Kodak

i5000 Series Scanners

Scanning Setup Guide
for TWAIN Applications

Using the TWAIN Datasource

The information in this guide provides procedures for using the TWAIN/
TWAINDSM Datasource as well as descriptions of the features. The
same features should be available on the user interface of the scanning
application you are using (i.e., *Kodak* Capture Pro Software).

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

Starting the Scan Validation Tool

1. Select **Start>Programs>Kodak>Document Imaging>Scan Validation Tool**.
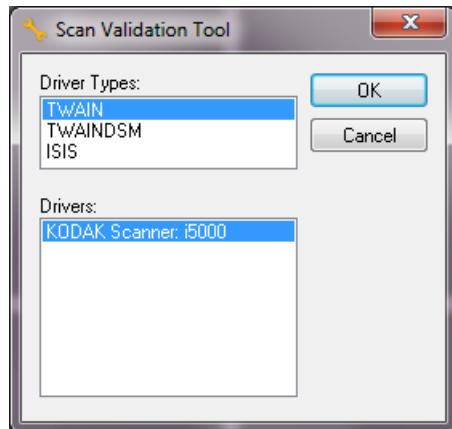
2. Select **TWAIN/TWAINDSM** (or **ISIS**) for the Driver Type and the *Kodak* **Scanner i15000 Scanner** as the Driver.

   Driver Types include:
   - **TWAIN** — uses the TWAIN interface via the Windows-provided twain_32.dll. This option is only available if twain_32.dll exists in the Windows folder.
   - **TWAINDSM** — uses the TWAIN interface via the TWAIN Working Group's 2.x Data Source Manager (DSM). This option is only available if TWAINDSM.dll exists in the Windows Systems folder.
   - **ISIS** — uses the ISIS interface. this option is only available if PIXDFLTN.DLL exists in the Windows 32-bit Systems folder.

   The Scan Validation Tool dialog box will be displayed.
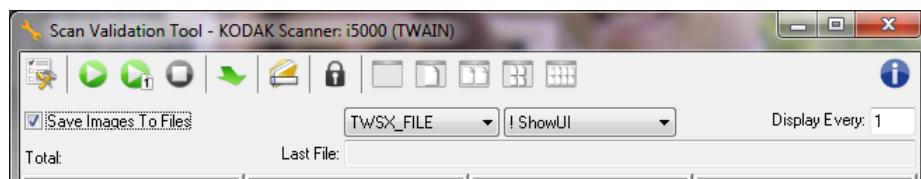
3. Select one of the Image Display mode buttons to display the image preview panels.

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 TWAIN/TWAINDSM Datasource and the ISIS Driver.
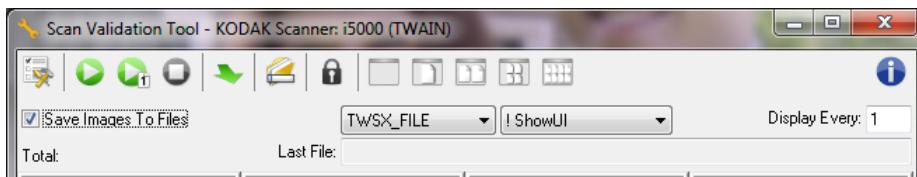
Save Images to Files — saves the images to the specified directory.

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 TWAIN Datasource (or ISIS driver), 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.

Toolbar buttons.

Setup — displays the user interface for the selected driver.

Destination — allows you to select a directory to store scanned images and their file names. This option is only available when **Save Images to Files** is selected.

Start Scanning — scans the documents in the input elevator.

Scan One Page — scans only one page.

Stop Scanning — ends the scan session.

License Key — displays the License Key window

No Image Display mode — closes the Image Viewer window (no images will be displayed).

One Image Display mode — displays one image at a time.

Two Image Display mode — displays two images at a time.

Four Image Display mode — displays four images at a time.

Eight Image Display mode — displays eight images at a time.

Change/Open Driver — closes the currently opened driver and displays the Driver Choice window.

About — displays the About window.

Transfer Mode selector — *TWAIN only.* For advanced users. Allows you to select **Memory** or **File Transfer** methods when using the Scan Validation Tool.

Show UI selector — this is an advanced option used by Technical Support.

Using the TWAIN Datasource

The *Kodak* i5000 Series Scanners can provide a wide variety of electronic images. This can be done by using the TWAIN Datasource that is provided in concert with your scanning application. The TWAIN Datasource is the part of the capture system which links the scanner to your scanning application.

When using the TWAIN Datasource, the main Scanner window will display a list of Setting Shortcuts. Each Setting Shortcut is a group of specific image and device settings. The supplied Setting Shortcuts represent some common electronic image outputs used for a wide variety of input documents. If none of the Setting Shortcuts meet your scanning needs, you can create a customized Setting Shortcut. For example, you could create a Setting Shortcut called "Invoices" and whenever you want to scan invoices, you simply select that Setting Shortcut. For more information, refer to the sections entitled, "Creating a new Setting Shortcut" and "Changing image settings" later in this chapter.

NOTE: If you are using the ISIS Driver, see the *Scanning Setup Guide for the ISIS Driver*, A-61672 for more information.

How do I begin?

The goal is to make scanning as simple as possible. This is accomplished by selecting a *Setting Shortcut* from the main Scanner window and then selecting **OK/Scan**.

The scanner comes with some Setting Shortcuts already defined. In most cases, you will find that these shortcuts are all you will need. If you find that you need different settings, then you should create your own Setting Shortcut. Your shortcut will be added to the list of Setting Shortcuts and available for all future scanning.

Most of the options you will want to set are available on these two windows:

- **Image** Settings: clicking the **Settings** button on the main Scanner window, displays the Image Settings window. From this window you can set your image processing parameters by using the General, Size, Adjust, Enhance and Detect tab. You can also access the Device settings, by clicking the **Device** button or the Advanced settings by clicking the **Advanced Image Setup** icon.

- **Device** Settings: the Device button is located on the Image Settings window. When you select **Device**, you will have access to the General, Multifeed and Patch tabs. Other tabs (e.g., Stacking, Printing, etc.) may be displayed depending on any accessories that are installed. From the Device Settings window, you can also access Diagnostics.

The procedures that follow describe how to configure a customized Setting Shortcut. Complete descriptions of the features and options on the Scanner window and tabs are found in the section entitled, "The main Scanner window".

NOTE: Setting Shortcuts can sometimes be overridden by your scanning application. If this happens, the shortcut you selected will appear in the main Scanner window with the word *<Changed>* next to it. This is normal for an application that does not use Setting Shortcuts and downloads its preferred individual settings to the scanner first and then provides access to the TWAIN Datasource.

When you click **OK** to begin scanning, you will be asked if you want to save the changed settings. When using an application that does not use Setting Shortcuts, select **No** to this prompt and continue scanning.

## Changing or creating a Setting Shortcut

From the main Scanner window:
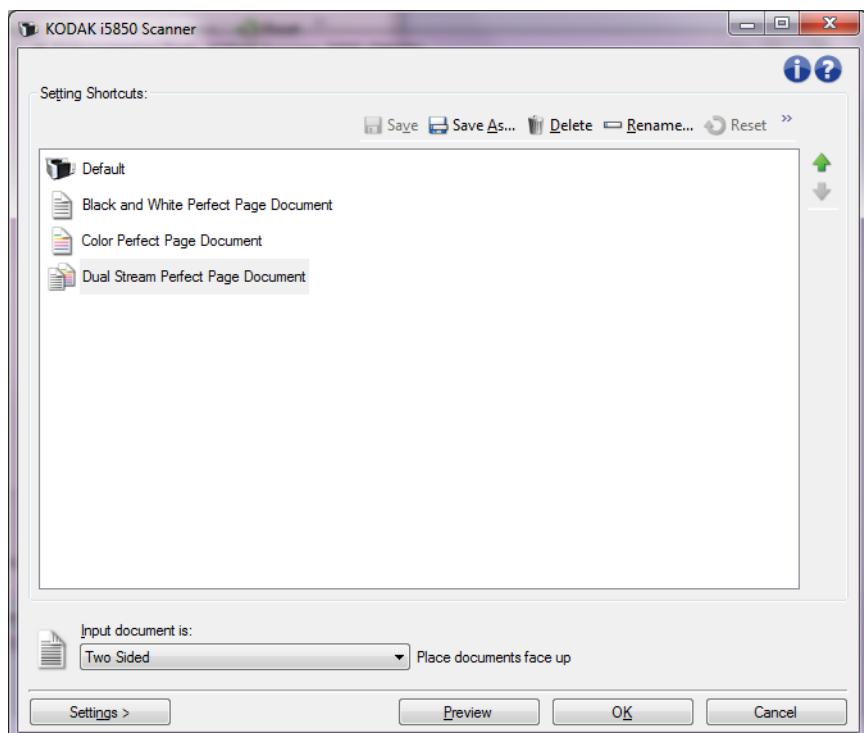
1. Select a Setting Shortcut from the Setting Shortcuts list. It is recommended that you select a Setting Shortcut that best describes the desired image output.

2. Determine if you want to capture an electronic image of the front of your document, back of your document or both sides of your document and make the selection from the *Input document is* drop-down list.

3. Select **Settings** on the main Scanner window. The General tab of the Image Settings window will be displayed.

4. Select the appropriate options on the General tab.

   NOTE: If necessary, review each setting on the other tabs and make any changes.

5. Place one representative document in the input elevator of the scanner.

6. Select **Preview** to review the resulting image.

   NOTE: If the images are not acceptable, you can either select a different predefined Setting Shortcut or make additional changes on the rest of the tabs on the Image Settings window.

7. Select the desired Device settings by selecting **Device** on the Image Settings window to display the Device Settings window.

8. Review each tab and select the appropriate options or actions you want the scanner to perform.

9. Select **Home** to return to the main Scanner window.

10. Select **Save As** to display the Save As window or click **Save** to save the Setting Shortcut under the same name.

11. Enter a new shortcut name that is meaningful to you and select **Save**.

The main Scanner window

The main Scanner window is the home window of the scanner's user interface. You can scan by simply selecting a Setting Shortcut and then selecting **OK/Scan**.
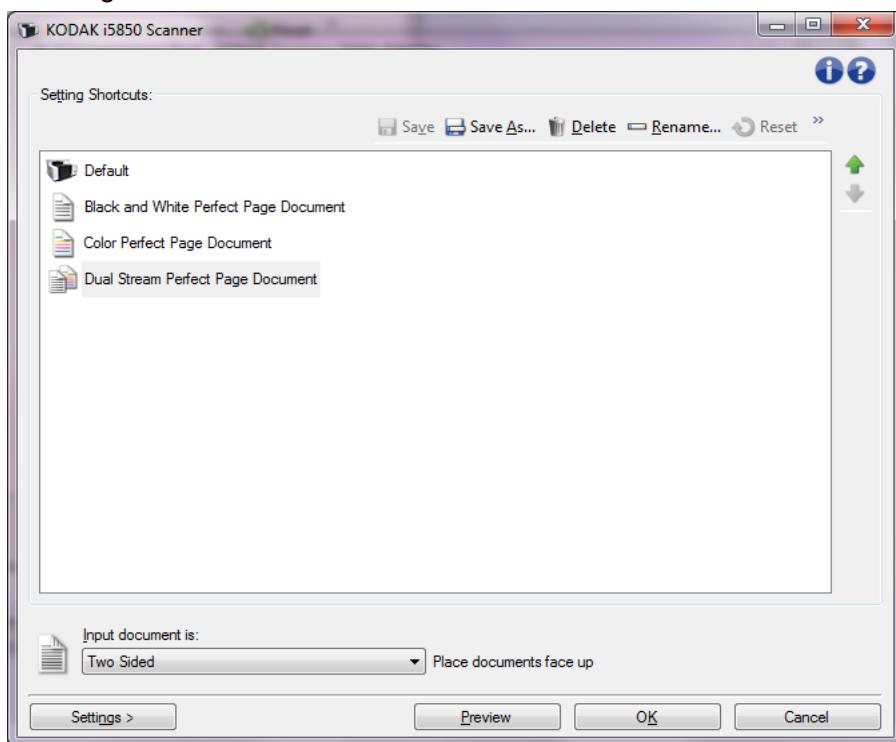
Setting Shortcuts — provides a listing of the Setting Shortcuts currently set up. The supplied shortcuts are:

- **Default** — the scanner's default settings
- **Black and White Perfect Page Document**
- **Color Perfect Page Document**
- **Dual Stream Perfect Page Document**

NOTE: If you have made changes to a Setting Shortcut and have not saved your changes, the Setting Shortcut will be appended with the word *<changed>*.
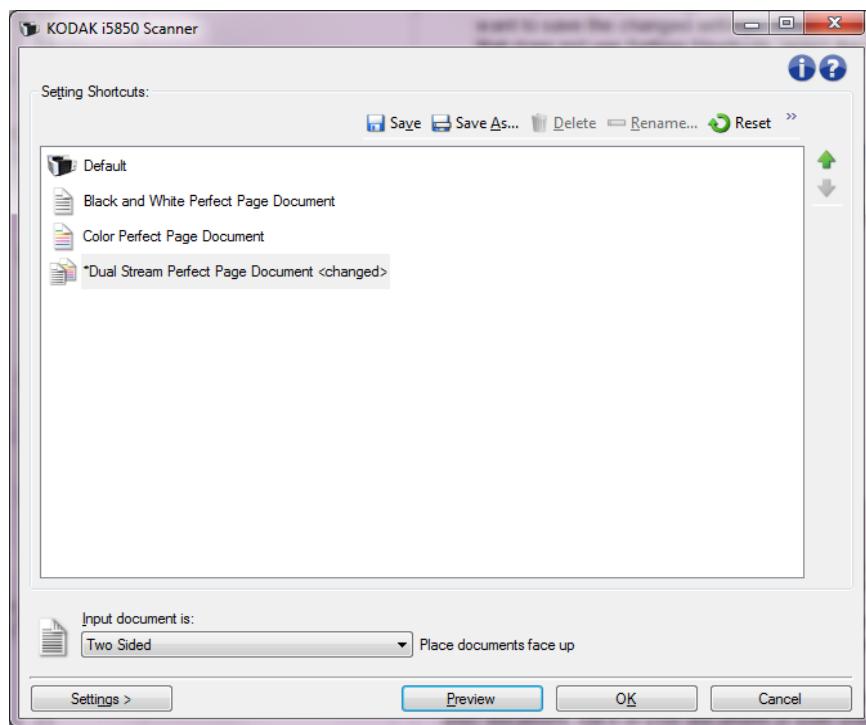

Input document is — allows you to select which sides of the document has information that you want an electronic image of.

- **Two Sided**: scans the front and back of the document.
- **One Sided - Front**: scans only the front side of the document.
- **One Sided - Back**: scans only the back side of the document.

NOTE: Be sure to place your documents face down in the input elevator.

