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TWAIN Scanning Guide
Windows® Users

Xerox® DocuMate® 4790 / 4799
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Scanning from TWAIN and WIA

Important: Before scanning, please take a moment to read through the scanner's user guide for important instructions about how to use the scanner.

The scanner user guide includes information on what type of documents can and cannot be scanned with your scanner. It also contains full setup and installation instructions, maintenance and troubleshooting procedures, scanner specifications, and scanner warranty information. The guide is located in the user guides section on the installation disc.

The information in this guide will cover hardware and software features that may not be available for the scanner model you purchased. Please disregard any information that does not apply to your scanner.

Some of the illustrations in this guide may not look exactly as they appear on your computer's screen. The differences are minor and do not affect the steps to use the features.

Note: Visioneer Acuity must be installed for the image processing options, described in this document, to be available in the interface for your scanner. Only features that are appropriate for your scanner will be enabled after Visioneer Acuity is installed. Visioneer Acuity is automatically installed when you install the scanner driver from the installation disc. If you downloaded the scanner driver from our website, make sure you also download and install Visioneer Acuity.

Accessing the Scanner Interface

Visioneer OneTouch: Open the Visioneer OneTouch properties window and under the configuration list select **Configure Before Scan**. Click on **OK** to save the changes and close Visioneer OneTouch. The next time you scan using that button, the TWAIN interface will open for you to set the scan options and start scanning.
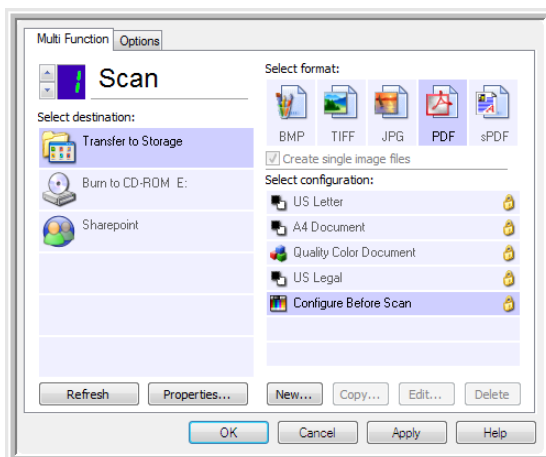
Every scanning application will access the scanner using a different method. Please refer to the application's user guide for instructions on using the application and accessing the scanner. There will usually be at least two scanner options available in the scanning application. labeled TWAIN or WIA (for example, TWAIN: [scanner model] or WIA:[scanner model])

Choosing TWAIN or WIA

A note about your scanner and the TWAIN standard:

TWAIN is a widely recognized standard that computers use to receive images from scanners and digital cameras. The TWAIN scanning interface can be accessed from any TWAIN scanning application you have installed on the computer. The driver interface described herein is the TWAIN driver that has been developed for your scanner. However, there are some applications that have their own TWAIN interface. If you are scanning from a software application, and see the interface shown in this section, you can use these instructions to scan with the TWAIN interface. If you do not see this TWAIN interface, please refer to your scanning application's user guide for instructions.

A note about your scanner and Microsoft WIA (Windows Image Acquisition):

The WIA platform has been developed to enable image transfer from devices using standard Windows applications, such as Paint or Windows Fax and Scan, without the need to install additional scanning software. Microsoft has developed its own interface for using the scanner with the Windows applications, as well as any other WIA compatible applications you may have installed. However, when using a WIA 2.0 compatible application, the default behavior will display the TWAIN interface as described in this document. You can change the driver behavior to show the Windows interface instead of the custom interface described herein. Please refer to "Driver Settings" for the "Hardware Properties and Interface Behavior" on page 71 for more information.

Please refer to your Windows documentation for WIA scanning instructions if you do not see the interface described below, or if you have any questions regarding Windows scanning applications.

Scanning

Some features described herein may not be available for the current scanner. Please disregard any information about features that you do not see in the interface for your scanner.

1. Load the document(s) in the scanner.

2. Adjust the settings in the interface for the item you are scanning.

3. Click on the **Scan** button.
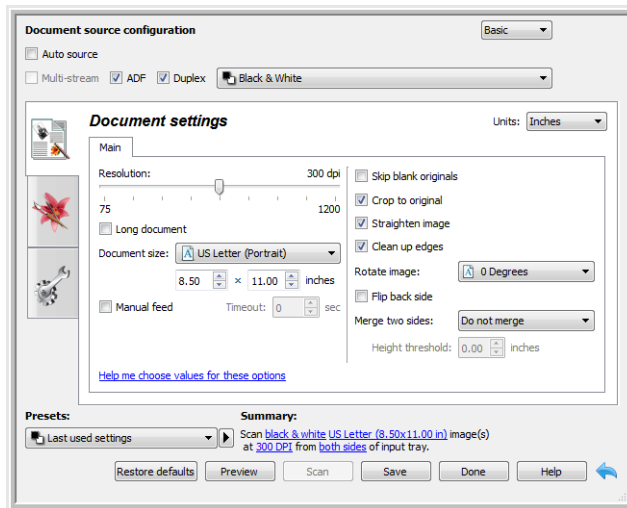
4. When scanning is complete, click **Done** to close the interface.

5. The scanned images are now in the scanning application.

Technical Note:

Some scanners have the option to change the background color between black and white. Below is a list of some of the scanning options that may be disabled based on the current background color:

*   "Fill Margin Holes"

*   "Automatic Image Cropping" (Crop to original)

*   "Straighten Image"

Locked Scanning Interface

If you see this locked version of the scanner's interface you will be able to select a predefined scanning profile from the **Presets** list, and then click the **Scan** button to start scanning.
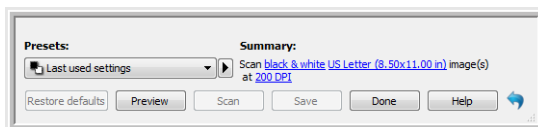
You can also click on the **Preview** button to open the preview dialogue for you to scan a preview image and set custom scan regions.

Note: You can lock or unlock the scanner's interface from the driver configuration options for your scanner. The instructions for changing this setting are in the "Driver Settings" section of this guide. If you are unable to change this setting the option may have been set by your system administrator. Please contact your system administrator for more information.

Using the Preview Window

Clicking the Preview button will display the preview window for the scanner interface. Use the preview option if you want to scan and display a sample image that reflects the current settings in the main interface. The preview window is also where you can define custom scan regions. Please refer to "Scan Regions" for instructions on creating and scanning custom regions.

1. Select the initial scan settings you want to use for the preview image and scanning.

   If you want to modify the settings for a particular preset, make sure you select that preset before continuing.

2. Click the **Preview** button to open the preview window.

   If there is a page in the scanner, the scanner will scan and display a sample image in the preview window. If you do not have a page in the scanner when you click Preview, the preview window will open and display an empty scan area. You will need to place a page in the scanner and click Get preview to scan and display a sample image.

3. The preview window displays the scan area and the current scan region. When you pass the mouse cursor over the scan region it will highlight for you to move or resize it. Please refer to "Scan Regions" for instructions on creating, resizing and deleting regions.

	Show the preview image for the back side of the page. Click to switch between Front and Back image. Select "Duplex" and then preview from the ADF to enable this option.
	Click the zoom in or zoom out button to zoom in or out on the preview image in 15 % steps.
	Click the zoom to fit button to fit the entire preview area within the preview window.
21%	Click the up or down arrows for the Zoom level box to zoom in or out on the preview image in 5 % steps.

4. Click **Show main UI** to bring the main scanner interface in front of the preview window for you to adjust the scan settings.

    There are some settings in the main interface, such as brightness and contrast, which will immediately update the preview image after you adjust the setting. Other settings, such as changing from color scanning to black and white scanning, will not automatically update the sample image.

    If you select any of the document image adjustment options, such as an option to automatically crop, straighten or rotate an image, it will not show in the sample image preview. The preview window displays an unaltered view of the item size and position in the scanner. Any document image adjustment options will be used while scanning and saving images.
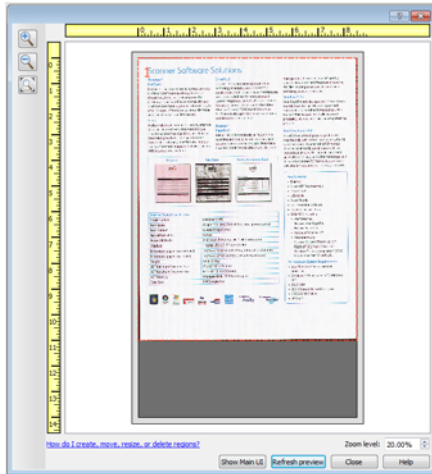
5. After you adjust the scan settings, click **Refresh preview** to get a new sample image that reflects the most current settings in the main interface.

6. When you are happy with the sample image, you can click **Scan** in the preview window or in the main interface to scan and save the image with the current scan settings.

When you scan, any settings you adjusted are automatically saved to the **Last used settings** preset. These settings are not retained in a preset until you click **Save** in the main interface to save the settings to the current preset, or save them to a new preset using the **Save as** dialogue. If you select a different preset from the **Presets** list before scanning, the changes you made will be discarded.
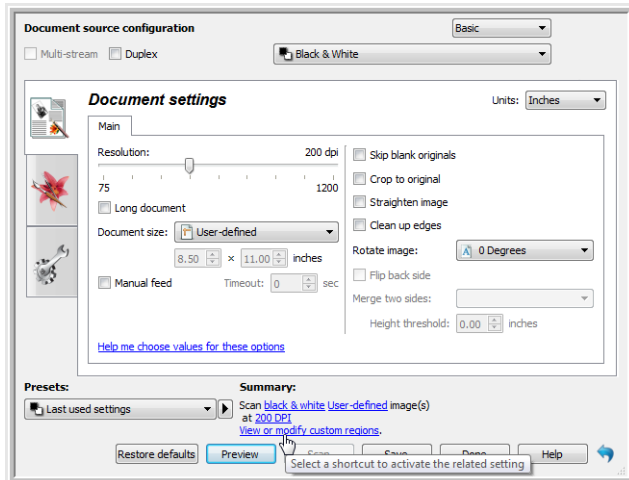
Scan Regions

You can use the preview window to create custom scan regions for the scanner to use for scanning. For example, if you want to scan only a specific area of the image, you can move and resize a scan region to focus only on the area you want to scan. The final image will be only the size of the region you set.

Important: do not change the page size for the scanned image after you create custom regions. When you have set a custom region in the preview window, the page size field will display "user defined" indicating you have specified one or more custom regions for scanning. Changing the page size after you create a custom region discards the custom regions and sets a single scan region to the size you selected in the page size list.

Creating custom scan regions:

1. Select the preset you want to use for scanning.

2. In the main interface click **Preview** to open the preview window.

3. Place an item in the scanner and then click **Get preview**.

4. The scanner scans and displays a sample image.

5. Move or resize region 1 until the sample image area you want is within the scan region.

    Resize the region by clicking on one edge of the region outline and dragging the mouse. Move the region by clicking in the region then dragging the mouse. Please refer to "Move, Resize, or Delete Regions" for detailed instructions.
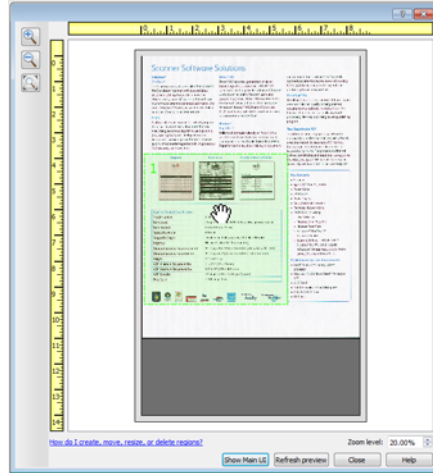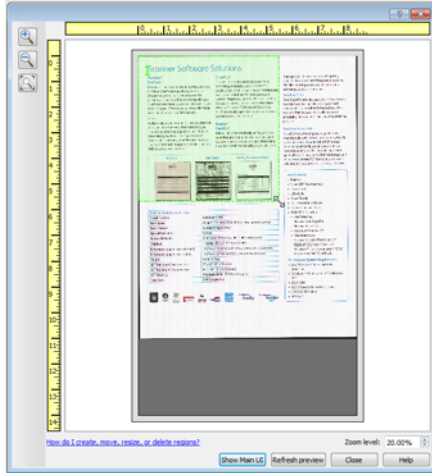
6. Create additional scan regions as needed by clicking anywhere in the sample image, hold your mouse button down, and then drag your mouse to create a scan region. Release the mouse button when the area you want is within the rectangle.

    If you want to create a region that overlaps another region, hold the **Ctrl** (control) key on the keyboard while you click and drag the mouse to create the region. You can release the **Ctrl** key after you start creating the overlapping region. You only need to hold down the Ctrl key if the starting point of the overlapping region is over another region. If you do not hold down the Ctrl key, when you click on the area that has already been set as a region you will move the existing region.
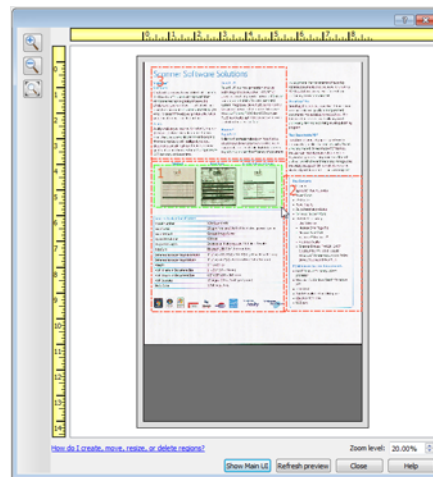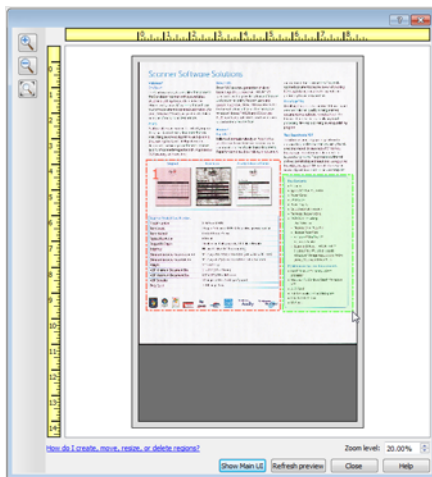
7. Click **Close** when you are done creating scan regions.

8. In the main scanner interface click **Save** to save the regions to the current preset, or save them to a new preset using the **Save as** dialogue.

    The **Summary** area in the main interface will indicate when custom regions have been defined in the preview window. Click on **View or modify custom regions** in the summary area to display the preview window.
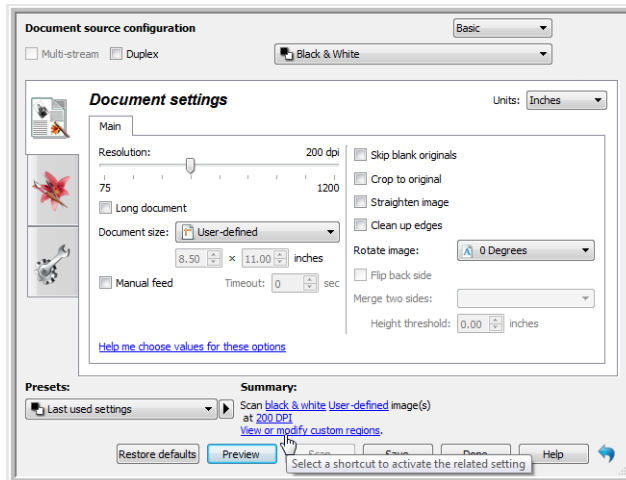
9. Click **Scan** in the main interface to scan using the custom regions.

10. When scanning is finished, one image is created for each region set in the preview window.

The number of scan regions you can create is limited by the scanner model and installed modules. For instance, most scanners have only one region. When you select a paper size in the Page size list, or input the dimensions in the custom page size fields, you are setting a scan region.

When Visioneer Acuity is installed, you can create multiple scan regions for each image scanned. The maximum number of scan regions you can create when Visioneer Acuity is installed may vary between scanner models. When creating scan regions and you reach the maximum number of allowable scan regions, you will not be able to continue creating scan regions until you remove a region you have already created.

Move, Resize, or Delete Regions

Moving regions—to move a region, place your mouse cursor over the region you want to move. The region will highlight indicating that it is the active region under the mouse cursor. Click on the region and drag the mouse to move the region.
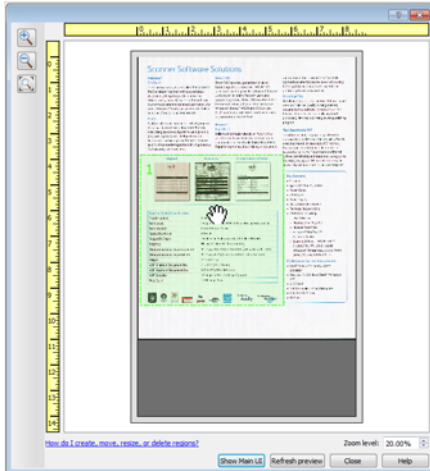
Resizing regions—to resize a region, place your mouse cursor over the edge of the region outline. The cursor will change to a dual directional arrow. Click on the line and drag the mouse to resize the region. If you click on the top or bottom edge, you can only resize the region up or down. If you click on the left or right edge, you can only resize the region left or right. Click on a corner edge and then drag the mouse to resize the region in all directions.

