Kodak

ScanMate
i1120 Scanner

Scanning Setup Guide
for ISIS Driver

Scanning Setup Guide for the ISIS Driver

Contents

The *Kodak ScanMate* i1120 Series Scanners provide the ability to process scanned images to improve their quality by using image processing features.

Image processing refers to features of the scanner that allow you to automatically adjust each image that may improve the resulting images (i.e., correcting any skew in the fed document, cutting the edges of the image off to remove unneeded borders or cleaning up extraneous "noise" on the image).
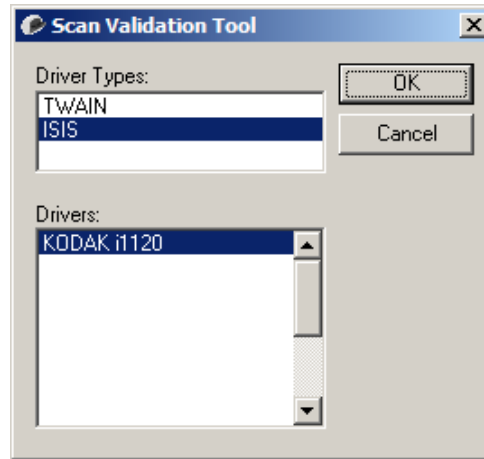
The ISIS Driver is software that communicates with the scanner. This driver is created and maintained by EMC Captiva and is provided with the scanner by Kodak. This driver can be used to interface with many scanning applications that support ISIS drivers.

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

Starting the Scan Validation Tool

NOTE: The Scan Validation Tool is provided by Kodak and is a diagnostic tool only. Kodak does not support the use of the Scan Validation Tool as a scanning application.
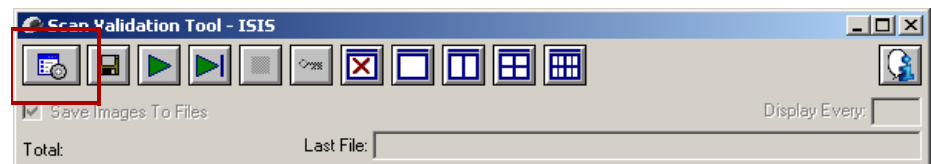
1. Select **Start>Programs>Kodak>Document Imaging>Scan Validation Tool**.
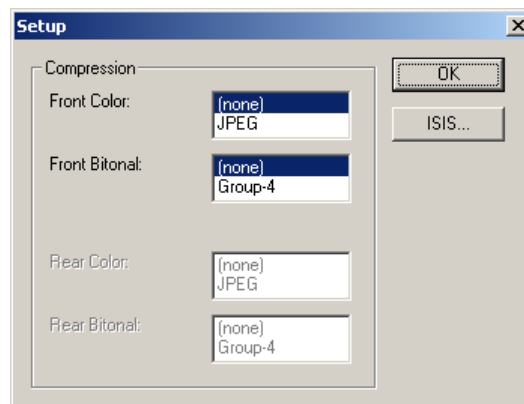
2. Select **ISIS** for the Driver Type and the **KODAK i1120** as the driver and click **OK**. The main Scan Validation Tool screen will be displayed. See the next section for a description of the icons on this screen.

3. Click the ⊞ icon to enable the image view panels.

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

The Setup dialog box will be displayed.

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

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

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

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

The Scan Validation Tool dialog box

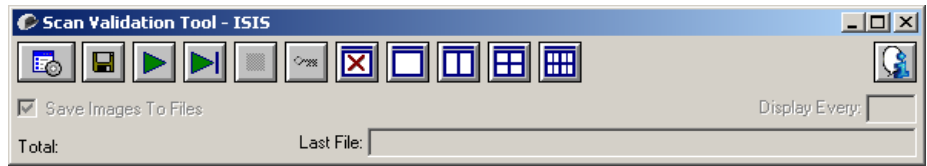The Scan Validation Tool (SVT) is a diagnostic application provided by Kodak. The SVT user interface allows access to all the features of the scanner and is a good way to verify that the scanner is working properly. The Scan Validation Tool allows you to verify scanner functionality using the ISIS Driver.

Toolbar buttons

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 tray.

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.

About — displays the version of the Scan Validation Tool.

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

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

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

- To access the ISIS Driver double-click the **Setup** icon on the Scan Validation Tool dialog box to access the main *Kodak* Scanner window.

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

Configuring Image settings

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

This section describes the ISIS Driver default interface.

