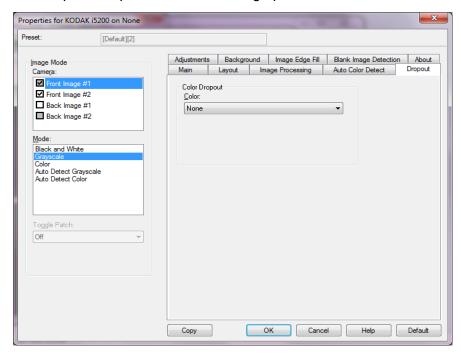
Color Threshold: the color threshold or intensity (i.e., pale blue vs. dark blue) at which a given color will be included in the color amount calculation. A higher value indicates that a more intense color is required. Valid values are 0 to 100.

Learn — allows you to calculate your settings based on representative color documents scanned. Before selecting **Learn**, place at least 5 representative color documents in the input elevator. The documents will be scanned and analyzed to determine the recommended Color Amount.

NOTE: The **Color Amount** and **Color Threshold** sliders will be updated automatically. If these values do not provide the desired results with your job set, you may need to manually adjust the **Color Threshold**.

Dropout tab

The Dropout tab provides the following options:



Color Dropout — used to eliminate a form's background so that only the entered data is included in the electronic image (i.e., remove the form's lines and boxes). For black and white images, these settings effect the grayscale version of the document which the scanner analyzes to produce that electronic image.

- Color: select the desired dropout color.
 - None
 - Multiple: drops colors other than dark shades (e.g., black or dark blue ink). This feature will do a color analysis of every image scanned and will drop out up to 5 different colors. The individual color can be any color of more than 16 million colors. Use the Aggressiveness slider to adjust the color. This feature is unique in that it looks at every page that is scanned. You do not need to pick which color(s) to drop. Multiple is available for grayscale output.
 - Predominate: drops the predominant color. Use this option even
 if your forms are all the same color, as it drops a wider range of
 single colors. This option is also a good choice if you have
 several forms that each have one form color as you can mix the
 forms in a single batch.
 - Red
 - Green
 - Blue
- Aggressiveness: allows you to adjust the extent at which colors are dropped. The values range from -10 to 10. The default is 0. This option is only available when Color is set to Multiple or Predominant.

NOTES:

- All Color Dropout options are available when the Scan as selection is Black and White.
- Red, Green and Blue are available for grayscale scanning.
- Color dropout is not available for color scanning.

The following red, green and blue Pantone values should provide good dropout performance.

These values were established by using the standard Pantone Matching System® Colors guide (uncoated, 175-line screen). If the background of the document you are using is not bright white, the results may vary. iThresholding is recommended. If iThresholding does not provide acceptable color dropout results, the ATP conversion quality setting will provide more control for binarization.

The following is a list of colors which may be used with the red, green and blue dropout options.

RGB Electronic Color Dropout for i5000 Series Scanners, Firmware V3.09.01

Red Dropout

144U	150U	151U	1485U	1495U	1505U	Orange 021 U	156U
157U	158U	1555U	1565U	1575U	1585U	162U	163U
164U	165U	1625U	1635U	1645U	1655U	169U	170U
171U	172U	176U	177U	178U	Warm Red U	179U	1765U
1775U	1785U	1788U	1767U	1777U	1787U	Red 032U	182U
183U	184U	185U	186U	189U	190U	191U	192U
1895U	1905U	1915U	1925U	196U	197U	198U	199U
200U	203U	204U	205U	206U	210U	211U	212U
213U	217U	218U	219U	Rubine Red U	223U	224U	225U
226U	230U	231U	232U	Rhodamine Red U	236U	237U	238U
239U	240U	2365U	2375U	2385U	2395U	2405U	243U
244U	245U	246U	247U	250U	251U	252U	Purple U
253U	256U	257U	2562U	2572U	2582U	2563U	2573U
2567U	263U	264U	2635U	2645U	236U	2365U	2375U
243U	244U	245U	250U	251U	256U	257U	2562U
2572U	2582U	2563U	2567U	263U	264U	2635U	2645U
1375U							

Green Dropout

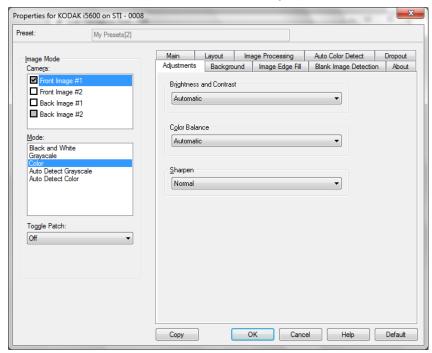
106U	107U	108U	109U	113U	114U	115U	120U
121U	122U	1205U	1215U	127U	134U	135U	1345U
148U	317U	3245U	331U	332U	333U	337U	3375U
3385U	3395U	344U	345U	351U	352U	353U	358U
359U	360U	365U	366U	367U	368U	372U	373U
374U	375U	376U	379U	380U	381U	382U	386U
387U	388U	389U	390U	393U	394U	395U	396U
397U	3935U	3945U	3955U	3965U	317U	3294U	

