



TWAIN[®] Scanning Guide

Microsoft[®] Windows Users.

Xerox[®] Duplex Portable Scanner

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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.

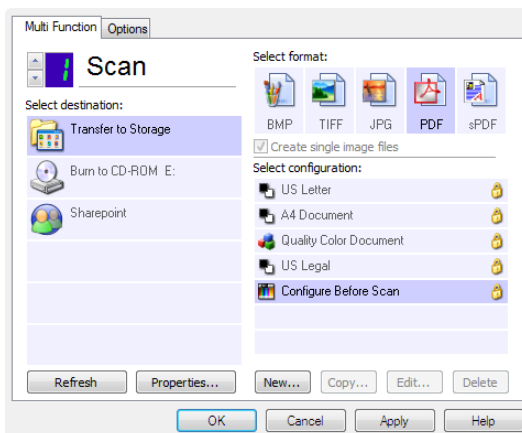
The information in this guide will cover hardware and software features that may not be available for the scanner model you purchased. Please disregard any information that does not apply to your scanner.

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 59 for more information.

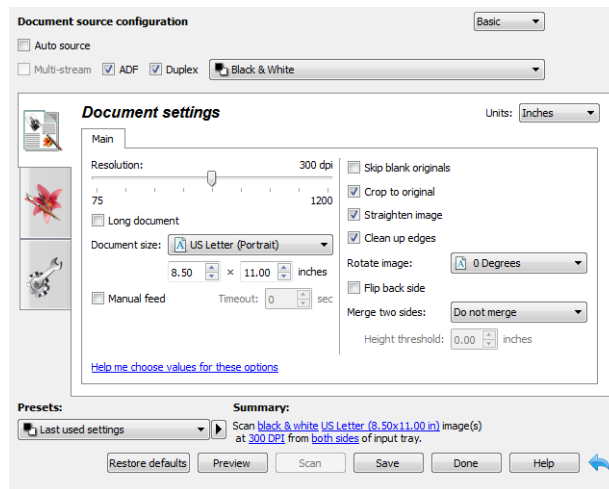
Please refer to your Windows documentation for WIA scanning instructions if you do not see the interface described below, or if you have any questions regarding Windows scanning applications.

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.

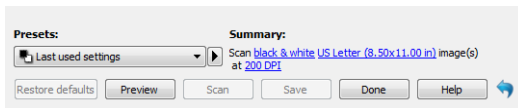
- Click on the **Scan** button.



- When scanning is complete, click **Done** to close the interface.
- The scanned images are now in the scanning application.

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.

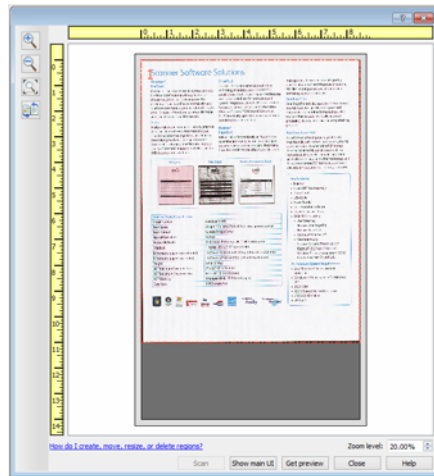
1. Select the initial scan settings you want to use for the preview image and scanning.
If you want to modify the settings for a particular preset, make sure you select that preset before continuing.
2. Click on the **Preview** button to scan and display a sample image in the preview window. If you have ADF selected in the Main UI and you have a page in the document feeder, the scanner will scan and display an image for the page in the document feeder. If you do not have ADF selected in the Main UI or you do not have a page in the document feeder, the scanner will scan and display an image from the flatbed.
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.
	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.