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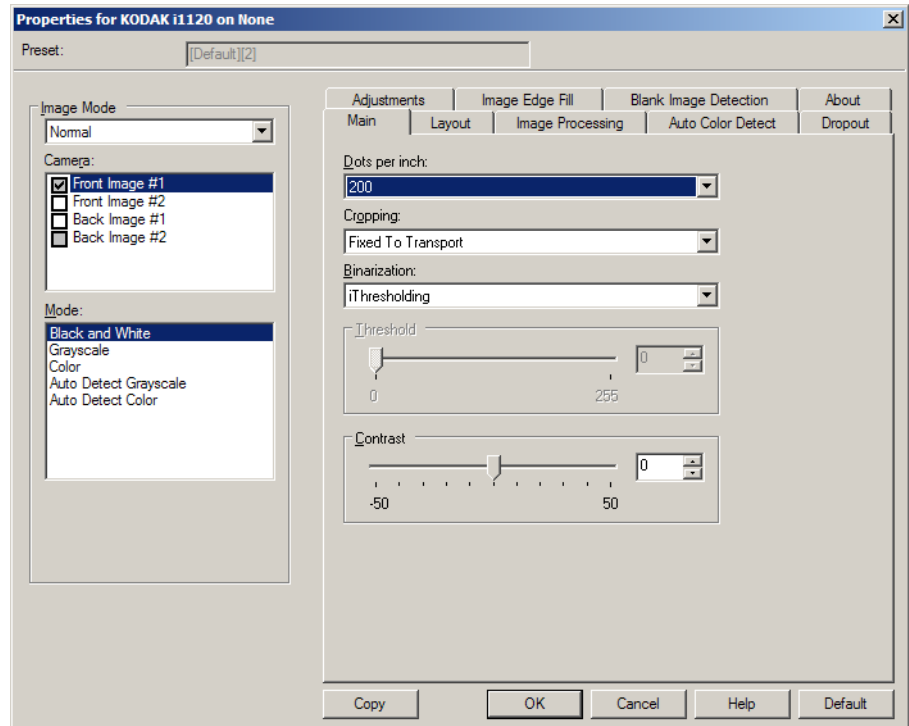

Image Mode — select one of the camera options:

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

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

• **Mode** — select one of the following modes:

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

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

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

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

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

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

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

- **OK** — saves the values set on all tabs.

- **Cancel** — closes the window without saving any changes.

- **Help** — displays on-line help about the options available on the selected window.

- **Default** — resets the values on all tabs to the factory defaults.

Main tab

The Main tab provides the following options.

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

Choose a resolution value from the drop-down list. The default is 200 dpi. Available resolutions are: 75, 100, 150, 200, 240, 300, 400, 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 in this guide 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 a separate color/grayscale or black and white area to be saved is desired. It is useful in applications where a photograph, signature, embossment or seal appears in a consistent area for an application (you may want that small area in color/grayscale and the rest in black and white). To define a zone, select the Layout tab.

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

- **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 (i.e., 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.

- **Adaptive Thresholding (ATP):** separates the foreground information in an image (i.e., text, graphics, lines, etc.) from the background information (i.e., white or non-white paper background).
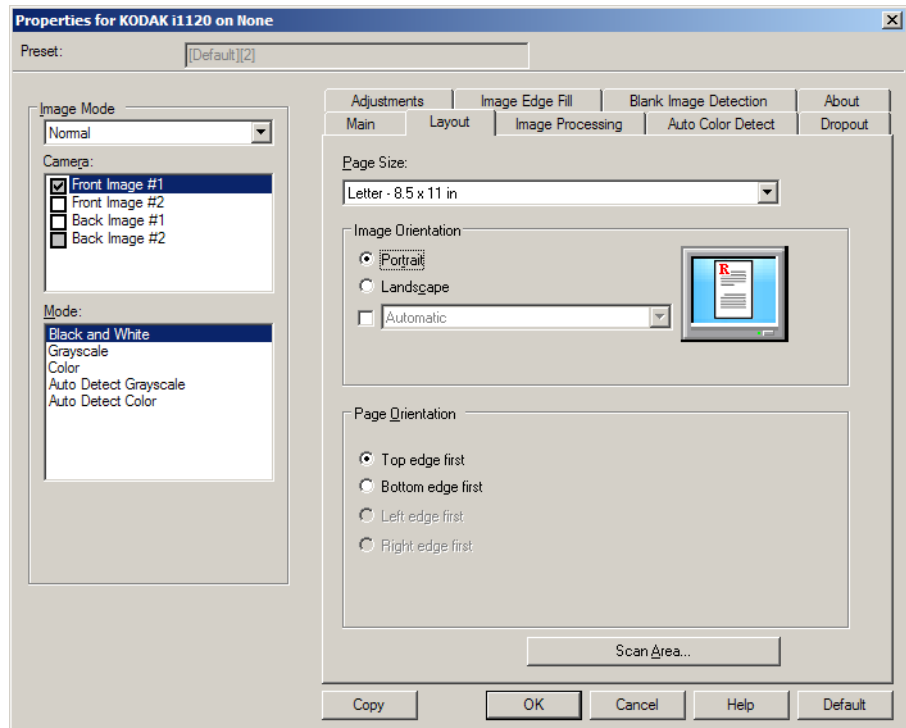
Threshold — changes the amount of white in the color and grayscale image. Use the slider to select a value from 0 to 255. The default is 90.