Blue Dropout

317U	3245U	236U	2365U	2375U	243U	244U	245U
250U	251U	256U	257U	2562U	2572U	2582U	2563U
2567U	263U	264U	2635U	2645U	236U	2365U	2375U
243U	244U	245U	250U	251U	256U	257U	2562U
2572U	2582U	2563U	2567U	263U	264U	265U	266U
2635U	2645U	2655U	270U	271U	272U	2705U	2715U
2725U	2706U	2716U	2726U	2707U	2717U	2727U	2708U
2718U	2728U	277U	278U	279U	283U	284U	285U
290U	291U	292U	293U	2905U	2915U	2925U	2935U
297U	298U	299U	300U	2975U	2985U	2995U	3005U
304U	305U	306U	Process Blue U	310U	311U	312U	313U
3105U	3115U	3125U	317U	318U	319U	324U	3242U
3252U	3245U						

Adjustments tab

The Adjustments tab provides the following options:



Brightness and Contrast

- None
- Automatic: automatically adjusts each image.
- Manual: allows you to set specific values that will be used for all images.
 - **Brightness** changes the amount of white in the color or grayscale image. The values range from **-50** to **50**. Default is 0.
 - Contrast makes the image sharper or softer. The values range from -50 to 50. The default is 0.

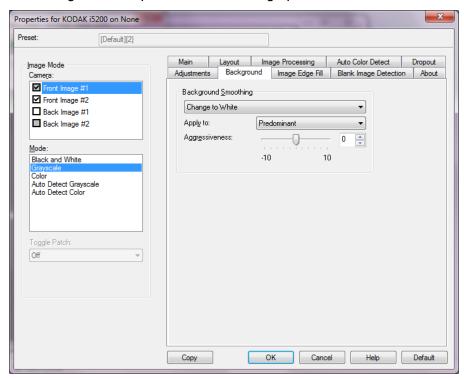
Color Balance (not available for grayscale images).

- None
- Automatic: adjusts the white background of each document to pure white. This option compensates for the variations that occur between different weights and brands of paper. This is not recommended for use with Photographs.
- Automatic advanced: for advanced users that want to further adjust the Automatic option.
- Manual: allows you to set specific values that will be used for all images.
 - **Red** changes the amount of red in the color image. The values range from **-50** to **50**. The default is 0.
 - **Green** changes the amount of green in the color image. The values range from **-50** to **50**. The default is 0.
 - Blue changes the amount of blue in the color image. The values range from -50 to 50. The default is 0.

Sharpen — increases the contrast of edges within the document. Options are: **Normal, High** and **Exaggerated**.

Background tab

The Background tab provide the following options:



Background Smoothing — using this option for documents or forms with a background color will help produce images with a more uniform background color.

- None: no background smoothing will be performed.
- Automatic: smooths up to three background colors.
- Automatic advanced: for advanced users that want to further adjust the Automatic option.
 - **Aggressiveness** allows you to adjust the extent at which the background(s) are determined. The values range from **-10** to **10**.
- Change to White: identifies up to three background colors and substitutes each color with white.
 - Apply to:
 - Predominant smooths the predominant background color to white.
 - Neutral smooths only the neutral color to white, and also smooths up to two additional background colors.
 - All smooths the neutral color and up to two additional background colors to white.
 - Aggressiveness: allows you to adjust the extent at which the background(s) are determined. The values range from -10 to 10.

Image Edge Fill tab

The Image Edge Fill tab provides the following options:

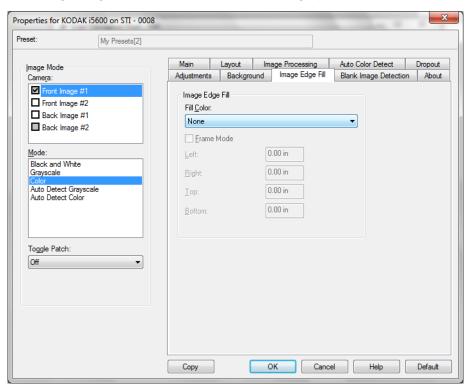


Image Edge Fill — fills the edges of the final electronic image by covering the area with the specified color.

- Fill Color:
 - None
 - **Automatic**: the scanner will automatically fill the edges of the image using the surrounding color.
 - **Automatic include tears**: in addition to filling the edges, the scanner will also fill in tears along the edge of document.
 - White
 - Black

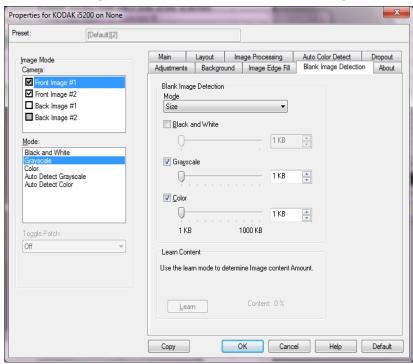
Frame Mode — when you select either **Black** or **White**, you can enter the size of the frame that you want to fill. An equal amount of the selected color from the *Image Edge Fill* drop-down list will be filled in on all sides of the image.

If **Frame Mode** is not selected, you can select a value in the **Left**, **Right**, **Top** and/or **Bottom** area(s) from each side of the scanned image to be filled with Black or White as selected.

NOTE: When using this option, be careful not to enter a value too large as it could fill in image data that you want to keep.

Blank Image Detection tab

The Blank Image Detection tab provides the following options:.



Blank Image Detection — allows you to configure the scanner to not give blank images to the scanning application. Select the image size (KB), below which an image is determined to be blank. Images with sizes less than the number you select will not be created. If you use this option, you must specify a blank image size for each image type (**Black and White, Grayscale** and **Color)** you want to delete. If you do not make an entry in these fields, all images are kept.