Note that you can only resize the scan regions to be within the scanner's minimum and maximum supported paper sizes. Please refer to the scanner specification table, in the maintenance section of the user guide, for the supported paper sizes for your scanner.
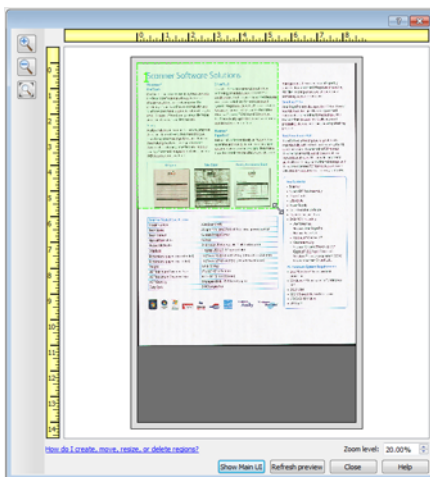
Deleting regions—to delete a region, place your mouse cursor over the region you want to delete. The region will highlight indicating it is the active region under the mouse cursor. Right-click on the region and select the delete option from the menu.
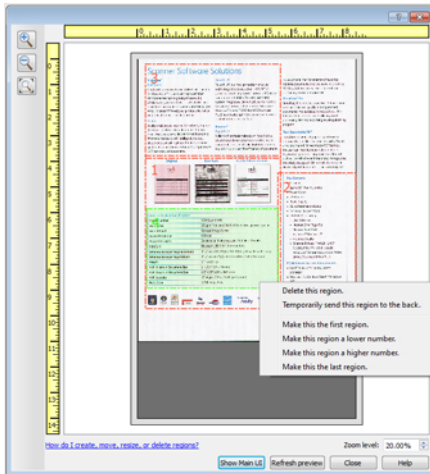
Move, Resize, or Delete a Blocked Region

If there is a region you cannot move or resize because another region is in the way, you can temporarily move that region behind the other regions. Right-click on the region that is in the way and select **Temporarily send this region to the back** to move that region behind the one that you want to move or resize. This is a temporary change in the region ordering and cannot be undone. That region will automatically move back into its position when you click to move or resize a region.

Reordering Regions

If you have created multiple scan regions, you can reorder the region priority from the right-click menu for the regions. The priority determines which region gets processed first while scanning. For example, region 1 will be processed first and appear in the scanning application as the first image. Right-click on the region and select an option from the menu.
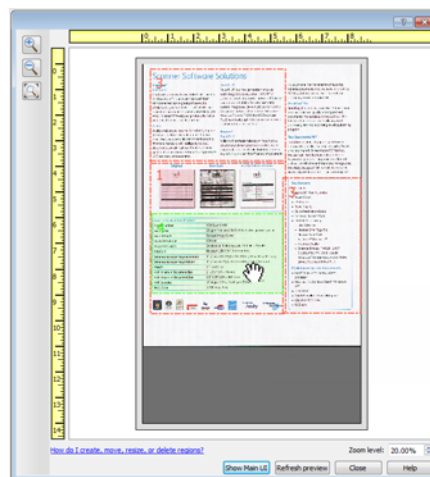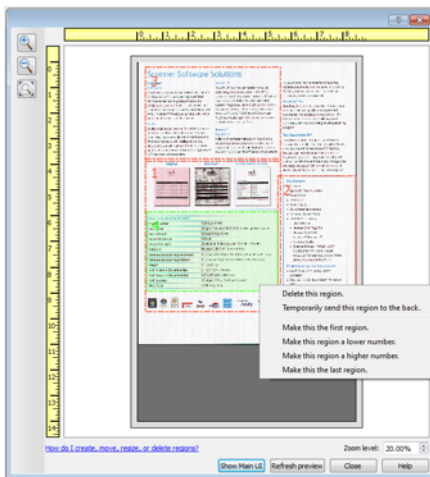
Make this the first region—select this option to set the region number to 1. This option is not available if the region you right-clicked on is already at position 1. After selecting this option, all other regions will have their number update automatically as appropriate.

Make this region a lower number—select this option to move the region number up one in the processing order. This option is not available if the region you right-clicked on is already at position 1. After selecting this option, all other regions will have their number update automatically as appropriate.

Make this region a higher number—select this option to move the region number down one in the processing order. This option is not available if the region you right-clicked on is already the last region in the processing order. After selecting this option, all other regions will have their number update automatically as appropriate.

Make this the last region—select this option to set the region number to the last number in the processing order. This option is not available if the region you right-clicked on is already at the last position in the processing order. After selecting this option, all other regions will have their number update automatically as appropriate.

Clear All Regions

Right-click anywhere in the preview window where there are no regions, and then click on Clear all regions to remove all of the regions in the preview area. This will leave only the region labeled as number 1. There must always be at least one region for scanning.
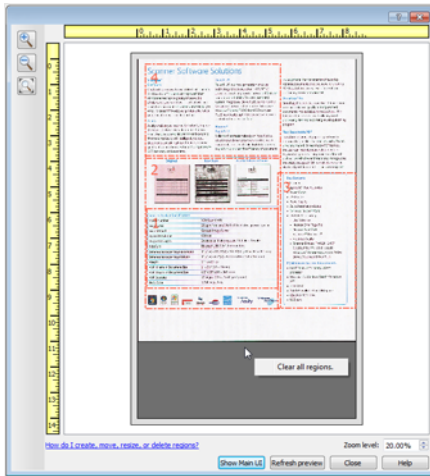
Document Source Configuration

Some options in the interface may be grayed out and cannot be selected. Grayed out options are either not appropriate for the current scanner, the software needed to enable the feature is not installed, *or* the feature is dependent on another setting in the scanner's interface. Hover the mouse cursor over a grayed out feature to see information about why the feature is unavailable.

Select **Basic** or **Advanced** from the list to show the basic or advanced document source configuration options as described below.
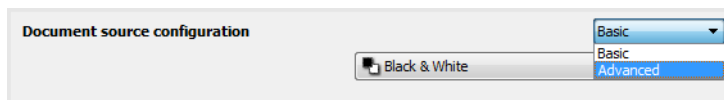
Basic Options

- **Duplex**—select this option to scan both sides of the item in the scanner.

Click the drop down menu to select the color mode you want to use.

- **Color** scans the document in color, creating a full color copy of an original document or photograph. Color scans have the largest file size.

- **Gray** scans the document using varying shades of gray to reproduce the document. The grayscale scan mode is often used when scanning documents or graphics where the original color does not need to be retained, but the graphics need to be legible. Grayscale scanning preserves the graphic quality while keeping the file size less than that of a full color scan.

- **Black and White** scans the document in bitonal where everything on the page is either black or white. This setting is often used when scanning typed or written documents. When there are not a lot of graphics, or if the graphics are not needed, this setting is ideal for archiving documents to a server or on a disc, send through email, or posting to a web page, as the file size is smaller than the other scanning modes.

Advanced Options

- **Multi-stream**—select this option to have the scanner create an image of each item scanned in each color mode selected in the source list.

- **Duplex**—select this option to scan both sides of the item in the scanner. Note that if you deselect the Back side options in the source configuration list, this option will automatically deselect.

Click the drop down menu to select the scanning options you want to use.
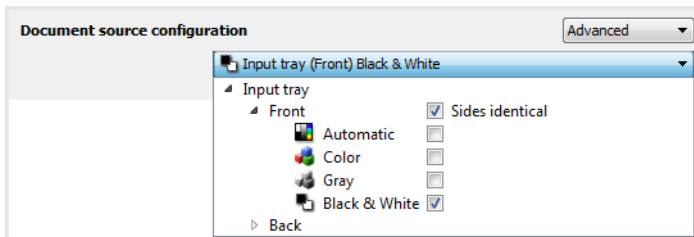
The available color modes are:

- **Automatic** determines the color of the document as it is being scanned.

  Automatic color detection can only be used with Black & White when Visioneer Acuity is not enabled. Enable Visioneer Acuity to use Gray with Automatic color detection.

- **Color** scans the document in color, creating a full color copy of an original document or photograph. Color scans have the largest file size.

- **Gray** scans the document using varying shades of gray to reproduce the document. The grayscale scan mode is often used when scanning documents or graphics where the original color does not need to be retained, but the graphics need to be legible. Grayscale scanning preserves the graphic quality while keeping the file size less than that of a full color scan.

- **Black and White** scans the document in bitonal where everything on the page is either black or white. This setting is often used when scanning typed or written documents. When there are not a lot of graphics, or if the graphics are not needed, this setting is ideal for archiving documents to a server or on a disc, send through email, or posting to a web page, as the file size is smaller than the other scanning modes.

Sides Identical

If the scanner supports two-sided (duplex) scanning, you can individually set the color mode and other options in the scanner interface for each side of the page. This option is always selected and grayed out if the scanner hardware does not support the feature.
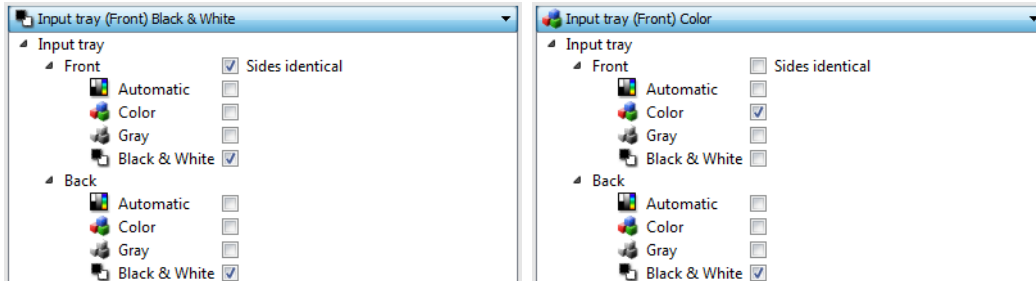
(Example: Sides are identical)   (Example: Sides are different)

While the option to enable or disable **Sides identical** is in the source configuration list, the color mode is not the only option that can be individually configured for each side. Other options in the scanner interface, such as resolution, brightness, contrast, etc... will also be individually set for each source. After you deselect **Sides identical**, any changes you make in the scanner interface will only be applied to the option that appears at the top of the list (for example, "Input tray (Front side) Color").

To set the scanner options individually for each side:

1.   Click the drop down menu and deselect **Sides identical**.

2.   Select the color mode you want for the first side.

3.   Click the top of the menu to collapse the list. Select the options in the scanner interface that you want to use for the first side.

4.   When you are done making changes for the first side, click in the source configuration list and select the color mode for the second side.

5.   That side selection will now be displayed in the top of the source configuration list (for example, "Input tray (Back side) Gray").

6.   Click the top of the menu to collapse the list. Select the options in the scanner interface that you want to use for the second side.

Tip: Save the changes to a **Preset** when you are done selecting options for each side. Please refer to "Presets" for more information.

Summary

The **Summary** area displays some of the basic scan options selected in the interface. Clicking on one of the links will open the area of the interface where the setting is located.
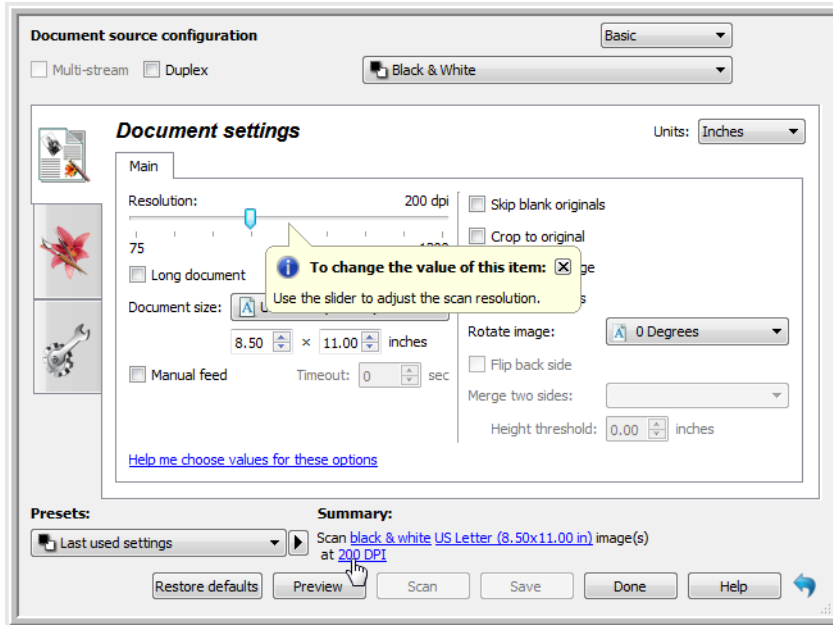
Presets

A preset contains all features in the scanner interface, including color mode, resolution, paper size, and so on. You can create, import, export, and delete presets.
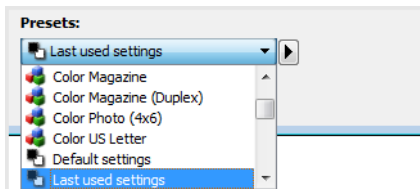
- If you select the **Last used settings** preset, then adjust the settings in the scanner interface, when you scan those changes will immediately save to the preset.

- Click the **Cancel** button to close the scanner interface without saving any changes.

Saving

1. Click on the right arrow and select **Save as...** from the list.

2. After clicking on the save option, a dialogue opens for you to type in a name. Type in the name you want then click **OK**.
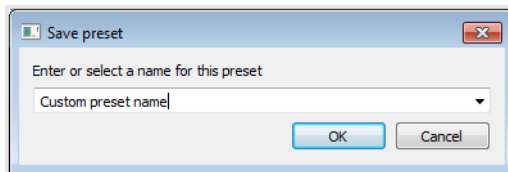
Editing

1. Select the preset you want to modify in the preset list.
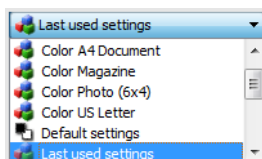
2. Adjust the options in the scanner interface as needed.

3. Click **Save**.

To rename a preset:

1. Select the preset you want to rename in the preset list.

2. Click the right pointing arrow button and select **Rename...**.

3. Type a new name for the preset in the name field and then click on **OK** in the dialogue.
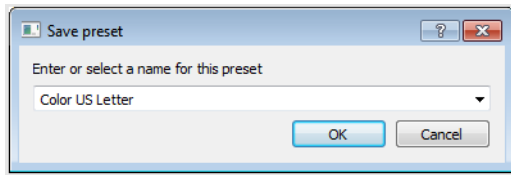
Deleting

1. Click the drop menu under **Presets** and select the preset you want to delete.

2. Click the right pointing arrow button and select **Delete**.
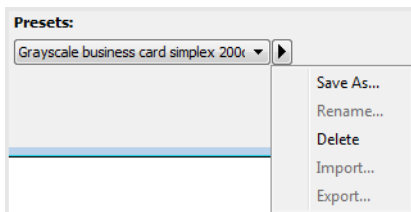
3. Click **Yes** when prompted to confirm that you want to delete the currently selected preset.
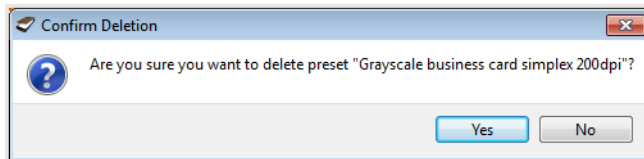
Exporting

1. Click on the right pointing arrow and select **Export...** from the list.
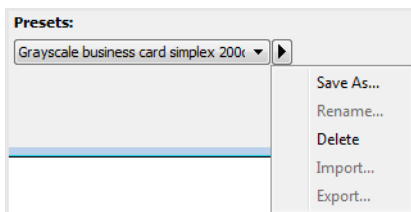
2. Click on the browse button ⬚ next to the **Destination folder** field to open a file browsing window.
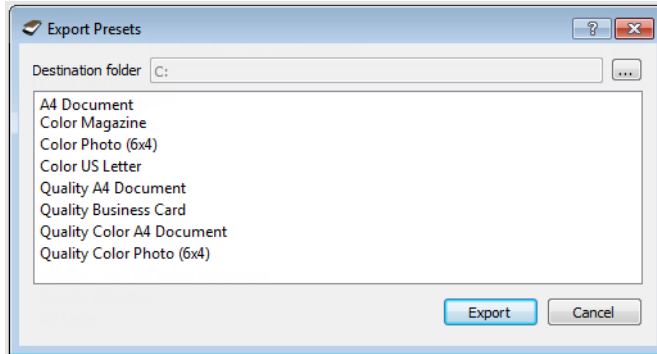
3. Browse to a location and select the folder where you want the preset file to be saved. Click on **Choose**.

