Kodak

i1100 Series Scanners

Scanning Setup Guide
for ISIS Driver

# Scanning Setup Guide for the ISIS Driver

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Using the ISIS Driver

The *Kodak* i1100 Series Scanners provide the ability to process scanned images to improve their quality by using image processing features. This can be done by using the ISIS driver which is created and maintained by EMC Captiva and is provided with the scanner. Many scanning applications support ISIS drivers and this driver can be used to interface with them. The ISIS driver is the part of the capture system which links the scanner to your scanning application.This guide is for use with the following scanner models: *Kodak* i1150/i1150WN/i1180/i1190/i1190E/i1190WN. The procedures are the same for all scanners unless otherwise noted.

This guide provides descriptions of the options on the tabs of the main ISIS Driver window and how to set these options. The same features should be available on the user interface of the scanning application you are using.

Starting the SVT Diagnostics/Scan Validation Tool

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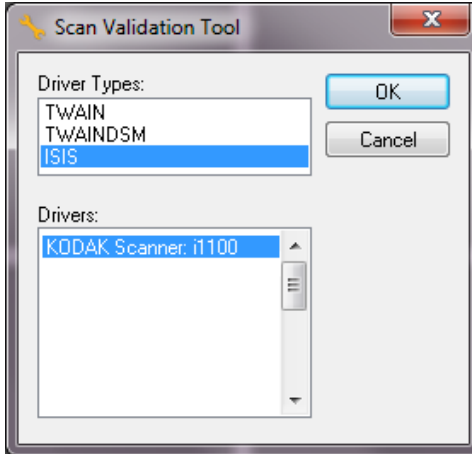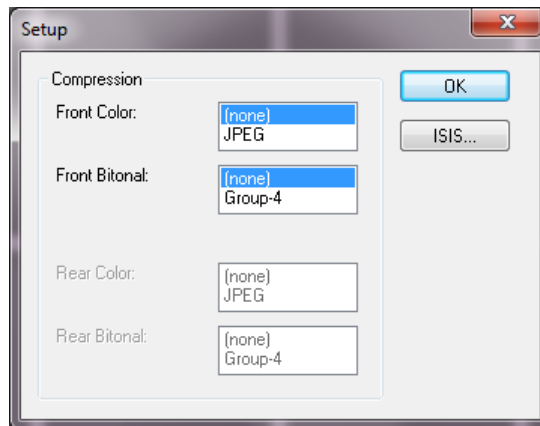

2. Select **ISIS** for the Driver Type, the *Kodak* **Scanner i1100** as the Driver, and click **OK**. The Scan Validation Tool dialog box will be displayed.
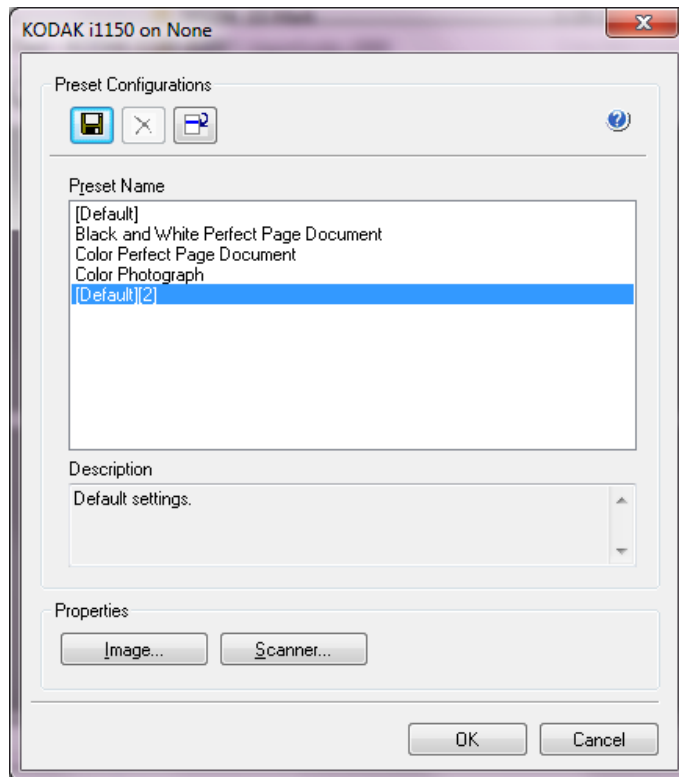

   NOTE: For a description of the icons on the Scan Validation Tool dialog box, see the next section entitled, "Scan Validation Tool dialog box".

3. Click the **Setup** icon . The Setup dialog box will be displayed.

4. Click **ISIS** to display the Preset Configurations window.

The Preset Configurations window saves custom configuration settings. Each preset is saved locally as an ISIS Driver Preset file with a name and optional description. Presets can be loaded or deleted from the *Preset Name* list, or imported as an IDP file from another location. There is no limit to the number of presets that can be created.

The **Image** and **Scanner** buttons in the *Properties* field display tabs associated with configuring the image and scanner settings. See the sections entitled, "Image options" and "Scanner options" later in this guide for detailed information.

Icons: Preset Configurations

Save Preset — saves your scanner settings for the specified preset name.

Delete Preset — deletes the specified preset name and all associated settings.

Import Preset — imports an ISIS Driver Preset (IDP) file.

Help — displays on-line help for the window that is currently displayed.

Preset Name — displays the available presets.

Description — allows you to add a description of the selected preset.

Properties:

- **Image**: displays the tabs and options associated with configuring the image settings.

- **Scanner**: displays the tabs and options associated with configuring scanner settings.

OK — closes the window after saving your changes.

Cancel — closes the window without saving any changes.

Scan Validation Tool dialog box

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

Toolbar buttons

Setup — displays the user interface for the selected driver.

Start Scanning — scans the documents in the input tray.

Scan One Page — scans only one page.

Stop Scanning — ends the scan session.

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

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.

Delete — deletes the files in the destination folder with the file name prefix you entered.

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.

About — displays the About window.