- Off: all images are given to the scanning application.
- **Size**: images will be considered blank based on the size of the image that would be given to the scanning application (i.e., after all other settings have been applied).
- Content: images will be considered blank based on the document content within the image. Select Black and White, Grayscale or Color to choose the maximum amount of content that the scanner will consider to be blank. Any image that has more content than this value will be considered non-blank and will be given to the scanning application. The values range from 0 to 100 percent.

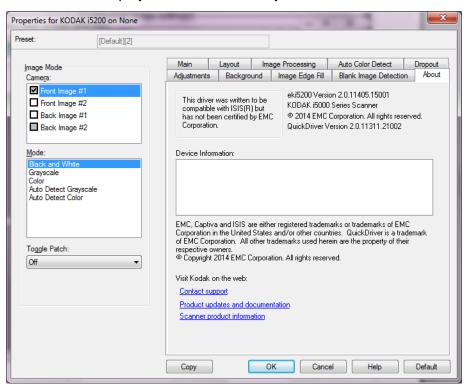
NOTE: Blank Image Detection by Content has been improved in Scanner Firmware 3.12.1 (and higher) to allow better detection of pages with very little text. The improved feature can determine differences between just a few characters on a page. Because the feature is more sensitive, you may need to increase the value for percentage content if you find that images are being deleted that you do not want to delete. For example, a setting of 5% would equate to 12-13% with the improved feature.

Learn Content — allows the scanner to determine the content amount based on the documents to be scanned. Click **Learn** to use this function.

NOTE: Learn mode cannot be applied to both the front and back sides simultaneously. You must select the side you want to configure.

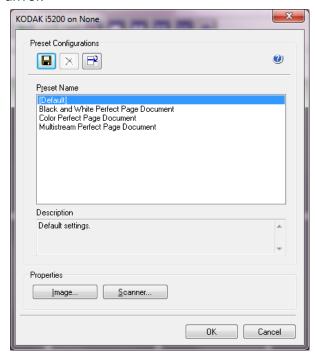
About tab

The About tab displays information about your scanner and driver.



Configuring Scanner settings

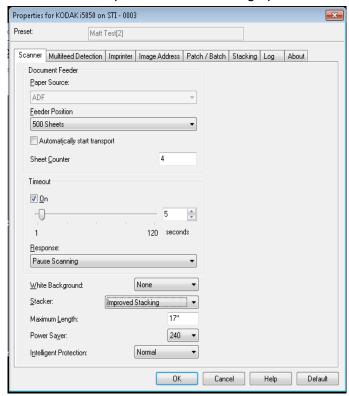
To access scanner settings from the ISIS Driver, go into the Scan Validation tool as described earlier in this guide and access the ISIS driver.



 Click Scanner to configure settings associated with the scanner. The following sections provide descriptions and procedures for configuring Scanner settings. See the section entitled, "Configuring Image settings" earlier in this guide for image configuration procedures.

Scanner tab

The Scanner tab provides the following options:



Document Feeder

Paper Source — **ADF** (automatic document feeder). All documents will be scanned from the input elevator.

Feeder Position — select one of the following input elevator positions:

- Normal: the input elevator is the highest position. This position is recommended when you are scanning 25 sheets or less from the input elevator.
- 100 Sheets this selection is recommended when you are scanning between 25 and 100 sheets from the input elevator.
- 250 Sheets this selection is recommended when you are scanning between 100 and 250 sheets from the input elevator.
- **500 Sheets** this selection is recommended when you are scanning between 250 and 500 sheets from the input elevator.
- **750 Sheets** this selection is recommended when you are scanning between 500 and 750 sheets from the input elevator.

Automatically start transport — if checked, the scanner will automatically start scanning in there is paper in the input elevator. If no paper is in the input elevator, an error will occur.

If this option is not checked, the scanner will go into a paused mode and the operator can press the **Go** button on the Operator Control Panel to start scanning.

Sheet Counter — enter the number to be assigned to the next physical sheet of paper entering the scanner. This is incremented sequentially by the scanner and is returned in the image header.

Timeout — allows you to set the amount of time the scanner will wait after the last document enters the transport before the transport timeout action is taken.

Response — indicates the action that will be taken when the document feeder timeout has been reached.

- **Stop Scanning:** scanning will stop and control will return to the scanning application (i.e., ends the job).
- Pause Scanning: scanning will stop but the scanning application will be waiting for additional images (i.e., stops the feeder). Scanning may be resumed by pressing the Start/Resume button on the scanner. Scanning may be stopped by pressing the Stop/Pause button on the scanner or via the scanning application.

White background — when turned on, indicates which side(s) of the document will see White instead of Black where there is no paper.

- None: uses the Black background for the front and back sides.
- **Front**: only uses the White background for the front side, the back side will use Black.
- Back: only uses the White background for the back side, the front side will use Black.
- Both: uses the White background for the front and back sides.

The following are examples of when white background is used:

- Scanning non-rectangular documents and, in the final image, you
 want the area outside the document to be White instead of Black.
- Scanning lightweight or thin paper, with printing on one side, and you
 do not want the black background to bleed through the document and
 appear in the final image.

NOTE: If you are using the i5850 Scanner, the only option available is **Both**.

Stacker — allows you to select how the scanner transports documents through the scanner. This affects how the documents are fed into the scanner, how fast they move through the scanner, and how they are placed in the output tray.

NOTE: When Controlled Dual Stacking is enabled, Document Handling will automatically be set to a custom level with a throughput that will be less than **Best Stacking**.