   Make sure to choose a location where you will be able to easily find the file.
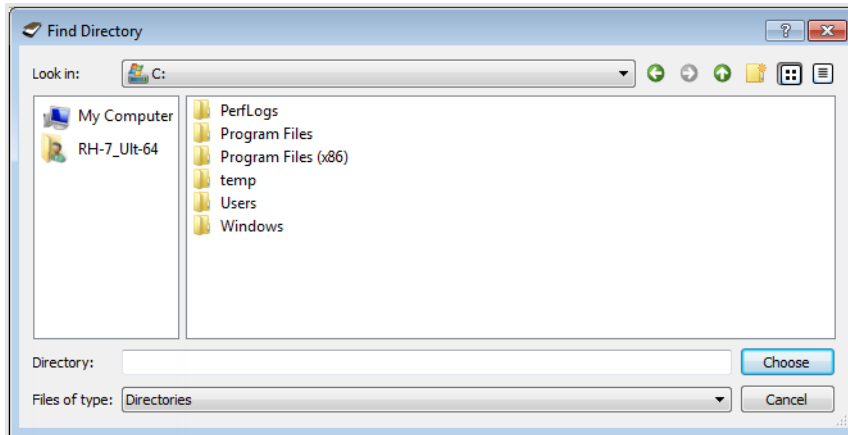
4. Select the preset you want to export in the dialogue for exporting a preset. If you want to export multiple presets, click on each preset name. You may need to hold down the **Ctrl** (Control) key on your keyboard, while clicking on each preset name, to select multiple presets.
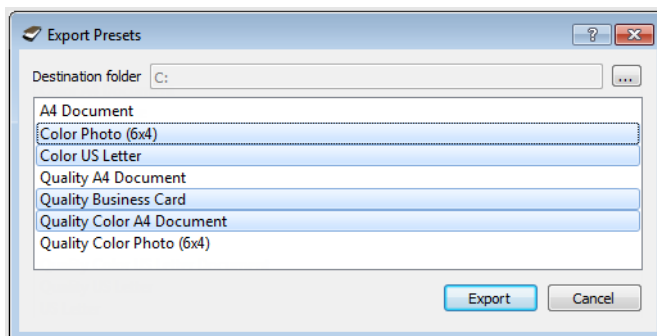
5. Click on **Export**.

   If you selected multiple presets to be exported, a file will be created for each preset you selected.

Note: the software will look for duplicate preset names. If you see a notification indicating that a preset with the same name already exists, select one of the options on-screen to continue.

- **Overwrite**—select this option to replace the current preset with the one you selected from the list.

- **Keep both**—select this option to keep both presets. The preset you selected will have a counting number added to the end of the preset name; for example, "Custom preset name (2)". The original preset name will remain unchanged.

- **Skip**—select this option to skip the preset with the duplicate name.

Select the option **Do this for all conflicts** to have the action you select in this dialogue be used for all conflicts found.

Importing

If you have previously exported presets, or another user has given you their presets files, select the import option to add those presets to your current list.

Note that if you import presets that were created when using a scanner that does not have the same hardware features as your current scanner, the settings for the presets you import will automatically be updated to reflect the supported settings for the current scanner. For example, if you are using a flatbed scanner and you import a preset that was created using an ADF scanner, all settings that are specific to ADF scanning will be modified.

1. Click on the right pointing arrow next to the presets list and select **Import...**.
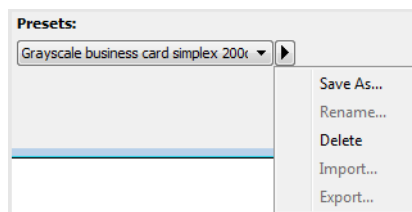
2. Browse to the location where the preset file is saved. If you want to import multiple presets, click on each preset name. You may need to hold down the **Ctrl** (Control) key on your keyboard, while clicking on each preset name, to select multiple presets.
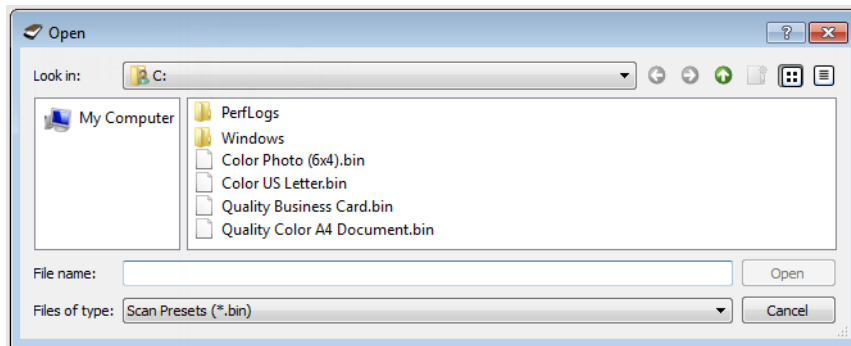
3. Click on **Open**.

4. The preset will now be in the list of presets available in the scanner's interface.

Note: the software will look for duplicate preset names. If you see a notification indicating that a preset with the same name already exists, select one of the options on-screen to continue.

- **Overwrite**—select this option to replace the current preset with the one you selected from the list.

- **Keep both**—select this option to keep both presets. The preset you selected will have a counting number added to the end of the preset name; for example, "Custom preset name (2)". The original preset name will remain unchanged.

- **Skip**—select this option to skip the preset with the duplicate name.

Select the option **Do this for all conflicts** to have the action you select in this dialogue be used for all conflicts found.

Document Settings

Some features described herein may not be available for the current scanner. Please disregard any information about features that you do not see in the interface for your scanner.

- **Main panel**—this panel contains the most commonly used scan settings. When the **Basic** source configuration mode is selected, this is the only panel available. Change to the **Advanced** source configuration mode to enable the other panels which are also described in this section.
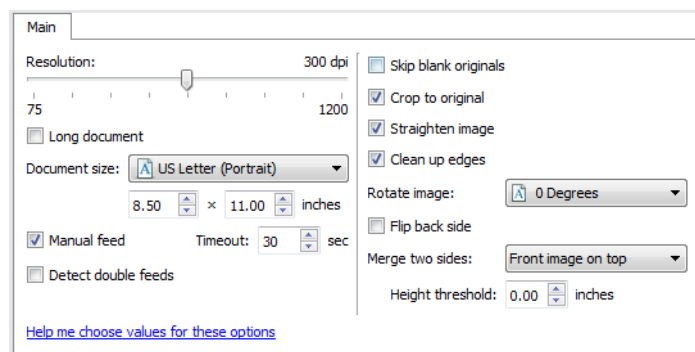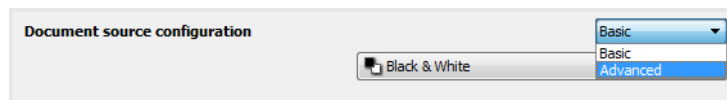
The **Document settings** section when the **Basic** document source configuration mode is selected.
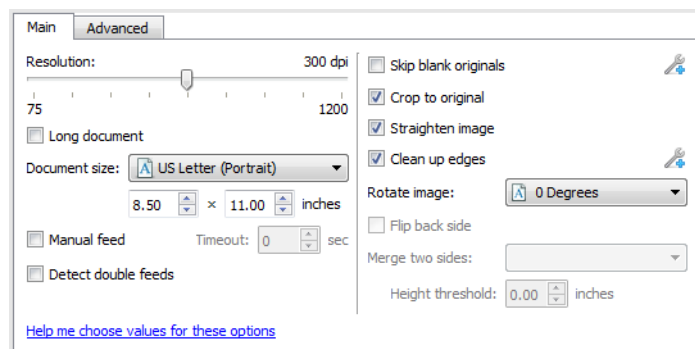
The **Document settings** section when the **Advanced** document source configuration mode is selected.

- **Advanced panel**—this panel contains advanced document handling options. If you select an option in this panel that also appears on the Main panel, when you return to the Main panel that option will be selected.

- **Scanner model panel**—this panel contains options that are specific to the scanner model you are using. If you select an option in this panel that also appears on the Main panel, when you return to the Main panel, that option will be selected.

Disabled Options in this Section

Some options in the interface may be grayed out and cannot be selected. Grayed out options are either not appropriate for the current scanner, the software needed to enable the feature is not installed, *or* the feature is dependent on another setting in the scanner's interface. Hover the mouse cursor over a grayed out feature to see information about why the feature is unavailable.

Main Panel Options

Some of the options in this panel may have advanced adjustment options on a different panel in this section. When the **Advanced** configuration mode is selected, an icon will appear next to those features which have adjustment options on another tab. Click on one of the icons to go to the area of the interface where the adjustment options are located.

Click on a link below to go to the appropriate page in this section for instructions on adjusting the option that is displayed on the **Main** tab.

See "Advanced Panel Options" on page 28

- Automatic cropping options

- Skip blank originals

- Cleanup edges

Resolution

The resolution determines the amount of detail you can see in the scanned image. Resolution is the clarity of the image measured in dots-per-inch (dpi).

Move the slider left or right to change the resolution for the scanned image. The available range displayed in the slider area are within the minimum and maximum range supported by your scanner. The resolution slider will always display the correct range for the current scanner.

Choosing resolution values

Typically, when making copies of black and white documents, 150–200 dpi will create an image of similar quality to the original. When making copies of color documents or photographs, 200–300 dpi will create an image of similar quality to the original.

Higher resolution settings are generally used for creating an image that can be enlarged without losing image quality, but take longer to scan and produce large files.

Some resolution settings for typically scanned items are:

- **Text document** letters, forms, or other typed black and white documents – 150 to 200 dpi

- **Text document** letters or forms with hand printed text – 200 to 300 dpi

- **Text document (for OCR)** forms, letters, memos, or spreadsheets – 300 dpi

- **Business cards** or other items with small print – 300 dpi

- **Color page** with graphics or color photographs – 200 dpi

- **Color photographs** of poor quality for image enhancement – 400 dpi

- **Color photographs** for printing – 300 dpi

- **Color photographs** for email – 100 to 150 dpi

- **Magazine page** with graphics, line art, or color photographs – 200 dpi

Document Size

Standard document sizes

Click the drop down menu and select a pre-defined document size from the list. The available document sizes are within the scanner's range of minimum and maximum item size.
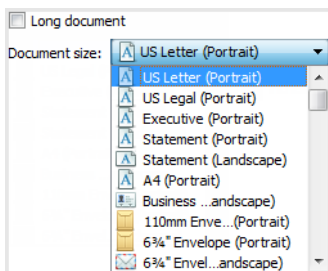
Custom document sizes

Select the measurement units you want to use from the **Units** list.
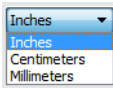
If the **Document size** list does not include the document size for your scanning batch, click in one of the fields below the document size list. Input the width of the document in the first field, then input the length in the second field. You can only specify values within the scanner's minimum and maximum supported item size. Please refer to the maintenance section of the scanner user's guide for this information.
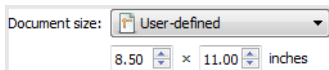
Long Document

Select **Long document** to enable support of paper sizes up to the scanner maximum. After you select this option make sure you input the page length for your document in the custom input field, located below the **Document size** selection list. When the value in the custom field is less than the actual document length, the scanned page will be split across multiple images. For example, if you are scanning a document that is 22 inches long, and the field is set to 11 inches, the final scan will be split across 2 images.

Note that some of the options in the scanner interface cannot be used when the page length will be greater than 14 or 17 inches (depending on the scanner model). When you select this option, incompatible options will either be automatically disabled or the setting will simply be discarded while scanning.

Manual Feed

Select this option to enable a delay from when the last page is scanned and when the scanner stops the scan job. This allows you to scan one page at a time without having to click Scan for each page you put in the scanner.

To scan with manual feed mode:

1. Select **Manual feed** in the scanner's interface.

2. In the **Timeout** field, input the amount of time you want the scanner to wait from when the last page is scanned and when the scanner stops scanning.

3. Place a document in the scanner.

4. Click **Scan**.

5. The scanning progress dialogue on-screen will display a countdown indicating how much time you have to place the next document in the scanner.

6. When you are done scanning all pages in your document, you can click on **Done** to stop the timer or simply let the timer run out.

Tip: the scanner may have a paper thickness switch that will adjust the rollers to allow for scanning items that are thicker than the maximum supported paper weight. If you adjust the scanner to allow for scanning very thick items, you will only be able to scan one item at a time. You can use the **Manual feed** option to have the scanner automatically continue scanning after the next item is inserted into the scanner.

Straighten Image

Select this option to let the scanner automatically determine if a page is skewed, then straighten its image. This option is only available if the scanner supports this feature.

If you are scanning using an automatic document feeder, and the page is fed through at too great of an angle, the image may not straighten correctly. In that case, re-scan the page making sure the paper guides are adjusted to the width of the pages in the input tray so that the pages are pulled straight through the scanner.

Rotate Image

Select an option in this list to have the final image rotated when scanning is complete.
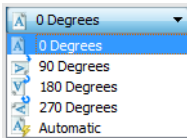
Flip Back Side

Select this option if you are scanning duplex pages that are calendar style orientation. This option will rotate the back side image 180 degrees from the front side. When scanning in duplex mode without this option selected, the back side image of calendar orientation pages will appear upside down in the final scan. This option does not automatically determine book page orientation versus calendar page orientation. If you have this option selected when scanning book orientation pages, the image for the back side of the page will appear upside down in the final scan. If you are scanning a batch of documents that contain both types of orientation, we recommend that you select Automatic in the Rotate image list.

This option is available only if the current scanner supports duplex scanning and the Duplex option is selected in the scanning interface.

Merge Two Sides

When scanning in duplex mode, you can enable this option to have both sides of a scanned item appear on one page in the final image file. The options in the list allow you to select where you want the front side image to appear in relation to the back side image in the final file.

The following image shows a cheque scanned in duplex mode without Merge two sides enabled, and the same cheque scanned with Merge two sides enabled. When Merge two sides is not enabled, side 1 and side 2 of the cheque are saved in two separate files (IMG_0001 and IMG_0002 respectively). With Merge two sides enabled, both sides of the cheque are in a single file (IMG_0003). If you are scanning a stack of items using a multipage file format, such as a PDF file, then each page in the final file will have both the front and back images of the scanned items.
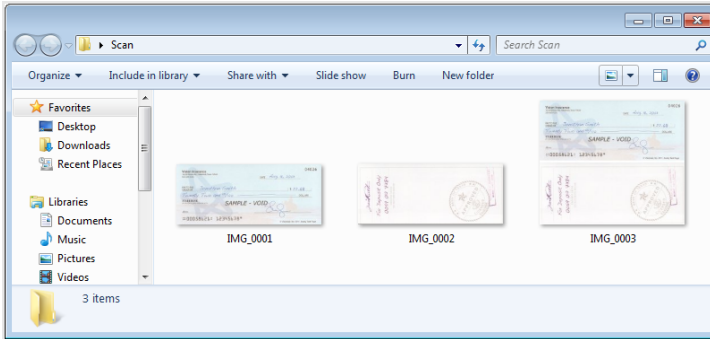
Height threshold

Input the maximum height of images to be merged. The sides will not be merged if the height of either the front or rear image exceeds this value. For example, if you are scanning a batch of mixed documents such as cheques and statements, you may want both sides of the cheques merged into one image but not the statements. The Height threshold needs to be lower than the length of the documents you do not want merged into a single file.

Select one of the options in the Merge two sides list to enable this field. Note that you will also need to enable **Long document** if you want to have the maximum height threshold be longer than 14 or 17 inches (depending on the scanner model).

Advanced Panel Options

The options in this panel may also appear in the **Main** panel, but with additional settings for you to fine-tune the feature you've selected. Select the **Advanced** source configuration mode to show this panel.
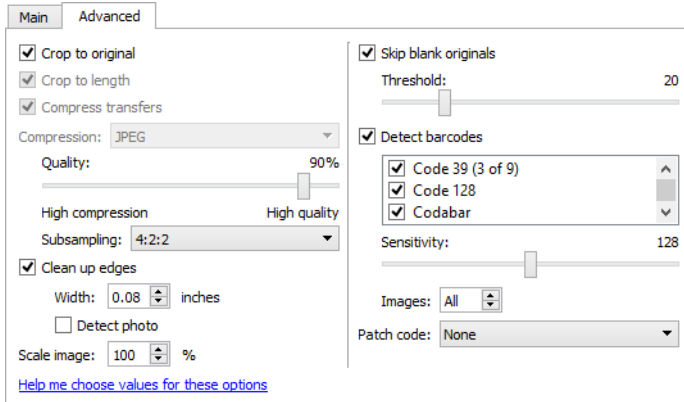
Automatic Image Cropping

Depending on the scanner model and installed software, there may be more than one automatic cropping option in the interface.

- **Crop to original**—select this option to let the scanner automatically determine the size of the item being scanned. This option is only available if the scanner supports this feature. This option may occasionally be grayed out as not all scanning applications support this feature.

  Always properly adjust the paper guides to the width of the paper in the input tray so that the pages feed into the scanner as straight as possible. Skewed pages may not crop properly.

- **Crop to length**—this option tells the scanner to crop the final image to the bottom of the page being scanned. This option is only available if the scanner supports this feature. This option may occasionally be grayed out as not all scanning applications support this feature.