Image options

Main ISIS Driver window

The main ISIS Driver window provides a set of 10 tabs. You can select each of these tabs and make any choices necessary to meet your scanning needs. The buttons on the bottom of the window apply to all tabs.
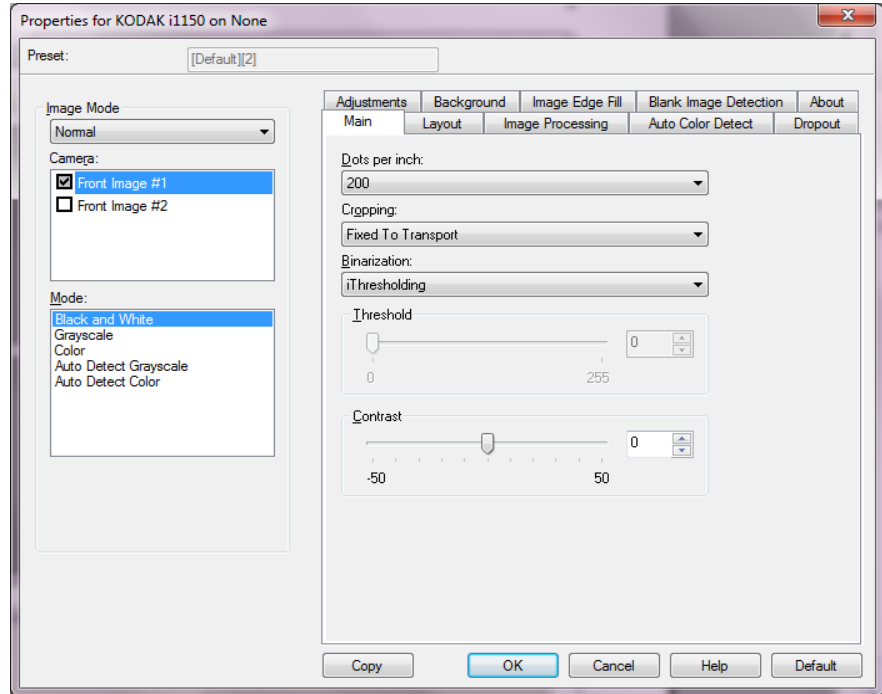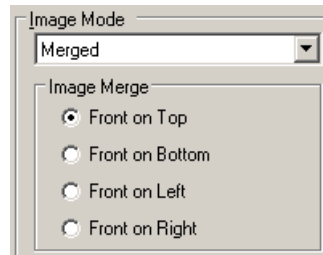

Image Mode — specifies the mode of configuration.

- **Normal**: select this option if you want to configure Front Image and/or Back Image options.

- **Merged**: select this option if you want one image that contains both the front side and back side of the document

Selections are:

Front on Top: front side will be above the back side within the image.

Front on Bottom: back side will be above the front side within the image.

Front on Left: front side will be to the left of the back side within the image.

Front on Right: back side will be to the left the front side within the image.

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

The *Kodak* Scanner drivers allow you to control the camera settings independently. Some settings apply only to black and white images, others apply to color/grayscale images. By selecting the appropriate *Camera* and *Image Mode*, you can control the scanner's output.

Mode

- **Black and White**: if you want your electronic image to represent all elements of your document in black and white.

- **Grayscale**: if you want your electronic image to have a range of varying shades of gray from black to white.

- **Color**: if you want your electronic image to be in color.

- **Auto Detect Grayscale**: sets auto color detect for grayscale. See the section entitled, "Auto Color Detect tab" for more information.

- **Auto Detect Color**: sets auto color detect for color. See the section entitled, "Auto Color Detect tab" for more information.

Copy — this function is only available when scanning two-sided documents. The Copy button provides a convenient way to set up the color, grayscale or black and white image settings on one side and transfer them to the other. For example, if you highlight and set up **Front Image #1**, you can use the Copy button to duplicate those settings for **Back Image #2**.

OK — saves the values set on all tabs.
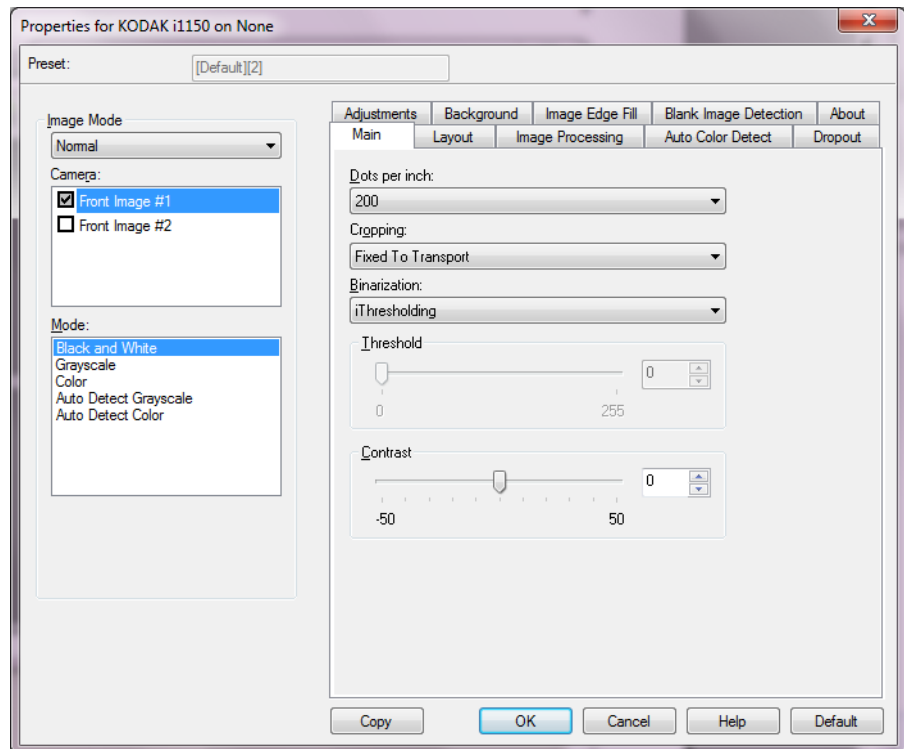
Cancel — closes the window without saving any changes.

Help — displays on-line help for the window that is currently displayed.

Default — when selected, the values on all tabs will be reset to the factory defaults.

Main tab

The Main tab provides the following options.

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

Choose a resolution value from the drop-down list. The default is 200 dpi. Available resolutions are: 100, 150, 200, 240, 250, 300, 400, 500, 600 and 1200 dpi.

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

- **Automatic:** dynamically adjusts the cropping window for different sizes based on the edges of the image.

- **Aggressive:** eliminates any residual black border on any image edges. In order to achieve this, there is a possibility that a small amount of image data from the edge of the document may be lost.