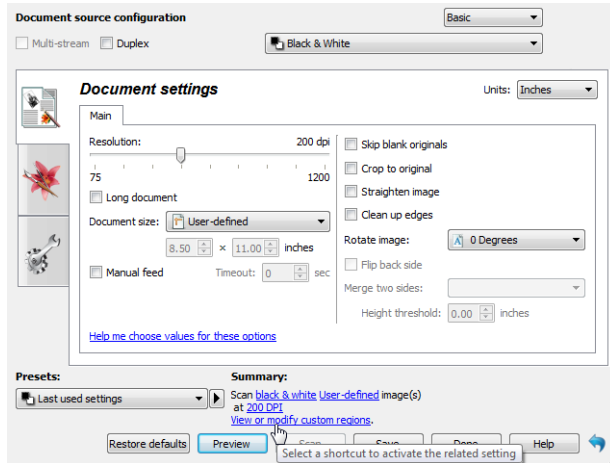
There are some settings in the main interface, such as brightness and contrast, which will immediately update the preview image after you adjust the setting. Other settings, such as changing from color scanning to black and white scanning, will not automatically update the sample image.

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.

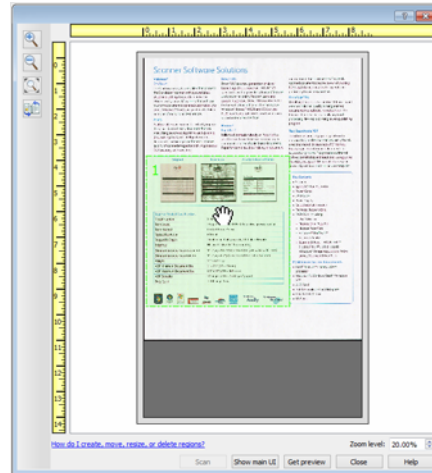
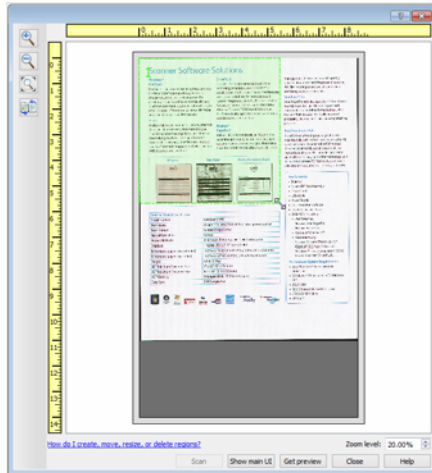
Important: do not change the page size for the scanned image after you create custom regions. When you have set a custom region in the preview window, the page size field will display “user defined” indicating you have specified one or more custom regions for scanning. Changing the page size after you 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.

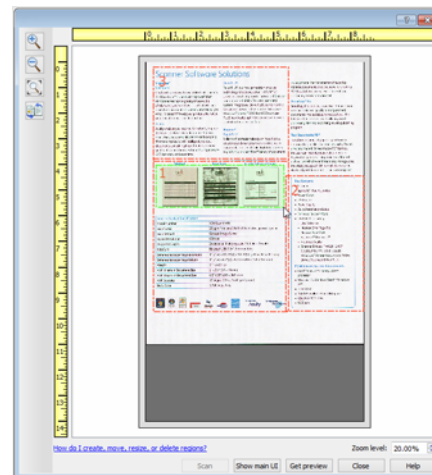
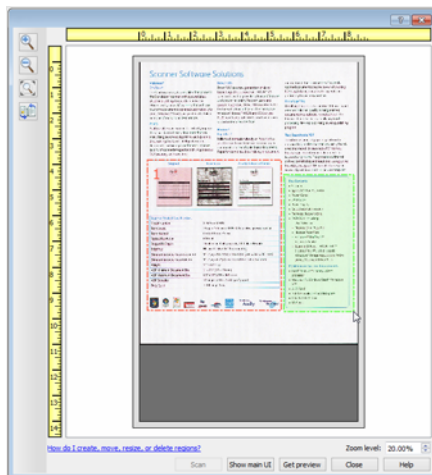
5. Move or resize region 1 until the sample image area you want is within the scan region.

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.