Compression Options

There are two types of image compression functions used during scanning. The input compression option is compressing the image when transferring it from the scanner to the TWAIN driver on the computer. The output compression option is the TWAIN driver compressing the image before it sends the image to the scanning application. In the scanning interface the input compression option is **Compress transfers** and the output option is **Compression**.

The **Compress transfers** option described herein compresses the image for faster transfer from the scanner to the computer. The driver uncompresses the image and transfers the uncompressed image to the scanning application. The **Compression** option will often be disabled as most applications do not support receiving a compressed image file from the scanner driver.

Compress transfers

Select this option to have the scanner compress the image in Gray and Color scans. This reduces the file size and allows for faster image transfer from the scanner to the computer. Once the compressed image is on the computer, the scanner's driver will then uncompress the image, and perform any image processing functions that have been selected in the scanning interface. The uncompressed image is then transferred to the scanning application. With Compress transfers, a scanning application such as Nuance PDF Converter, will receive the uncompressed image and save the image in whatever file format it uses. You can use the Quality slider to adjust the level of compression you want to use.

Quality
You can fine tune the compression level by adjusting the quality slider between high compression and high quality. When the quality level is set to high compression, the scanner will scan and transfer images faster than high quality, but the image quality of the output scan will be lower.

Subsampling
The subsampling options allow you to select the encoding ratio between color information and luminosity. Subsampling works by lowering the resolution of the RGB colors found in an image without effecting luminescence of the image. This compresses the image to create smaller file sizes but it can sometimes result in loss of image quality. Depending on the type of image being scanned, subsampling encoding may not have a noticeable effect in the final image file. You should try test scans using the different levels of subsampling to make sure you are happy with the image quality.

- **4:4:4**—no subsampling and the ratio between color and luminosity remains unchanged.

- **4:2:2**—mid-level ratio between color and luminosity.

- **4:1:1**—highest ratio difference between color and luminosity, which results in saving the smallest file size.

Compression

This option is specific compression for file and memory transfers to an application. It is only available if the application you are using can accept a compressed image file. For instance, if your scanning application is set to receive JPEG compressed images, then the **Compression** field will display **JPEG**. Otherwise, the status for Compression will always be disabled and display **Uncompressed** because the scanning application you are using is requesting an uncompressed image.

When this option is available, it is an advanced user and application option and should not be adjusted if you are not familiar with the technology. However, if you are certain that you are using an application that can receive a compressed image, and you want to be able to change the image compression type, you will need to enable user adjustable compression in the scanning interface. Please refer to the "Driver Settings" section for instructions.

Please note that if you adjust this setting, and the application cannot actually accept the option you change, the scanning interface and the application may crash. It is *highly recommended* that you leave the default options and let the application set any image compression.

From the Windows Control Panel
1. Click on the **Driver settings** tab.

2. Select **Enable user compression** and **Remember compression**.

3. Note that if these two options are grayed out and you cannot select them, then these options are not available for your scanner.

4. Click on **OK**.

5. Open the scanner interface.

6. Change to the **Advanced** source configuration mode.

7. In the Document settings section click on the **Advanced** tab.

8. If your scanner and application supports compressed file transfers, the Compression option will now be available.

Clean Up Edges

Select this option to remove any thin lines from around the edges of the final scan. This option will fill the margins of the image with the detected edge color. When you select this option, the **Width** input field will automatically enable for you to input the size of the area you want to have filled with the background color. You can specify a fill size between approximately 0.04 to 0.39 inches (1 mm to 10 mm).

- **Detect photo** —select this option to let the scanner determine if a photo has been scanned. When this occurs, edge cleanup will not be applied.

Scale Image

This option is used to scale the output image produced and is set to 100 % by default. When the value is reduced to less than 100 % the original image size will be reduced accordingly and the outer edges will be filled with the page background color.

When the value is increased above 100 %, the output image will be enlarged accordingly and data from the edges of the original image will be lost.

Skip Blank Originals

Select this option to have the scanner detect if a blank page has been fed through the scanner, and remove it from the final file.

- **Blank threshold**—you can use the Threshold slider to fine tune the sensitivity of the blank image detection. The results will depend on the scan settings and the types of documents being scanned. In general leave the threshold level at the default setting if you are scanning good-quality documents printed on standard 20lb printer paper. Try lowering the sensitivity level if your documents contain light colored text or drawings so those pages are not detected as blank. Raise the sensitivity level if you are scanning double-sided light-weight paper where images from the opposite side of the page may appear in the image of the blank side.

Scanner Model Panel Options

The options in this panel are specific to the scanner you are using. Some features described herein may not be available for the current scanner. Please disregard any information about features that you do not see in the interface for your scanner.

If you select an option in this panel that also appears on the **Main** panel, when you return to the **Main** panel, that option will be selected. Select the **Advanced** source configuration mode to show this panel.
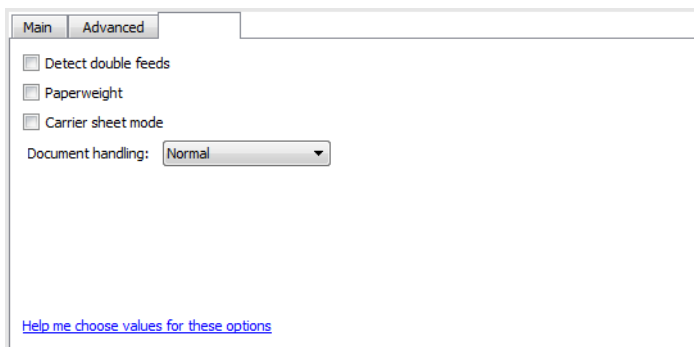
Detect Double Feeds

Detect double feeds is the scanner's ability to detect when two or more pages are fed through the scanner at the same time. When this option is turned on, ultrasonic waves are aimed at the document to detect multiple pages by the level at which the waves pass through the pages. The accuracy of this sensor depends on paper thickness and whether or not creasing is in the original document.

Technical Note:

If you are getting false double feed errors, try cleaning the inside of the scanner. Excessive dust on the sensor can cause false double feed errors. Refer to the maintenance section of the scanner's user guide for instructions on cleaning the scanner.

Sensitivity Level

- **Low** works best with paper weight higher than 22lb (84 g/m^2 or higher).

- **Normal** works best with standard printer paper weight 18lb or 20lb (67 - 80 g/m^2).

- **High** works best with paper weight lower than or equal to 16lb (60 g/m^2 or lower).

Detect Stapled Documents

Select this option to have the scanner warn you if a stapled page has been detected. When the scanner detects the stapled page it will stop scanning so that you can fix the problem and start the scan again.

This option detects the feed page lifting that occurs when one page is pulled away from a stapled document. This option does not detect staples on single pages. If you scan single page documents with staples on them, the page will be scanned and the staple will cause damage to the scanner. You should carefully and properly prepare the documents for scanning, including removing all staples and paper clips. Damage due to misuse as described here is not covered by the scanner warranty.

Skew Detection

This option detects when a page has been fed through at an angle. Select an option from the drop menu to turn on this feature. When scanning, always make sure the paper guides have been properly adjusted to the width of the documents in the input tray. This helps to prevent the pages from being pulled through at an angle.

Detect Folded Corners

Select this option to have the scanner detect when a page that has a corner folded down is being scanned. When a page with a folded corner is scanned, a message will appear on-screen indicating that a folded corner has been detected. You will have the option to correct the page, ignore the warning, or cancel scanning.

This option will be disabled if the value in the **Document size** length field exceeds the maximum supported page length for this feature. This limitation varies based on the scanner version as described below. If you do not know which version of scanner you have, please refer to "Checking the Scanner Firmware Version".

If your scanner has firmware version 2.0 or higher, the **Detect folded corners** option will be disabled if **Straighten image** is not selected.

Note: make sure the paper guides on the input tray are adjusted to the width of the document in the scanner. The guides should be touching the paper to help feed the page in as straight as possible. Folded corners may not be detected properly on skewed pages.

If this option does not function as expected, please try cleaning the scanner glass. When scanning at higher resolutions (e.g. 300 dpi or higher), dust on the scanner glass may be interpreted as valid scan data.

Xerox DocuMate 5445 / Xerox DocuMate 5460 — firmware version lower than 2.0

This feature will be disabled if the number in the **Document size** length field exceeds 14 inches (356 mm).

Xerox DocuMate 5445 / Xerox DocuMate 5460 — firmware version 2.0 or higher

This feature will be disabled if the number in the **Document size** length field exceeds the maximum length for the selected resolution as described in the table below.

Resolution	Maximum page length
100 dpi	110 inches (2794 mm)
150 dpi	73.33 inches (1862 mm)
200 dpi	55 inches (1397 mm)
300 dpi	36.66 inches (931 mm)
400 dpi	27.5 inches (698 mm)
500 dpi	22 inches (558 mm)
600 dpi	18.33 inches (465 mm)

Length—input the minimum length of the folded corner area that you want the scanner to detect. This is the length from the corner of the page to the fold, and the size can be between 0.1 and 2.5 inches (3 to 63 mm). When scanning, any folded corner area shorter than this will not be detected as a folded corner, the scanner will not stop scanning, and no message will appear on-screen.

Detection length

Check point
(Detection coordinates)
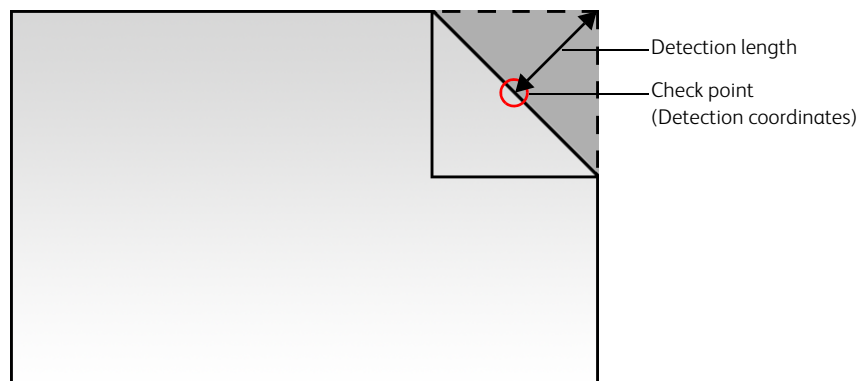
If your scanner does not support this feature it will not appear in the interface.

Split Long Document

Select this option to have a scanned document split across multiple images. You must select **Long document** on the **Main** tab to enable this feature. After selecting **Split long document**, make sure to input the physical document length in the **Maximum length** field. Then return to the **Main** tab and input the desired image length in the **Document size** custom field. When the value in the custom field is less than the physical document length, the scanned page will be split across multiple images. For instance, if you input 100 inches for the maximum physical length, and then input 20 inches in the document size field, when scanning is complete you will have five 20 inch long images.
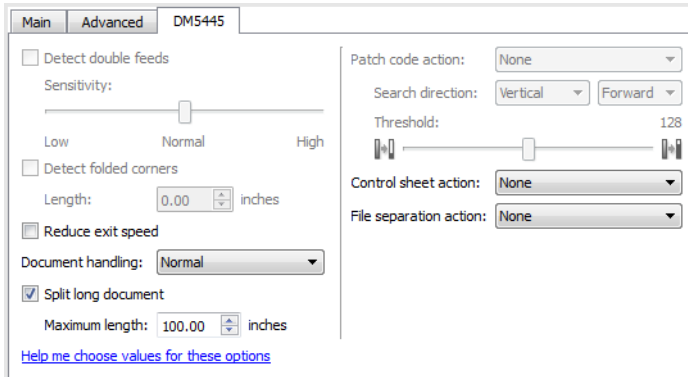
When **Split long document** is not selected, the **Document size**: "length" field represents the physical *document* length. When **Split long document** is selected, the **Document size**: "length" represents the final *image* length.
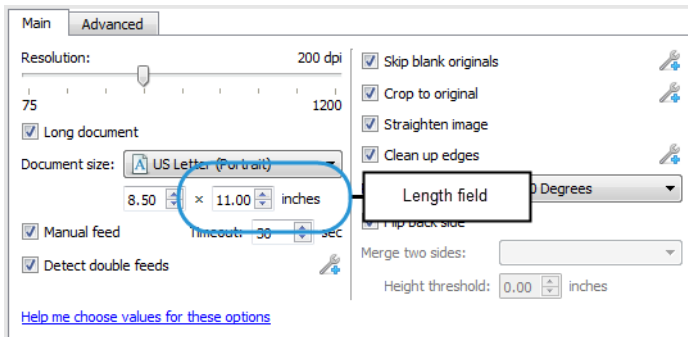
Note: the document you want split across multiple images does not have to be unusually long. You can scan any item within the scanner's supported paper sizes and the images will be split based on the length in the custom document size field.

Currently, these options will be disabled when using Split long document:

- Crop to original

- Straighten image

- Detect double feeds

- Detect folded corners

- Automatically adjust brightness and contrast

Technical note:

Scanner versions: Xerox DocuMate 5445 / Xerox DocuMate 5460 — firmware version 2.0 or higher

In addition to the previous list, the following hardware image processing options will be disabled if Split long document is selected and Visioneer Acuity is *not* enabled.

- Skip blank originals

- Smooth background

- Remove background

- Automatic color detection

- Rotate image

- Flip back side

These options will become available when Visioneer Acuity is installed and enabled. If **Split long document** is selected at the same time any of the above options are selected, the scanner will use software image processing instead of hardware image processing.

If you do not know which version you have, please refer to "Checking the Scanner Firmware Version" and "Hardware Image Processing for Your Scanner".

Reduce Exit Speed

Select this option to have the feed motor slow down the exit rollers as items are ejected from the scanner. This helps to keep short items stacked in the output tray. Note that slowing the exit rollers will cause a beep sound to occur as each page is ejected from the document feeder.

Document Handling

Select the type of paper in your scan batch. Leave the default selection for Normal paper handling to have the scanner feed items at normal scan speeds. Select Delicate to have the scanner slow the feeding motor so that very thin or fragile paper does not tear as it is fed through the scanner.

Patch Code Action

Select an option from this list to enable detection of patch code sheets while scanning.

- **Detect and include**—the scanner will detect the sheet and then retain an image of the sheet in the output scan.

- **Detect and exclude**—the scanner will detect the sheet and then discard the image of the sheet so that it is not included in the output scan.

The action that occurs when a patch code is detected is dependent on the scanning application you are using. Patch code detection is an advanced feature and should only be used if you are already familiar with the technology.

Use the Search direction options to specify the orientation of the patch code sheet relative to the feed direction.

The scanner detects these sheets in the document stack as follows:

- The scanner will only detect sheet data that faces the Simplex lamp module.

Patch code sheets are available on the scanner's installation disc for you to print and use. The scanner can detect patch codes 2, 3 and T. The file is located in the user guides section for the scanner on the installation disc. Print the sheets that are appropriate for the size of the pages being scanned. For instance, if you are scanning A4 pages, print the sheet that is in the bookmark for A4.

Threshold

Adjust the midpoint gray level for deciding what is black and what is white on a patch code sheet.

Lower this value if your patch code appears on a darker background. Raise this value if your patch code appears on a lighter background.

Technical Note:
The scanning resolution needs to be at 150 dpi or higher for the scanner to detect the patch code page.

Control Sheet Action

Select an option from this list to enable detection of control sheets while scanning. Control sheets can be used to change the scan settings automatically while scanning.

- **Detect and include**—the scanner will detect the sheet and then retain an image of the sheet in the output scan. Scanning will continue using the current settings in the interface.

- **Detect and exclude**—the scanner will detect the sheet and then discard the image of the sheet so that it is not included in the output scan. Scanning will continue using the current settings in the interface.

The scanner detects these sheets in the document stack as follows:

- The scanner will only detect sheet data that faces the Simplex lamp module.

There are various types of control sheets available on the scanner's installation disc for you to print and use. The file is located in the user guides section for the scanner on the installation disc. Print the sheets that are appropriate for the size of the pages being scanned. For instance, if you are scanning A4 pages, print the sheet that is in the bookmark for A4.

File Separation Action

Select an option from this list to enable detection of file separation sheets while scanning. The file separation sheets can be used in a stack of pages to have the scanner create a separate file for each separation sheet it detects.

- **Detect and include**—the scanner will detect the sheet, and then retain an image of the sheet in the output scan. Scanning will continue using the current settings in the interface.

- **Detect and exclude**—the scanner will detect the sheet and then discard the image of the sheet so that it is not included in the output scan. Scanning will continue using the current settings in the interface.

- **Stop and include**—the scanner will detect the sheet and stop scanning. You can adjust the scan settings and then click **Scan** to continue scanning. An image of the sheet will be retained in the output scan.

- **Stop and exclude**—the scanner will detect the sheet and stop scanning. You can adjust the scan settings and then click **Scan** to continue scanning. The image of the sheet will be discarded so that it is not included in the output scan.

The scanner detects these sheets in the document stack as follows:

- The scanner will only detect sheet data that faces the Simplex lamp module.