- **Normal**: no additional handling is performed. Best used when all documents are similar in size.
 - Full throughput
 - Controlled stacking Off
 - Minimum gap between documents

- Improved Stacking: aids in controlling how the documents are stacked/ordered in the output tray for mixed document sets. This should work for the majority of mixed sets.
 - Possible slight reduction in throughput
 - Controlled stacking On
 - Minimum gap between documents
- Best Stacking: when your document set contains a great variability in size, this option provides the best control of how the documents are stacked/ordered within the output tray.
 - Slight reduction in throughput
 - Controlled stacking On
 - Large interdocument gap
- **Fragile**: for documents that need extra care as they are transported through the scanner and placed in the output tray.
 - Greatly reduced throughput
 - Controlled stacking Off
 - Minimum interdocument gap
 - One-quarter transport speed
- **Thick**: for documents that are thicker than card stock (110 lb. / 0.25 mm).
 - Greatly reduced throughput
 - Controlled stacking On
 - Minimum interdocument gap
 - One-quarter transport speed

Maximum Length — select a value that indicates the length of the longest document in your document set.

NOTES:

- Not all combinations of settings are supported at the larger lengths (i.e, resolution, color, grayscale, etc.). For greater flexibility, the scanner will not generate an error until it sees a document whose length is not supported.
- The scanner's throughput may be reduced for larger lengths.
- If a document that is longer than this value is scanned, the transport will stop (leaving the document in the scanner) and a document jam message will be displayed.

- The Maximum Length will always range from 2.5 to 180 inches but the true maximum length of the scan will depend on the bit depth (color/grayscale/black and white and the resolution used for the scan). Black and white 200 dpi will be 180 inches, but color 600 dpi will be much less. If the scanner's processing capacity is exceeded before the user-selected Maximum Length is reached, then a document jam will be posted on the scanner and the image of the page will not be sent to the host application.
- If scanning a stack of mixed documents, where some documents are very long, the best option may be to select when to enable Long Document scanning by using either the Single Document override or Batch override option from the scanner touchscreen.
- When Controlled Dual Stacking is enabled, the default setting will be limited to the maximum length of 10 inches/254 mm. See Chapter 5, "Length Protection Enabled" in the User's Guide for more information.

Power Saver — allows you to set the amount of time the scanner (1 to 240 minutes) will remain inactive before the scanner goes into an idle state. The default is 15 minutes.

Intelligent Protection — allows you to select how aggressively the scanner detects documents that enter the scanner incorrectly. This can occur when documents are not prepared properly for scanning (e.g. stapled or paper clipped documents).

None

- Normal: this is the recommended option as it provides a balance between minimizing document damage and stopping the scanner unnecessarily.
- **Minimum:** select this option if the scanner is stopping too frequently on documents that you do not want it to detect.

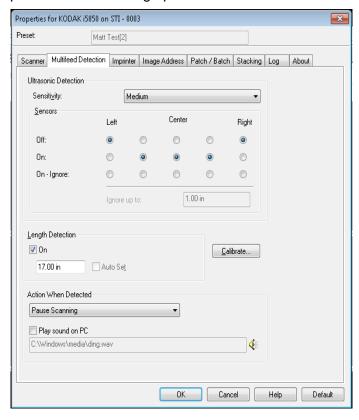
NOTE: Documents may become more damaged before detection occurs.

 Maximum: select this option to get the least amount of document damage.

NOTE: This may cause the scanner to stop unnecessarily.

Multifeed Detection tab

Multifeed detection aids in document processing by detecting documents that may go through the feeder overlapped. Multifeed can happen due to stapled documents, adhesives on documents or electrostatically charged documents. The Multifeed Detection tab provides the following options:



Ultrasonic Detection — check this option to set multifeed detection.

- Sensitivity controls how aggressively the scanner will work to determine if more than one document is fed into the transport.
 Multifeeds are triggered by detecting air gaps between documents.
 This allows multifeed detection to be used with job sets containing documents with mixed thicknesses.
 - Low: the least aggressive setting and is less likely to detect labels, poor quality, thick or wrinkled documents as multifed documents.
 - Medium: use Medium sensitivity if your application has varying document thickness or labels attached to the document.
 Depending on the label material, most documents with labels should not be detected as a multifed document.
 - High: the most aggressive setting. This is a good setting to use if all documents are similar in thickness to 75.2 g/m² (20-lb.) Bond paper.

Sensors — five sensors cover the width of the paper path. In order for multifed documents to be detected correctly, they must pass under one of these sensors.

- Left through Right: these controls allow you to select which of the
 five sensor(s) you want to have turned on. For example, if you know
 that the left side of the document has a "sticky" note on it, you can
 turn off the left sensor.
- Ignore up to: ignores a multifeed anywhere on the document that is less than the value entered. This option is useful when you have a known multifeed situation that you want to allow, but do not want to have the sensor off for the entire document (e.g., 3-inch "sticky" note).

NOTES:

- This option is available when at least one sensor is set to **On - Ignore.**
- This length applies to all sensors set to **On Ignore.**

Length Detection — when you enable Length Detection you can select the maximum length of the document that can be scanned without a multifeed being detected. Length detection is used when scanning same-sized documents to check for overlap. For example, if you are scanning A4 (8.5 x 11-inch) documents in portrait mode, enter a value of 28.57 cm (11.25 inches) in the *Maximum Length* field. The maximum value is 35.56 cm (13.99 inches).

• **Auto Set:** automatically sets the maximum length value to 1.27 cm (.50-inch) greater than the length of the currently selected page size.

Action When Detected — select what action you want the scanner to take when a multifeed is detected. With all options, the condition will be logged in the scanner.