Icons

![Save icon]	**Save** — saves any changes made to the selected Setting Shortcut.
![Save As icon]	**Save As** — displays the Save As window allowing you to save your current settings as a new Setting Shortcut.
![Delete icon]	**Delete** — deletes the selected Setting Shortcut; you will be prompted for confirmation. This is only available for shortcuts you have created.
![Rename icon]	**Rename** — allows you to rename the selected Setting Shortcut. This is only available for shortcuts you have created.
![Reset icon]	**Reset** — allows you to undo any unsaved changes that have been made to the selected Setting Shortcut.
![Restore icon]	**Restore** — displays the Restore window allowing you to undo any changes that have been made to the shortcuts supplied with the scanner. This is only available when one or more supplied shortcuts have been changed or removed.
![Import icon]	**Import** — imports a set of Setting Shortcuts by replacing all current shortcuts. When selected, you will be prompted for confirmation and the operating system's File Open window is displayed allowing you to select the shortcut set you want to import.
![Export icon]	**Export** — exports all the current Setting Shortcuts to a shortcut set. When selected, the operating system's File Save window is displayed allowing you to select the folder and file name for the shortcut set.
![Move Up icon]	**Move Up** — moves the selected Setting Shortcut up one position in the Setting Shortcut list. When you move a Setting Shortcut, it will stay in that position until you move it again.
![Move Down icon]	**Move Down** — moves the selected Setting Shortcut down one position in the Setting Shortcut list.

NOTES:

- **Delete, Rename, Restore, Import** and **Export** are not available if the selected Setting Shortcut is being changed.

- When you move a Setting Shortcut, it will stay in that position until you move it again.

- If you want to transfer Setting Shortcuts to another PC: select **Export** on the PC that has the shortcuts you want to transfer and then select **Import** on the other PC.

- If you want to add a Setting Shortcut to an existing shortcut set:

  1. Select **Import** to load the shortcut set.

  2. Create the new Setting Shortcut.

  3. Replace the shortcut set by selecting **Export** and save it using the same name.

Settings — displays the Image Settings window which allows you to make changes to the selected Setting Shortcut. From this window you can also access the Device settings and Diagnostic windows.

Preview — initiates a scan and then displays the Image Settings window with the scanned image placed in the preview area. The image displayed is a sample based on your current shortcut settings.

OK/Scan — when selected, you will be prompted to save any unsaved changes.

NOTE: If this button is **OK**, any unsaved changes will remain in effect for the current scan session.

Cancel — closes the main Scanner window without saving any changes.

Information Icons

About: displays the scanners' version and copyright information.

Help: displays help information for the window currently being displayed.

The Image Settings window

From this window you can define image processing options by using the available tabs. The values used in Image Settings are saved in the selected Setting Shortcut. The Image Settings window includes the following tabs by default: General, Size, Adjust (color/grayscale and black and white), Enhance and Detect.

This section describes the TWAIN 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.

Side — allows you to select which side and image to configure (e.g., Front, Back, Both: Color (24-bit), etc.). All image settings will be applied to the selected image.
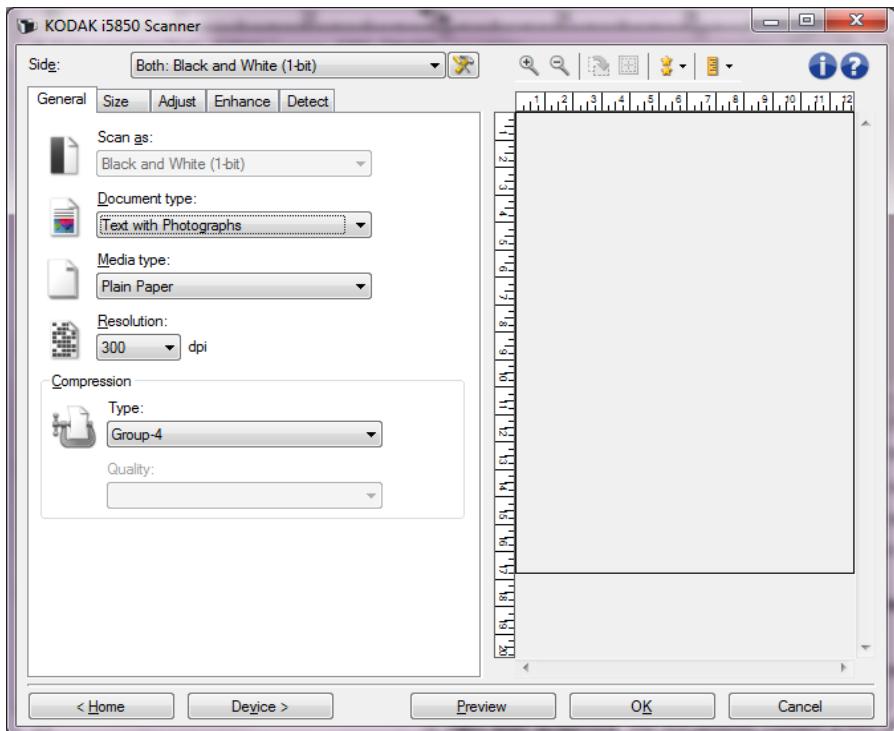
NOTE: The *Side* option is only available when advanced settings have been selected on the Advanced tab.

Advanced Image Setup: displays the Advanced tab.

Toolbar buttons

⊕	**Zoom In**: enlarges the image that is currently being displayed in the preview area.
⊖	**Zoom Out**: reduces the image that is currently being displayed in the preview area.
	Rotate Outline: rotates the outline 90 degrees. NOTE: This is only available if the rotated outline fits in the scanner's maximum width.
	Center Outline: adjusts the X origin of the outline such that the outline is centered within the scanner's maximum width.
★ ▾	**Preview Quality:** selects the quality of the scanning image. • **Normal**: displays acceptable image quality at a lower resolution. • **High**: displays the most accurate representation of the actual image. The image that is displayed in the preview area is a good representation of what the final image will look like. NOTE: Depending on the document content, you may need to zoom in to see a true representation of the image.
	Units: selects the unit of measurement for the scanner; this includes the preview area and any size-related options. The Units options are: **Inches, Centimeters** and **Pixels**.

Preview area

The preview area displays a sample image that is based on your current shortcut settings. An image will be displayed in this area after a preview scan has been performed.

Outline — if you select **Document: Manually Select** or **Image: Part of document** on the Size tab, the preview area will also show the current Outline selections. If the outline does not align with your preview image, you may use the mouse to adjust the size and location of the outline. As the mouse cursor moves around the outline, the cursor will change indicating that you can adjust the outline by pressing and holding the left mouse button.

• **Move**: place the mouse cursor within the outline to adjust the location of the outline.

• **Corner**: place the mouse cursor over one of the corner graphics to adjust two sides at the same time.

• **Side**: place the mouse cursor over one of the side graphics to adjust that side.

- **Rotate**: place the mouse cursor over the rotate graphic to adjust the angle of the outline.

Home — returns you to the main Scanner window.

Device — displays the Device Settings window.

Preview — initiates a scan and places the image in the preview area. The image displayed is a sample based on your current shortcut settings.

OK/Scan — when selected, you will be prompted to save any unsaved changes.

NOTE: If this button is **OK**, any unsaved changes will remain in effect for the current scan session.

Cancel — closes the main Scanner window without saving any changes.

General tab

The General tab contains commonly used image options. In most cases, you will not have to change options on other tabs.
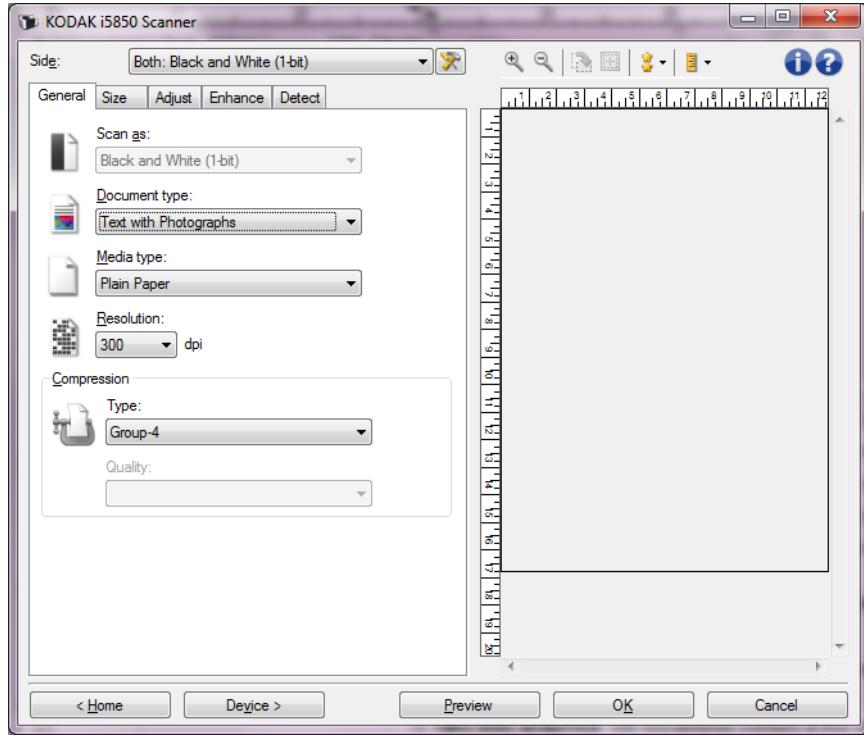
Scan as — allows you to select the electronic image format.

- **Color (24-bit)**: produces a color version of your document.

- **Grayscale (8-bit**): produces a grayscale version of your document.

- **Black and white (1-bit)**: produces a black and white version of your document.

    NOTE: The *Scan as* option is only available when **Images per side: One** is selected on the Advanced tab.

Document type — allows you to select the type of content on your documents.

- **Text with Graphics**: the documents contain a mix of text, business graphics (bar graphs, pie charts, etc.) and line art.

- **Text**: the documents contain mostly text.

- Text with Photographs:

- **Photographs**: the documents contain mostly photographs.

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**.

Resolution — allows you to select the dots per inch (dpi), which is a determinant of a better quality image. It may also increase scanning time and image size. The options are: 100, 150, 200, 240, 300, 400, 500 and 600 dpi.

Compression — allows you to reduce your electronic image size.

- **Type**: the scanner will produce a color version of your document.

    - **(none)**: no compression, which may produce a large image size.
    - **Group-4**: uses a CCITT standard to compress a black and white image, often used in conjunction with TIFF files.
    - **JPEG**: uses JPEG techniques to compress the image.

- **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.

    NOTE: This option is not applied to the preview image.

Size tab
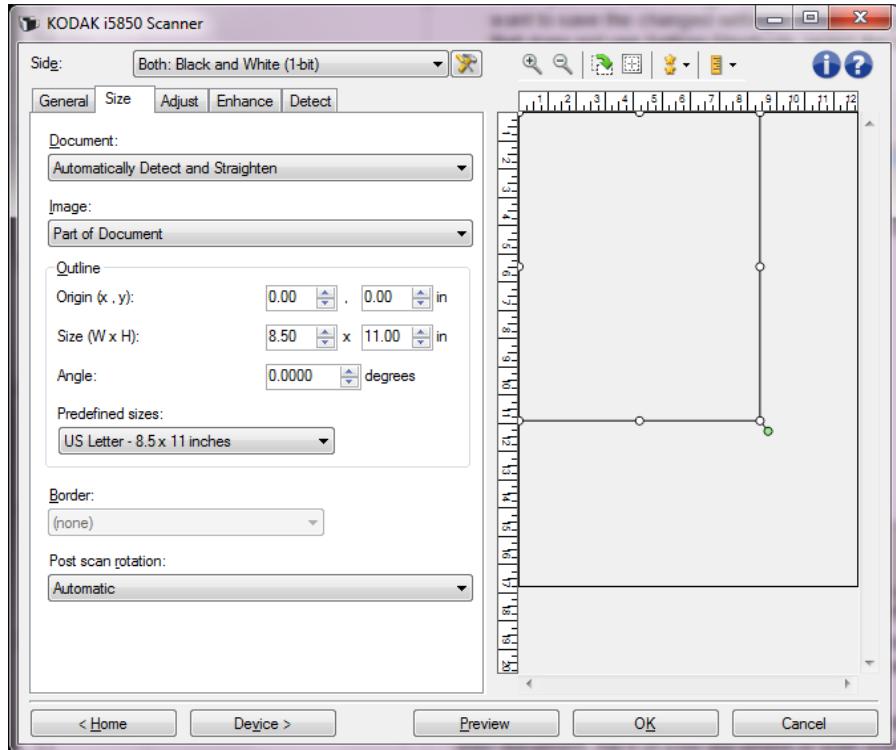
Document — allows you to select how the scanner will detect your document as it is being fed through the scanner.

- **Automatically Detect and Straighten**: the scanner will automatically find each document (regardless of size) and will straighten any document that may have been fed crooked.

- **Automatically Detect**: the scanner will automatically find each document (regardless of size). If a document is fed crooked, it will not be straightened.

- **Manually Select**: the scanner will return an image based on the area you specify with the Outline options. It is suggested that you only use this option for scan jobs that contain same-size documents.

Image — allows you to select which part of the document you want to use for creating your electronic image.

- **Entire document**: if you select **Document: Automatically Detect and Straighten, Document: Automatically Detect** or **Document: Manually Select**, returns the entire document.

- **Part of the document**: if you select **Document: Automatically Detect and Straighten**, returns the portion of the document which you specify with the Outline options.

Outline — allows you to select the location and size to use for creating your electronic image. The preview area will show the outline.

- **Origin (x, y)**:
  - if you select **Document: Automatically Detect and Straighten, (x)** this is the distance from the left edge of the document and (y) is the distance from the top edge of the document.
  - if you select **Document: Manually Select** (x) is the distance from the left edge of the scanner's paper path and (y) is the distance from the first portion of the document detected by the scanner.
- **Size (w, h)**: if you select **Document: Automatically Detect and Straighten** or **Document: Manually Select**, this is the width and height of the electronic image.

  NOTE: The electronic image may be shorter than you specified if the outline goes beyond the end of the scanned document.

- **Angle**: allows you to select the angle of the outline.

- **Predefined sizes**: provides a list of commonly used paper sizes. Selecting an item in this list will automatically set the size of the outline to that paper's size. **Custom** will be displayed when the outline size does not match any sizes in the list.

NOTE: You can also adjust the outline displayed in the preview area using your mouse.

Border — allows you to select what action to perform on the edges of your electronic image.

- **(none)**: the image will be cropped but a small border may remain.

- **Add**: includes up to approximately 0.25 cm (0.1 inches) of border around all of the image edges.

  NOTE: This option is only available for **Document: Automatically Detect** or **Document: Manually Select**.

- **Remove**: produces an image that contains just the document by eliminating any residual border. Residual border can be caused by variations in a document edge; for example, when a document is not a perfect rectangle and/or was fed crooked.

  NOTES:
  - The Image Edge Fill option on the Enhance tab can also be used to produce images with cleaner edges.