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. Page size should be set to the **Scanner's Maximum** when using the **Automatic** or **Aggressive** cropping option.

Image Orientation

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

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

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**.

Combine front and back images — typically, for a document, one image is created for the front side and another image is created for the back side. Turn this option on if you want one image that contains both the front side and back side of the document. The selections are:

Front	Back
Back	Front

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	Back

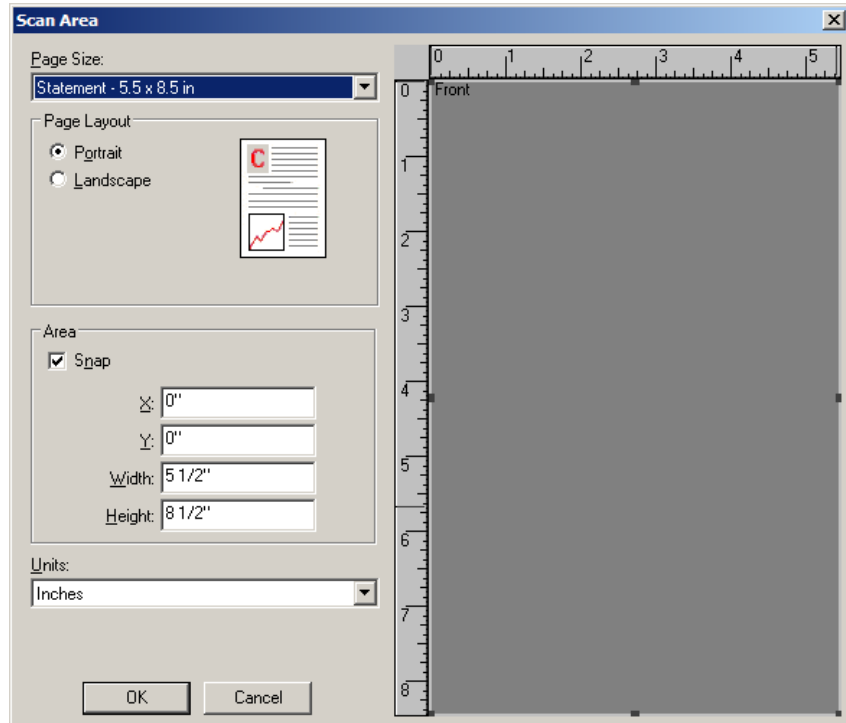|	
Back	Front

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.

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

NOTE: Page Size and Page Layout selections also appear on the Layout tab. If you make a change on the Scan Area dialog box, the same selections will be displayed on the Layout tab and vice versa.

Page Layout

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

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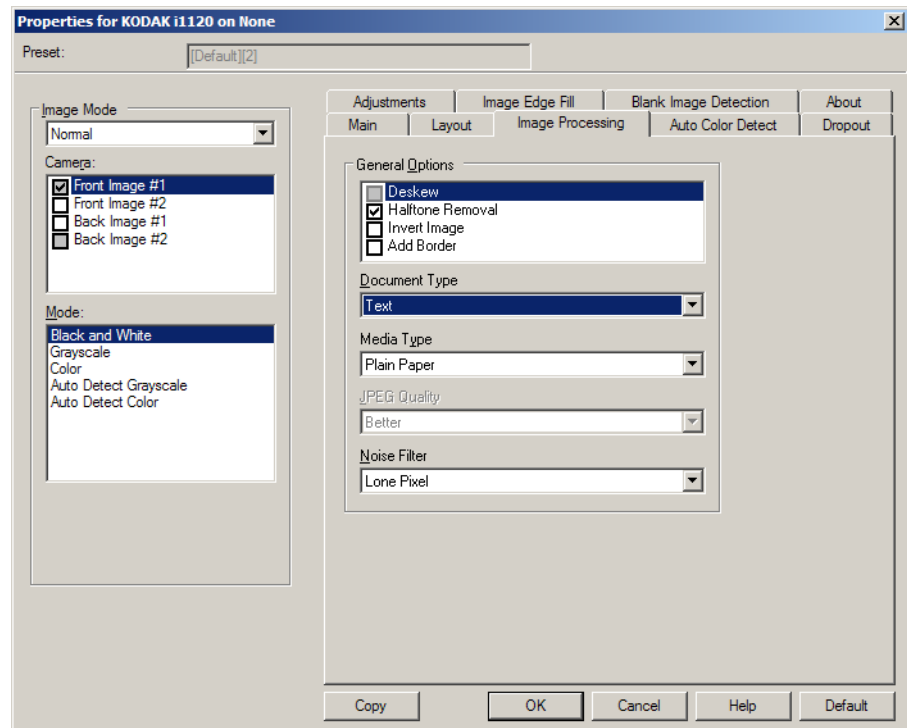
Area