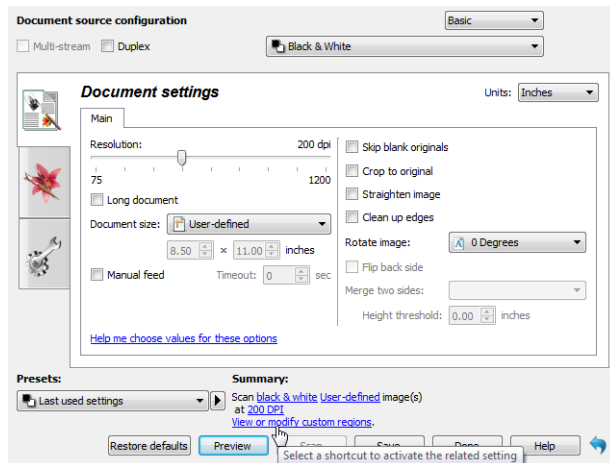
If you want to create a region that overlaps another region, hold the **Ctrl** (control) key on the keyboard while you click and drag the mouse to create the region. You can release the **Ctrl** key after you start creating the overlapping region. You only need to hold down the Ctrl key if the starting 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.



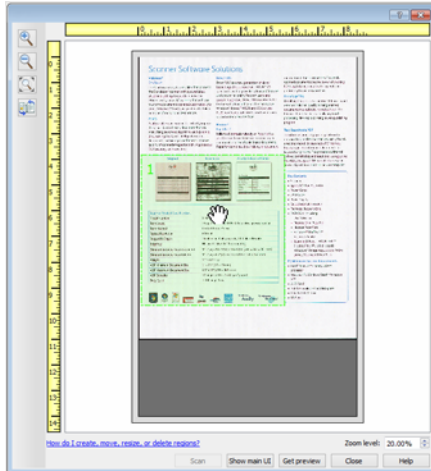
9. Click **Scan** in the main interface to scan using the custom regions.
10. When scanning is finished, one image is created for each region set in the preview window.

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.

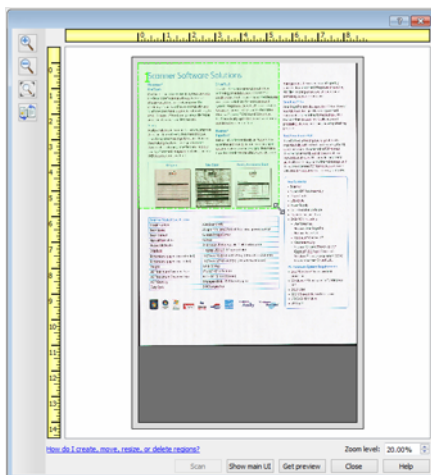
Move, Resize, or Delete Regions

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.

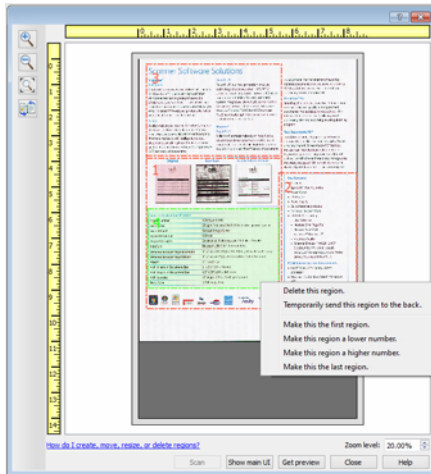


Resizing regions—to resize a region, place your mouse cursor over the edge of the region outline. The cursor will change to a dual directional arrow. Click on the line and drag the mouse to resize the region. If you click on the top or bottom edge, you can only resize the region up or down. If you click 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.

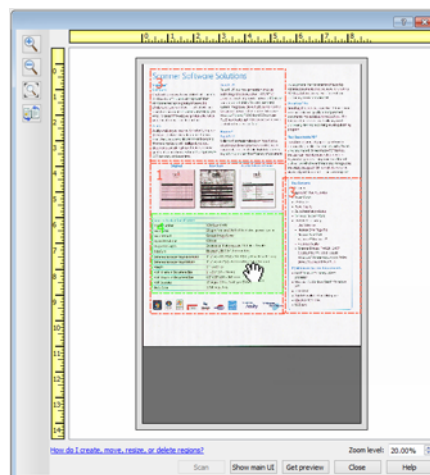
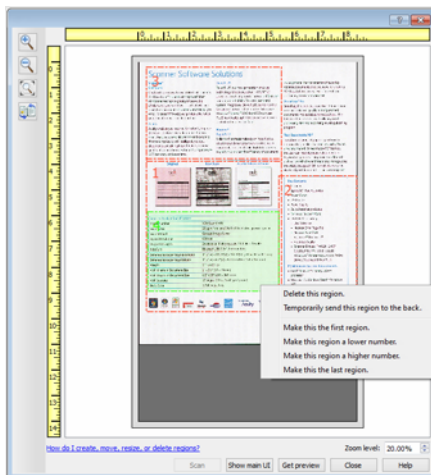


Move, Resize, or Delete a Blocked Region

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.