- Continue Scanning: the scanner will continue to scan. The userconfigured multifeed sound will be made by the scanner.
- Stop Scanning: scanning will stop and control will return to the scanning application (i.e., ends the job). Verify that the paper path has been cleared and restart the scan session from the scanning application. The page will be ejected. The image of the multifed page will not be sent to the host application.
- Stop Scanning leave paper in path: scanning will stop immediately (i.e., making no attempt to clear the paper path) and control will return to the scanning application (i.e., ends the job). Clear any documents from the paper path prior to restarting the scan session from the scanning application. The multifed image will not be sent to the host application.

 Pause Scanning: scanning will stop but the scanning application will be waiting for additional images (i.e., stops the feeder). Scanning may be resumed by pressing the Start/Resume button on the scanner. Scanning may be stopped by pressing the Stop/Pause.

This option allows you to inspect a preview image of the scanned page and choose to **Accept** the scanned image or **Rescan** the page and discard the image from the scan that triggered a multifeed alarm. The scanned images will not be sent to the host application until accepted. This option allows all multifeed events to be handled at the scanner. No image manipulation is required in the scanning application. This option also allows you to stay in front of the scanner reducing wasted movement and fatigue. **This option is provided by the scanner. No changes to the scanning application are required**.



NOTE: This option will automatically be enabled when the **Pause Scanning** multifeed action is used if the scanner firmware is Version 3.9.1 or higher.

The preview image will be oriented per the image processing settings that were selected within the ISIS Driver (Automatic Rotation). If the scanning application is rotating the image or performing other image processing, the preview image will not have scanning image processing applied.

- If scanning in duplex (front and back), then both images will be displayed.
- If scanning in black and white, a black and white image will be displayed.
- If scanning in color/grayscale, a color/grayscale image will be displayed.
- If scanning in dual stream, a color/grayscale image will be displayed.
- If scanning in black and white using VRS software, a grayscale image will be displayed.

Accepting the images: if you want to accept the image, touch Accept on the Operator Control Panel or press the Start/Resume button on the scanner. When Accept is selected, the images shown in the scanner's preview will immediately be sent to the scanning application and scanning will continue.

Rescanning the page: if the page needs to be rescanned, remove the top page(s) from the output tray and place the pages back in the input tray (be sure to correct any document preparation issues). When the pages are ready to rescan, touch Rescan on the Operator Control Panel. The preview images will be discarded. If printing was not enabled, the scanner will immediately start scanning. If printing was enabled, the scanner will go to the Paused screen where you can choose to Omit Printing on the next page scanned. You can then press the Start/Resume button on the scanner to continue scanning.

- Pause Scanning leave paper in path: scanning will stop immediately (i.e., making no attempt to clear the paper path) but the scanning application will be waiting for additional images (i.e., stops the feeder). Clear any documents from the paper path prior to resuming the scan session. Scanning may be resumed by pressing the Start/Resume button on the scanner. Scanning may be stopped by pressing the Stop/Pause button on the scanner or via the scanning application.
- Stop Scanning generate image(s): scanning will stop and control
 will return to the scanning application (i.e. ends the job). Image(s) of
 the multifed document will be generated. Verify that the paper path
 has been cleared and restart the scan session from the scanning
 application.

Play sound on PC — check this option if you want the scanner to make a sound when a multifeed is detected. The user-configured multifeed sound will be made by the scanner.

NOTE: Clicking the **Speaker** icon will display the Open dialog box allowing you to select the desired tone (.wav file) for your sound.

Calibrate — displays the Calibration window allowing you to perform an **Image Chain** or **UDDS** calibration.

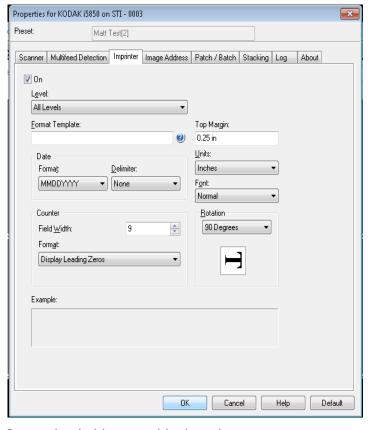
NOTE: Frequent calibration is not necessary or recommended. Only perform a calibration when instructed to do so by your support personnel.

Imprinter tab

The Enhanced Printer operates at full scanner speed. The printer can add a date, time, document sequential counter, and custom messages.

This tab will only be present if the optional Enhanced Printer Accessory has been purchased and installed in the scanner.

The print string can be configured to include both literal (static) information (e.g., 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 the document sequential counter). The capture software application controls static fields; any information that the software allows you to enter can be sent to the printer.



On — check this to enable the printer.

NOTE: Printing may be overridden from the scanner's touchscreen.

Level — select the level that you want to set up the print string for. You can set up to 4 different print strings at a time. This option can be used to prevent printing on patch sheets. For example, to prevent printing on Patch 2 sheets you should configure a format template for Level 1 and leave the Level 2 format template blank.

- · All Levels: prints on all documents
- Level 1: prints only on Level 1 documents
- Level 2: prints only on Level 2 documents
- Level 3: prints only on Level 3 documents

Format Template — the format template is used to build the print string. The print string is what is printed on documents as they pass through the transport. If using the front printer, the print string is printed before the document is scanned, therefore, it is part of the image. If using the rear printer (i5850 Scanner), the documents are printed after scanning, therefore, the printing will not be on the image. The maximum amount of characters for each print string is 40 characters (including spaces).