- **Fixed To Transport:** (used for batches of same-sized documents) allows you to define the area to be imaged. Fixed To Transport cropping is used in conjunction with paper size and page layout and assumes you are center-feeding your documents. If you are not using center feeding, you must select the Layout tab to define your scan area. See the section entitled "Layout tab" later for more information.

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

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

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

- **iThresholding:** allows the scanner to dynamically evaluate each document to determine the optimal threshold value to produce the highest quality image. This allows scanning of mixed document sets with varying quality (e.g., faint text, shaded backgrounds, color backgrounds) to be scanned using a single setting thus reducing the need for document sorting. When using iThresholding, only Contrast can be adjusted.

- **Fixed Processing (FP):** used for black and white and other high contrast documents. If Fixed Processing is selected, only Threshold can be adjusted.

- **Adaptive Thresholding (ATP):** separates the foreground information in an image (e.g., text, graphics, lines, etc.) from the background information (e.g., white or non-white paper background). When using Adaptive Thresholding, Threshold and Contrast can be adjusted.

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. The options range from 0 to 255. The default is 90.

Contrast — adjusts the difference between black and white, thereby making an image sharper or softer. The difference between black and white is small with a low contrast setting, so the image is softer. With a high contrast setting, the difference between black and white is large, so the image is clearer. Select a contrast value from -50 to 50. The default is 0.

Layout tab

The Layout tab provides these options.
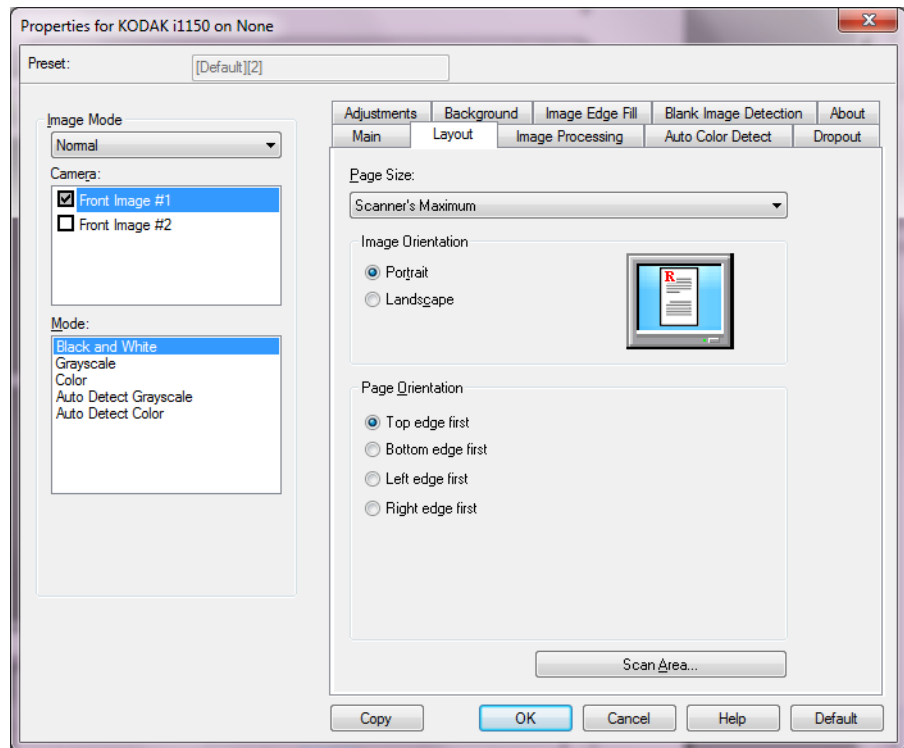
Page Size — the default page size is set when a scanner is first selected. You can choose a different page size using the drop-down list.
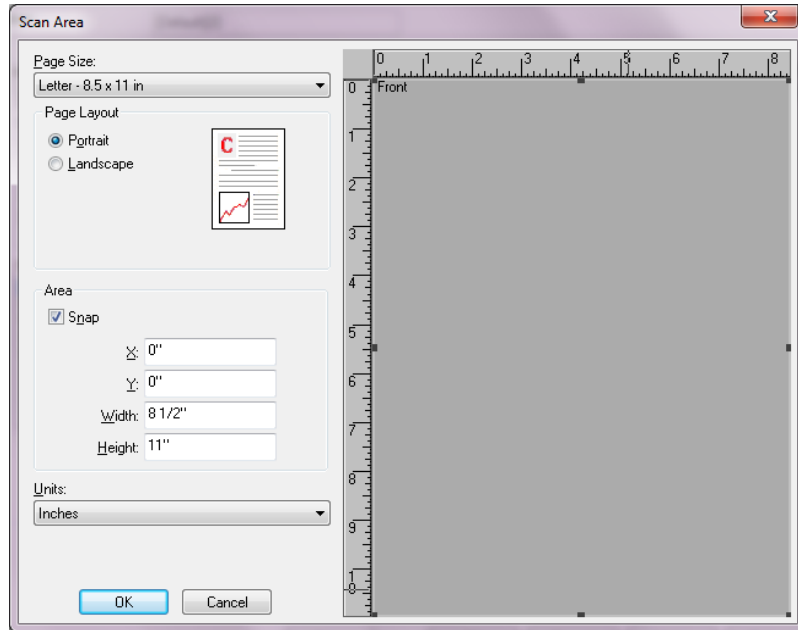
Image Orientation

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

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

- **Automatic**: the scanner will analyze the content of each document to determine how it was fed and will rotate the image to the proper orientation.

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

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

Scan Area dialog box

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

Page Size — lists the available page sizes. Select a page size that matches the size of the items to be scanned, or a size closest to the largest size. Scanning a large area results in image files that waste disk space by storing unnecessary white space or undesired data (noise).

If the size is not available, select a larger size, and then use the Layout window to adjust the scanned area to the portion of the page.

All scanners have a page size setting for **Scanner's Maximum**. Selecting this size captures the largest image the scanner is capable of returning.

Page Layout

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

Area

• **Snap** — enable this option to control the dimensions of the preview area to fixed 1/8-inch increments. This option is not available in **Pixels** mode.

  - **X**: the distance from the left end of the scanner to the left-edge of the scanning area.

  - **Y:** the position from the top end of the document to the top end of the scanning area.

  - **Width**: the width of the scanning area.

  - **Height:** the height of the scanning area.