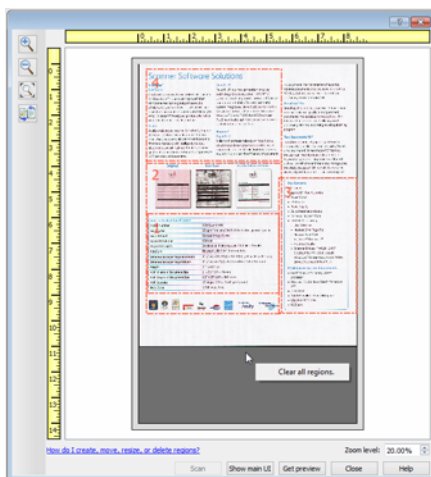
Make this region a lower number—select this option to move the region number up one in the processing order. This option is not available if the region you right-clicked on is already at position 1. After selecting this option, all other regions will have their number update automatically as appropriate.

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

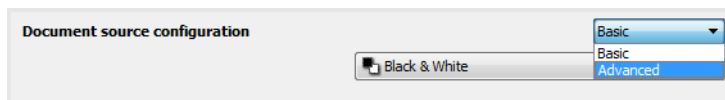
Right-click anywhere in the preview window where there are no regions, and then click on Clear all regions to remove all of the regions in the preview area. This will leave only the region labeled as number 1. There must always be at least one region for scanning.



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.

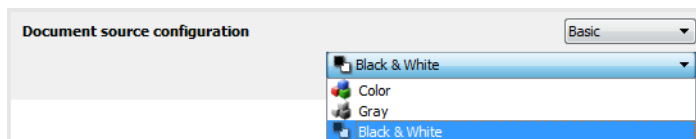
Select **Basic** or **Advanced** from the list to show the basic or advanced document source configuration options as described below.



Basic Options

- **Auto source**—when scanning in basic mode, this option is always enabled and cannot be changed.
- **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.

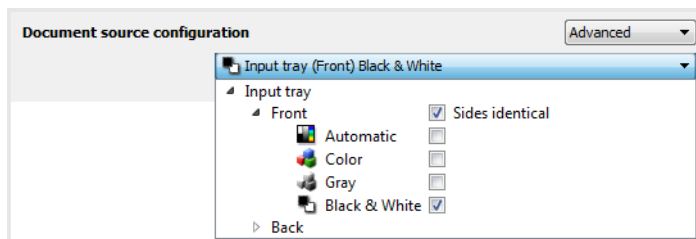


- **Color** scans the document in color, creating a full color copy of an original document or photograph. Color scans have the largest file size.
- **Gray** scans the document using varying shades of gray to reproduce the document. The grayscale scan mode is often used when scanning documents or graphics 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

- **Auto source**—select this option to have the scanner automatically determine where the paper is in the scanner. This option is only available if your scanner has more than one paper source option, such as an ADF with a front feed tray scanner, or an ADF with a flatbed combination scanner. When this option is not selected, you can select which source you want to use in the scan mode list.
- **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.