  - While this option will not remove large amounts of residual border, there is a possibility that a small amount of the document will be lost.

  - This option is only available when both **Document: Automatically Detect and Straighten** and **Image: Entire Document** are selected.

Post-scan rotation options — allows you to select any rotation to be applied to the electronic image after is has been scanned.

- **(none)**

- **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.

- **90, 180, 270 degrees** — the amount of rotation that will be performed.

The following example shows how these settings effect a document that was fed landscape:

Landscape Feed Orientation	90 degrees	180 degrees	270 degrees
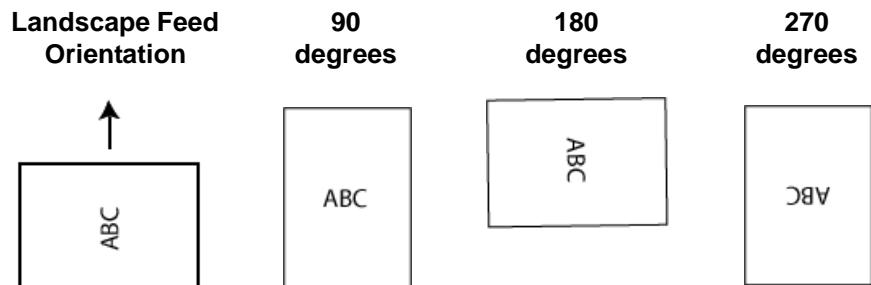
Adjust tab: black and white

The options available on the Adjust tab depend on the *Scan as* selection on the General tab. The following options are based on a *Scan as* selection of **Black and White**.
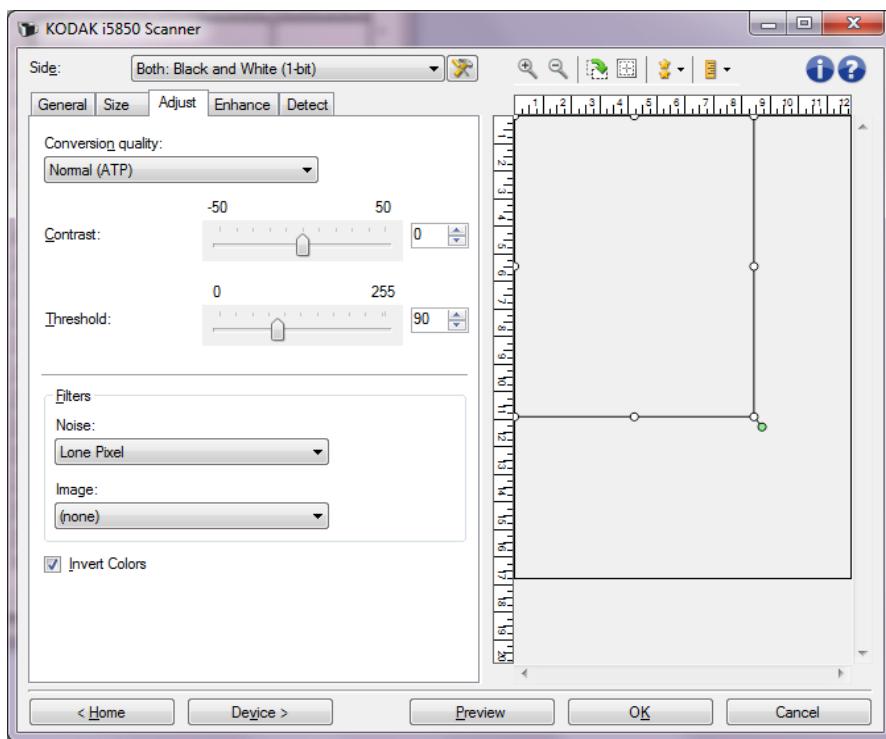
Conversion quality — these settings effect how the scanner analyzes a grayscale version of the document which is used to produce the black and white electronic image.

- **Best - Intelligent QC**: this performs the same analysis as **Best** 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.

- **Best (iThresholding)**: the scanner analyzes each document to produce the highest quality image. This option allows scanning of mixed documents with varying quality (i.e., faint text, shaded backgrounds, color backgrounds) and when scanning with consistent document sets.

- **Normal (ATP - Adaptive Threshold Processing)**: allows you to determine the optimal settings to produce the desired image quality. This option works best when scanning with consistent document sets. You may also want to use this option if you have difficult documents such that you cannot find a *Contrast* setting for *Best* that produces the desired quality.

- **Draft (Fixed)**: allows you to select the grayscale threshold used to determine if a pixel is black or white. This option works best for high contrast documents.

Contrast — allows you to make an image sharper or softer. Decreasing this setting will make the image softer and reduce noise in the image. Increasing this setting will make the image clearer and make light information more visible. The options range from **-50** to **50**. The default is 0.

NOTE: This is only available for *Conversion quality: Best and Conversion quality: Normal.*

Threshold — aids in controlling the level at which a pixel is considered black or white. Decreasing this setting will make the image appear lighter, and can be used to subdue background noise. Increasing this setting will make the image appear darker, and can be used to help pick up light information. This options range from 0 to 255. The default is 90.

NOTE: This is only available for *Conversion quality: Normal and Conversion quality: Draft.*

Filters
- **Noise**

    - (**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.

- **Image**

    - (**none**)
    - **Halftone Removal**: enhances dot matrix text and images with halftone screens (e.g., newspaper photographs).

Invert Colors — 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.

Adjust tab: color/grayscale

The options available on the Adjust tab depend on the *Scan as* selection on the General tab. The following options are based on a *Scan As* selection of **Color** or **Grayscale**.

NOTE: Most options have additional settings. Those settings will only be visible when the option is turned on. If all of the settings do not fit on the screen, a scroll bar will appear giving you access to all settings.
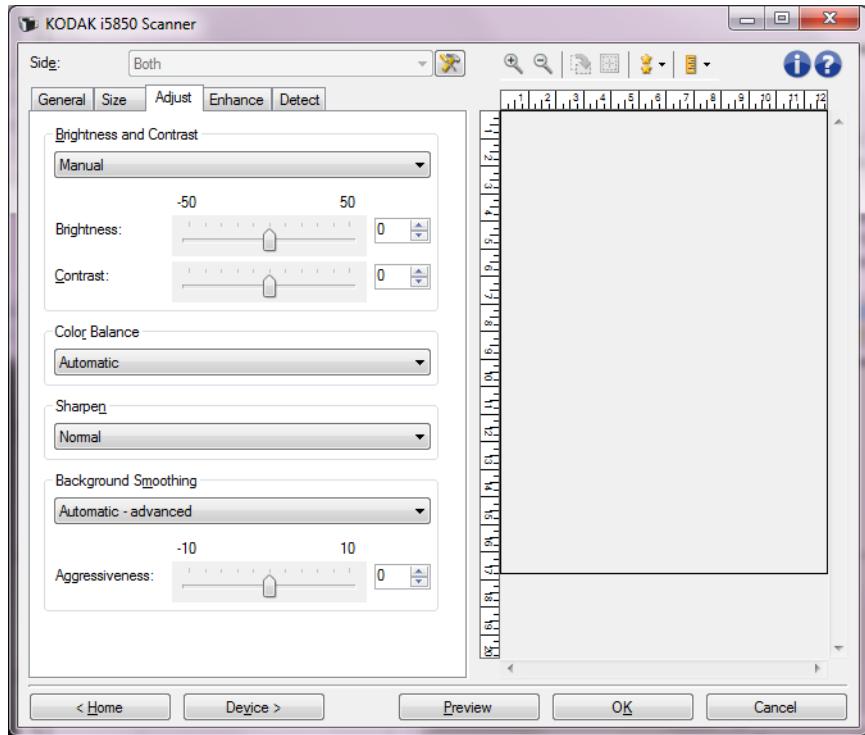
Brightness and Contrast

• (**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**.

  - **Contrast** - makes the images sharper or softer. The values range from **-50** to **50**.

Color Balance

- (**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.
  - **Aggressiveness** - allows you to adjust the extent of the variation. Increasing this value can help with documents that have yellowed due to age. The values range from **-2** to **2**.

- **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**.
  - **Blue** - changes the amount of blue in the color image. The values range from **-50** to **50**.
  - **Green** - changes the amount of green in the color image. The values range from **-50** to **50**.

NOTE: Color Balance is not available for Grayscale images.

Sharpen - increases the contrast of edges within the image.
- (**none**)
- **Normal**
- **High**
- **Exaggerated**

Background Smoothing — using this option for documents or forms with a background color will help produce images with a more uniform background color. This option improves image quality and may reduce file size.

- **(none)**
- **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 one with white.
  - **Apply to:**
    - **Predominant** - smoothes the predominant background color to white.
    - **Neutral** - smoothes only the neutral color to white, and also smoothes up to two additional background colors.
    - **All** - smoothes 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**.

Enhance tab

The options on the Enhance tab depend on the *Scan as* selection on the General tab.

NOTE: Most options have additional settings. Those settings will only be visible when the option is turned on. If all of the settings do not fit on the screen, a scroll bar will appear giving you access to all settings.
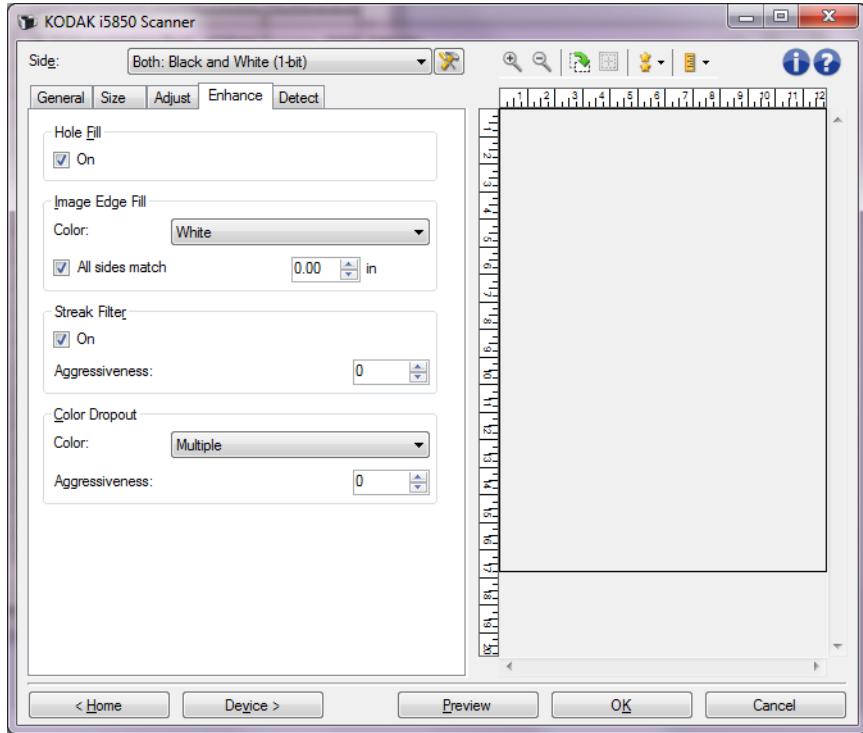
Hole Fill —allows you to fill in the holes that are around the edges of your document. The types of holes that are filled include: round, rectangular, and irregularly shaped (e.g. double-punched or those having a slight tear that could have occurred when the document was removed from a binder). Checking **On** turns hole fill on.

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

- **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**

- **All sides match**: when turned on, an equal amount will be filled in on all sides. This option is only available for **Black and White.**

- **Top**: determines how much of the top edge will be filled in.

- **Left/Right:** the option on the left will determine how much of the left edge will be filled in and the option on the right will determine how much of the right edge will be filled in.

- **Bottom**: determines how much of the bottom edge will be filled in.

NOTES:

- The **Top, Left/Right** and **Bottom** options are not available when *All sides match* is turned on.

- When using **Image Edge Fill,** be careful not to enter a value too large as it could fill in image data that you want to keep.

This option is not applied to the preview image.

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.

- **On**: turns streak filter on.

- **Aggressiveness**: allows you to adjust the extent at which the streaks are filtered. The values range from -2 to 2. The default is 0.

NOTE: The selection in the *Document type* field on the General tab has an effect on Streak Filter. The scanner uses this field to determine how the data under the streak is rebuilt when removing a streak from an image. It is suggested that **Text** or **Text with Graphics** be selected if scanning documents with only text or low resolution graphics as it will produce the best image processing.

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 does a color analysis of every image scanned and drops out up to 5 different colors. The individual colors could be any of more than 16 million colors. Use the *Aggressiveness* slider to adjust the color. This feature 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	Rhodimine 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						

Detect tab

The Detect tab provides the following options.
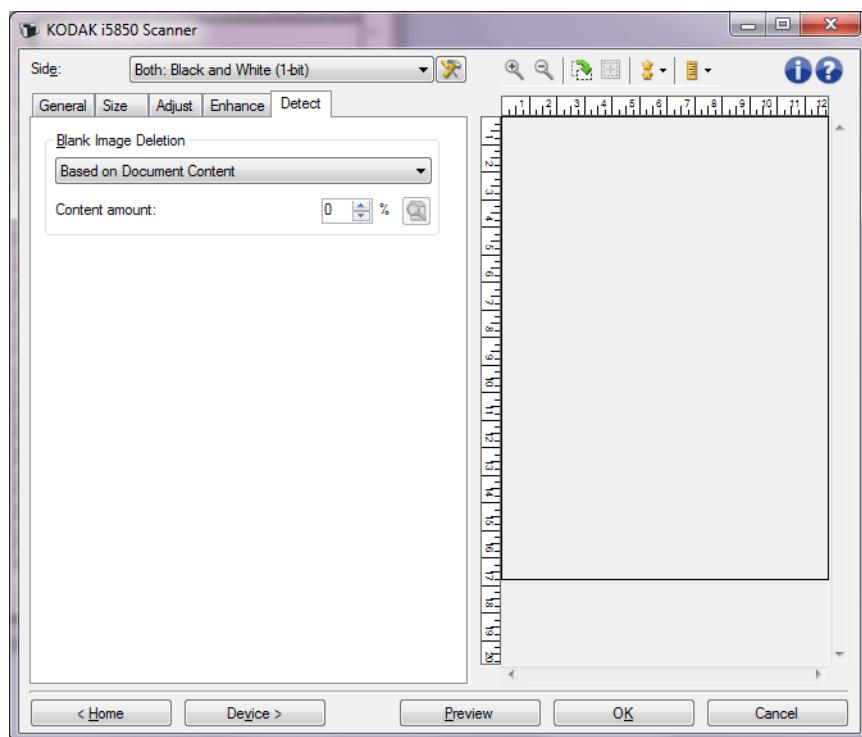
Blank Image Deletion — allows you to configure the scanner to not give blank images to the scanning application.

- **(none)**: all images are given to the scanning application.

- **Based on Document Content**: images will be considered blank based on the document content within the image.

  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.

- **Content amount**: allows you to select 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.