The file separation sheets are available on the scanner's installation disc for you to print and use. The file is located in the user guides section for the scanner on the installation disc. Print the sheets that are appropriate for the size of the pages being scanned. For instance, if you are scanning A4 pages, print the sheet that is in the bookmark for A4.

Imprinter Panel Options

Use the imprinter tab to set the options for printing data on the pages as they are scanned. The imprinter options are only available if you have an imprinter unit installed in the scanner. Depending on your scanner model, you may have two imprinter options in the TWAIN interface. Only the imprinter options appropriate for your scanner will be available in the interface.
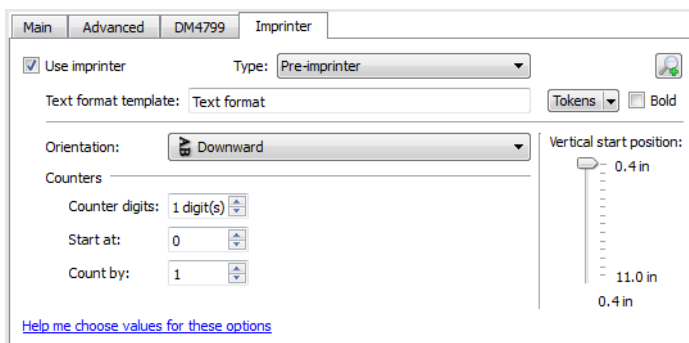
Use imprinter—select this option to enable the features in the Imprinter tab for you to configure the text strings you want to have printed on the page.

If you are using a scanner that has two imprinters installed, select the imprinter you want to configure from the list. Only one imprinter can be used at a time, you cannot enable and configure both imprinters.

- **Pre-imprinter**—prints the character strings defined on this tab on the pages before the pages are scanned. These strings then appear in the scanned image. The pre-imprinter only prints on the simplex (face up) side of the page.

- **Post-imprinter**—prints the character strings defined on this tab on the pages after they are scanned. The post-imprinter only prints on the duplex (back) side of the page.

Text format template—input the text you want to have printed on the scanned pages. The following table shows the available alphanumeric characters and symbols that can be printed. A maximum of 72 characters can be printed, which includes text you type in the input field as well as any tokens you select from the token list.

SP	!	"	#	$	%	&	'	(	)	*	+	,	-	.	/	0	1	2	3	4	5	6	7	8
9	:	;	<	=	>	?	@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
R	S	T	U	V	W	X	Y	Z	[	¥	]	^	_	a	b	c	d	e	f	g	h	i	j	k
l	m	n	o	p	q	r	s	t	u	v	w	x	y	z	{			}	‾						

Tokens—click the down arrow and select a token from the list, then click the arrow button to add that value to the character string field. You can add up to 3 tokens from this token list. The amount of text you can type in the Text format template field will be reduced by the number of characters that will be printed using the tokens you selected.

- {FN} – inserts the scanner name.

- {User} – inserts the user name.

- {Mach} – inserts the computer name.

- {#_b} – inserts the step number with spaces padding the number based on the select number of Counter digits.

- {#0b} – inserts the step number with "0" padding the number based on the selected number of Counter digits.

- {YY/MM/DD} – inserts the current date in the 2-digit Year/Month/Day format (11/01/31).

- {YYYY/MM/DD} – inserts the current date in the 4-digit Year/Month/Day format (2011/01/31).

- {MM/DD/YY} – inserts the current date in the Month/Day/2-digit Year format (01/31/11).

- {DD MMM.,YYYY} – inserts the current date in the Day, 3-letter Month, 4-digit Year format (31 Jan., 2011).

- {HH:mm} – inserts the current time in hours:minutes using the 24-hour clock format (13:30).

- {HH:mm:ss} – inserts the current time in hours:minutes:seconds using the 24-hour clock format (13:30:01).

Orientation—select in which direction you want the text printed on the page. When you select an option from the list, the text to the right shows a preview of how the text will look on the page.

Vertical position—drag the slider up or down to set the start position on the page where you want the text printed. The starting position of the slider is 10mm (approximately .4 inches) as this is the minimum required margin from the edge of the paper. You should set the paper size on the Main tab before adjusting the Vertical start position. Click on the label "mm" or "inches" to switch between the two units of measurement.
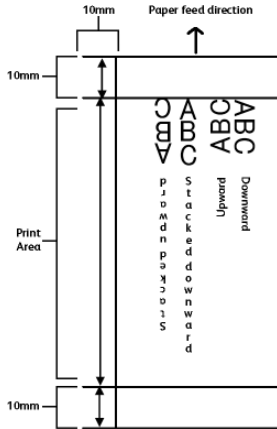
You set the horizontal start position by moving the ink carriage in the imprinter unit itself. Move the ink carriage left or right and align the arrow tab to the appropriate paper width indicated on the imprinter unit.
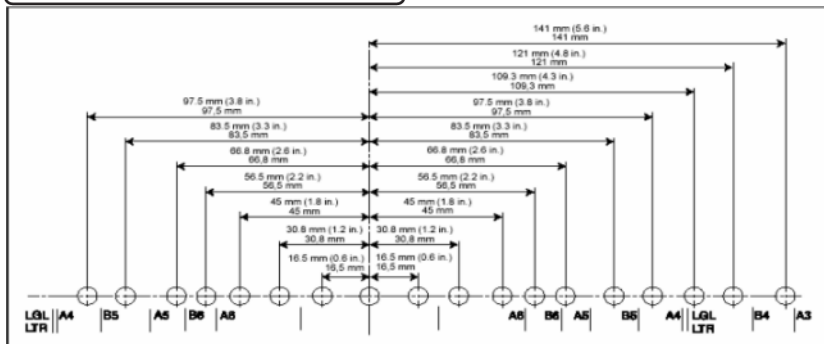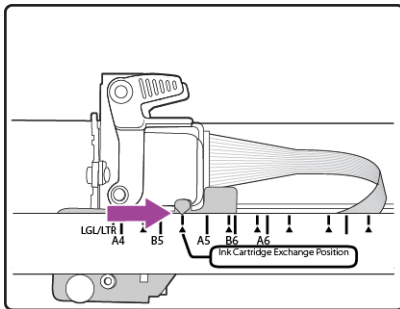
Counters—the options in this area allow you to set the unique counting numbers to be used in the printed text. The "Text format template" field must contain one or more of the "Counter" tokens for these numbers to be included in the printed string.

- **{#_b}** – Counter 1 padded with spaces

- **{#0b}** – Counter 1 padded with zeroes

- **{#0b2}** – Counter 2 padded with zeroes

- **{#0b3}** – Counter 3 padded with zeroes

Note: the "Counter 1" option represents the scanner's basic internal counter for tracking the number of pages scanned. It is the only counter that is automatically incremented in the printed string on each page. The other counters will only increment during scan time when patch code detection is enabled and patch code pages are in the document stack. The behavior of each counter with and without patch codes is described below.

- **Counter digits**—click the up or down arrows to change the number of digits to print for each counter.

- **Count by**—click the up or down arrow to change how the printed numbers increment for "Counter 1" only (tokens {#_b} or {#0b}). For example, if you want to print the number of images scanned, and you are scanning in duplex, you can set the Count by number to 2 so that the printer string reflects the number of images captured in the scanned file. If you want to track the actual number of pages scanned, set Count by to 1.

- **Reset value**—this is the number which counters 1 and 2 will be reset to when a patch code page is detected during scanning.

- **Counter 1**—input the number at which you want this counter to start. The length of the number is limited to the number you set in the "Counter digits" field. The printed number automatically increments as each page is scanned.

  When patch code detection is enabled and the scanner detects a Patch 2 or Patch 3 page, this counter and its printed string is reset to the Reset value. The printed string for this counter then increments from that number (either 0 or 1).

- **Counter 2**—input the number at which you want this counter to start. The length of the number is limited to the number you set in the "Counter digits" field. This is a static number that does not automatically increment during scanning.

  When patch code detection is enabled and the scanner detects a Patch 2 page, this counter increments and the printed string reflects an increment value of 1. For example, if you input **20** for this counter and a Patch 2 page is detected while scanning, the next scanned page will have **21** printed on the page.

  When patch code detection is enabled and the scanner detects a Patch 3 page, this counter and its printed string is reset to the Reset value (either 0 or 1). The number does not increment from the reset value until a Patch 2 page is detected.

- **Counter 3**—input the number at which you want this counter to start. The length of the number is limited to the number you set in the "Counter digits" field. This is a static number that does not automatically increment during scanning.

  When patch code detection is enabled and the scanner detects a Patch 3 page, this counter increments and the printed string reflects an increment value of 1. For example, if you input **5** for this counter and a Patch 3 page is detected while scanning, the next scanned page will have **6** printed on the page. The number does not increment until another Patch 3 page is detected.

  Patch 2 pages do not affect this counter.

Note that only the printed string will reflect these changes while scanning. When scanning is complete, all of the counters will have the starting number you set before starting the scan job.

For example, if you were to input in the text format template: **Scanned {YYYY/MM/DD} – {#0b2},{#0b}.**

- The counter options set as follows.

      –   Counter digits = **4**

      –   Count by = **2**

      –   Reset value = **1**

      –   Counter 2 = **20**

      –   Counter 1 = **500**

With 8 pages in the scanner and a Patch 2 page in the middle of the document stack.

- The printed strings on pages 1 through 4 would be:

      –   Scanned 2012/01/31 – 0020,0500

      –   Scanned 2012/01/31 – 0020,0502

      –   Scanned 2012/01/31 – 0020,0504

      –   Scanned 2012/01/31 – 0020,0506

- The printed strings on pages 5 through 8 would be:

      –   Scanned 2012/01/31 – 0021,0001

      –   Scanned 2012/01/31 – 0021,0003

      –   Scanned 2012/01/31 – 0021,0005

      –   Scanned 2012/01/31 – 0021,0007

Tip: save the changes to a Preset when you are done setting the imprinter options.

Image Enhancements

Some features described herein may not be available for the current scanner. Please disregard any information about features that you do not see in the interface for your scanner.

Click on the Image Enhancements icon to select options applicable to what type of image processing you want applied for the items being scanned.

- **Main panel**—this panel contains the most commonly used scan settings. Some of the options in this panel may have adjustment options on the other panels in this section. When the **Basic** source configuration mode is selected, this is the only panel available. Change to the **Advanced** source configuration mode to enable the other panels which are also described in this section.
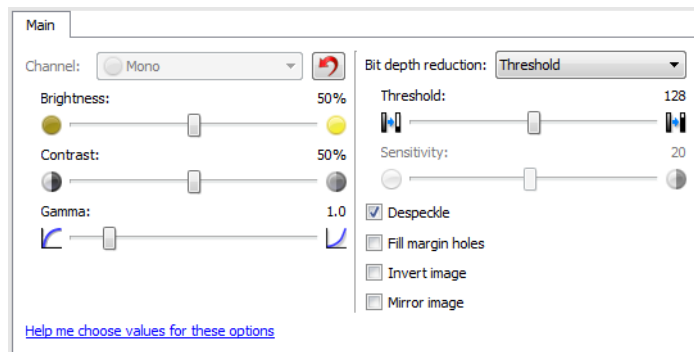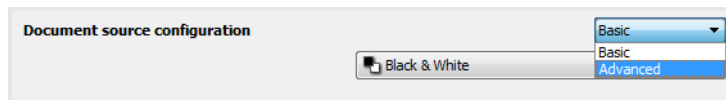
The **Image enhancements** section when the **Basic** document source configuration mode is selected.
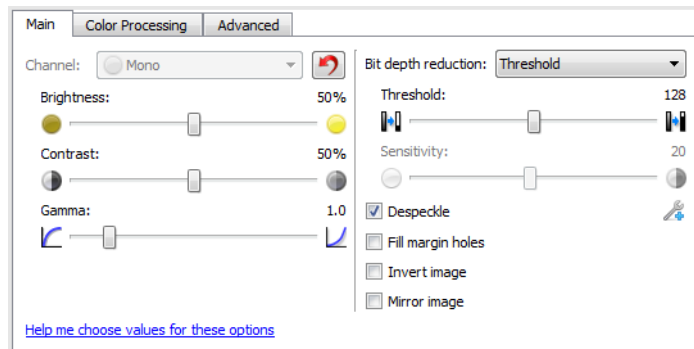
The **Image enhancements** section when the **Advanced** document source configuration mode is selected.

- **Color processing panel**—this panel contains advanced options for processing colors in the final scans.

- **Advanced panel**—this panel contains advanced image enhancement options for improving the clarity of the scanned image.

- **Scanner model panel**—this panel contains options that are specific to the scanner model you are using.
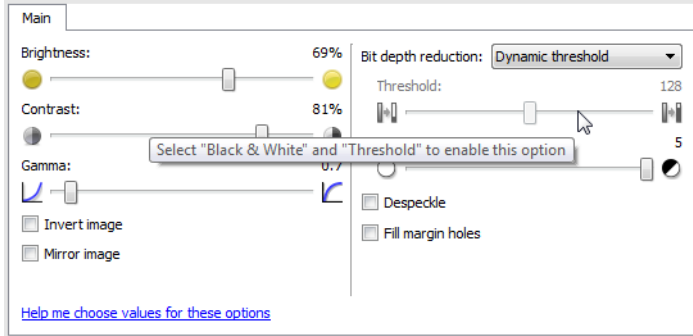
Disabled Options in this Section

Some options in the interface may be grayed out and cannot be selected. Grayed out options are either not appropriate for the current scanner, the software needed to enable the feature is not installed, *or* the feature is dependent on another setting in the scanner's interface. Hover the mouse cursor over a grayed out feature to see information about why the feature is unavailable.

Main Panel Options

Some of the options in this panel may have advanced adjustment options on a different panel in this section. When the **Advanced** configuration mode is selected, an icon will appear next to those features which have adjustment options on another tab. Click on one of the icons to go to the area of the interface where the adjustment options are located.

Click on a link below to go to the appropriate page in this section for instructions on adjusting the option that is displayed on the Main tab.

See "Advanced Panel Options" on page 56

- Despeckle

Channel

This option lets you adjust the Brightness, Contrast, and Gamma (herein BCG) values individually for each color channel in the Color scanning stream.

Select **Color** in the Document source configuration list to enable this option.

- **RGB** – select this option to adjust the BCG values for all color channels.
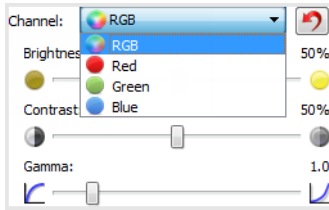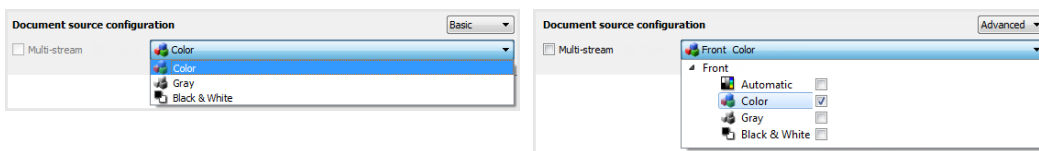
- **Red** / **Green** / **Blue** – select one of these options to adjust the BCG values for only that color channel.

Clicking the (reset button) when RGB is selected will restore BCG to the default values for all color channels, including Black & White and Gray scanning. Clicking the reset button when Red, Green, or Blue is selected will restore BCG to the default values for only that color channel.
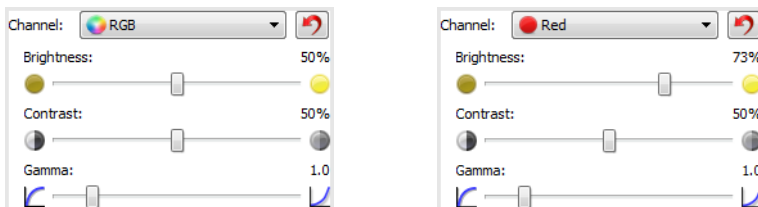
Brightness

Brightness is the overall lightness of the image. Move the slider left or right to darken or lighten the image. Adjusting the brightness level adjusts the tone of the pixels, without changing the true color of the pixels; such as when adjusting hue.

Choosing brightness values

Adjusting the brightness level is based on how you want the image to appear and there is no standard to adhere to. Below are some recommended options for brightness image correction based on the original document quality.

- Original documents of good quality - 50 %

- Pencil written letters, forms, or drawings - 25 % to 40 %

- Faded pictures or old documents with faded text - 35 % to 45 %

- Light colored carbon copy paper, such as yellow or pale pink or pale green, with light text - 45 % to 55 %

- Newspaper or magazine pages - 55 % to 70 %

- Book pages - 55 % to 80 %

- Pictures taken inside or in the shade - 60 % to 85 %

Brightness works in conjunction with **Contrast** for image enhancement. When you are adjusting the brightness level to improve the scanned image quality, try adjusting the contrast level as well. The contrast level is the range between the lightest and darkest parts of the image. For example, if you scanned a document with notes written in pencil, you may have to decrease the brightness level to get the handwritten notes to appear in the scanned image. However, when decreasing the brightness, white starts to appear gray in the image. In that case, raise the contrast level to make the differences between the lightest and darkest part of the image more defined.