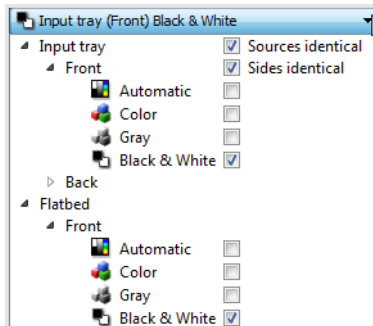


The available color modes are:

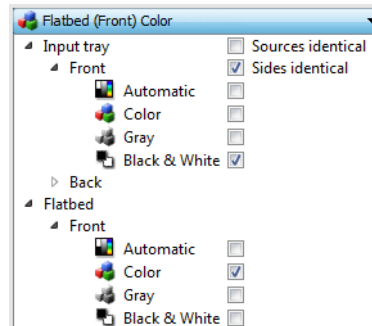
- **Automatic** determines the color of the document as it is being scanned.
- **Color** scans the document in color, creating a full color copy of an original document or photograph. Color scans have the largest file size.
- **Gray** scans the document using varying shades of gray to reproduce the document. 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.

Sources Identical

If the scanner has multiple paper source options, select this option to have the settings you choose in the interface apply to all paper sources in the scanner. For instance, if you select color scanning when scanning from the input tray, then the flatbed or front feed tray scans will also be in color.



(Example: Sources are identical)



(Example: Sources are different)

While the option to enable or disable **Sources identical** is in the source configuration list, the color mode is not the only option that can be individually configured for each source. Other options in the scanner interface, such as resolution, brightness, contrast, etc... will also be individually set for each source. After you deselect **Sources 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) Black and White").

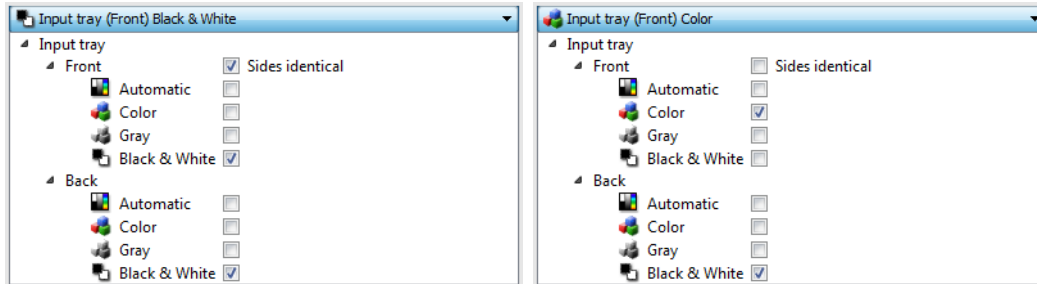
To set the scanner options individually for each source:

1. Click the drop down menu and deselect **Sources identical**.
2. Select the color mode you want for the first source.
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 source.
4. When you are done making changes for the first source, click in the source configuration list and select the color mode for the second source.
5. That source selection will now be displayed in the top of the source configuration list.
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 source.

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

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").

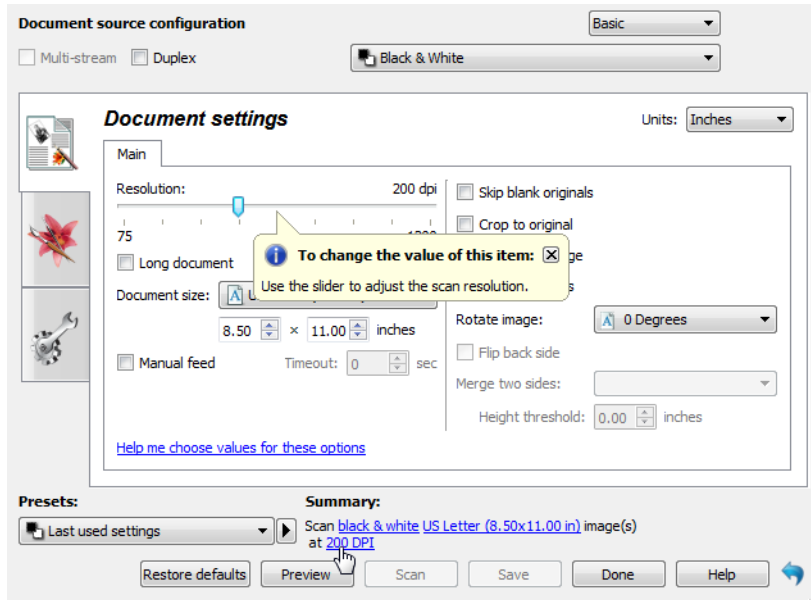
To set the scanner options individually for each side:

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.