• **Snap** — enable this option to control the dimensions of the preview area to fixed 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 these options.

General Options

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

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 — select one of the following options based upon the texture/weight of the paper you are scanning. Available options are: **Plain Paper, Thin Paper, Glossy Paper, Card Stock, Magazine.**

JPEG (Joint Photographic Editor Group) **Quality** — if you choose JPEG compression, select one of the quality options:
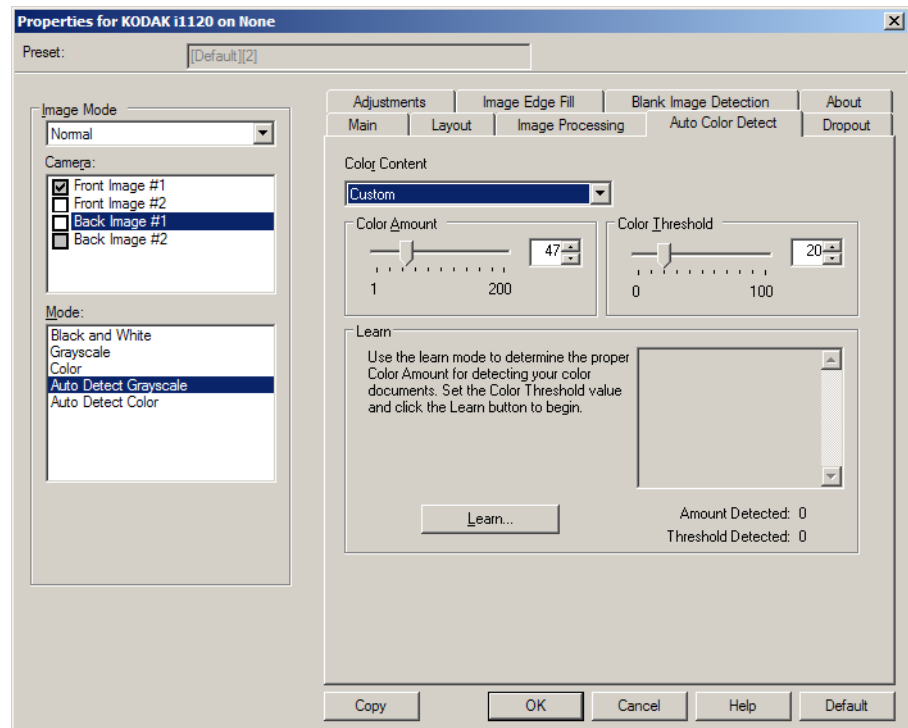
- **Draft**: maximum compression which produces the smallest image size.

- **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.

Auto Color Detect tab

The Auto Color Detect tab provides the following options.

Color Content

- **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.

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

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

- **Custom**: 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** option to manually adjust Color Amount and/or Color Threshold.