  - : *Content amount* will be filled in with the amount of content in the preview image. If you have a representative blank document (e.g., blank sheet with letter head), this can be used to assist with determining the setting for Content amount (i.e., perform a preview scan, click this button, and adjust Content amount as appropriate).

  NOTE: This option is only available when there is a preview image.

- **Based on 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).

  - **Final image size:** allows you to select the minimum image size that the scanner will consider to be non-blank. Any image that is less than this value will be considered blank and will not be given to the scanning application. The values range from 1 to 1000 KB (1 KB equals 1024 bytes).

Advanced Image Setup

Advanced tab

The Advanced Image Setup icon is located at the top of the Image Settings window next to the *Side* drop-down box.
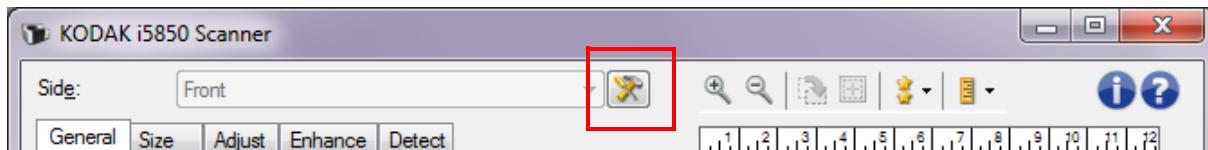
When you select the Advanced Image Setup icon, the Advanced tab will be displayed.
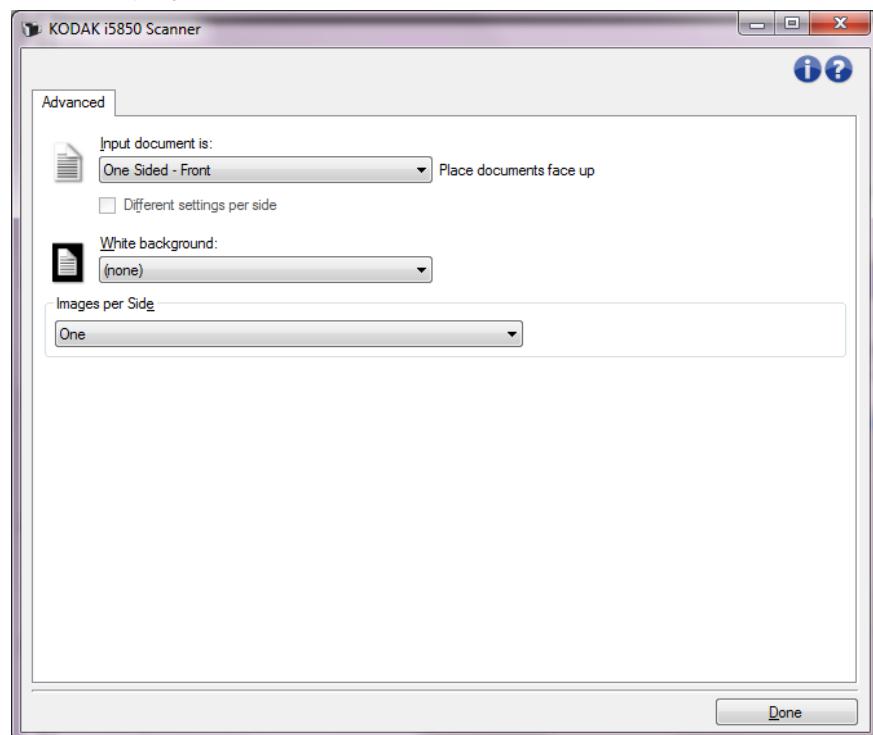
Input document is — select **Two Sided**, **One sided - Front,** or **One sided - Back** depending on what side(s) you want to configure.

Different settings per side — by default, the settings you select apply to both sides of the image. Turn this option on if you want to select different image processing settings for each side of the document you are scanning. For example, if you want the front side to be color and the rear side to be black and white, first make sure that you have selected the **Two Sided** option from the *Input document is* drop-down list, then select the *Different settings per side* checkbox.
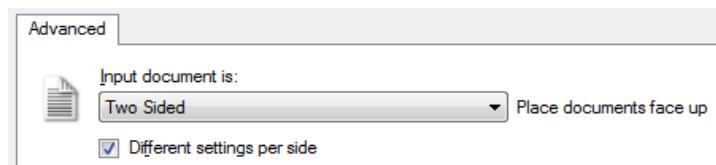
Once you have done this, the *Side* option on the Image Settings window will no longer be grayed out and you can select different settings for each side. Now that you have enabled **Different settings per side**, your initial selections will apply only to the front side of the document you are scanning. After you have made your selections for the front side, use the *Side* option to select the back side and then make the settings you want to apply to the back.
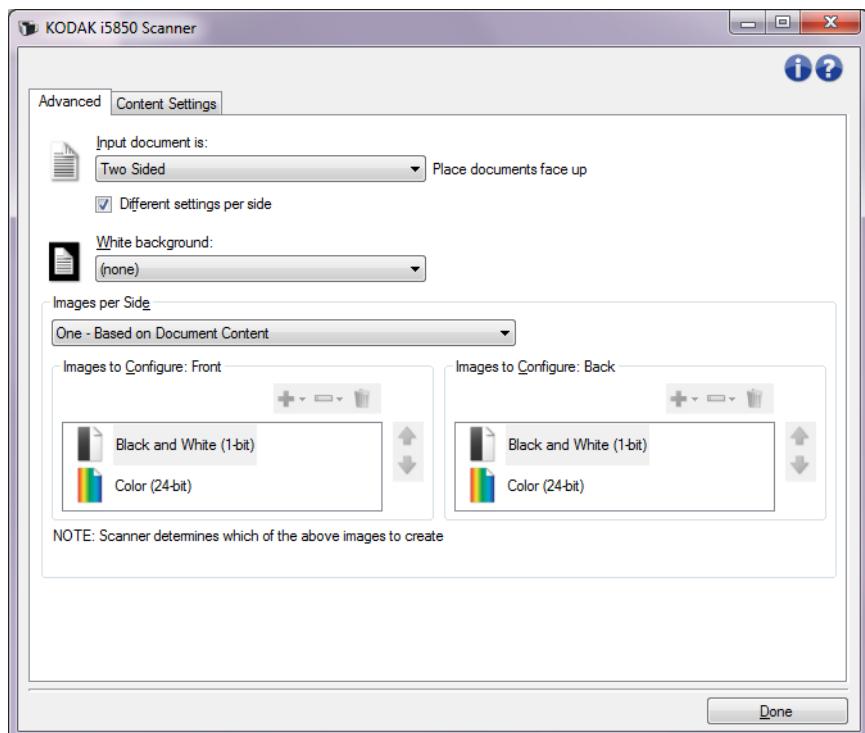
White background — when turned on, indicates which side(s) of the document will see White instead of Black where there is no paper.

- **(none)**: uses the Black background for the front and back sides.

- **Both Sides**: uses the White background for the front and back sides.

- **Front Only**: only uses the White background for the front side, the back side will use Black. This option is only available when **Input document is** is set to *Two Sided* and **Different settings per side** is turned on; or **Input document is** is set to *One Sided - Front*.

- **Back Only**: only uses the White background for the back side, the front side will use Black. This option is only available when **Input document is** is set to *Two Sided* and **Different settings per side** is turned on; or **Input document is** is set to *One Sided - Back*.

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.

Images per side — indicates how many images the scanner will create for a side, based on your imaging selections.

- **One**: indicates you want the scanner to create one image.

- **One - Based on Document Content**: indicates you want the scanner to automatically detect if the document is color/grayscale or black and white.

- **One - Based on Toggle Patch**: indicates you want to tell the scanner, via a toggle patch document, if the document is color/grayscale or black and white.

- **Multiple**: indicates you want the scanner to create more than one image.

NOTE: If you select **One - Based on Document Content** from the *Images per side* option, the Content Settings tab will be displayed.

Images to Configure — indicates which electronic images you need to configure.

NOTE: This is only available if you select anything other than **One** from the *Images per side* option. For procedures on how to configure advanced options, see the sections that follow, entitled:

- *Creating color/grayscale or black and white images based on the content of your documents, Example 1.*

- *Creating multiple images for each side of a document, Example 2.*

- *Creating different settings for each side of a document, Example 3.*

When available, use the up and down arrows to select the order in which the images will be delivered by the scanner to the scanning application.
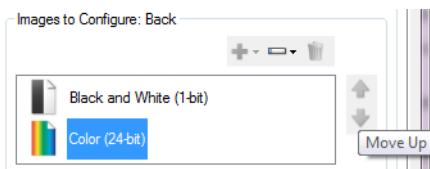
Toolbar buttons:

➕▾	**Add**: adds an image type to the bottom of the configuration list.
▭▾	**Change**: allows you to change the currently selected image type.
🗑	**Delete**: removes the selected image type.

Done — returns you to the Image Settings window.

Content Settings tab

The options on the Content Settings tab can be used for either one- or two-sided jobs.
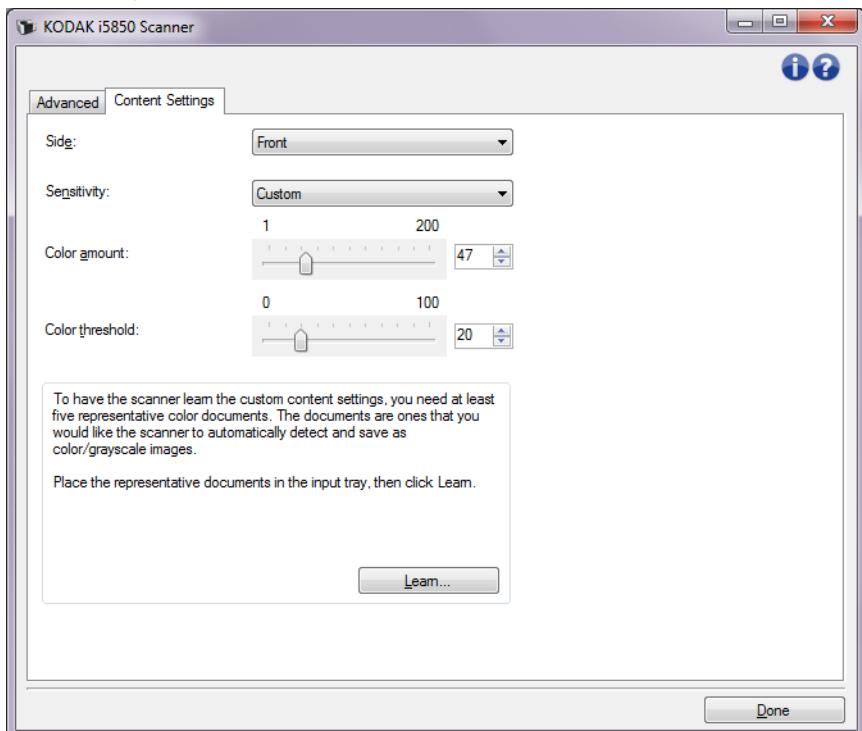
Side — determines which side the Sensitivity settings are applied to. This option is only available if **Different settings per side** is checked on the Advanced tab.

Sensitivity

- **Low**: documents requiring only a small amount of color to be saved as color/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 requiring more color, as compared with the Low option, before they are saved as color/grayscale images.

- **High**: documents requiring more color, as compared with the Medium option, before they will be saved as color/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 Sensitivity 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** to manually adjust Color Amount and/or Color Threshold. **Custom** also allows access to the *Learn* mode which provides a method for the scanner to analyze documents and recommend settings.

Color amount — the amount of color that needs to be present in a document before it will be saved as either color/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 saturation (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: These 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.*

Creating color/grayscale or black and white images based on the content of your documents, Example 1

In this example, let's assume you want to configure a scan session that has a mix of color and black and white documents with information on both sides. In addition, you want the scanner to detect whether the page is color or not, and then output either a color or black and white image based on that.

1. Select a **Setting Shortcut** from the main Scanner window that closely describes your desired output.

2. Select **Settings** to display the Image Settings window.

3. Select the **Advanced Image Setup** icon on the Image Settings window to display the Advanced tab.

4. Select **Input document is: Two Sided.**

5. Select **Images per side: One – Based on Document Content.**

   NOTE: The *Images to Configure* area will now be displayed on the Advanced tab and will contain a color image item and a black and white image item. The Content Settings tab will also be displayed.
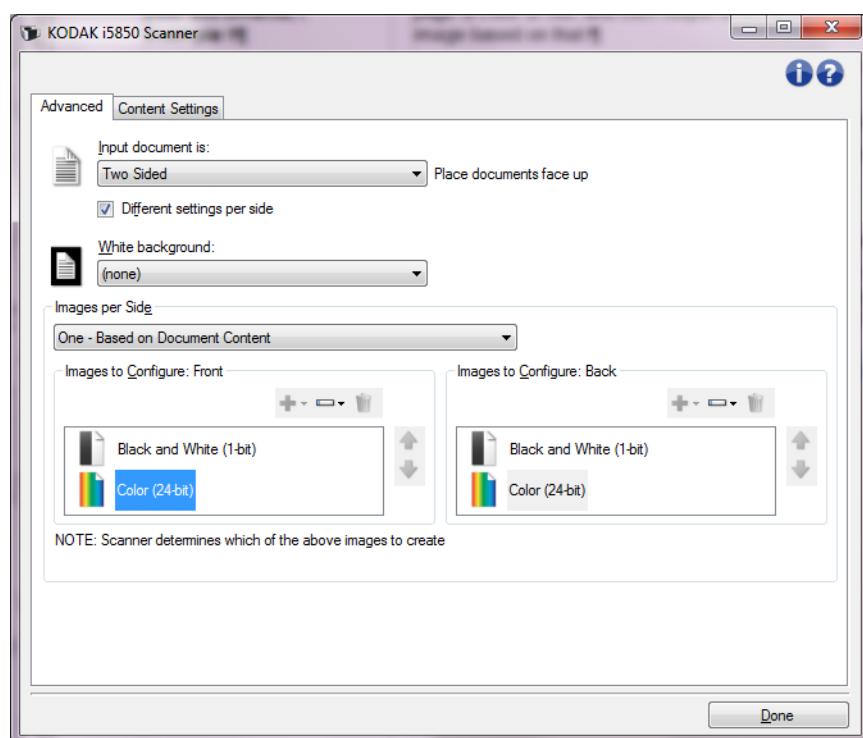
6. If you want a grayscale image instead of a color image, when enough color is detected in the document:

   • make sure *Color (24-bit)* is selected
   • select **Change** to display a list of options
   • select **Grayscale**

7. Go to the **Content Settings** tab.
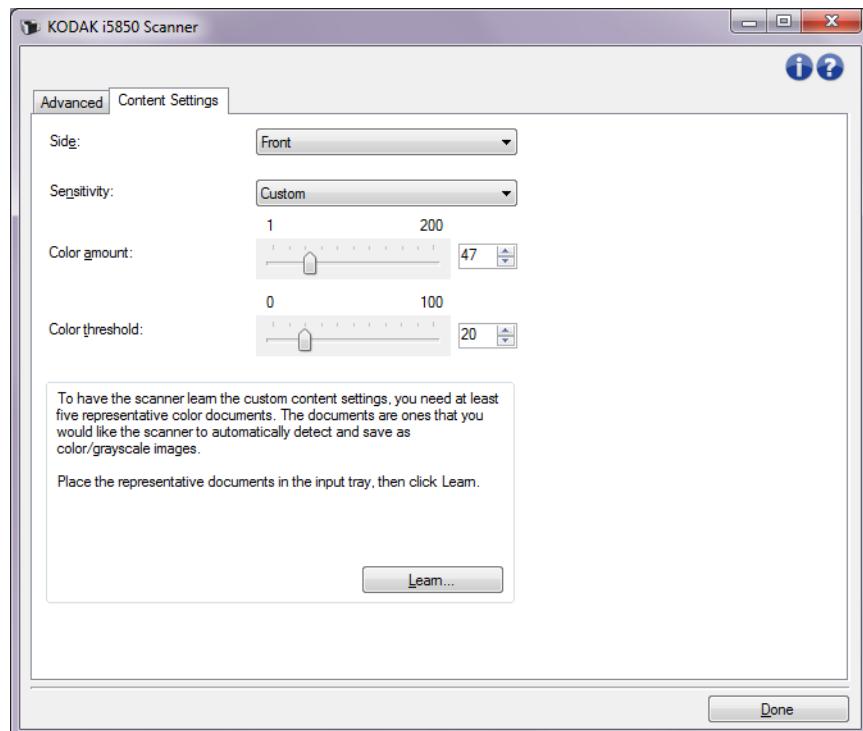
8. Select a **Sensitivity** option.

9. Select **Done** to return to the Image Settings window.

NOTE: You will notice that the *Side* option now has two entries: **Both: Color (24-bit)** and **Both: Black and White (1-bit)**.
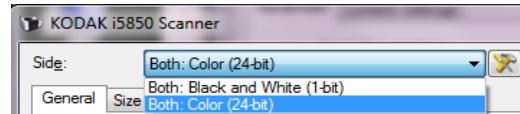
10. Select **Sides: Both: Color (24-bit)**.