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

Image Processing tab

The Image Processing tab provides the following options.
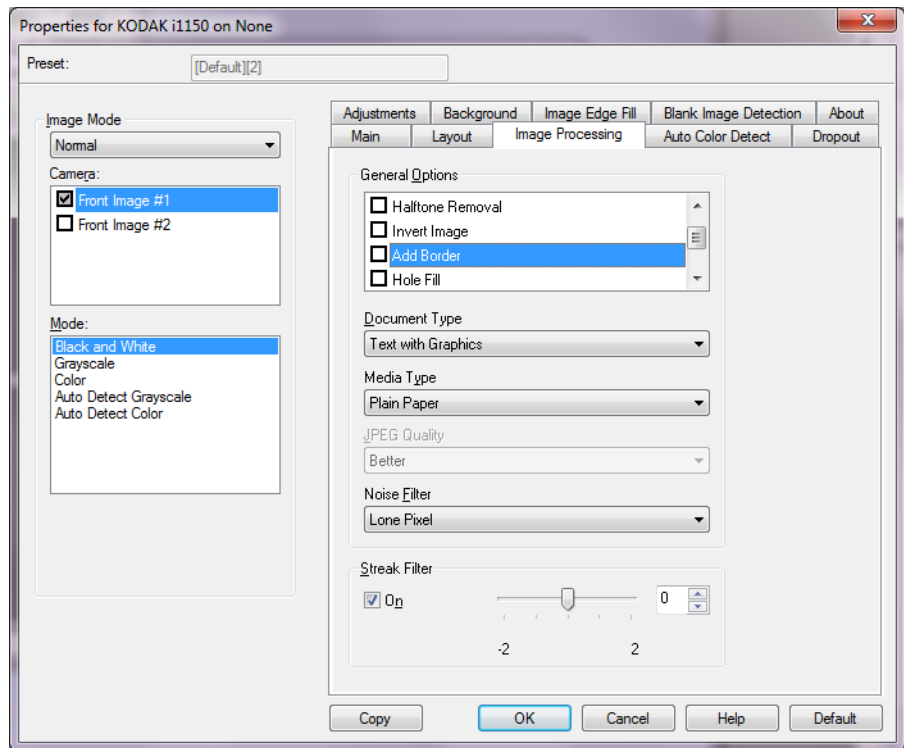
General Options — check the desired options.

- **Deskew**: automatically straightens a document within ±0.3 degrees of the leading edge of the document. Deskew can detect up to a 45-degree skew and correct up to a 24-degree angle at 200 dpi or a 10-degree skew angle at 300 dpi. This option is not available when **Fixed To Transport** or **Relative To Document** is selected.

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

- **Halftone Removal**: enhances images containing dot matrix text and/or images with shaded or colored backgrounds using halftone screens and effectively eliminates noise caused by the halftone screen.

- **Invert Image**: allows you to select how the black pixels will be stored in the image. By default the black pixels are stored as black and the white pixels are stored as white. Turn this option on if you want the black pixels stored as white and the white pixels stored as black.

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

- **Add Border**: allows you to add a fixed amount of border to the left, right, top and bottom edge of the image.

- **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).

- **Barcode:** allows you to configure the scanner to search your images for a barcode. The scanner will search each image and decode the first barcode it finds and return the information to the scanning application.

  The following barcodes can be detected:

  Interleaved 2 of 5
  Code 3 of 9
  Code 128
  Codabar
  UPC-A
  UPC-E
  EAN-13
  EAN-8
  PDF417

Document Type

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

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

- **Photographs**: the documents are comprised mainly of photos.

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

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

- **Draft**: maximum compression which produces the smallest image size.

- **Good**: a fair amount of compression but still produces acceptable image quality.

- **Better**: some compression which produces decent image quality.

- **Best**: minimal compression which produces very good image quality.

- **Superior**: the least amount of compression which produces the largest image size.

Noise Filter

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

Streak Filter — allows you to configure the scanner to filter vertical streaks from your images. Streaks are lines which may appear on an image and are not part of the original document. Streaks may be caused by contaminants on your documents (e.g., dirt, dust, or frayed edges) or by not following the recommended cleaning procedures for your scanner.

- Check **On** to set a Streak Filter value. The slider bar allows you to adjust the extent at which the streaks are filtered. The values range from **-2** to **2**. The default is 0.

Auto Color Detect tab   The Auto Color Detect tab provides the following options.
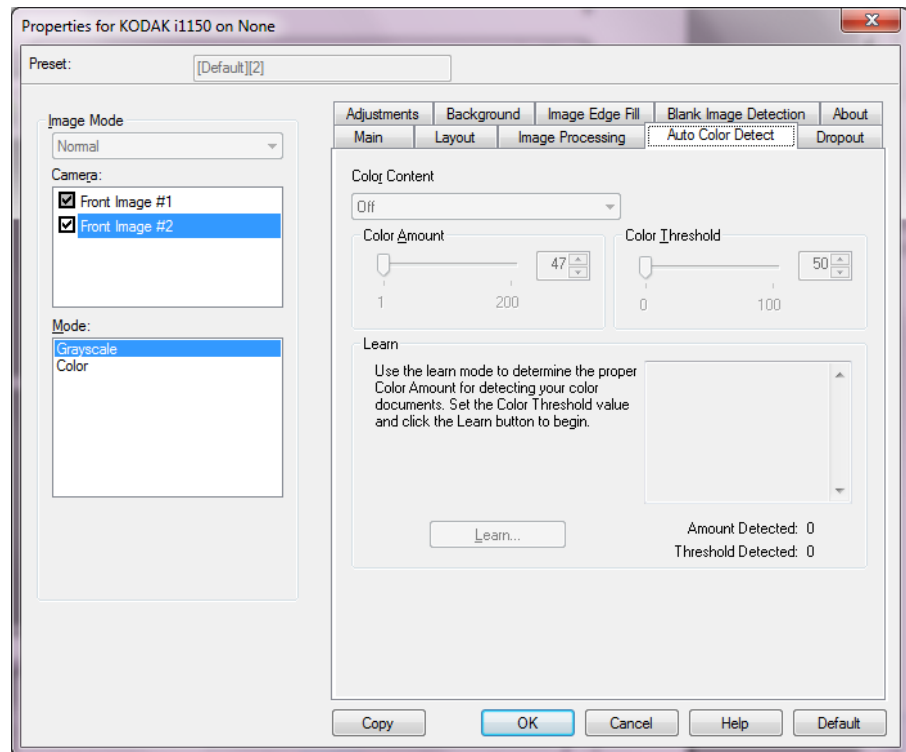
Color Content

- **High**: documents require more color, as compared with the Medium option, before they will be saved as color or grayscale images. Used for distinguishing documents containing medium- to large-size colorful photos from plain black text. Photos with neutral colors may require adjustments to the Color Threshold or Color Amount values in order to be captured correctly.