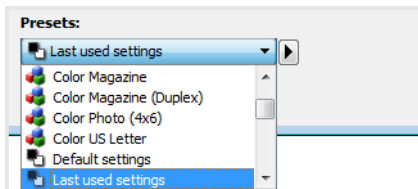
Summary

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

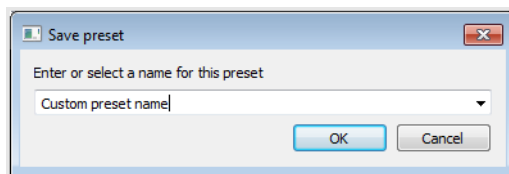
A preset contains all features in the scanner interface, including color mode, resolution, paper size, and so on. You can create, import, export, and delete presets.



- 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.

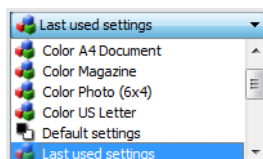
Saving

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.

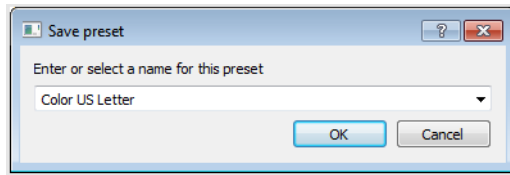


2. Adjust the options in the scanner interface as needed.
3. Click **Save**.

To rename a preset:

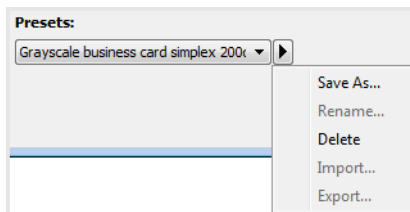
1. Select the preset you want to rename in the preset list.

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.

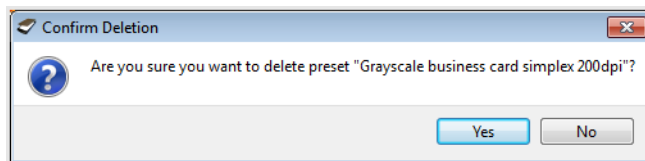


Deleting

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**.