NOTE: Make any other adjustments to the color image settings on the rest of the tabs on the Image Settings window.

11. Select **Sides: Both: Black and White (1-bit)**.

NOTE: Make any other adjustments to the black and white image settings on the rest of the tabs on the Image Settings window.

12. When finished, select **Home** to return to the main Scanner window and then select **Save** to save your selections to the shortcut.

Creating multiple images for each side of a document, Example 2

In this example, let's assume you want to configure a scan session that has documents with information on both sides and you want the scanner to produce both a color and a black and white image for each side of each document.

1. Select a **Setting Shortcut** from the main Scanner window that closely describes your desired output.

2. Select **Settings** to display the Image Settings window.

3. Select the **Advanced Image Setup** icon on the Image Settings window to display the Advanced tab.

4. Select **Input document is: Two Sided**.

5. Select **Images per side: Multiple**.

   NOTE: The *Images to Configure* area will now be displayed on the Advanced tab and will contain a color image item and a black and white image item.
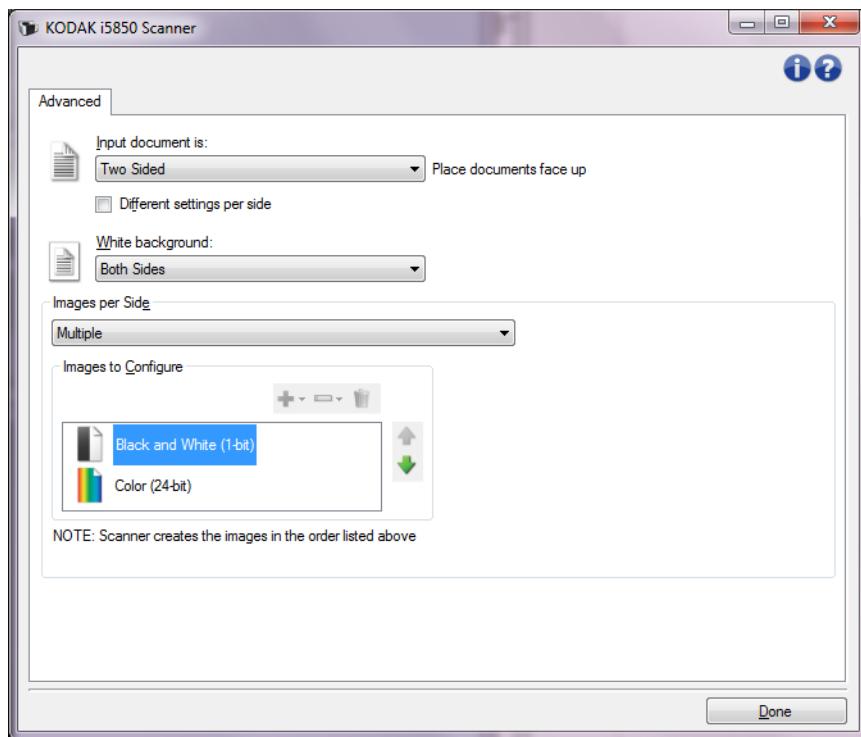
6. If you want a grayscale image instead of a color image, when enough color is detected in the document:

   • make sure *Color (24-bit)* is selected
   • select **Change** to display a list of options
   • select **Grayscale**

7. By default the scanner will produce the color/grayscale image first and deliver it to the scanning application, then it will produce and deliver the black and white image. If you want the black and white image to be produced and delivered first:

- make sure *Black and White(1-bit)* is selected
- select **Move up** to place the black and white image first in the list.

8. Select **Done** to return to the Image Settings window.

   NOTE: You will notice that the *Side* option now has two entries: **Both: Color (24-bit)** and **Both: Black and White (1-bit)**.


9. Select **Sides: Both: Color (24-bit)**.

   NOTE: Make any other adjustments to the color image settings on the rest of the tabs on the Image Settings window.

10. Select **Sides: Both: Black and White (1-bit)**.

   NOTE: Make any other adjustments to the black and white image settings on the rest of the tabs on the Image Settings window.

11. When finished, select **Home** to return to the main Scanner window and then select **Save** to save your selections to the shortcut.

Creating different settings for each side of a document, Example 3

In this example, let's assume you want to configure a two-sided document stream of business documents that have color on the front of the document but the rear side is fine in black and white.

1. If you are not already on the Advanced tab:

   • Select a **Setting Shortcut** from the main Scanner window that closely describes your desired output.

   • Select **Settings** to display the Image Settings window.

   • Select the **Advanced Image Setup** icon on the Image Settings window to display the Advanced tab.

2. Select **Input document is: Two Sided**.

3. Turn on the **Different settings per side** option.

4. Select **Images per side: One**.
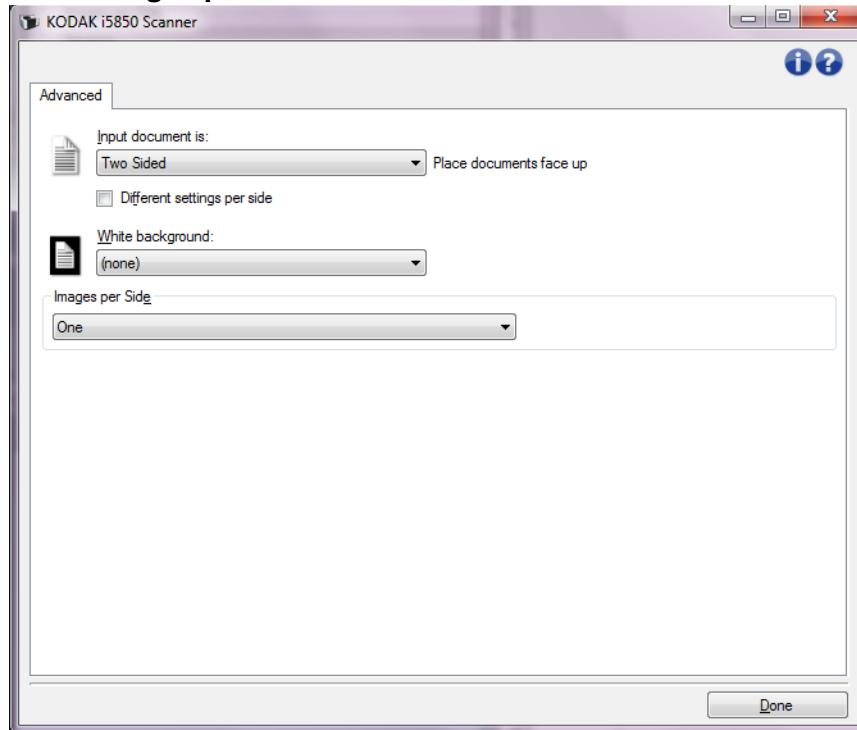
5. Select **Done** to return to the Image Settings window.

   NOTE: You will notice that the *Side* option now has two entries: **Front** and **Back**.
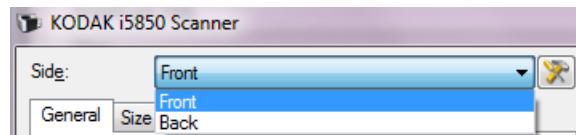
6. Select **Sides: Front**.

7. Select **Color (24-bit)** for the *Scan as* option on the General tab.

   NOTE: Make any other adjustments to the front side settings on the rest of the tabs on the Image Settings window.

8. Select **Sides: Back**.

9. Select **Black and White (1-bit)** for the *Scan as* option on the General tab.

   NOTE: Make any other adjustments to the back side settings on the rest of the tabs on the Image Settings window.

10. When finished, select **Home** to return to the main Scanner window and then select **Save** to save your selections to the shortcut.

NOTE: If you selected any option other than *Images per side: One* in Step 4, two *Images to Configure* option groups will be available. You can then individually setup the images that will be produced for each side of the document.
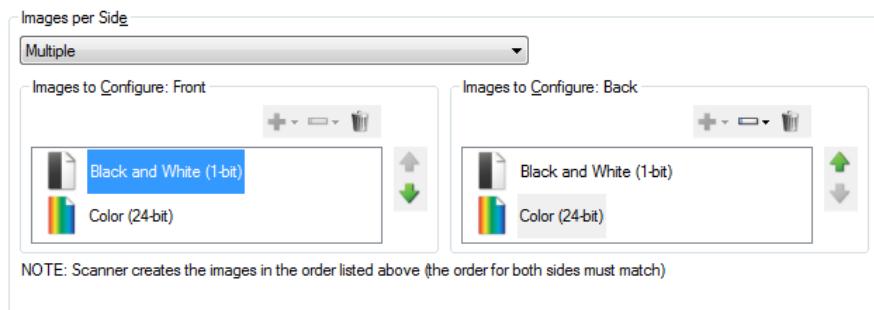
The Device Settings window

From this window you can set all scanner-specific options, as well as diagnostics, by using the available tabs. The values used in Device Settings are saved in the selected Setting Shortcut. The Device Setting window includes the following tabs by default: General, Printer and Multifeed.

NOTE: Other tabs may be displayed based on any accessories (e.g., Stacking tab) that may be installed.

This section describes the TWAIN 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.
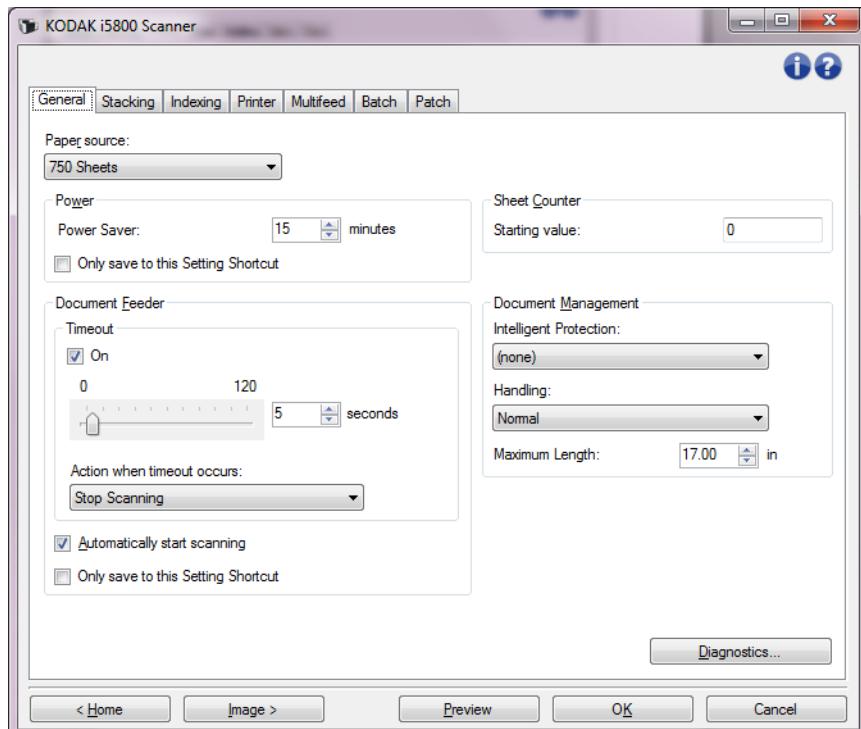
Home — returns you to the main Scanner window.

Image — displays the Image Settings window.

Preview — initiates a scan and then displays the Image Settings window with the scanned image placed in the preview area. The image displayed is a sample based on your current shortcut settings.

OK/Scan — when selected, you will be prompted to save any unsaved changes. If this button is *OK*, any unsaved changes will remain in effect for the current scan session.

Cancel — closes the main Scanner window without saving any changes.

Information Icons

About: displays the scanners' version and copyright information.

Help: displays help information for the window currently being displayed.

Device - General tab

The General tab allows you to set scanner-specific options and provides access to scanner diagnostics.
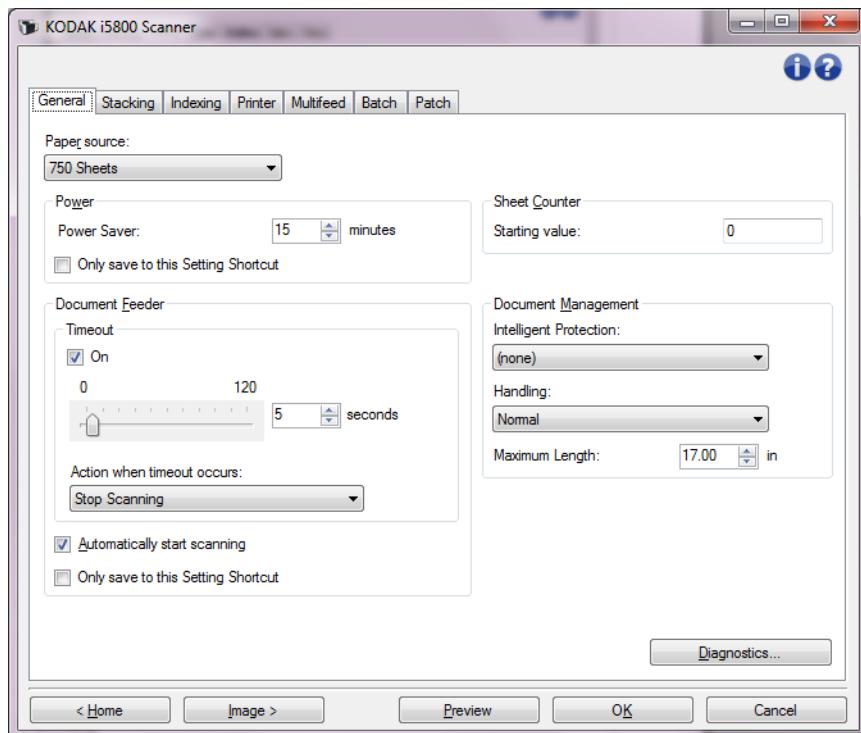
Paper Source

- **Document Feeder**: the input elevator is in the highest position. This selection 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.