- **Medium**: documents require more color, as compared with the Low option, before they are saved as color or grayscale images.

- **Low**: documents require only a small amount of color to be saved as color or grayscale images. Used for capturing documents that are primarily black text with small logos, or contain small amounts of highlighted text or small colorful photos.

- **Off**: turns Color Content off.

- **Custom**: makes the **Color Amount** and/or **Color Threshold** options available.

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

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

    - **Color Threshold**: the color threshold or intensity (e.g., 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 — if **Low, Medium** and **High** options do not give you the desired results, use the **Learn** option.

    1. Click **Learn** and follow the prompts.

    2. Place at least 5 representative color documents in the input tray and click **OK**. These documents will be analyzed and the recommended color amount will be calculated for you.

    3. Write down the **Color Amount** and **Color Threshold** values that are displayed in the dialog box as these are the settings you will be required to use in your application.

    NOTE: These settings were calculated based on the representative color documents scanned. If these values do not provide the desired results for your job, you may need to manually adjust the **Color Threshold**.

Dropout tab

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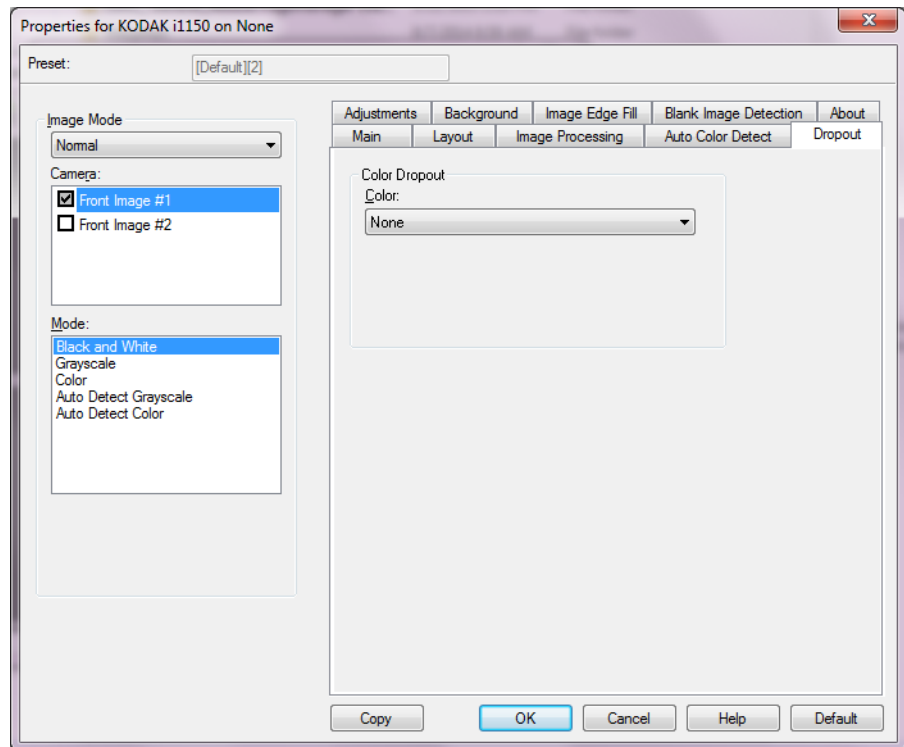
The Dropout tab is used to eliminate a form's background so that only the entered data is included in the electronic image (e.g., remove the form's lines and boxes). For black and white images, these settings effect the grayscale version of the document which the scanner analyzes to produce that electronic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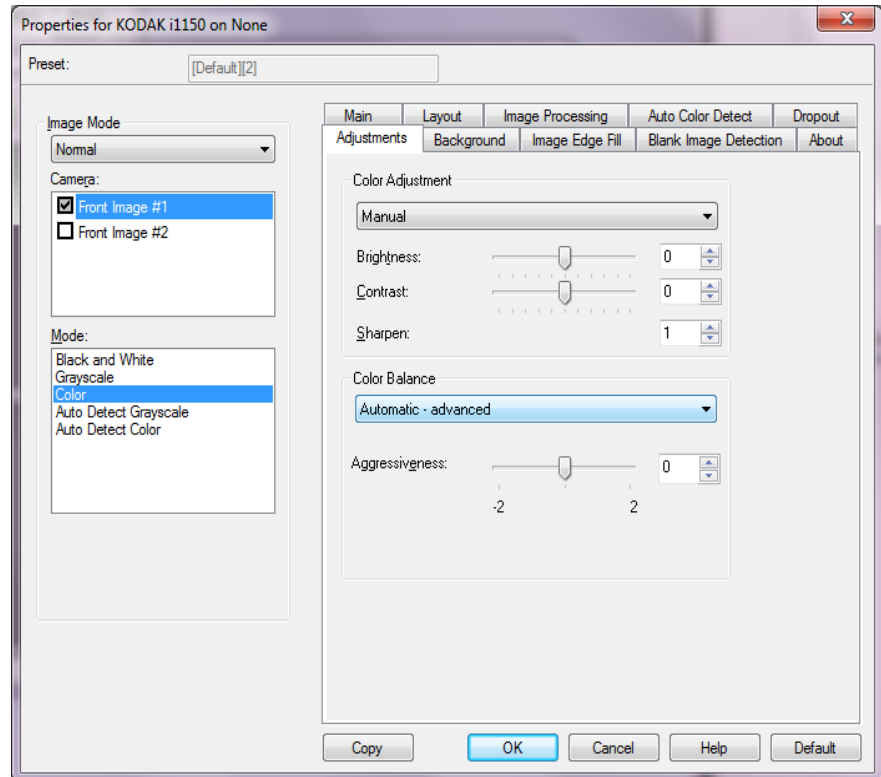
Color Dropout

Color — the i1100 Series Scanners can drop out **Red**, **Green** or **Blue**. **None** is the default.

- **Aggressiveness**: allows you to adjust the extent at which the colors are dropped. The values range from **-10** to **10**. The default is 0.

Adjustments tab

The Adjustments tab provides the following options.

Color Adjustment

Brightness and Contrast

- (**none**)

- **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**.