You can use the following imprinter format variables when building the format template.

```
%S or # = counter
%T = Time
%Y = Date
%% = "%"
```

NOTE: Refer to the on-line ISIS help documentation for additional formatting options for these variables.

The i5850 Scanner supports the following variables to enable printing in the Indexing/Image Address fields:

```
%A = the first element of an image address (e.g., Fixed field)
%B = the second element of an image address (e.g., Level 1)
%C = the third element of an image address (e.g., Level 2)
%D = the fourth element of an image address (e.g., Level 3)
```

Date — if you want to add a date to the print string, select one of the following formats:

- Format: MMDDYYYY, DDMMYYYY, or YYYYMMDD.
- Delimiter: select one of the following separators: Slash: /,
 Dash: -, Dot: . , Space or none. For example: 08/24/2010,
 08-24-2010, 08.24.2010 or 08 24 2010 or 08242010 (none).

Counter — if you want to add a Counter to the print string, you can enter one of the following options:

- **Field Width:** used to control the width of the document counter. Values range from 1 to 9.
- **Format** allows you to configure the format of the counter when the width of the value is less than the field width (the examples indicate a field width of 3 and the counter at 4). Options are:
 - Display Leading Zeros (default): "004"
 - Suppress Leading Zeros: "4"
 - Compress Leading Zeros: " 4"

Top Margin — allows you to define the distance from the lead edge before the print string begins. Enter the desired amount in the text box.

NOTE: Printing automatically stops 6.3 mm (1/4-inch) from the trailing edge of the document even if the information has not been completely printed.

Units — select **Inches**, **Centimeters** or **Pixels**.

• Font — you can select what orientation you want your information to be printed: Normal, Large and Bold.







Normal: 90° rotation

Large: 90° rotation

Bold: 90° rotation

- Rotation — while the characters are printed vertically (starting at the lead edge of the document) this allows you to select the orientation of the print string. Available options are: **0**, **90**, **180**, **270**.

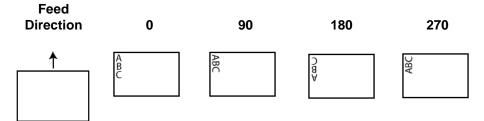
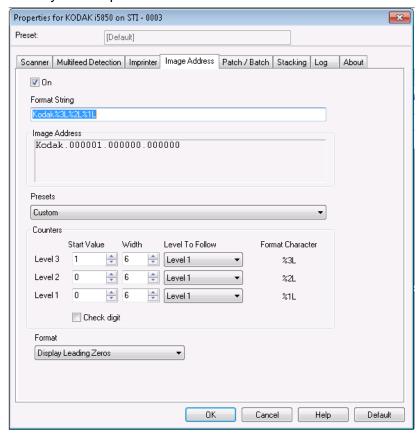


Image Address tab - i5850 Scanner only

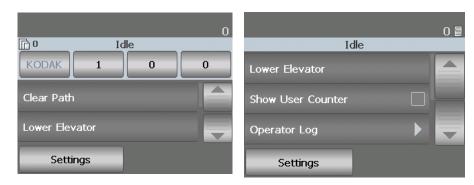
Indexing/Image addressing is used for document tracking, batch control and image management. The scanner will increment the indexes based on how you set up the selections on this tab.



The *Kodak* i5850 Scanner has an option that was previously not available with scanners having image address capability. The i5850 Scanner allows the scanner driver to control whether the scanner has Indexing enabled or not. When Indexing is set to **None**, the indexing counters will not be displayed on the Operator Control Panel of the scanner.

Indexing - Enabled

Indexing - Not Enabled



NOTE: The Operator Control Panel will not change until the job is started.

On — turns indexing on and makes the rest of the options on this tab available.

Format String — this text field allows you to structure your image address. The format string in the sample screen above represents a fixed field value of address and a 3 level image address.

Image Address — displays the starting image address. The values in this field reflect information from the Format String area and the Start Value field in the Counters area. Each field can have a maximum width of 9 characters. The total image address cannot exceed 27 characters (30 with 3 delimiters).

Presets — you can use the selections in the field to automatically fill in the format string field. The options are:

- Custom: enter your desired values.
- None
- Level 3: Address%3L%2L%1L
- Level 2: Address%2L%1L
- Level 1: Address%1L
- Level 3 Offset: Address%3L%2L
- Level 2 Offset: Address%2L

You can have no fixed field or enter any fixed field value. The default fixed field value is **Address**.

Counters — for each image address level enter a Start Value, Width and make a Level to Follow Level selection.

- **Start Value**: the start value is reflected in the image address in the field designed by the format string.
- Width: a value of 0 indicates that no image address level will be used. Widths cannot exceed 9 characters.
- Level to Follow: these are the rules the scanner follows to set the
 next image address level if there are no other inputs. For example,
 patch sheet or end of batch processing. You will have to define a
 level to follow level for each of the level fields you defined in your
 image address.

NOTE: The total value of the Width column plus the number of characters in all fixed fields cannot exceed 27 characters.

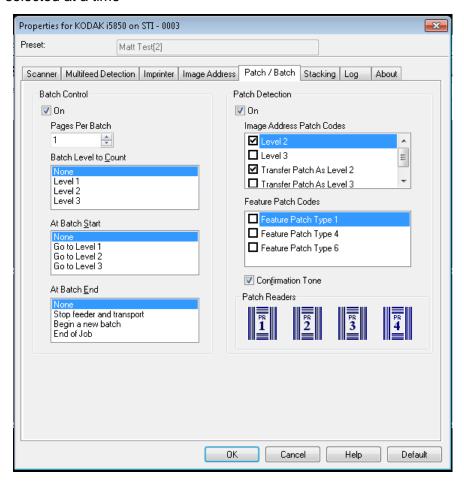
Check digit — when checked, a character will be appended to the image address string. The check digit character will be determined from the values of the characters in the image address string. For more information, contact Technical Support.