Power Saver — allows you to set the amount of time, in minutes, the scanner has to be inactive before going into power saver mode.

NOTE: The Power Saver setting is shared with all Setting Shortcuts. Any changes will affect other shortcuts unless you turn on the **Only save to this Setting Shortcut** option.

Document Feeder

- **Timeout**: allows you to select the amount of time, in seconds, the scanner will wait once the last document enters the feeder before the timeout action occurs. This option can be turned **off**.

- **Action when timeout occurs**: 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.

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.

This option can be disabled to allow the operator the opportunity to enable the **Overrides** option from the scanner's touchscreen before scanning begins.

NOTE: The Document Feeder settings are shared with all Setting Shortcuts. Any changes will affect other shortcuts unless you turn on the **Only save to this Setting Shortcut** option.

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.

NOTE: Changing this will affect the **Counter** option on the Device - Printer tab.

Document Management

- **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)**
    - **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.

    - **Normal:** this is the recommended option as it provides a balance between minimizing document damage and stopping the scanner unnecessarily.
    - **Maximum**: select this option to get the least amount of document damage.

        NOTE: This may cause the scanner to stop unnecessarily.

- **Handling** — 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, 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

- **Thin**: for documents that are thinner than 20 lb. bond paper (e.g., rice paper).
  - Greatly reduced throughput
  - Controlled stacking **On**
  - Large interdocument gap
  - One-quarter transport speed

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

  NOTES:

  - Changing this value will affect the maximums for the following settings: *Image Size - Outline; Printer - Offset From Lead Edge; Multifeed - Length Detection.*

  - Not all combinations of settings are supported at the larger lengths (i.e, resolution, color, grayscale, etc.). To allow for greater flexibility with applications, 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 of the 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.

Diagnostics — displays the Diagnostics tab.

Device - Stacking tab

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

NOTE: The Stacking tab is only available when the *Kodak* Controlled Dual Stacking Accessory has been enabled for your scanner.
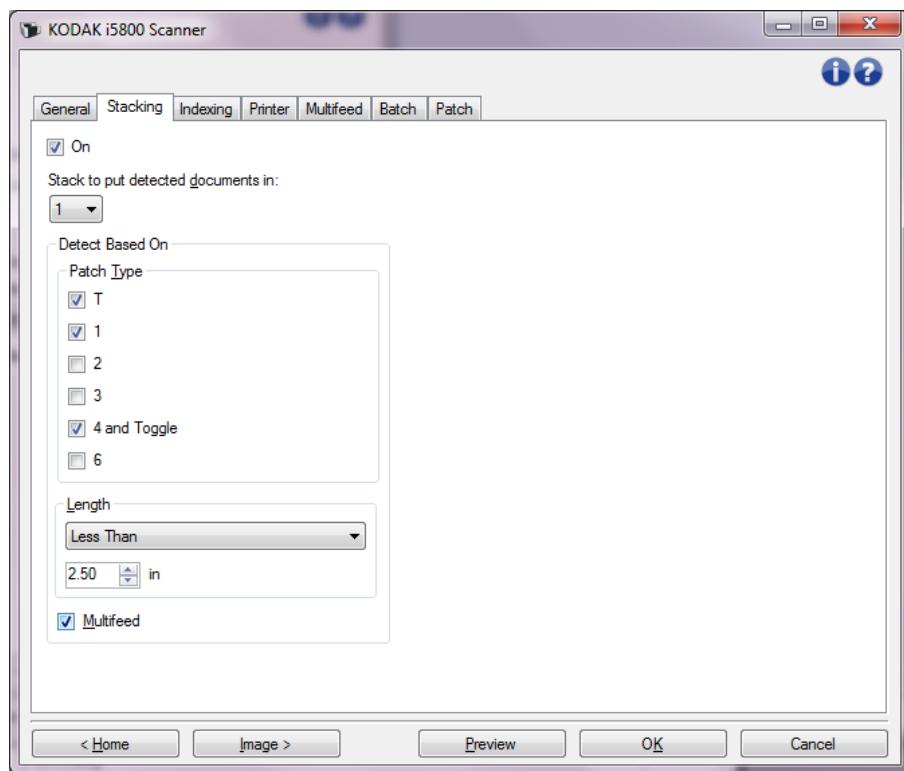
On — turns stacking on and makes the rest of the options on this tab available.

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.

- **(none)**

- **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

Short document
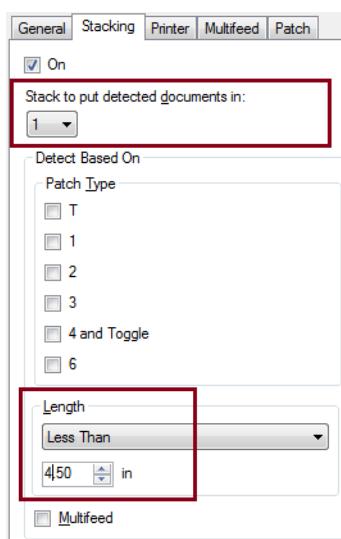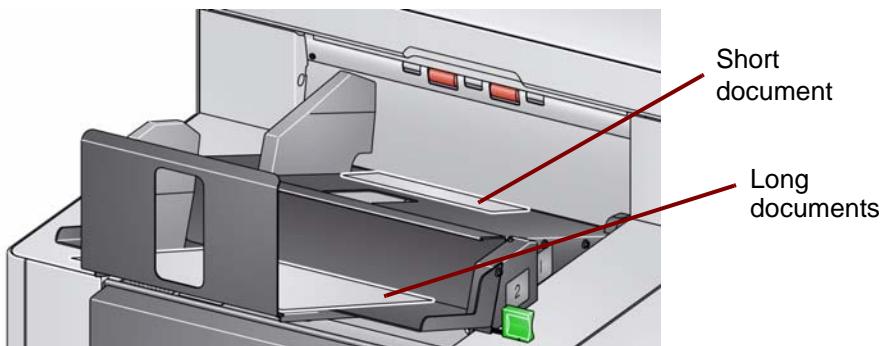
Long documents

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

Non-patch documents
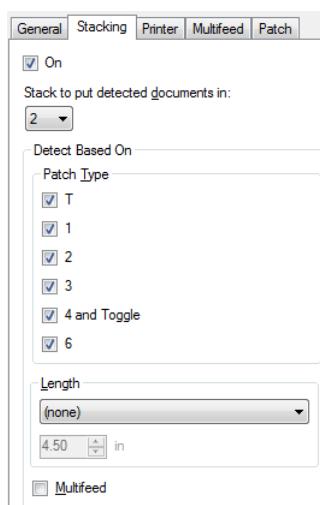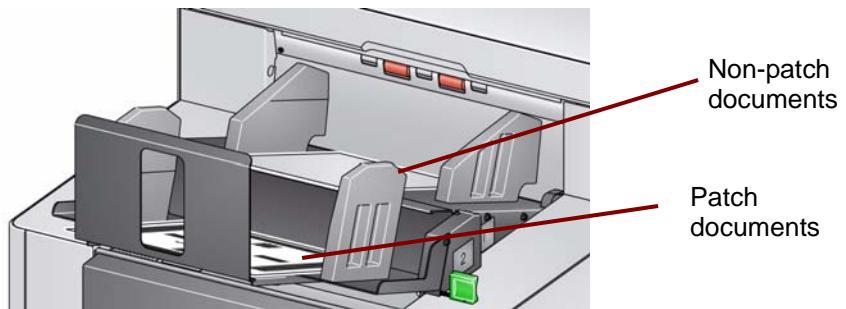
Patch documents

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

Non-patch documents
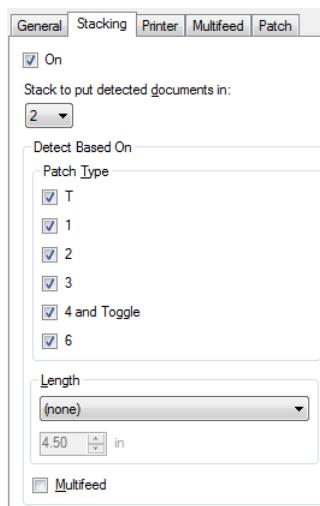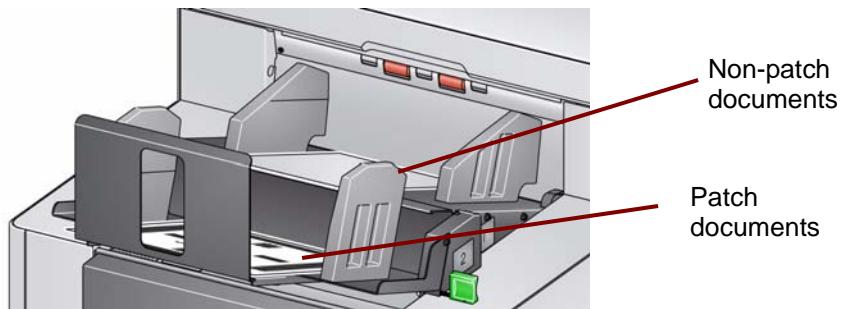
Patch documents

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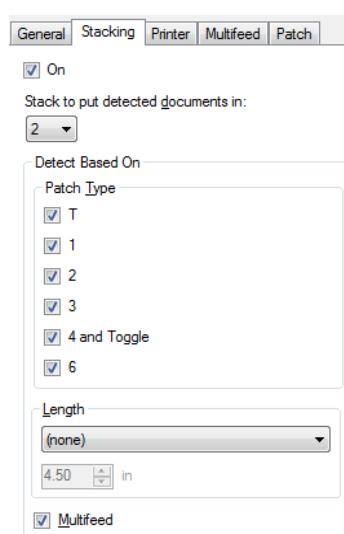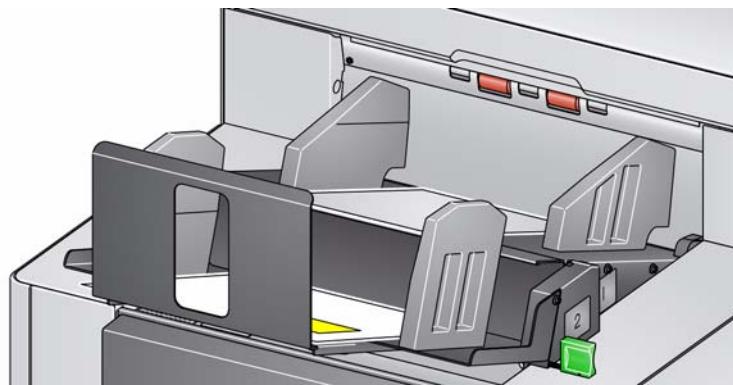
If your goal is to sort documents that have triggered a multifeed alarm, configure the Stacking settings as follows:

**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.

**Device - Indexing tab - i5850 Scanner only**

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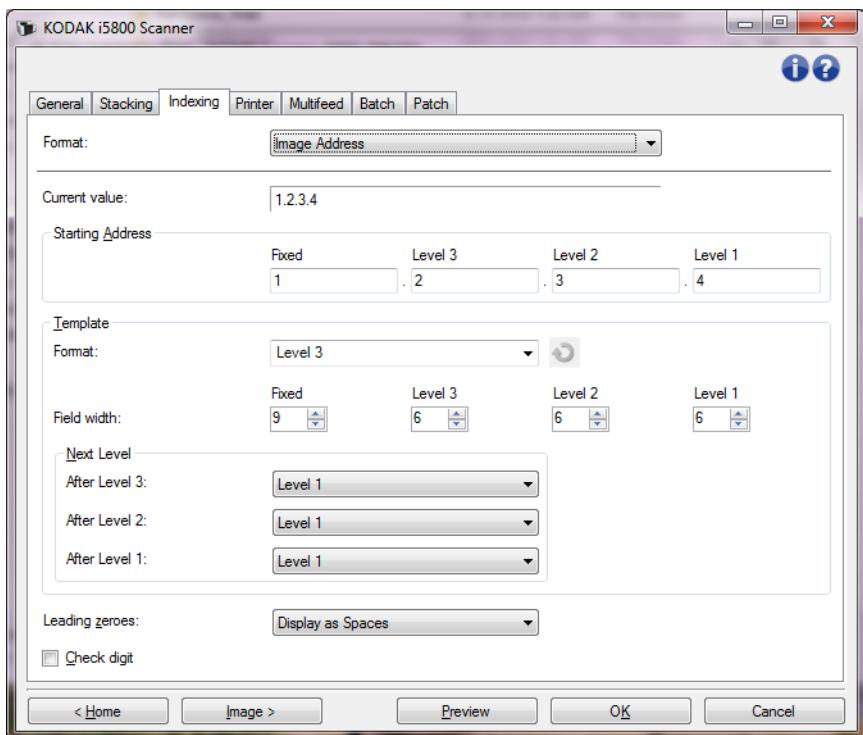
The *Kodak* i5850 Scanner has a new option that was previously not available with scanners having image address capability. The i5850 Scanner allows the scanner drivers to control whether the scanner has Indexing enabled or not. When Indexing is set to **None**, the indexing counters will not be displayed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

Indexing - Enabled   **Indexing - Not Enabled**
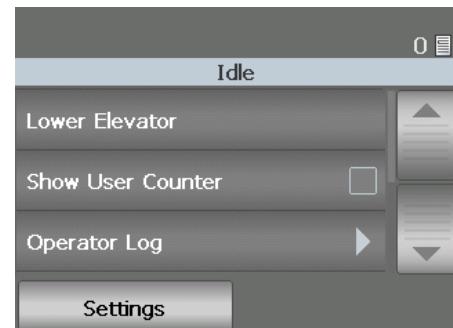
NOTE: The Operator Control Panel will not change until the job is started.

Format

- **(none)**

- **Image Address:** allows you to set an image address starting point. The scanner will increment the image address based on how you set up the image address rules on this tab.

    NOTE: When **Image Address** is selected as the *Format* on the Indexing tab, the options on the Patch tab will be available.

The following options are available when the *Format* selection is **Image Address**.