- **Automatic**: allows the scanner to dynamically evaluate each document to determine the optimal threshold value to produce the highest quality image. This allows scanning of mixed document sets with varying quality (e.g., faint text, shaded backgrounds, color backgrounds) to be scanned using a single setting thus reducing the need for document sorting.

Sharpen — increases the contrast of the edges within the image. Select a value from 0 (no sharpening) to 3.

Color Balance

- (**none**)

- **Manual**: allows you to set specific values that will be used for all images. The values range from **-50** to **50**.

  - **Red** - changes the amount of red in the color image.

  - **Green** - changes the amount of green in the color image.

  - **Blue** - changes the amount of blue in the color image.

- **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**.

NOTE: Color Balance is not available for grayscale images.

Background tab

The Background tab provides the following options.
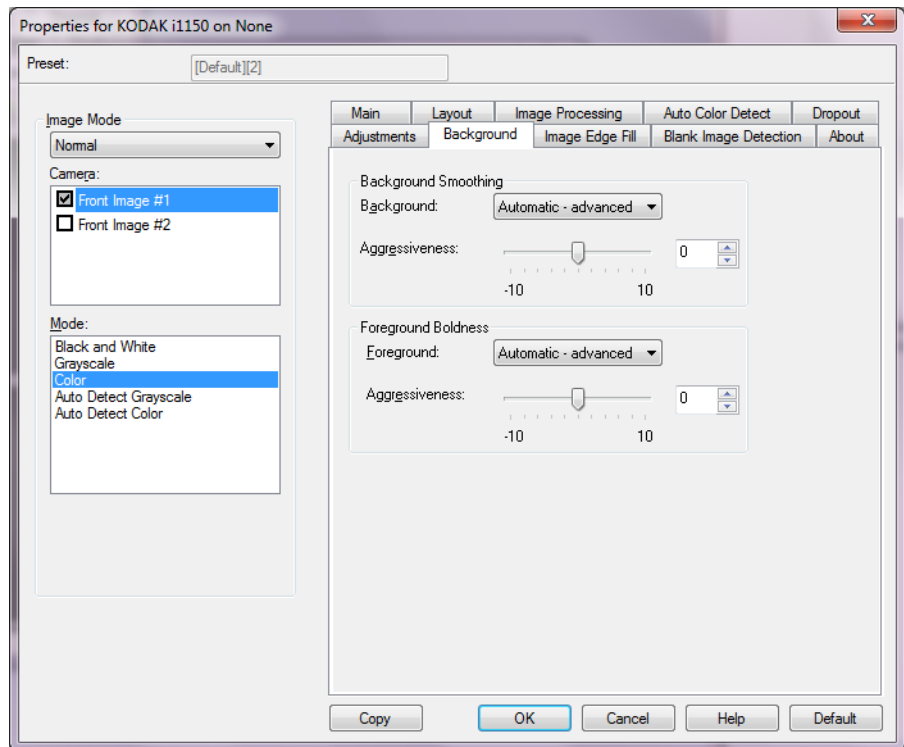
Background Smoothing — using this option for documents or forms with a background color will help produce images with a more uniform background color.

Background

• **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**.

Foreground Boldness — using this option for documents or forms where you want the foreground (e.g., text, lines, etc.) to be more prominent.

Foreground

• **None**
• **Automatic**: all foreground will be bolder.
• **Automatic - advanced**: for advanced users that want to further adjust the **Automatic** option.
  - **Aggressiveness** - allows you to adjust the extent at which the foreground is determined. The values range from **-10** to **10**.

Image Edge Fill tab

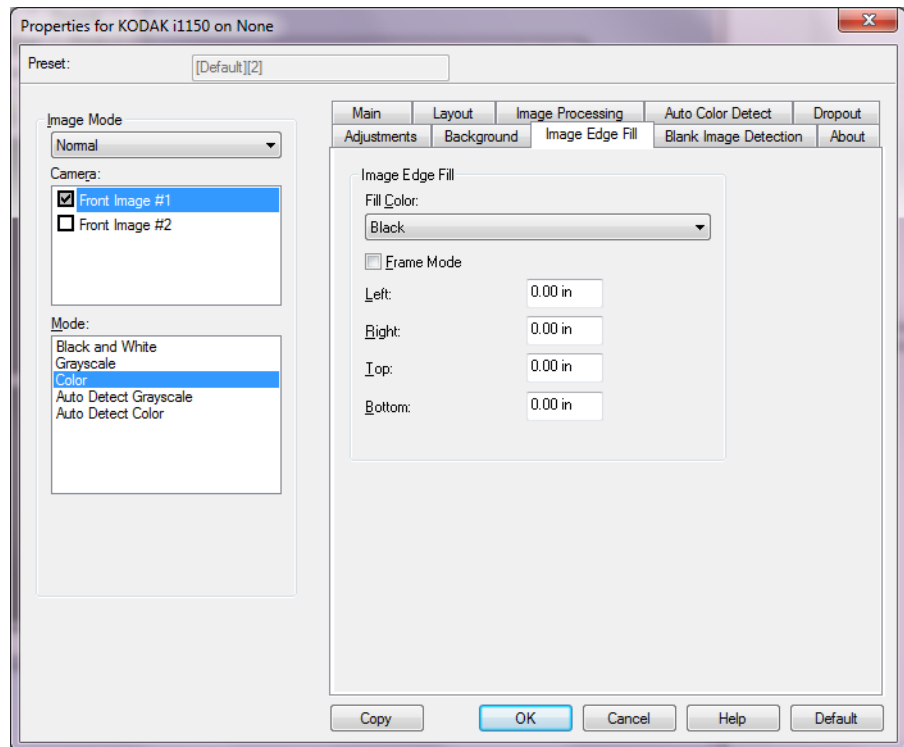The Image Edge Fill tab provides the following options.

Image Edge Fill — fills the edges of the final electronic image by covering the area with either **White** or **Black**. Image Edge Fill is performed after all other image processing options have been applied.

- **Fill Color**
    - **None**
    - **White**
    - **Black**
    - **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.
- **Frame Mode** — when you select either **White** or **Black**, you can enter the size of the frame that you want to fill. An equal amount of the selected color from the *Fill Color* drop-down list will be filled in on all sides of the image.