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

Color Threshold: the color threshold or intensity (i.e., pale blue vs. dark blue) at which a given color will be included in the color amount calculation. A higher value indicates that a more intense color is required. Valid values are 0 to 100.
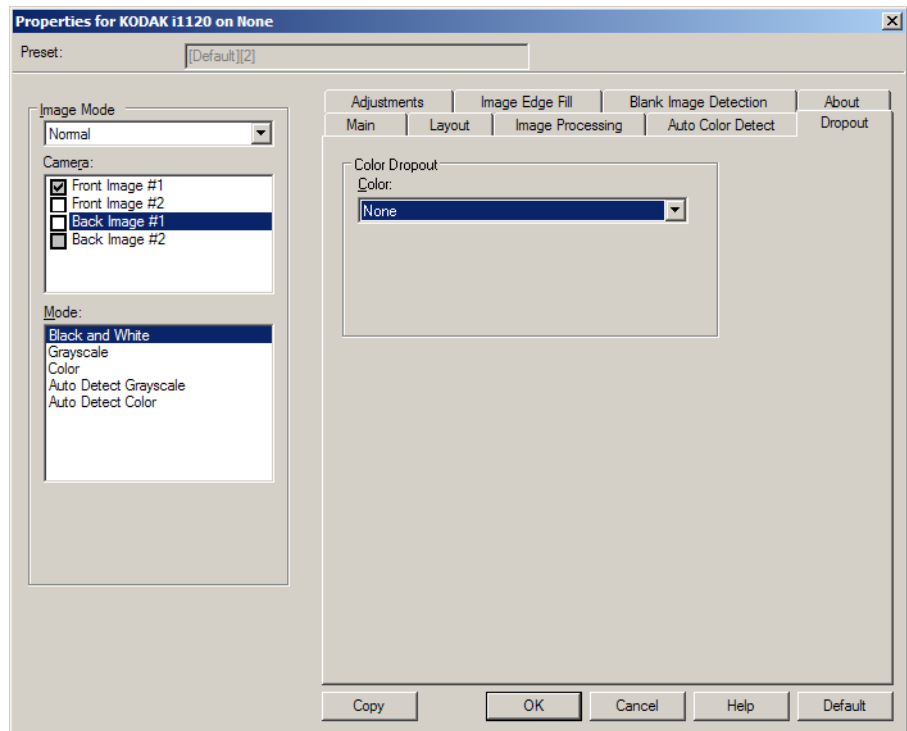
Learn — if **Low, Medium** and **High** options do not give you the desired results, use the **Learn** option.

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 with your production job set, you may need to manually adjust the **Color Threshold**.

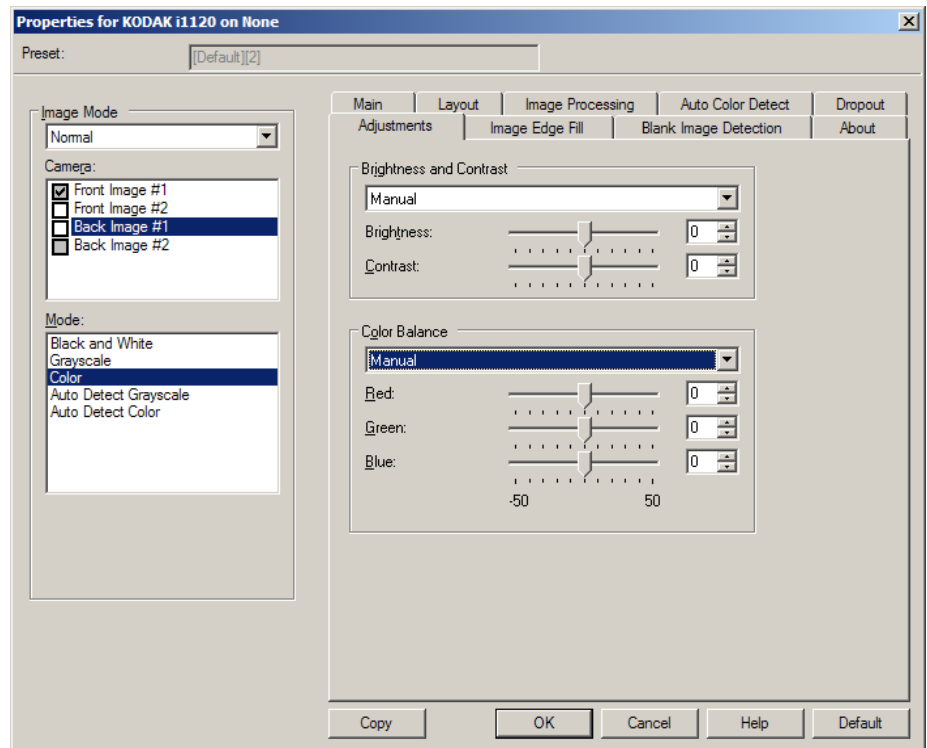**Dropout tab**   The Dropout tab provides these options.

The Dropout tab is 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 Dropout — the i1120 Scanner can drop out **Red**, **Green** or **Blue**. **None** is the default.

Adjustments tab

The Adjustments tab provides the following options.

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/grayscale image. The values range from **-50** to **50**. The default is 0.

  - **Contrast** — makes the image sharper or softer. The values range from **-50** to **50**. The default is 0.