Color image brightness examples
The examples below show the original image at the default setting of 50 % brightness level, 25 % brightness and 75 % brightness. Adjusting the brightness level does not make the image completely black nor completely white.

Brightness: 25 %   Brightness: 50 %   Brightness: 75 %

Technical note:
Most monitors have a brightness setting that is user adjustable. When viewing scanned images on-screen, versus printing the image, the brightness setting of the monitor may effect how light or dark the scanned image looks when compared to the original. If the scanned image is too different from the original image, or if adjusting the scanned brightness level does not modify the image how you want, try adjusting the monitor's brightness level. Refer to the monitor's user guide for adjusting the brightness level and see if the manufacturer has any recommended settings.

Black background scanners:
Some scanners have a black background plate. A black background results in more precise cropping results and skew detection. However, when scanning thin paper, such as multipart color forms or ruled writing paper, which are less than 18lb paper weight, the background may "bleed" through into the final image and make the image darker than it should be. In that case, try adjusting the brightness level between 60 % and 80 %.

Contrast

Contrast refers to the differences between the light and dark portions in the image. Move the slider left or right to decrease or increase the contrast levels. Increasing the contrast level emphasizes the difference between the lighter and darker portions of the image, decreasing the contrast de-emphasizes that difference.

Choosing contrast values

While **Brightness** adds the same amount of gray or white to all pixels in the image, **Contrast** adjusts the pixels based on the pixel color level. For instance, increasing the contrast level will add white to light colored pixels and gray to dark pixels to make the difference between color levels in the image crisper. Decreasing the contrast level will have the opposite effect, where light colored pixels are modified with gray and dark pixels are modified with white to make the transition of colors in the image appear smoother.

Adjusting the contrast level is based on how you want the image to appear and there is no standard to adhere to. Contrast works in conjunction with brightness for image enhancement, when decreasing the brightness level, the overall image becomes darker, in which case you may want to increase the contrast level so that the differences between the lighter and darker portions of the image are clearer.

Below are some recommended options for contrast image correction based on the original document quality.

- Original documents of good quality - 50 %

- Pencil written letters, forms, or drawings - 55 % to 65 %

- Faded pictures or old documents with faded text - 60 % to 70 %

- Light colored carbon copy paper, such as yellow or pale pink or pale green, with light text - 45 % to 55 %

- Newspaper or magazine pages - 55 % to 70 %

- Book pages - 60 % to 75 %

- Pictures taken inside or in the shade - 40 % to 60 %

Color image contrast examples

The examples below show the original image at the default setting of 50 % contrast level, 25 % contrast and 75 % contrast.

Contrast: 25 %

Contrast: 50 %

Contrast: 75 %

Technical note:

Most monitors have a contrast setting that is user adjustable. When viewing scanned images on-screen, versus printing the image, the contrast setting of the monitor may effect how clear a scanned image looks when compared to the original. If the scanned image is too different from the original image, or if adjusting the scanned contrast level does not modify the image how you want, try adjusting the monitor's contrast level. Refer to the monitor's user guide for adjusting the contrast level and see if the manufacturer has any recommended settings.

Black background scanners:

Some scanners have a black background plate. A black background results in more precise cropping results and skew detection. However, when scanning thin paper, such as carbon copy paper or ruled writing paper, which are less than 18lb paper weight, the background may "bleed" through into the final image and make the image darker than it should be. In that case, try adjusting the brightness level between 40% and 60%, then adjust the contrast level between 60% and 80%.

Gamma

Gamma is the tone curve and starting point for image enhancement. Move the slider left or right to darken or lighten the image. As you raise or lower the **Gamma** value, the values at which **Brightness** and **Contrast** effect the image are changed. It is recommended that you keep the default gamma value, or adjust this setting before adjusting the other options.

Choosing gamma values

As the gamma value is adjusted lower, the tone curve begins to straighten and the shadows of the image are expanded, darkening the shadows without overall darkening the image with gray as seen with lowering the brightness level. This way, the highlights and shadows in the image are maintained by saturating the pixels with darker levels of the same color rather than adding gray to all colors.

As the gamma value is adjusted higher, the tone curve bends and the highlights of the image are expanded, lightening the highlights without overall lightening the image with white as seen with raising the brightness level. This way, the highlights and shadows in the image are maintained by saturating the pixels with lighter levels of the same color rather than just adding white.

Adjusting the gamma level is based on how you want the image to appear and there is no standard to adhere to.

Color image gamma examples

The examples below show the original image at the default setting of 1.8 gamma level, then 1.0 gamma and 2.6 gamma. Adjusting the gamma level does not make the image completely black nor completely white.

Gamma: 1.0   Gamma: 1.8   Gamma: 2.6

Technical note:

Most monitors have a gamma setting that is user adjustable. When viewing scanned images on-screen, versus printing the image, the gamma setting of the monitor may effect how light or dark the scanned image looks when compared to the original. If the scanned image is too different from the original image, or if adjusting the scanned gamma level does not modify the image how you want, try adjusting the monitor's gamma level. Refer to the monitor's user guide for adjusting the gamma level and see if the manufacturer has any recommended settings.

Bit Depth Reduction

The **Bit depth reduction** options are only available when scanning in black and white. Click the drop down menu and select an option from the list.
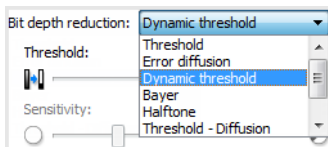
Threshold and Dynamic threshold

Threshold enables you to set what level of light or dark to look for on a page. When scanning in black and white, everything on the page is set to either white pixels or black pixels in the final image. If the text on the page is a light color, then the text may be gone in the final image as the scanner will change those light colors to white pixels. The threshold slider lets you set the level of darkness or lightness of the text on the page. **Dynamic threshold** attempts to evaluate the image and dynamically adjust the threshold level. These options work best for documents that contain only text such as business letters, spreadsheets, reports, etc...

- **Threshold**—move the slider to the left or right to set the level of lightness or darkness for the scanner to leverage from.

  For example, if you are scanning a document with gray text, such as hand written pencil notes, move the slider to the right. This tells the scanner that the level to look for is light, and gray pixels are converted to black pixels instead of white. If the overall tone of the original document is dark, such as a colored background that may interfere with detecting black, move the slider left. This tells the scanner that the level to look for is dark, only very dark areas such as text are converted to black pixels.

  If you are scanning documents that are in good condition, with black text on a white background, the default threshold option will properly scan the item. This level only needs to be adjusted if the scanned image does not have image clarity similar to the original.

- **Sensitivity**—move the slider left or right to adjust the sensitivity level for dynamic thresholding. This slider is only enabled when **Dynamic threshold** is selected in the list.

Error diffusion, Bayer, and Halftone pattern

Error diffusion, **Bayer**, and **Halftone patterns** are the intentional application of noise (dithering) in the image to help alleviate banding when scanning in binary (black and white) mode. For example, if you scan a color photo in black and white, the image file will have large blocks of black and white and the image barely recognizable. Dithering the image creates a black and white image that is recognizable.

Below is an example of a color scan, a black and white scan without dithering, and a black and white scan with dithering. When the image is scaled down, it may look like a grayscale scan. When the image is at normal size or enlarged you will be able to clearly see the dithering pattern, as shown in the close-up image.

Color scan

Black and White scan

Dither scan

Dither scan - Close up

Mixed Content Options (Text and Graphics)

The **Bit depth reduction** list includes automatic separation options for mixed content documents containing both text and graphics. These options enable the scanner to evaluate the image for text and graphics, and then apply threshold to the text regions and a dither pattern to the graphics regions. This retains text clarity while providing graphic legibility.

The mixed content options are:

- Threshold – Diffusion

- Threshold – Bayer

- Threshold – Halftone

Fill Margin Holes

Select this option if you are scanning pages with punched holes in the margins. This option will fill these holes with the detected background color in the final scan. The scanner will detect and fill the holes under the following conditions:

**Note:** This option is available in the interface only if the connected scanner supports this feature.

- When using this option ensure the correct document size has been selected or 'Automatic' document size is used. **Fill margin holes** will not work correctly if the document scanned is a different size than what is expected.

- The size of the hole can be between approximately 4 mm and 12 mm

- The maximum width of the margin is 25.4 mm from the edge of the paper

- The size of the margin is 24.4 mm

- The position of the hole cannot be flush to the edge of the margin area and it cannot overlap the edge of the margin area
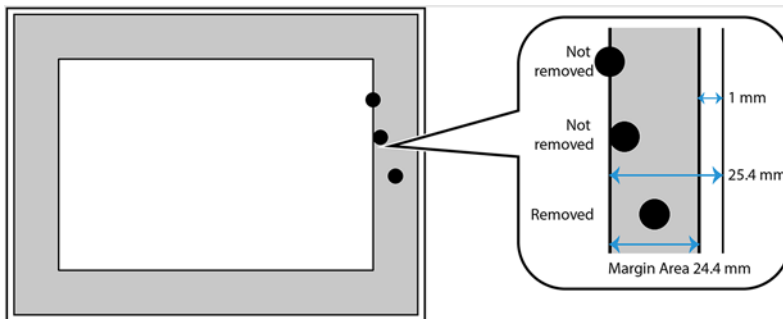
Invert Image

The **Invert image** option reverses the color of each pixel in the scanned image.

When scanning in black and white, each pixel is reversed from black to white and white to black.
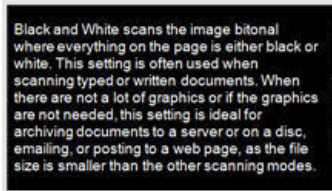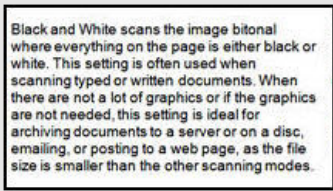
When scanning in grayscale each pixel is reversed to the opposite level of gray.

When scanning in color each pixel is reversed to the opposite color in the color wheel.
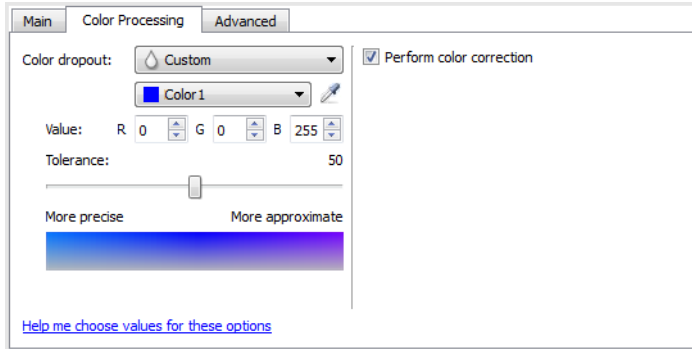

Mirror Image

The **Mirror image** option flips the image left-to-right.

Color Processing Panel Options

The options in this panel are for setting how the scanner should process colors in specific color modes.
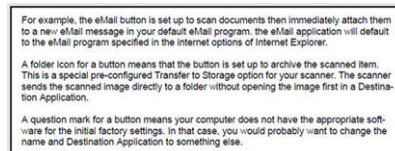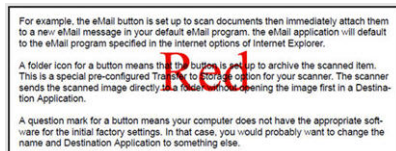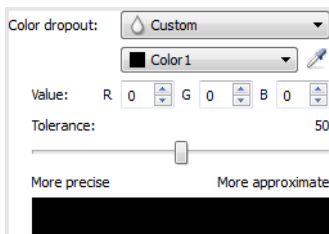

Color Dropout

Color dropout tells the scanner and software to remove a specific color from the image. You can select **Red**, **Green**, or **Blue** from the list, or define custom colors to be dropped out of an image.
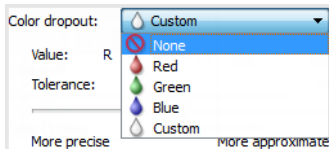
This option is only available when scanning in grayscale or black and white. The example below shows the original text with a red watermark and the resulting image with the color removed.


Select **Custom** to enable the fields for setting custom dropout colors and enabling multicolor dropout. You can set the custom color by either inputting the values for **R**, **G**, and **B** in their respective boxes, or by selecting the color from a sample scan.

Multicolor Dropout

Click on the checkbox next to one of the clear colors to enable it for multicolor dropout, and then click on the name of the color to select it for editing. For example, click on the checkbox next to "Color 2" and then click on the name "Color 2" to select and configure it.
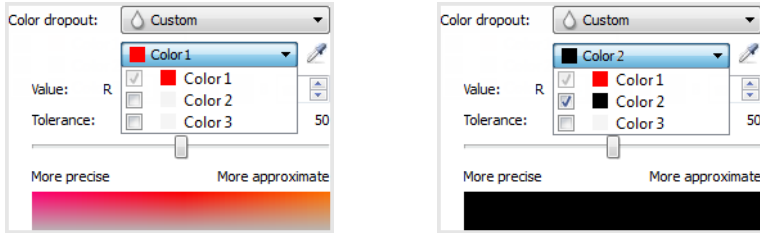
Tolerance

Use the slider to adjust the precision of the color dropout.

- **More precise**—this option removes a range of colors closest to the pure color selected or defined in the custom fields. For example, pure red has an R/G/B value of 255/0/0. Selecting Red indicates that the scanner should look for a range of RGB reds close to pure red and remove them from the image.

- **More approximate**—this option removes a wider range of colors based on the pure color selected in the list or defined in the custom fields.

Color Dropout Preview Window

To set the RGB values using a sample scan, place a document in the scanner, and then click the 🖋 (dropper button) to launch the "Color dropout preview" window.

The scanner will scan and display the image in the preview window. Click on a color in the image to set it as the dropout color.

- **Pick radius**—this is the radius of pixels to reference when clicking on a color in the sample image.
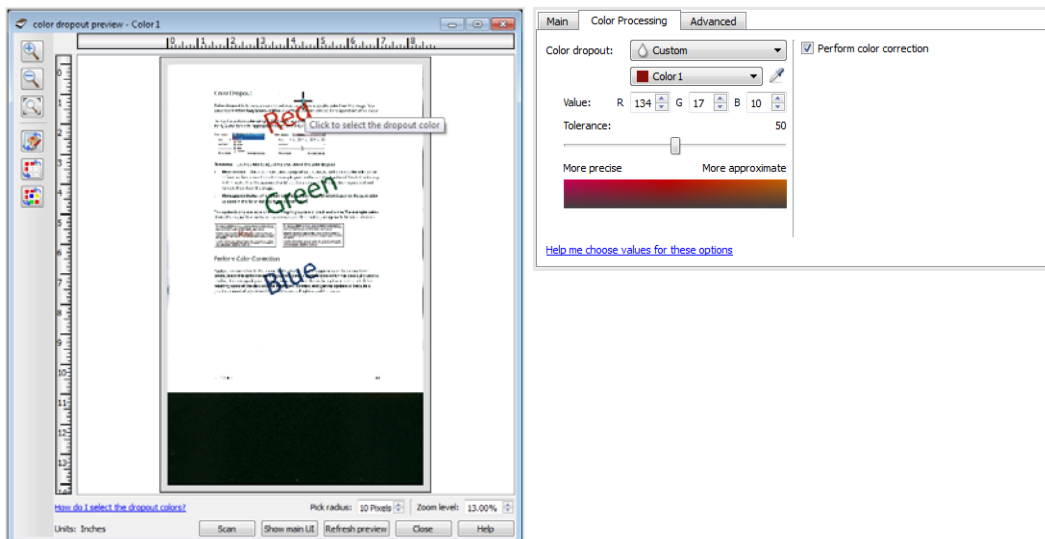
	Click to switch viewing the sample image with and without color correction. Please see "Perform Color Correction" for more information.
	Click to switch viewing the sample image with and without color dropout.
	Click to switch viewing the sample image with only the current color removed and all custom colors removed.
	Show the preview image for the back side of the page. Click to switch between Front and Back image. Select "Duplex" and then preview from the ADF to enable this option.

Perform Color Correction

Select this option to use the scanner's default Gamma table which has been calibrated to produce the best quality color results for your scanner. When this option is not selected, the resulting scans will be dark and the brightness, contrast, and gamma options will require a greater amount of adjustment to effect the overall lightness of the image.

Automatic Color Detection Options

Select **Automatic** in the document source configuration list to enable these options. When you have selected the automatic color mode, you will also need to choose either Gray or Black & White.

- **Ignore document color**—select this option to have the scanner ignore the color of the document when determining if the scan should be saved as a color image.

- **Color percentage**—input the percentage of color pixels the scanner should look for to detect and save a color image. The scanner determines color versus black-and-white by comparing the amount of color to the amount of black in the image. The higher the value you set in this field, the more color is needed in the original item to detect and save it as a color image. You can set the color percentage level up to 50 %. This means that only those documents which have more than 50 % of the content in color will be saved as a color image.