Format — select the format of the image address string used by the printer and how it is displayed on the touchscreen. The following choices are available for printing the counter format.

- **Display Leading Zeros** format (e.g., 0009). This is the default.
- Suppress Leading Zeros format (e.g., 9)
- Compress Leading Zeros format (e.g., 9)

Patch/Batch tab

The Batch/Patch tab provides batch and patch functionality. Batching is the operation of counting pages or documents. The Patch tab provides choices of what patch type to recognize. One or more patches can be selected at a time



Batch Control

On — turns batching on and makes the rest of the options for Batch Control available.

Pages Per Batch — defines the number of documents to be counted prior to performing the action to take when the count has been reached.

Batch Level to Count — sets the level to count. You can select **None**, **Level 1**, **Level 2** or **Level 3**. The level you choose to count must exist in the image address template as defined on the Image Address tab.

At Batch Start — defines the level for the next document after the count is reached. Options are: None, Go to Level 1, Go to Level 2, and Go to Level 3.

At Batch End — defines the action to be taken after processing the last document in the batch. You can select: None, Stop feeder and transport, Begin a new batch or End of Job.

Patch Detection

On — turns patch detection on and makes the rest of the options for Patch Detection available.

Image Address Patch Codes — these patch types are used for image addressing. When the Patch Reader detects a patch, it automatically assigns a new image address to the new document. This eliminates the task of trying to determine where one document stops and the next starts when an operator is viewing electronic images. It provides a hierarchical document structure and offers an auto-batching alternative. You can select Level 2, Level 3, Transfer Patch - Level 2 or Patch T / Transfer Patch - Level 3.

The Patch Reader controls document level changes by automatically sensing a predefined patch code and changing the document level accordingly.

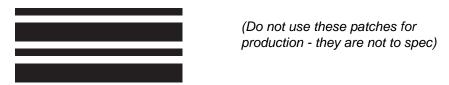
Patch 2 — assigns a Level 2 to the *current* document



Patch 3 — assigns a Level 3 to the *current* document



Patch T/Transfer Patch — assigns a predetermined level to the *next* document. Defined by selecting Level 2 or Level 3 in the Definition box.



Feature Patch Codes — these patch types can be used by the host for post-scan image control (they are not used for image addressing). For example, use these patch types for changing between black and white and color/grayscale imaging or workflow control.

Feature Patch Type 1



(Do not use these patches for production - they are not to spec)

Feature Patch Type 4



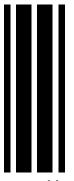


image addressing - disabled

(Do not use these patches for production - they are not to spec)

Feature Patch Type 6



(Do not use these patches for production - they are not to spec)

Confirmation Tone — the confirmation tone may be used to signal that a patch has been recognized. The default is no confirmation tone.

Patch Readers — select the icon that corresponds to the physical patch reader location in the scanner. Select one, two, three or four patch readers.

PR 1 - indicates the left patch reader.

PR2 - indicates the left center patch reader.

PR3 - indicates the right center patch reader.

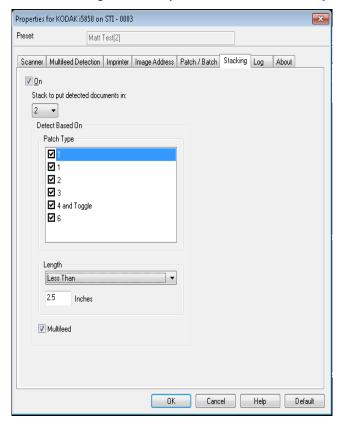
PR4 - indicates the right patch reader.



Stacking tab

The Stacking tab allows you to set options for separating documents into the two stacks of the *Kodak* Controlled Stacking Accessory output tray.

NOTE: The Stacking tab is only available when the *Kodak* Controlled Dual Stacking Accessory has been enabled for your scanner.



On — turns stacking on and makes the rest of the options on this tab available.

NOTE: Stacking also may be overridden to be On or Off from the scanner's touchscreen.

Stack to put detected documents in: indicates which stack documents matching the **Detect Based On** settings will be placed in. All non-matching documents will be placed in the other stack.

NOTE: Because document weight and condition can impact the ability of documents to stack optimally, it is recommended that when you separate documents less than 6 inches/152 mm (e.g., checks) you place them in Stack #1; and when separating documents longer than 6 inches/152 mm (e.g., patch sheets) you place them in Stack #2.

Detect Based On

Patch Type — allows you to select which patch sheets, if any, to separate from the document set and place in the selected stack.
 Options are any combination of: T, 1, 2, 3, 4 and Toggle and 6. It is recommended that the patch sheets go into Stack #2.

The Dual Stacking Toggle Patch option on the touchscreen allows you to use patch sheets to separate a document(s) from the documents being scanned into Stack #2 or Stack #1.

NOTES:

- The scanner will generate images for patch sheets.
- Printing the patch sheets on stiff paper will aid in reliable stacking.
- See the section entitled "Requirements for patch codes" in the User's Guide for more information.

Length — allows you to select which documents to separate from the document set based on the document's length.