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

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

Blank Image Detection tab

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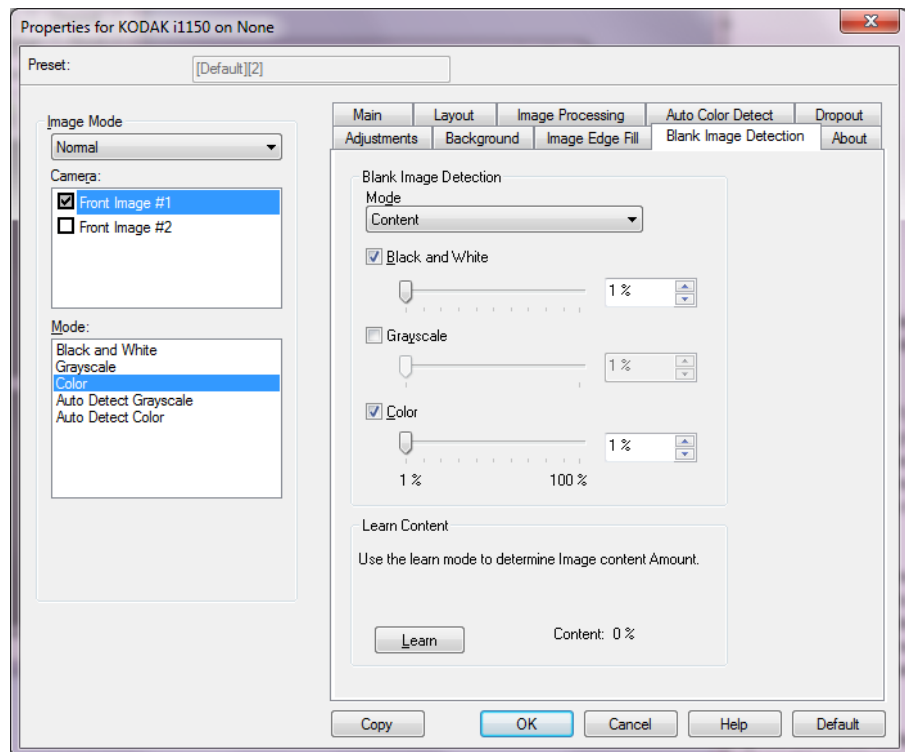
Blank Image Detection allows you to configure the scanner to not give blank images to the scanning application. Select the image size (KB), below which an image is determined to be blank. Images with sizes less than the number you select will not be created. If you use this option, you must specify a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

Mode

- **Off:** all images are given to the scanning application.

- **Size**: images will be considered blank based on the size of the image that would be given to the scanning application (i.e., after all other settings have been applied).

- **Content**: images will be considered blank based on the document content within the image. Select **Black and White**, **Grayscale** or **Color** to choose the maximum amount of content that the scanner will consider to be blank. Any image that has more content than this value will be considered non-blank and will be given to the scanning application. The values range from **0** to **100** percent.

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

NOTE: Learn mode cannot be applied to both the front and back sides simultaneously. You must select the side you want to configure.
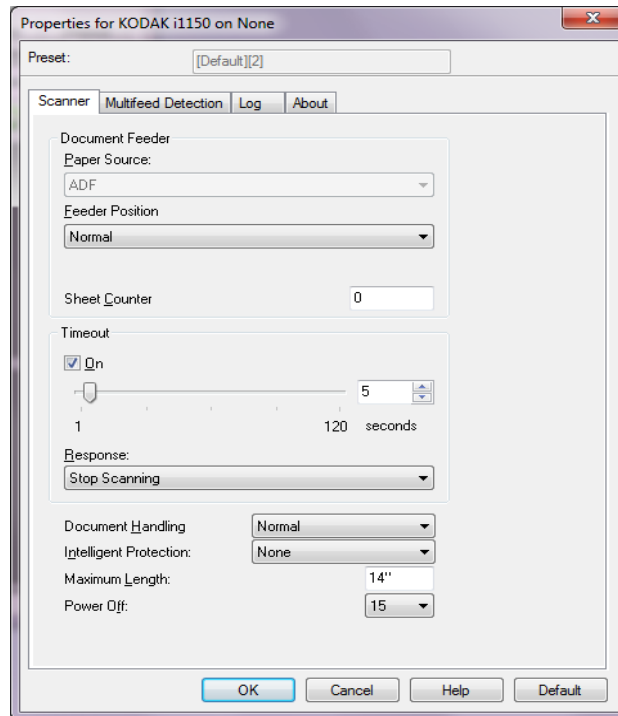
About tab   Displays information about your scanner and driver.
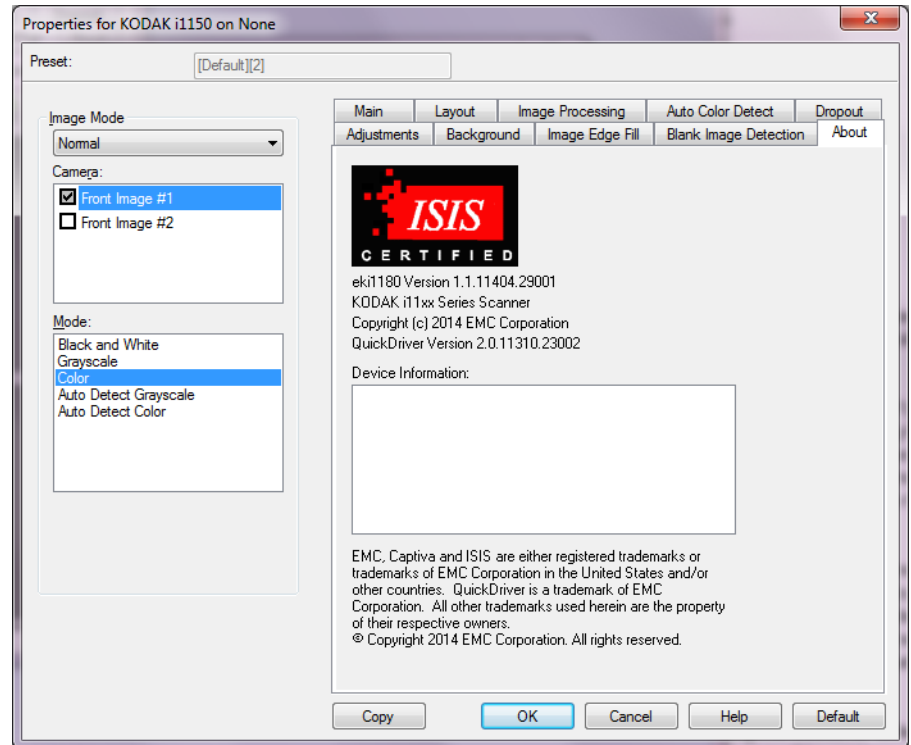
Scanner options

Scanner tab

The Scanner tab provides the following options.