Advanced Panel Options

The options in this panel may also appear in the **Main** panel, but with additional settings for you to fine-tune the feature you've selected. Select the **Advanced** source configuration mode to show this panel.
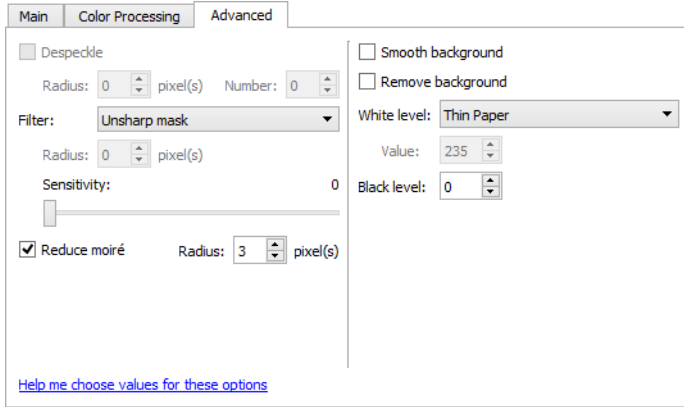

Despeckle

This option removes speckles from the background. Speckles are small spots on an image that the scanner interpreted as a valid part of the document. The **Despeckle** option identifies these spots and removes them. This option is only available when scanning in black and white.

Radius—this is the size of the area that is evaluated for stray dots.

Image Emphasis

You can use **Image emphasis** to improve the clarity of the scanned images by sharpening the appearance of lines within the image. The **Smooth** option works best for scanning photos to keep the colors in the pictures blending smoothly together. The options for **Low**, **Medium**, or **High** increase the sharpness of the lines in the scanned image and work best when scanning text documents. The **Automatic** option tells the scanner to attempt to choose the best emphasis level based on the items currently being scanned. This option is only available when scanning in Color or Gray.
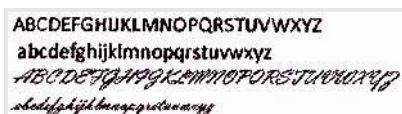
Here is an example of text at a 4 point font size scanned with the Image emphasis set to **None** and scanned a second time with the Image emphasis set to **High**. The scanned examples are enlarged to show details.
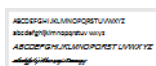
Original text:

Scanned with no image emphasis: Scanned with high image emphasis:

Moiré Reduction

Moiré patterns are wavy or rippled lines that may appear in the scanned images of newspapers and magazines, and sometimes scanned images of photos, line drawings, and color scans of textured paper. Select the **Moiré reduction** option to have the driver attempt to find and remove moiré patterns from the image. Please note that when Moiré reduction is enabled the scanner may scan slower as the image is checked for moiré patterns. This option is only available when scanning in **Color** or **Gray**.

Image with moiré patterns   Image with moiré patterns removed

Moiré radius—you can set the size of the area to be evaluated in the Moiré radius field. Adjusting the radius will produce different results for the various types of items that can be scanned. With this feature, you may have to test scan a few times, adjusting the Moiré radius as needed, until you obtain the best results for the type of paper in your scan job. Note that the higher the number is in the Moiré radius field, the longer it will take the driver to evaluate the image.

Smooth Background

Automatically detect the background color of the scanned item, eliminate minor variations, and make it a solid color in the image. For example, when scanning a blue page the color will be represented in the final scan with varying RGB values representing blue. These varying RGB values occur due to imperfections in the paper being scanned. With Smooth background turned on, the pixels representing the page color are changed to an average value of the colors detected.
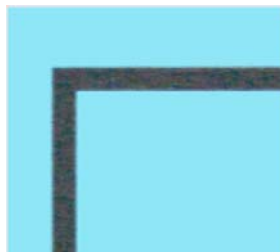
Color scan   Color scan with Smooth background
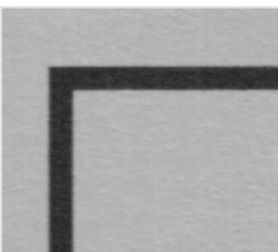
Gray scan   Gray scan with Smooth background

Remove Background

Automatically detect the background color of the scanned item and set it to white in the image.

Color scan   Color scan with Remove background

Initialize White Level From Document

Automatically detect and adjust the white level using the leading edge of the scanned item. This is a feature that uses the scanner for processing and it is available whether or not Visioneer Acuity is installed. However, please note that there will be a black line at the top of each image. This is where the scanner starts the image capture as the reference point for it to detect and set the background as white in the image.

When Visioneer Acuity is installed, we recommend you use Remove background if you want to have the background automatically removed without seeing this black line.

White Level

With this option you can set what the scanner should interpret as "white" in the final image, even though the page being scanned may have a shaded or off-white background. You may want to adjust this option to have the image automatically corrected when you are scanning irregular paper, such as thick or thin paper, that may cause the white page in the final image to appear shaded with a pale gray.

For the best automatic results you can simply select the type of paper you are scanning from the list. Alternatively, you can input a number in the Custom value field. The value you set in this field can be from 128 to 255. If you set the custom value to 128 you are telling the scanner that all pixels that are gray level 128 or higher (lighter) should be changed to white in the final image. If you set the custom value to 255, you are telling the scanner that only pure white is white and anything lower than 255 should remain unchanged in the final image.

Black Level

With this option you can set what the scanner should interpret as "black" in the final image. If you are scanning items that have notes written with a pencil, you may want to raise the black level to have the pencil notes appear black in the image. You can set a value for black from 0 to 127. If you set this value to 127, you are telling the scanner that all pixels that are gray level 127 or lower (darker) should appear as black in the final image.

Scanner Model Panel Options

This panel contains options that are specific to the scanner model you are using.
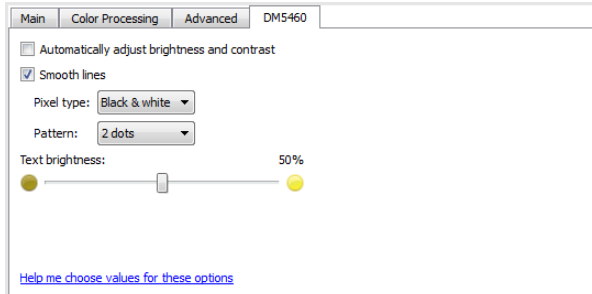
Automatically Adjust Brightness and Contrast

Select this option to have the scanner automatically adjust the overall lightness or darkness of the output scan.

When you select this option these features in the scanning interface will be disabled:

- Brightness

- Contrast

- Gamma

- White level

- Black level

Xerox DocuMate 5445 / Xerox DocuMate 5460 — firmware version lower than 2.0

This feature will be disabled if the number in the **Document size** length field exceeds 14 inches (356 mm).

Xerox DocuMate 5445 / Xerox DocuMate 5460 — firmware version 2.0 or higher

This feature will be disabled if the number in the **Document size** length field exceeds the maximum length for the selected resolution as described in the table below.

Resolution	Maximum page length
100 dpi	110 inches (2794 mm)
150 dpi	73.33 inches (1862 mm)
200 dpi	55 inches (1397 mm)
300 dpi	36.66 inches (931 mm)
400 dpi	27.5 inches (698 mm)
500 dpi	22 inches (558 mm)
600 dpi	18.33 inches (465 mm)

Smooth Lines

This option attempts to improve barcode readability by removing stray pixels on the edge of a straight line when scanning in Black and White. This is useful when scanning at lower resolutions, such as 75-150 dpi, to clean up the edges of the lines. You can select 1 or 2 pixels to be removed, and you can choose black only, white only, or both black & white.

If your scanner does not support this feature it will not appear in the interface.

Note: make sure the paper guides on the input tray are adjusted to the width of the document in the scanner. The guides should be touching the paper to help feed the page in as straight as possible. This function will have no effect on skewed and diagonal lines.

There must be at least 2 pixels of clear space on both sides of the stray pixel for the scanner to detect it. There will be very little visual difference between scans with and without this feature enabled. The purpose is for more consistent results in applications that can detect bar codes, specifically barcodes on Patch Code pages. We recommend only using this feature in conjunction with barcode detection, which can be enabled by selecting an option in the Patch code action, Control sheet action, or File separation action lists.

1 and 2 dot black pixel removal pattern
Looks for 1 dot or 2 dots on the outside edge of a straight line and removes it (by changing the pixel to white).
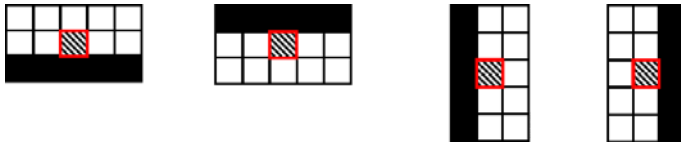
Example – 1 dot pattern

Example – 2 dot pattern

1 and 2 dot white pixel removal pattern
Looks for 1 dot or 2 dots on the inside edge of a straight line and removes it (by changing the pixel to black).

Example – 1 dot pattern

Example – 2 dot pattern

Example – 1 dot black pixel removal

Example – 2 dot black pixel removal

Text Brightness

This option adjusts the brightness level for text areas when scanning using a **Bit depth reduction** mixed content option. Raise or lower the brightness level based on the clarity of the text in the original documents. For instance, if you want light colored text to appear darker in the final image, lower the brightness level.

This option will be disabled until one of these options is selected in the Bit depth reduction list:

- Threshold – Diffusion
- Threshold – Bayer
- Threshold – Halftone

If your scanner does not support this feature it will not appear in the interface.

Driver Configuration

Use the **Driver configuration** section to configure the add-on modules, select interface options, and view the scanner hardware properties. When the **Advanced** configuration mode is selected, a scanner panel option will be available for you to change any hardware settings that may be available for your scanner.
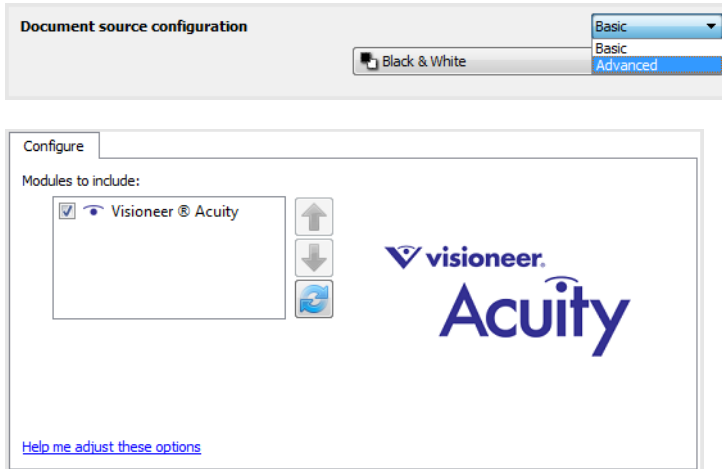
Disabled Options in This Section

Some options in the interface may be grayed out and cannot be selected. Grayed out options are either not appropriate for the current scanner, the software needed to enable the feature is not installed, *or* the feature is dependent on another setting in the scanner's interface. Hover the mouse cursor over a grayed out feature to see information about why the feature is unavailable.

Module Configuration

When image processing modules are installed they will appear in the list on the **Configure** tab. There are some features in the scanner interface that are disabled until a module is installed that contains those options. When the module is installed, the features will enable in the scanner interface for you to use them.

Reordering the Modules

Select a module in the list and click the up or down arrow to change the order of the module in the list. Changing the order of the modules changes the order in which the image processing options are used. For example, if there are two modules installed and both modules include an automatic image rotation option, the first module's rotate option is used and the rotate setting in the second module is ignored so that the image is not rotated twice.

Scanner Configuration

The scanner configuration tab shows the hardware information for your scanner. Some features described herein may not be available for the current scanner. Please disregard any information about features that you do not see in the interface for your scanner.
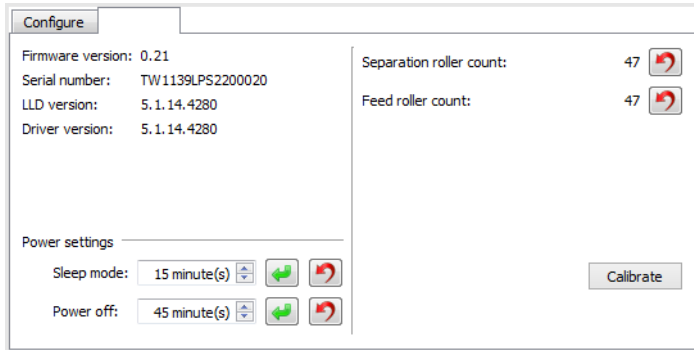
Scanner Details

- **Firmware version**—this is the scanner's hardware processor version number.

- **Serial number**—the scanner's unique identification number.

- **LLD version**—the scanner's base driver version. This is not the OneTouch software revision, TWAIN or WIA driver versions.

- **Driver version**—this is the version of the scanner's TWAIN driver.

Scanner Settings

- **Counters**—click the reset button next to the counter you want to set back to 0.

- **Show maintenance reminders**—select this option be notified when it is time to clean or replace the rollers. After cleaning or replacing the rollers, click the reset button next to the roller counters in this screen. The amount of time between cleaning and replacing the rollers can be adjusted in the Xerox User Utility.

- **Color correction**—Select the optimization style for color correction. Select "Perform Color Correction" on the Color Processing tab in the Image Enhancements section to enable this option.

  - **"Printer"** will optimize the image for duplicating on a printer.

  - **"Monitor"** will optimize the image for displaying on a monitor.

    Images optimized for a monitor, when printed, will not match the original scanned item.

- **Launch Xerox User Utility**—the Xerox® User Utility helps you monitor the scanner status and maintenance information. This button will be disabled if the Xerox User Utility is not installed. You can install the User Utility from the installation disc or download it from the support page for your scanner at www.xeroxscanners.com.

Power Settings

- **Sleep mode**—sleep mode is the low-power state when the scanner is not in use. You can adjust the amount of time you want the scanner to wait before it goes into low power.

  Click the green enter button to save any changes in the Sleep mode field.

  Click the red reset button to reset to the default timeout value.

- **Power off**—input the number of minutes you want the scanner to wait before it turns itself off.

  Click the green enter button to save any changes in the power off field.

  Click the red reset button to reset to the default timeout value.

- **Reset device**—click this button to revert the scanner hardware back to the scanner's firmware defaults. As this option resets the scanner hardware, you will not see a change in the interface unless the power save time has been changed. Clicking this button includes returning the power save time-out to the default setting.

Hardware Image Processing

For most scanners, many of the image processing options described here-in are only available when the Visioneer Acuity module is installed. Depending on the scanner you are using, some of these options are also available without Visioneer Acuity. Using hardware image processing means the scanner can scan at its rated speeds while producing the best quality results.

To enable or disable software Visioneer Acuity, go to the Driver Configuration section and then click on the checkbox to deselect/select Acuity. When Acuity is disabled, only the options that can be performed in hardware will be available in the scanner interface.
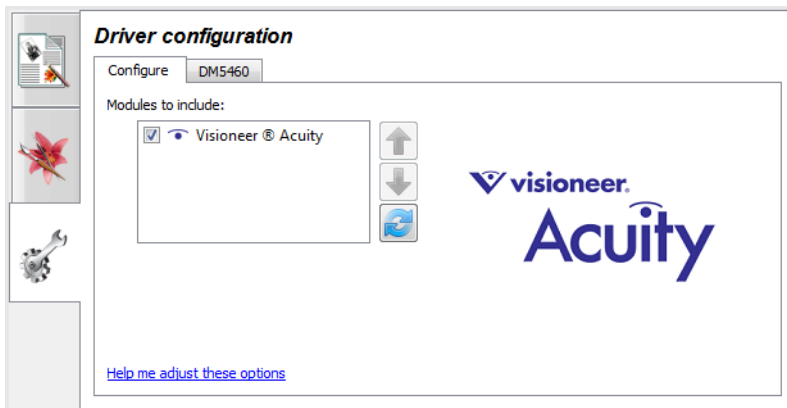

Disabling Hardware Image Processing

You can disable hardware image processing from the scanner properties pages in the Windows Control Panel. Deselecting the option in the Control Panel disables hardware image processing only for that feature. When the option is selected in the TWAIN interface, the function will use software Visioneer Acuity. Please refer to "HW IP Settings" on page 74.

Checking the Scanner Firmware Version

You will need to know the scanner's firmware version to determine which features are available in the hardware. Change to the Advanced source configuration mode. Go to the Driver Configuration section and then click on the scanner tab. The scanner's firmware version is displayed on the left side of this tab.
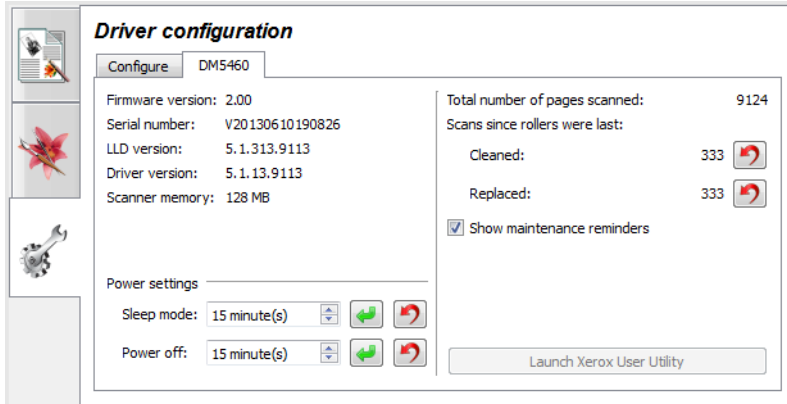
Note that the scanner's maximum page length varies by scan resolution for some scanners. Please refer to the information below for your scanner model to determine supported page sizes and hardware features.