Color Balance *(not available for grayscale images)*

- (**none**)

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

  - **Red** — changes the amount of red in the color image. The values range from **-50** to **50**. The default is 0.

  - **Green** — changes the amount of green in the color image. The values range from **-50** to **50**. The default is 0.

  - **Blue** — changes the amount of blue in the color image. The values range from **-50** to **50**. The default is 0.

Image Edge Fill tab

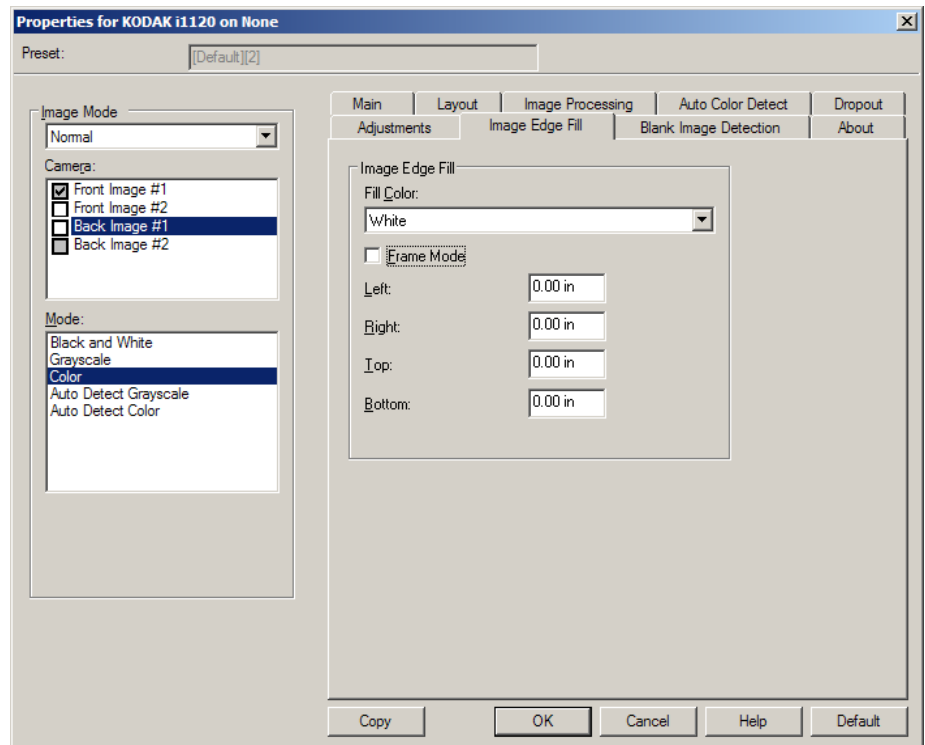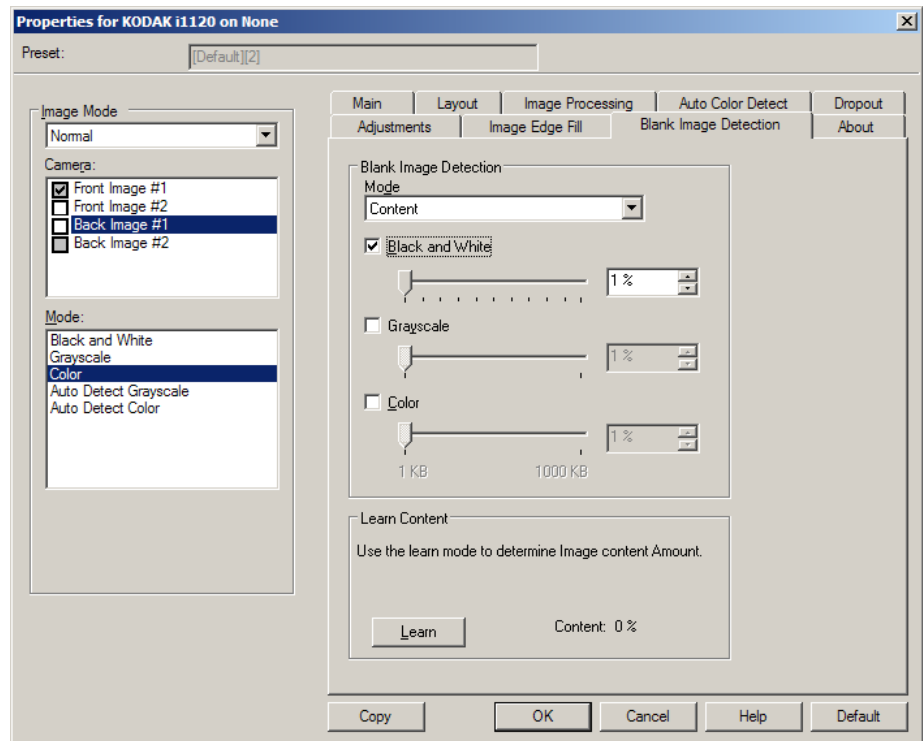The Image Edge Fill tab provides the following options.