Current value — displays the scanner's current image address. This value is used by the scanner as the next image address which is assigned to the next document scanned.

NOTE: This value is also displayed on the Information screen on the Operator Control Panel of the scanner.

Starting Address — allows you to enter a starting image address which overrides the *Current value*. You can enter a value for each available field, up to the maximum allowed characters for that field. The number of available fields, the field types, and the number of characters allowed per field are based on the Template settings for *Format* and *Field width* (see below).

Template

- **Format**: allows you to select the format of the image address. The examples below indicate the available fields.
    - **Fixed**: Fixed
    - **Level 3**: Fixed.Level 3.Level 2.Level 1
    - **Level 2**: Fixed.Level 2.Level 1
    - **Level 1**: Fixed.Level 1
    - **Level 3 Offset**: Fixed.Level 3.Level 2
    - **Level 2 Offset**: Fixed.Level 2

NOTES:

- When you make a *Format* selection, the *Field width* and *Next Level* settings will automatically be set to the defaults for that format.

- If you made a change to the *Field width* or *Next Level* settings, the Format will be appended with the text *<changed>*, and the name will be displayed in italics (e.g., **Level 3 <changed>*).

- ↩ **Reset**: allows you to undo any changes that have been made to the format. This is only available when you have modified the format (e.g., are in italics and appended with *<changed>*).

- **Field width** — allows you to configure the width of each field from **1 - 9**. However, the sum total of all the field widths cannot exceed 27, therefore, the field width may be limited to a value less than 9.

- **Next Level**: the level to assign to the next document.

  - **After Level 3**: allows you to select what level to assign to the document that follows a level 3 document.

  - **After Level 2**: allows you to select what level to assign to the document that follows a level 2 document.

  - **After Level 1**: allows you to select what level to assign to the document that follows a level 1 document.

  The options for all three of the above are: Level 1, Level 2, and Level 3. However, the available options are based on the image address format. For example, if the *Format* does not have Level 3 as one its fields, then *Level 3* will not available.

  NOTE: While scanning, a document can also be assigned a level by inserting a patch sheet (when turned on via the Patch tab) or selecting a level field on the scanner's touchscreen. For more information refer to the User's Guide which is included with your scanner.

Leading zeros — allows you to configure the format of the level address fields when the width of the value is less than the field width (the examples indicate a field width of 3 and the image address at A.3.2.1).

- **Display** (e.g., A.003.002.001)
- **Do Not Display** (e.g., A.3.2.1)
- **Display as Spaces** (e.g., A. 3. 2. 1)

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.

Device - Printer tab

The Enhanced Printer provides a vertical print capability and supports alphanumeric characters, date, image address, time, document count and a custom message. All print information is captured in the image header of each document.

NOTE: This tab is only present if the optional printer accessory has been purchased and installed.
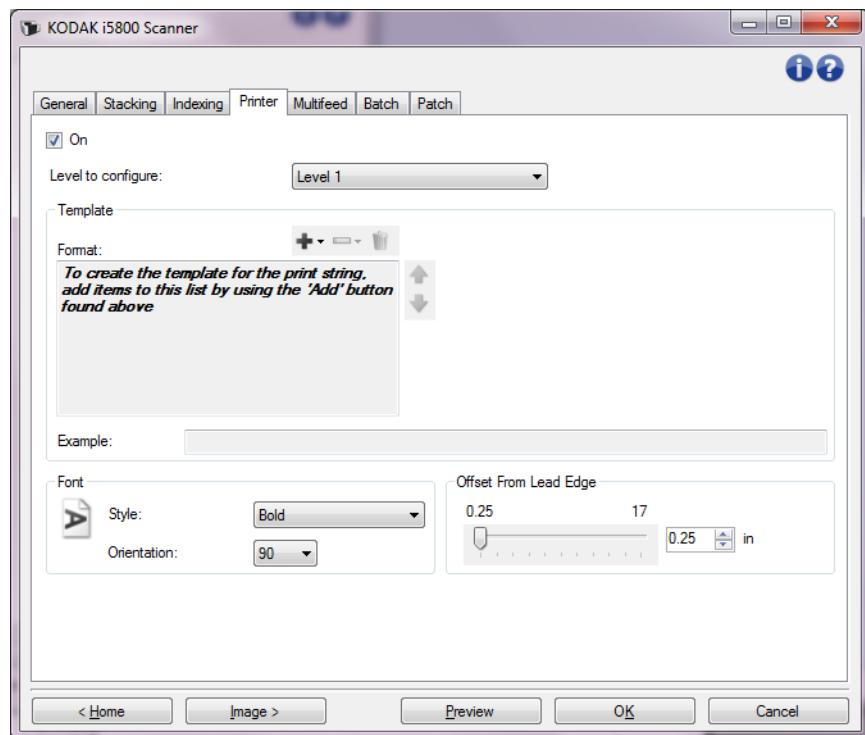
On — turns printing on and makes the rest of the options on this tab available.

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

Level to configure — select the level of the document that you want the specified print string to be printed on. For example, if you use three level image addressing, you can print the date on your level 3 document, nothing on level 2 and document count on level 1. If you want all the print strings to be the same for all levels, then select **All levels match**.

NOTE: This option is only available when *Format* is set to Image Address on the Indexing tab.

Template: Format — allows you to define your print string. The maximum amount of characters for the print string is 40 characters (including spaces).

Toolbar buttons

[Add icon]	**Add**: displays a list of items you can add to your print string. When you select an item, that item will appear at the end of the *Format* list.
[Change icon]	**Change**: allows you to change the currently selected item in the Format list with one of the items from the list that is displayed.
[Delete icon]	**Delete**: allows you to remove the currently selected item from the Format list.

NOTE: As you build your print string, only items that will fit in the 40-character limit will be available from the *Add* and *Change* lists.

Items — when an item is selected, any associated options will be displayed to the right of the Format list.

• **Counter**: this is the document count for the scan session. This value is incremented sequentially by the scanner and returned in the image header.

- **Starting value**: allows you to set the document count for the next document that will be scanned.

  NOTE: Changing this value will affect the **Sheet Counter** option on the Device - General tab.

- **Field width**: allows you to configure the width of the counter from 1 to 9. However, if for example, you only have 6 characters left in the print string, then the field width would be limited to 6.

- **Leading zeroes**: 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: "004"
  Do Not Display: "4"
  Display As Spaces: " 4"

• **Date**

  - **Format**:
    MMDDYYYY
    DDMMYYYY
    YYYYMMDD
    DDD (Julian)
    YYYYDDD (Julian)

  - **Separator**: (the examples indicate a format of YYYYMMDD)
    None
    Slash: 2010/08/24
    Hyphen: 2010-08-24
    Period: 2010.08.24
    Space: 2010 08 24

  - **Specific date**: allows you to select a specific date if you do not want to use the current date within the scanner.

- **Time**: the format is HH:MM.

  - **Specific time**: allows you to select a specific time if you do not want to use the current time within the scanner.

  - **Space**: adds a space.

  - **Image Address**: **Fixed and Image Address: Levels:** these are defined on the Indexing tab. Only the levels currently defined will be available.

    NOTE: This option is only available when *Format* is set to Image Address on the Indexing tab.

  - **Message**: allows you to specify custom text to be included in your print string. A maximum of 40 characters (including spaces) is allowed.

  NOTE: To view the Japanese characters correctly you must get the MS Gothic font set by installing the Microsoft Global IME 5.01 for Japanese - with Language Pack, English Language Version which can be found at http://www.microsoft.com/ msdownload/iebuild/ime5_win32/en/ime5_win32.htm.

- **Template Example** — shows a sample of what the print string will look like. As you select items in the Format list, the corresponding portion within the example will be highlighted.

- **Font** — you can select what orientation you want your information to be printed.

  - **Style**: available character styles: **Normal, Bold** and **Extra Bold**.

Normal: 90° rotation   Bold: 90° rotation   Extra Bold: 90° rotation

  - **Orientation**: 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**.
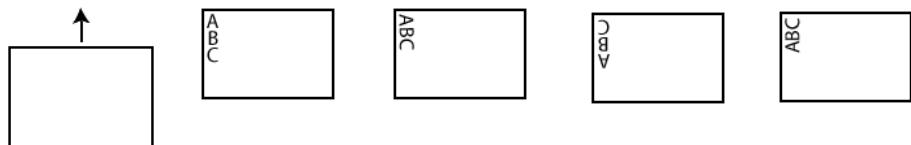
Offset from lead edge — select a value to determine how far the printed information will appear from the leading edge of the document.

NOTES:

- 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.

- The horizontal print position is determined by the location of the print cartridge in the scanner. See the User's Guide for information about setting print positions.

- The offset from the lead edge may also be overridden from the scanner's touchscreen.

Device - Multifeed tab

Multifeed detection aids in document processing by detecting documents that may go through the feeder overlapped. Multifeeds can happen due to stapled documents, adhesives on documents, or electrostatically charged documents.
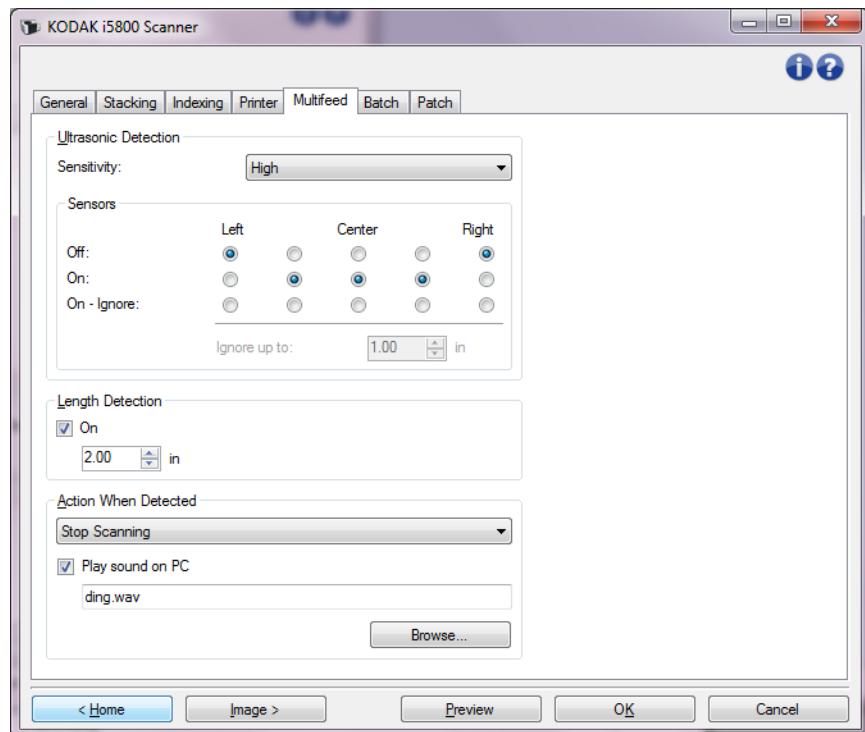
Ultrasonic Detection

Sensitivity — controls how aggressively the scanner will work to determine if more than one document is fed into the scanner. Multifeeds are triggered by detecting air gaps between documents. This allows multifeed detection to be used with job sets containing documents with mixed thicknesses.

- **(none)**

- **Low**: least aggressive setting and is less likely to detect labels, poor quality, thick or wrinkled documents as multi-fed documents.

- **Medium**: use if your job set has varying document thicknesses or labels attached to the document. Depending on the label material, most documents with labels should not be detected as a multi-fed document.

- **High**: the most aggressive setting. This is a good setting to use if all documents have a thickness no greater than 75.2 g/m2 (20-lb.) bond paper.

  NOTE: Regardless of the setting, "sticky" notes may still be detected as multi-fed documents.

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 — allows you to select the maximum length of the documents in your job set. If the scanner detects a document longer than this value, it will determine that a multifeed has occurred. You can turn this option **off** or set a length.

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.

- **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 multifed page will be ejected. The multifed image will not be sent to the host 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. The multifed page will be ejected.

- **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.

- **Continue Scanning**: the scanner will continue to scan. The user configured multifeed sound will be made by the scanner.

- **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. The user configured multifeed sound will be made by the scanner.

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 TWAIN Datasource (Rotate 90). 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.

Play sound on PC — turn this option on if you want the PC to make a sound when a multifeed is detected. You can click the **Browse** button to select the desired .wav file.

NOTE: The sound on the PC may not occur at the exact time the multifeed is detected by the scanner.

Device - Batch tab

Batching is the operation of counting pages or documents.

NOTE: This tab is only available when the scanner is in Image Address mode.
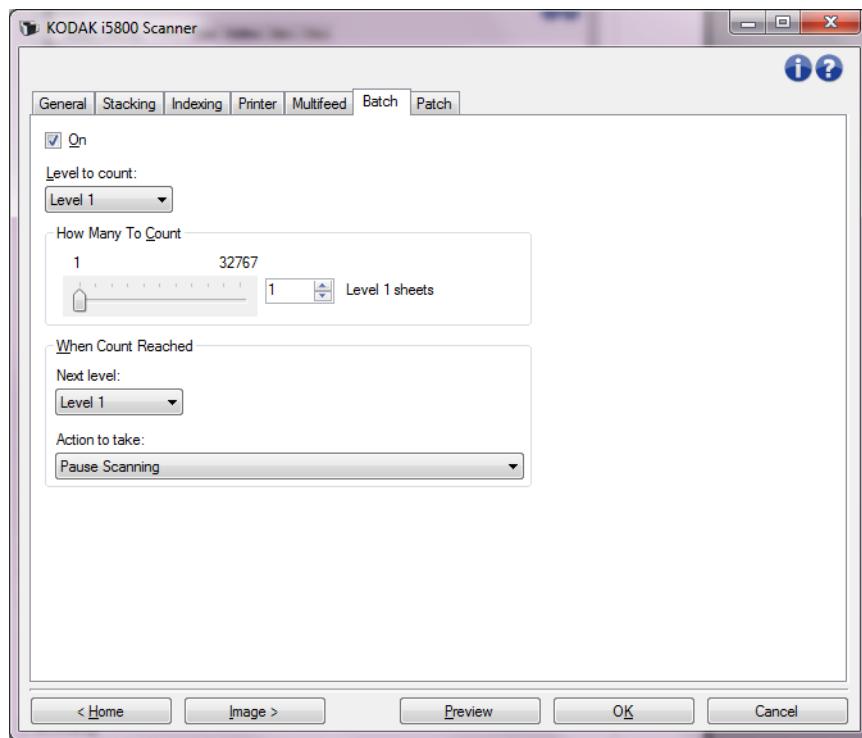
On — turns batching on and makes the rest of the options on this tab available.

Level to count — sets the level to count. The options are **Level 1, Level 2,** and **Level 3**.

NOTE: The level you want to count must exist in the image address template as defined on the Indexing tab.

How Many To Count — defines the number of documents to be counted prior to performing the action to take when the count has been reached.

When Count Reached

• **Next Level:** defines the level for the next document after the count is reached. Options are: **(none), Level 1, Level 2,** and **Level 3**.