Document Feeder

- **Paper Source**: looks for paper in the ADF first. If there are no documents in the input tray, the scanner will scan from the flatbed, if a flatbed is attached.

  NOTES:

  - **ADF** and **Flatbed** options are only available if you had the flatbed accessory attached when the scanning application connected to the scanner.
  - The Flatbed Accessory is not available for the *Kodak* i1150WN and i1190WN Scanners.

- **Feed Position**: indicates the position of the input tray. **Normal** is the only selection.

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

Timeout

- **On**: allows you to set the amount of time the scanner will wait after the last document enters the transport before the transport timeout action is taken. You can specify a time delay setting from 1 to 120 seconds.

- **Response**: indicates the action that will be taken when the document feeder timeout has been reached.
    - **Stop Scanning:** scanning will stop and control will return to the scanning application (i.e. ends the job).

Document Handling — indicates how the scanner transports the documents. **Normal** is the only selection.

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

- **None**

- **Normal:** this is the recommended option as it provides a balance between minimizing document damage and stopping the scanner unnecessarily.

- **Minimum**: select this option if the scanner is stopping too frequently on documents that you do not want it to detect.

  NOTE: Documents may become more damaged before detection occurs.

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

NOTE: This may cause the scanner to stop unnecessarily.

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

Power Off — allows you to set the amount of time, in minutes, the scanner has to be in power saver mode before it automatically turns off.

Multifeed Detection tab

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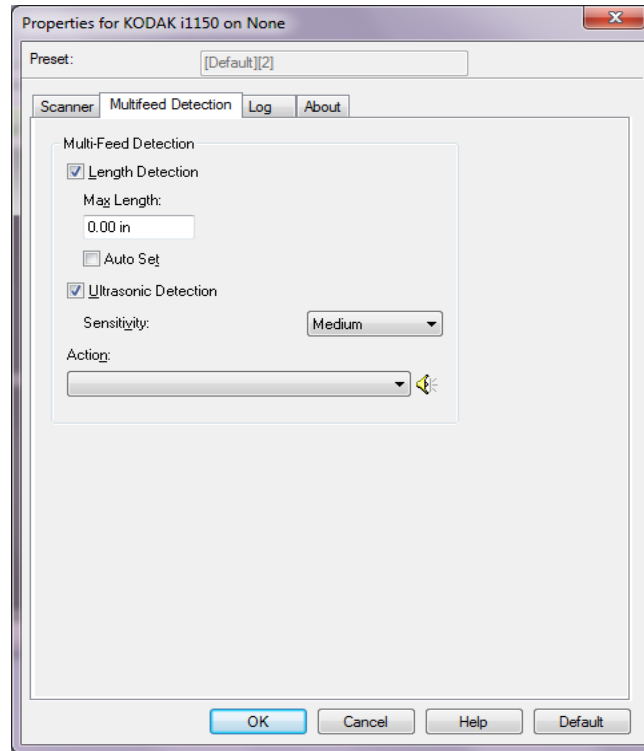
Length Detection — check this option to select the maximum length of the document that can be scanned without a multifeed being detected. Length detection is used when scanning same-sized documents to check for overlap. For example, if you are scanning 8.5 x 11-inch (A4) documents in portrait mode, enter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

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

Ultrasonic Detection — check this option to set multifeed detection.

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

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

  - **Medium**: use Medium sensitivity if your application has varying document thickness or labels attached to the document. Depending on the label material, most documents with labels should not be detected as a multifed document.

  - **High**: the most aggressive setting. This is a good setting to use if all documents are similar in thickness no greater than 20-lb. bond paper.

Action — select how you want the scanner to perform if it detects a multifed document.

- **Stop scanning:** scanning will stop and control will return to the scanning application (e.g., ends the job). Verify that the paper path has been cleared and restart the scan session from the scanning application.

- **Continue scanning**: the scanner will continue to scan.

- **Stop scanning - leave paper in path**: scanning will stop immediately (e.g., making no attempt to clear the paper path) and control will return to the scanning application (e.g., ends the job). Clear any documents from the paper path prior to restarting the scan session from the scanning application.

- **Stop Scanning - generate image(s):** scanning will stop and control will return to the scanning application (e.g., 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.

Speaker icon — click the **Speaker** icon to display the Open dialog box. From the Open dialog box, select the desired .wav file indicating what sound you want the scanner to make when it detects a multifeed and click **OK**.

Log tab
The Log tab provides a listing of any errors that have been encountered.
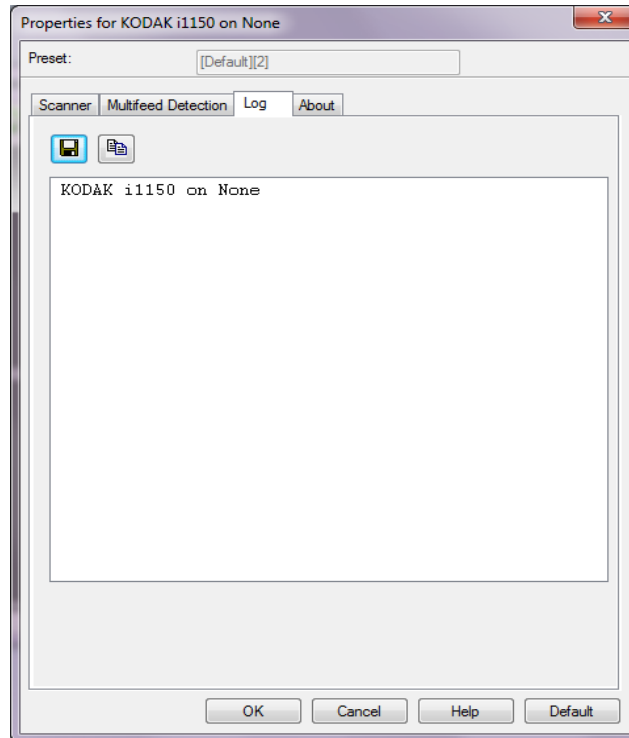
You can either save this information to a file by clicking the **Save** icon, or click the **Copy** icon to copy the contents of the Log file to the clipboard.