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

NOTE: 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.

• **Fill Color**: allows you to select the color to fill the edges with.
  - (none)
  - White
  - Black

• **Frame Mode** — fills in an equal amount of the selected color from the *Fill Color* drop-down list on all sides of the image, or 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.

Blank Image Detection tab

Blank Image Detection provides the following options.

Blank Image Detection — allows you to configure the scanner to not give blank images to the scanning application.
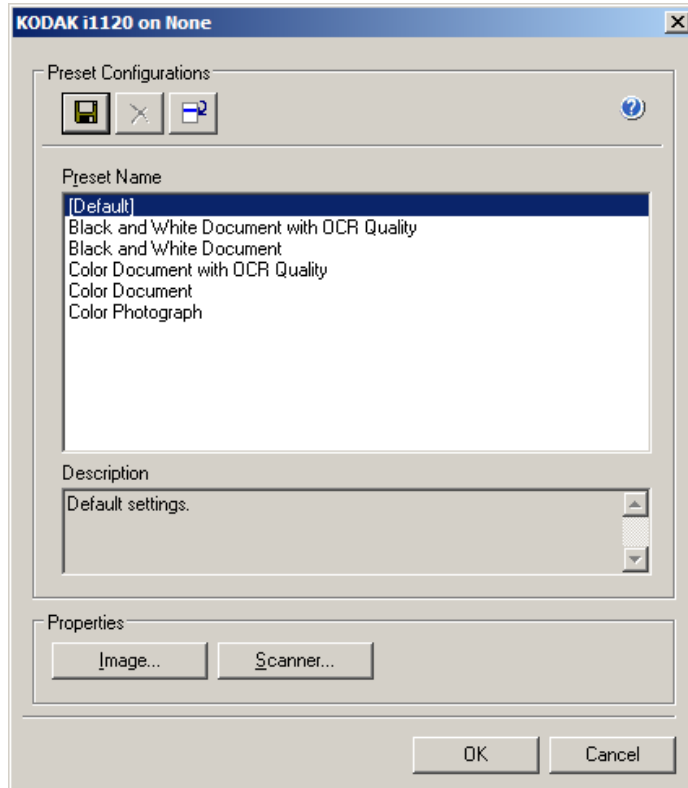
- **Off:** all images are given to the scanning application.

- **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). 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.

- **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.
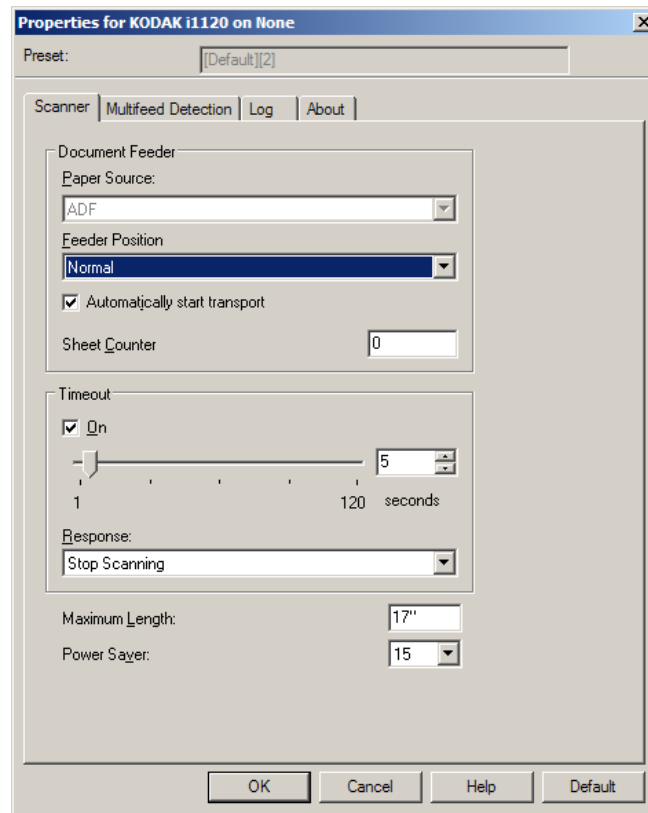
Configuring Scanner settings

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

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

Scanner tab

The Scanner tab provides the following options.