  NOTE: The level you want to count must exist in the image address template as defined on the Indexing tab.

- **Action to take**: defines the action to be taken after processing the last document in the batch.

  - **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 touching **Resume** on the touchscreen. Scanning may be stopped by touching **End Job** on the touchscreen or via the scanning application.

  - **Stop Scanning**: scanning will stop and control will return to the scanning application (i.e. ends the job). Restart the scan session from the scanning application.

  - **Continue Scanning and Restart Count**: the scanner will continue to scan and automatically start a new batch by resetting *How Many to Count*.

Device - Patch tab

Patch Readers can automatically sense predefined patch code(s) and be configured to control document level changes. See the *Chapter 6, Patch Reading* in the User's Guide for complete information.
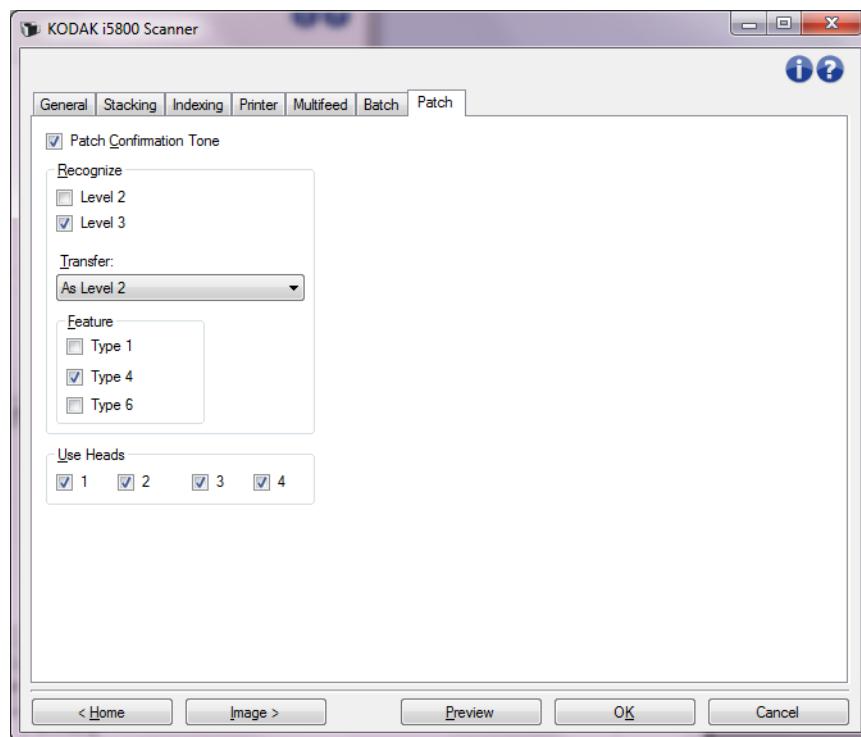
Patch Confirmation Tone — the confirmation tone may be used to signal that a patch has been recognized by the scanner. The default is no confirmation tone.

Recognize — select which patch type(s) to recognize.

- **Level 2:** assigns a Level 2 to the current document (whether it is your document with a patch on it or a Level 2 patch sheet).

- **Level 3:** assigns a Level 3 to the current document (whether it is your document with a patch on it or a Level 3 patch sheet).

Transfer: assigns a level to the next document (after the Transfer patch sheet).

- **None**: select this if you do not want to recognize transfer patches.

- **As Level 2**

- **As Level 3**

NOTE: The Transfer patch will be treated as Level 0.

Feature

- **Patch Types 1, 4 and 6** these patch types can be used by the scanning application for post-scan image control (they are not used for indexing. For example, use these patch types for workflow control or changing between black and white and color/grayscale imaging.

  NOTE: This option is only available when the scanner is in Indexing mode.

Use Heads — select which patch heads/readers you would like to use. Each patch head/reader can be turned on and off independently. The default is for all patch heads/readers to be turned on.

NOTE: This option is only available when the scanner is in Indexing mode.

The Diagnostics window

From this window you can access the diagnostic functions of the scanner. The Diagnostics window includes the following tabs: General, Debug and Logs. The Diagnostics window can be accessed via the Diagnostics button which is located on the General tab of the Device Settings window.
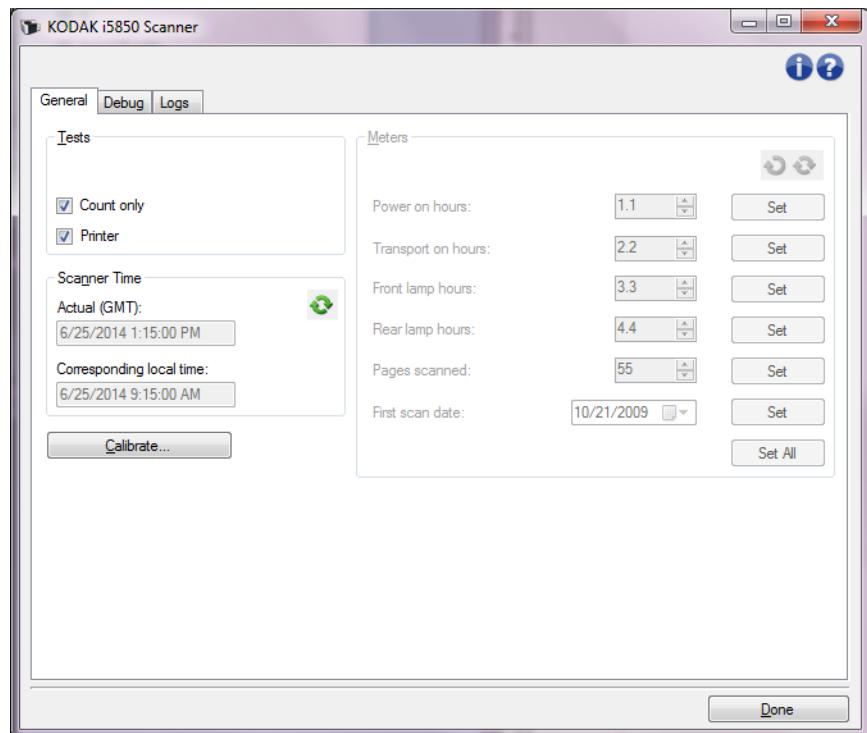
Done — returns you to the Device Settings window.

Diagnostics - General tab

The General tab allows you to perform a scanner test and displays the scanner time.
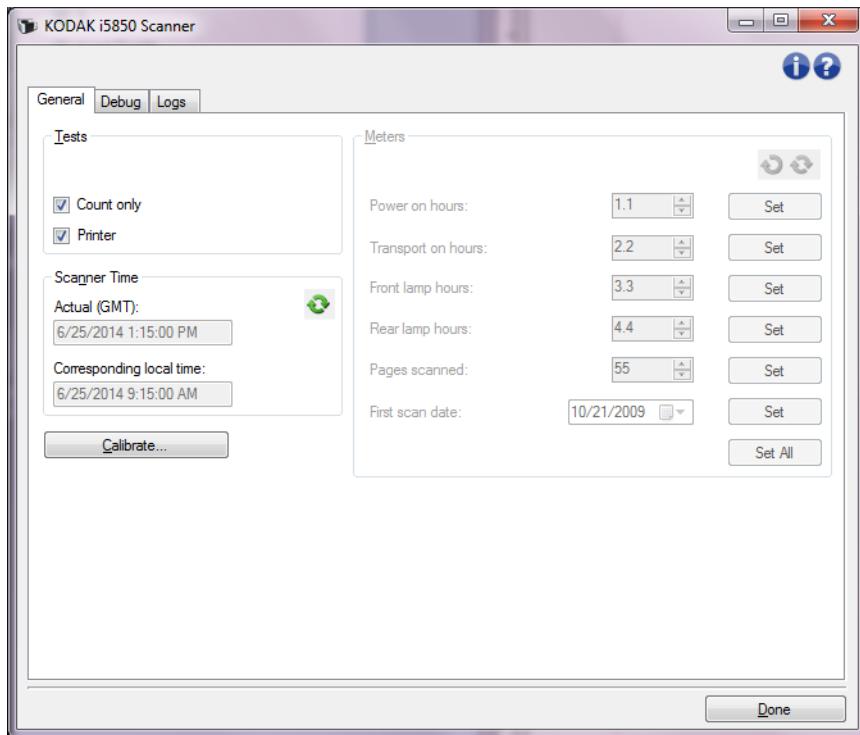
Tests

- **Count only** — counts the number of documents entering the scanner without actually sending the images to the scanning application. This test is performed during any scan session in which this option is turned on.

- **Printer** — tests the functionality of the Enhanced Printer, e.g., are all ink jets working. This test is performed during any scan session in which this option is turned on.

  NOTE: The **Count only** and **Printer** tests are automatically turned off when the scanning application disconnects from the scanner.

Scanner Time

- **Actual (GMT)**: displays the Greenwich Mean Time of the scanner.

- **Corresponding local time**: displays the scanner's Greenwich Mean Time in the PC's local time zone.

  : **Refresh**: redisplays the current scanner time.

Calibrate — displays the Calibration window allowing you to perform Image or Ultrasonic calibration.

NOTE: Frequent calibration is not necessary or recommended. Only perform a calibration when instructed to do so by Technical Support.

Diagnostics - Debug tab

The Debug tab allows you to turn on options that allow support personnel to diagnose any issues you may encounter with using your scanner. It is suggested that you only make changes on this tab when instructed by Technical Support.

NOTES:

- All of the options on this tab apply to all Setting Shortcuts, not just the currently selected Setting Shortcut, and are saved immediately.

- In order for any changes on this tab to take effect, you must restart your application.
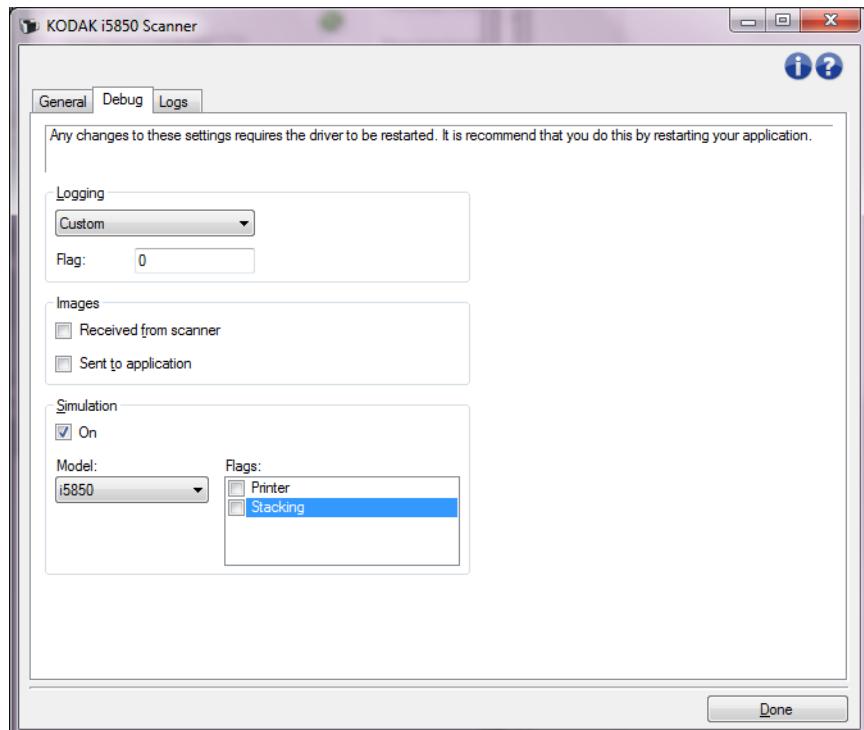
Logging — saves the communications between the scanner and a scanning application. The options are: **Off**, **On** or **Custom**.

Images

- **Received From Scanner**: saves the images received at the PC from the scanner.

- **Sent To Application**: saves the images received at the scanning application from the scanner.

Simulation — allows you to use the TWAIN Datasource without using the actual scanner.

- **Model**: allows you to select the specific scanner model to simulate.

- **Flags**: if supported by your TWAIN Datasource, this will contain a list of accessories your simulated scanner has installed.

Diagnostics - Logs tab

The Logs tab allows you to view scanner information.
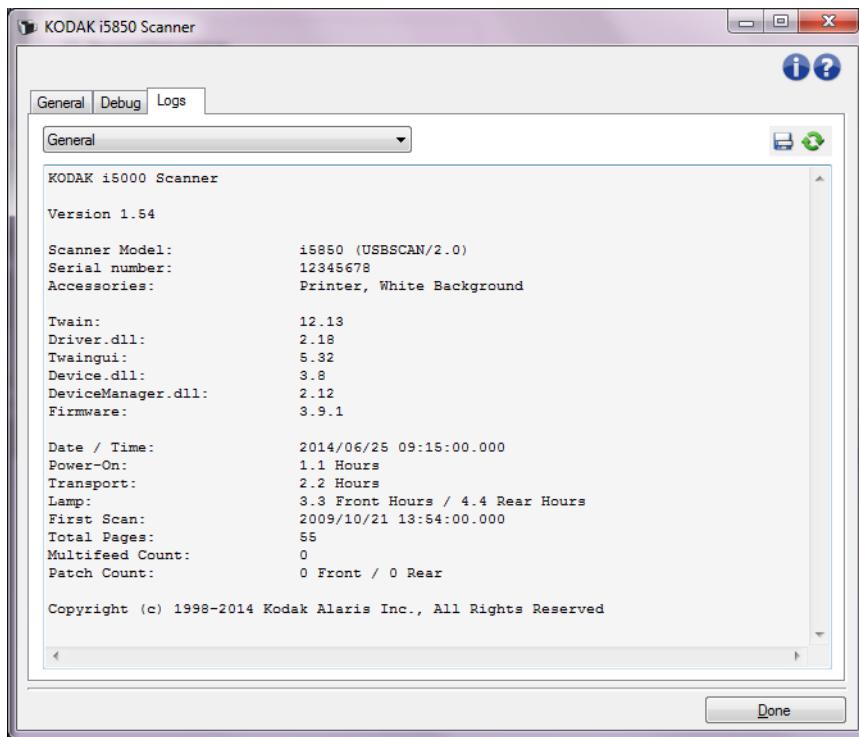
Logs

- **General**: displays the scanner's version information, serial number, attached/installed accessories, meters, etc.

- **Operator**: displays the scanner's log. This log can only be cleared by Kodak support personnel.

Toolbar buttons

Save As: saves all the logs for viewing by Kodak support personnel. When selected, a Save As window will be displayed:
- **Description**: enter a brief description of problem/reason for saving the logs.
- **Folder**: the location to save the logs.
- **Browse**: displays the operating system's File Open window so you can find the folder that you want to use.
- **Include debug images**: includes any generated debug images with the logs. This is turned on by default and should only be turned off when recommended by your support personnel.
- **Save**: saves the logs into a file with the extension .eklog.

Refresh: refreshes the currently displayed log.