Off

- Less Than: documents shorter than this length will be separated and placed in the selected stack. This is recommended when separating shorter documents (e.g., checks) into Stack 1.
- Greater Than: documents longer than this length will be separated and placed in the selected stack. This is recommended when separating longer documents into Stack 2.
- **Between**: documents whose length falls within the selected range will be separated and placed in the selected stack.

NOTES:

- When entering a length, consider including an extra 1/2 inch / 25 mm to account for possible document skew during scanning.
- For documents shorter than 6 inches / 152 mm, you may consider using the Short Document Insert to improve stacking in Stack 1.

Multifeed — select this option if you want to separate all documents that are determined to have been multifed. The settings to turn on and configure multifeed detection are on the Device - Multifeed tab.

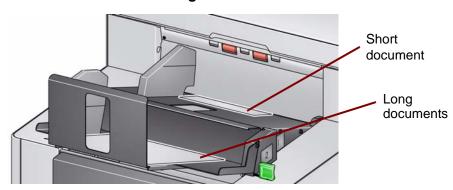
NOTES:

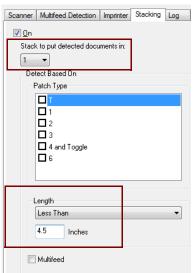
- This option can provide additional functionality by allowing you to detect thicker documents and separate them into Stack #2. This is a good choice to consider when Length based detection cannot be used because all of the documents are a similar size.
- This option will not automatically turn on multifeed detection.

Recommended configurations for using the Stacking option

Following are some examples of how to use the Stacking option.

Short document out-sorting





If your goal is to sort checks or short documents from your other documents, configure the Stacking settings as follows:

Stack to put detected documents in:

1 (Stack #1)

and set the *Length* option to:

Less Than: the length of your shortest document plus 1/2-inch.

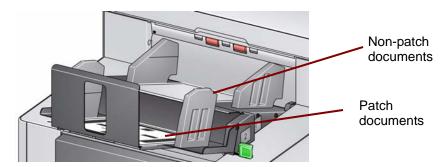
NOTES:

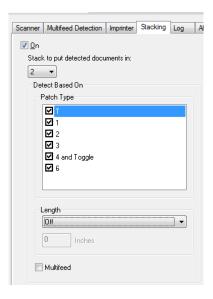
•You need to add an extra 1/2-inch to account for possible skew during feeding short documents.

•If you attempt to stack the shorter documents in Stack #2, they will not successfully reach the Stack #2 location.

• For documents shorter than 6 inches, you may consider using the Short Document Insert to improve stacking in Stack #1.

Patch code document separator out-sorting





If your goal is to sort document separator sheets with patch codes (or color toggle patch sheets) from your other documents, configure the Stacking settings as follows:

Stack to put detected documents in:

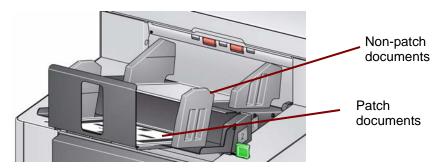
2 (Stack #2)

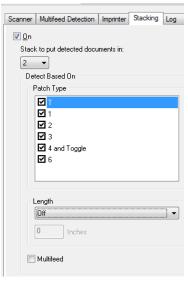
and set the *Detect Based On: Patch Type* option to one or more patch types.

Inserted patch documents used for document separation are normally ordered in bulk or printed on demand. For controlled dual stacking find a stiff paper that works well with your job and print the patch documents on this

paper; this aids with reliable sorting and stacking.

Selected document out-sorting





If your goal is to out-sort a selected document(s) from the stack (e.g., invoices that are over a \$10,000), configure the Stacking settings as follows:

Stack to put detected documents in:

2 (Stack #2)

and set the *Detect Based On: Patch Type* option to one or more patch types.

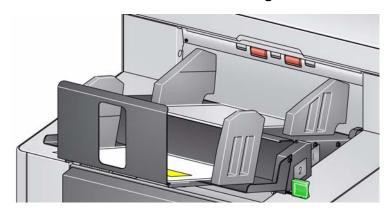
configure **Dual Stacking Toggle Patch** on the touchscreen on the scanner to a patch type that is not specified for document separation (e.g., Patch 6).

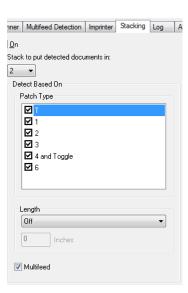
during document preparation, insert the patch sheet in front of and behind the

document(s) you want to out-sort.

After scanning, the patch sheet and documents will be output to Stack #2.

Multifeed alarm document out-sorting





If your goal is to sort documents that have triggered a multifeed alarm, configure the Stacking settings as follows:

Stack to put detected documents in:

2 (Stack #2)

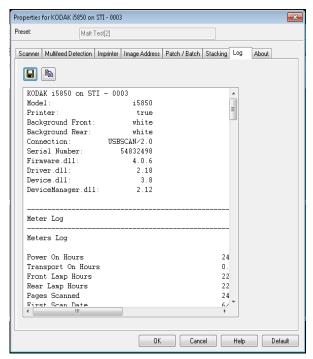
and set the *Detect Based On: Multifeed* option.

Triggering exception stacking by multifeed can provide additional functionality. For example, stacking documents that trigger a multifeed alarm in Stack #2 can be a way to sort thicker documents that you cannot sort by size or patch.

NOTE: The **Allow Maximum Length** override will not disable Controlled Dual Stacking Length Protection.

Logs tab

The Logs tab provides a listing of any errors that have been encountered.



You can view the Operator and Meter logs and save this information to a file by clicking the Save icon, or copy the information to the clipboard which can then be pasted into a document.