Document Feeder

Paper Source: ADF — the scanner will only scan documents from the input tray.

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** — click **On** to set the amount of time, in seconds, the scanner will wait once the last document enters the feeder before the timeout occurs.

- **Response** — indicates the action that will be taken when the timeout has been reached. **Stop Scanning** is the only selection. When the timeout has been reached, scanning will stop and control will return to the scanning application (i.e., ends the job).

Maximum Length — enter a value that indicates the length of the longest document in your document set.
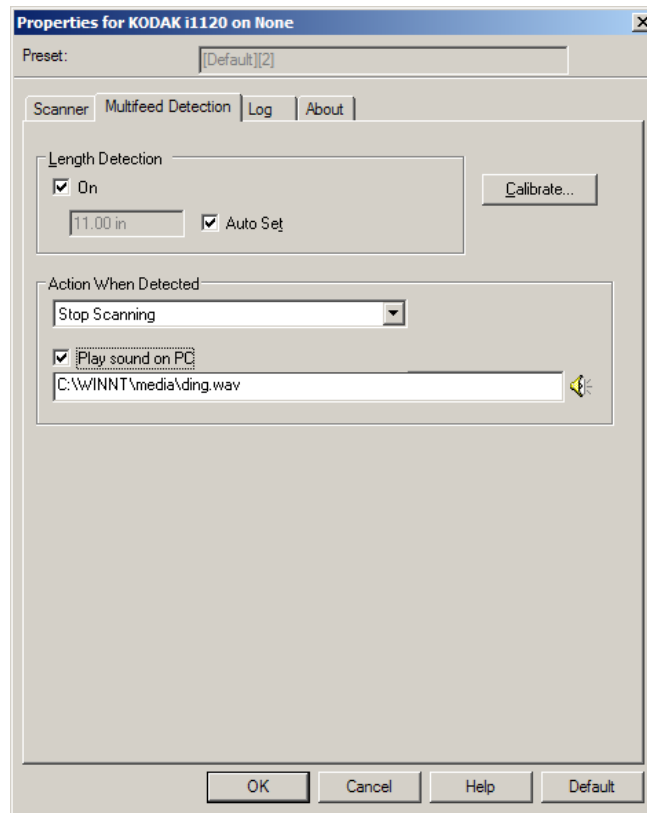
NOTES:
- Not all combinations of settings for *Mode* and *Resolution* are supported at the larger lengths.
- The scanner's throughput may be reduced for large lengths.

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

Multifeed Detection tab   The Multifeed Detection tab provides the following options.

Multifeed Detection

Length Detection — this option can be enabled or disabled. The default is disabled. If enabled, select the maximum length of the document that can be scanned without a multi-feed 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 11.25 inches (28.57 cm) in the *Max Length* field.

• **Auto Set:** automatically sets the maximum length value to .50-inch (1.27 cm) greater than the length of the currently selected page size.
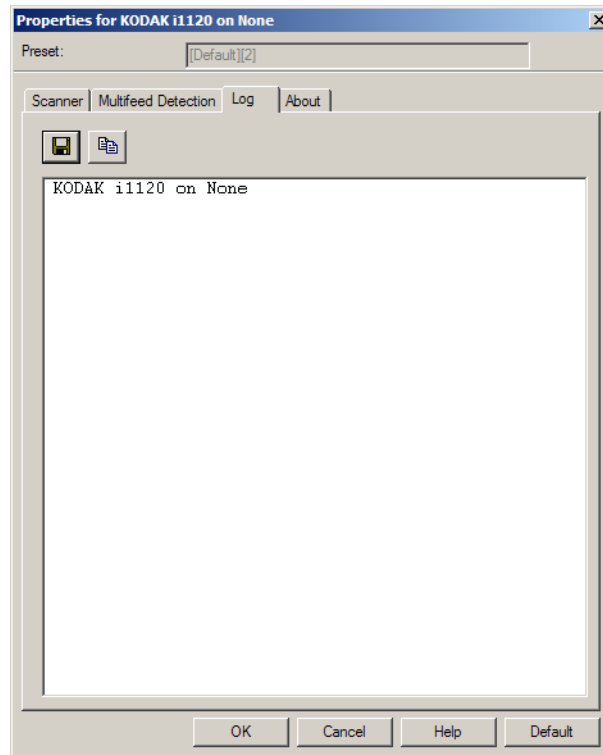
Action — select what action you want the scanner to take when a multifeed is detected. The condition will be logged in the scanner.

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

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

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.

About tab   Displays information about your scanner and driver.

Kodak