Xerox DocuMate 5445 / Xerox DocuMate 5460 — firmware version lower than 2.0

- Maximum page length for all resolutions: **100 inches (2540 mm)**

If this is your scanner version, please continue to the "Scanning" section of this guide.

Xerox DocuMate 5445 / Xerox DocuMate 5460 — firmware version 2.0 or higher

- Maximum page length varies by resolution

Resolution	Xerox DocuMate 5445	Xerox DocuMate 5460
75 dpi*	150 inches (3810 mm)	195 inches (4953 mm)
100 dpi	150 inches (3810 mm)	195 inches (4953 mm)
150 dpi	150 inches (3810 mm)	195 inches (4953 mm)
200 dpi	150 inches (3810 mm)	195 inches (4953 mm)
300 dpi	150 inches (3810 mm)	195 inches (4953 mm)
400 dpi	150 inches (3810 mm)	150 inches (3810 mm)
500 dpi	120 inches (3048 mm)	120 inches (3048 mm)
600 dpi	100 inches (2540 mm)	100 inches (2540 mm)
1200 dpi*	100 inches (2540 mm)	100 inches (2540 mm)
*this is an interpolated resolution which is available with software Visioneer Acuity only.		

If this is your scanner version, please continue to "Hardware Image Processing for Your Scanner".

Checking Your Scanner Version

You will need to know your scanner's part number to determine which features are available in the hardware. The scanner's part number is located on the data plate, starting with an 85 in the format P/N: 85-####-#00 where the last 3 digits indicate the hardware version (e.g. -000 or -100); the image below is shown for example only:
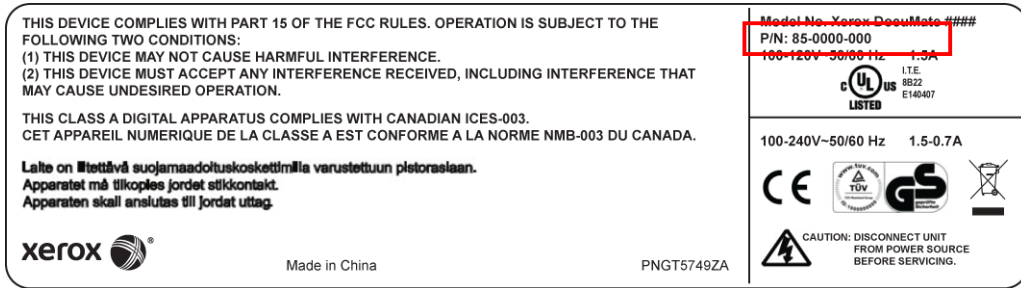
Hardware Image Processing for Your Scanner

Unless otherwise stated, all options listed in this section are also available in software image processing through Visioneer Acuity. The scanner cannot go back and forth between hardware and software image processing. While scanning, the scanner will use the hardware image processing option as its first priority, and change to software image processing if a setting in the scanner interface is incompatible with the hardware option, or if one of the selected options is only available for software image processing. When using software image processing, the scan speed will slow down as the image processing functions are switched over to the computer.

The scan progress window will indicate when hardware image processing is being used.
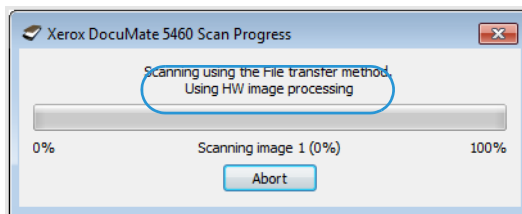
For example, the sections in the following pages indicate at which point the resolution and/or page size limits some of the hardware processing options from being available. If you select a resolution and/or page size that exceeds those listed in the tables, image processing for those options will be performed in software. If Visioneer Acuity is not enabled for use, functions that cannot be used with the current resolution and/or page size will automatically be disabled. These limitations are described in detail below.

These hardware options are available when the resolution and page length are within the range specified in the table

- Rotate image

- Flip back side

Resolution	Maximum page length
100 dpi	50.24 inches (1276 mm)
150 dpi	33.49 inches (850 mm)
200 dpi	25.12 inches (638 mm)
300 dpi	16.74 inches (425 mm)
400 dpi	12.56 inches (319 mm)
500 dpi	10.04 inches (255 mm)
600 dpi	8.37 inches (212 mm)

Note: if the selected page length exceeds the sizes listed in this table, software image processing through Visioneer Acuity (when enabled) will automatically be used. If Visioneer Acuity is not installed, these options will be disabled until a lower resolution and/or page size is specified.

These hardware options are available when the resolution and page length are within the range specified in the table

- Automatic color detection

- Straighten image

- Crop to original

- Skip blank originals

- Smooth background

- Remove background

- Automatically adjust brightness and contrast**

Resolution	Maximum page length
100 dpi	110 inches (2794 mm)
150 dpi	73.33 inches (1862 mm)
200 dpi	55 inches (1397 mm)
300 dpi	36.66 inches (931 mm)
400 dpi	27.5 inches (698 mm)
500 dpi	22 inches (558 mm)
600 dpi	18.33 inches (465 mm)

Note: if the selected page length exceeds the sizes listed in this table, software image processing through Visioneer Acuity (when enabled) will automatically be used. If Visioneer Acuity is not installed, these options will be disabled until a lower resolution and/or page size is specified.

** this is a hardware option only, software Visioneer Acuity will not remove page length limitation.

# Hardware Properties
and Interface Behavior

You can use the scanner's properties page to keep track of scanner maintenance, change some of the hardware options, configure the scanner interface behavior, and adjust application options that may be available for your scanner.

To open the scanner hardware properties page:

- **Windows 7** and later—from the Windows Control Panel, open **Hardware and Sound** and then **Devices and Printers**. Right-click on the scanner and then select **Scan properties** from the list.

- **Windows Vista**—from the Windows Control Panel, open **Hardware and Sound** and then **Scanners and Cameras**. Click on the scanner icon then click on the **Properties** button.

- **Windows XP**—from the Windows Control Panel when in category view, open **Printers and Other Hardware** and then **Scanners and Cameras**. Right-click on the scanner and then select **Properties** from the list.

Device Settings

The Device Settings tab shows the hardware information for your scanner. The options on the Device Settings tab will be available based on whether or not the scanner hardware supports the feature. Please disregard any information about features that you do not see in the interface for your scanner.
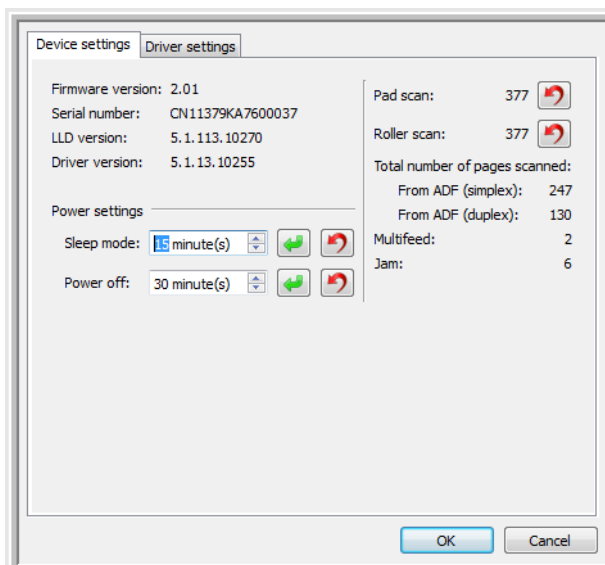
The options in this panel may also appear on the scanner configuration tab in the TWAIN interface. Please refer to the "Scanner Configuration" section of this guide for instructions on using these options:

- Color Correction

- Sleep mode

- Power off

- Reset device

- Counters

- Show maintenance reminders

- Launch Xerox User Utility

Scanner Details

- **Firmware version**—this is the scanner's hardware processor version number.

- **Serial number**—the scanner's unique identification number.

- **LLD version**—the scanner's base driver version. This is not the OneTouch software revision, TWAIN or WIA driver versions.

- **Driver version**—this is the version of the scanner's TWAIN driver.

Firmware Update

- **Check for update**—check the scanner's firmware version against the version included with the scanner driver. When the scanner is connected to the computer and this option is selected, or when a different scanner of the same model is connected, a notification will show indicating that the firmware version is out of date. Deselect this option to stop being notified of the different version if you do not want to update the firmware.

- **Update**—click this button to update the scanner's firmware with the latest revision provided in the driver installer. Follow the instructions on-screen to update the scanner's firmware. Do **not** turn off the scanner or close any on-screen dialogues while the firmware update is in process. Turning off the scanner or closing any on-screen dialogues before you are prompted could irrevocably damage the scanner and prevent it from working. The firmware update software will prompt you when it is safe to power cycle the scanner.

Power adjustments

Driver Settings

The options in this panel are for configuring how the scanner interface will behave in some scenarios. Only advanced users should modify any of the options in this section. Options that are not available for your scanner will be grayed out and disabled.
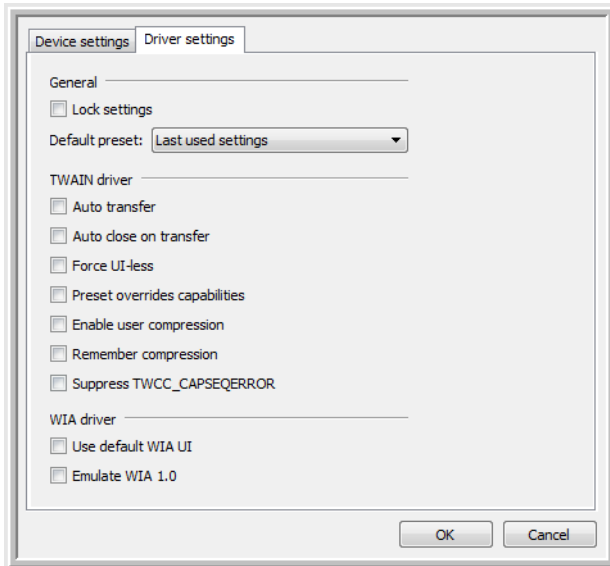
General

- **Lock settings**—this option prevents the user from making changes to the options in the scanner interface. When the interface opens, only the scanning Presets will be available for a user to select and use for scanning.
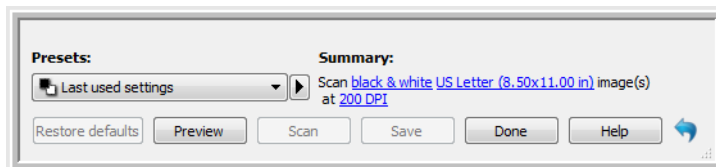
- **Default preset**—select the preset you want to have be the default displayed options in the scanner interface each time it opens.

TWAIN Driver

- **Auto transfer**—scanning and transfer starts when the scanner detects paper.

- **Auto close on transfer**—the interface closes automatically when scanning is complete.

- **Force UI-less**—select this option to prevent this scanner interface from opening when you initiate a scan in the scanning application. This option will only work if your scanning application supports UI-less scanning. You may also need to select Auto close on transfer complete for this option to work.

- **Preset overrides capabilities**—some scanning applications have the option to adjust the scan settings and scan without opening this scanner interface. The next time this interface opens, the last used settings will match the application settings that were used to scan. Select this option to have the settings reset to the last ones used when this interface was open.

- **Enable user compression**—this option is enabled only if the scanner and the software allow manual adjustment of the image compression.

- **Remember compression**—when a compression option is available for user adjustment, it cannot be saved as part of a preset. Select this option to have the compression setting saved.

- **Suppress TWCC_CAPSEQERROR**—return default value if there is a TWCC_CAPSEQERROR error.

- **Make TWAIN topmost UI**—select this option to have the TWAIN interface show in front of all other open windows. If you are performing UI-less scanning, selecting this option means the scanning progress bar will always show on top of all other open windows.

WIA Driver

- **Use default WIA UI**—select this option to display the Microsoft WIA interface instead of the TWAIN interface in WIA 2.0 applications.

- **Emulate WIA 1.0**—select this option to display the TWAIN interface for WIA 1.0 compatible applications. When this option is selected, WIA 2.0 applications will use the Microsoft WIA interface.

HW IP Settings

The options in this panel are for disabling or enabling the scanner's hardware image processing (HW IP) options. Only advanced users should modify any of the options in this section. Options that are not available for your scanner will be grayed out and disabled.
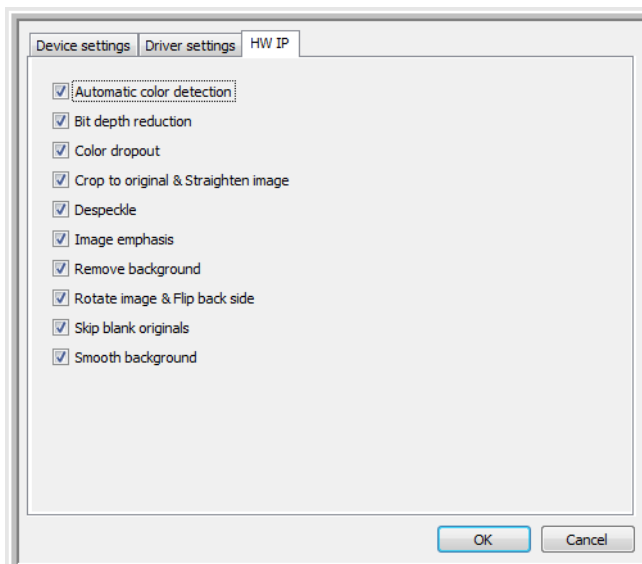
Click the check box to deselect (disable) hardware image processing only for the option listed. When one of the options in this window is not selected, software Visioneer Acuity will be used to perform that function while scanning.

Note: if Visioneer Acuity is not enabled, the function(s) will be disabled in the TWAIN interface until Visioneer Acuity is turned on or you the select the option in this window.

The options in this window are not available for all scanner models. Please refer to "Checking the Scanner Firmware Version" and "Hardware Image Processing for Your Scanner" for information on the options available in hardware for your scanner.

Appendix A: Copy Regulations

United States

Congress, by statute, has forbidden the reproduction of the following subjects under certain circumstances. Penalties of fine or imprisonment may be imposed on those guilty of making such reproductions.

1. Obligations or Securities of the United States Government, such as:

Certificates of Indebtedness	National Bank Currency	Coupons from Bonds
Federal Reserve Bank Notes	Silver Certificates	Gold Certificates
United States Bonds	Treasury Notes	Federal Reserve Notes
Fractional Notes	Certificates of Deposit	Paper Money

   Bonds and Obligations of certain agencies of the government, such as FHA, etc.

   Bonds. (U.S. Savings Bonds may be photographed only for publicity purposes in connection with the campaign for the sale of such bonds.)

   Internal Revenue Stamps. (If it is necessary to reproduce a legal document on which there is a canceled revenue stamp, this may be done provided the reproduction of the document is performed for lawful purposes.)

   Postage Stamps, canceled or uncanceled. (For philatelic purposes, Postage Stamps may be photographed, provided the reproduction is in black and white and is less than 75 % or more than 150 % of the linear dimensions of the original.)

   Postal Money Orders.

   Bills, Checks, or Drafts of money drawn by or upon authorized officers of the United States.

   Stamps and other representatives of value, of whatever denomination, which have been or may be issued under any Act of Congress.

2. Adjusted Compensation Certificates for Veterans of the World Wars.

3. Obligations or Securities of any Foreign Government, Bank, or Corporation.

4. Copyrighted material, unless permission of the copyright owner has been obtained or the reproduction falls within the "fair use" or library reproduction rights provisions of the copyright law. Further information of these provisions may be obtained from the Copyright Office, Library of Congress, Washington, D.C. 20559. Ask for Circular R21.

5. Certificates of Citizenship or Naturalization. (Foreign Naturalization Certificates may be photographed.)

6. Passports. (Foreign Passports may be photographed.)

7. Immigration Papers.

8. Draft Registration Cards.

9. Selective Service Induction Papers that bear any of the following Registrant's information:

Earnings or Income	Dependency Status	Court Record
Previous military service	Physical or mental condition	

   Exception: U. S. Army and Navy discharge certificates may be photographed.

10. Badges, Identification Cards, Passes, or Insignia carried by military personnel, or by members of the various Federal Departments, such as FBI, Treasury, etc. (unless photograph is ordered by the head of such department or bureau.)

11. Reproducing the following is also prohibited in certain states: Automobile Licenses — Drivers' Licenses — Automobile Certificates of Title.

The above list is not all inclusive, and no liability is assumed for its completeness or accuracy. In case of doubt, consult your attorney.

Canada

Parliament, by statute, has forbidden the reproduction of the following subjects under certain circumstances. Penalties of fines or imprisonment may be imposed on those guilty of making such copies.

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