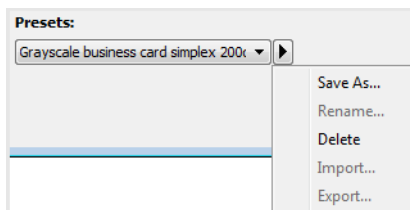


3. Click **Yes** when prompted to confirm that you want to delete the currently selected preset.

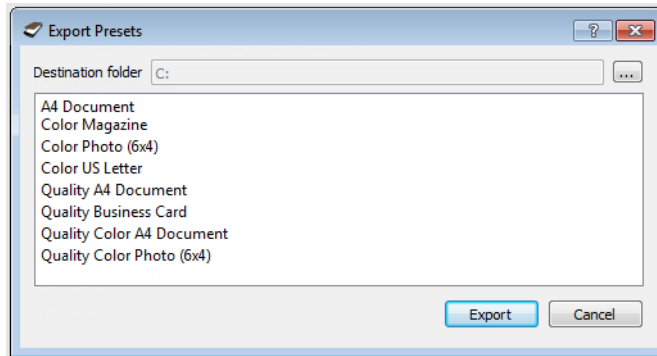


Exporting

1. Click on the right pointing arrow and select **Export...** from the list.

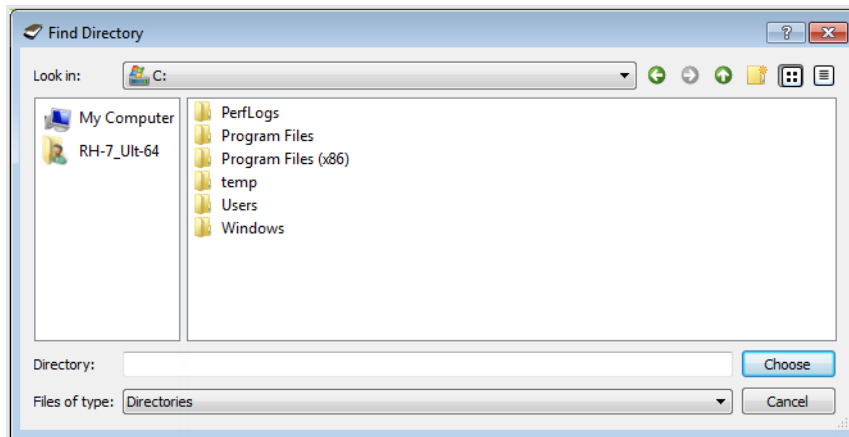


- Click on the browse button  next to the **Destination folder** field to open a file browsing window.

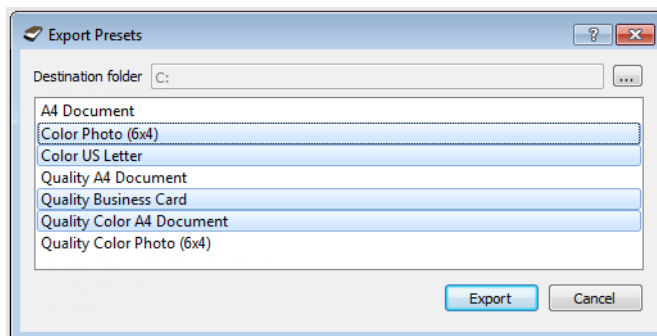


- Browse to a location and select the folder where you want the preset file to be saved. Click on **Choose**.

Make sure to choose a location where you will be able to easily find the file.



- 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.



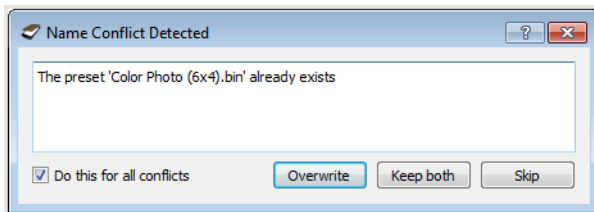
- Click on **Export**.

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.

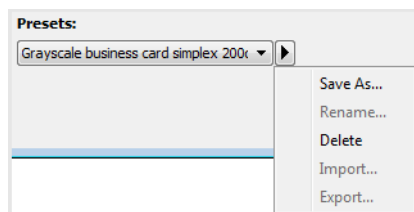


Importing

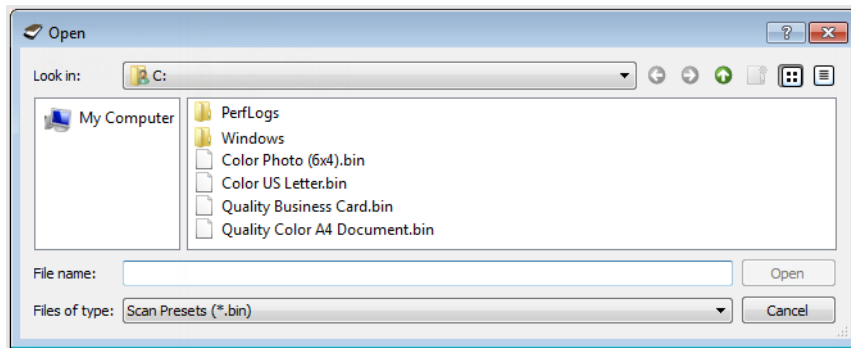
If you have previously exported presets, or another user has given you their presets files, select the import option to add those presets to your current list.

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....**



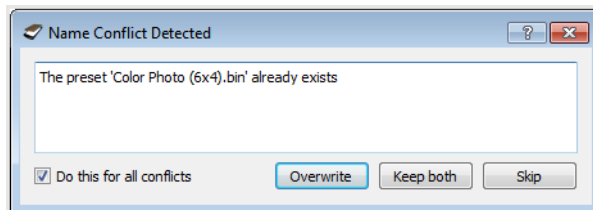
2. Browse to the location where the preset file is saved. If you want to import multiple presets, click on each preset name. You may need to hold down the **Ctrl** (Control) key on your keyboard, while clicking on each preset name, to select multiple presets.



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.

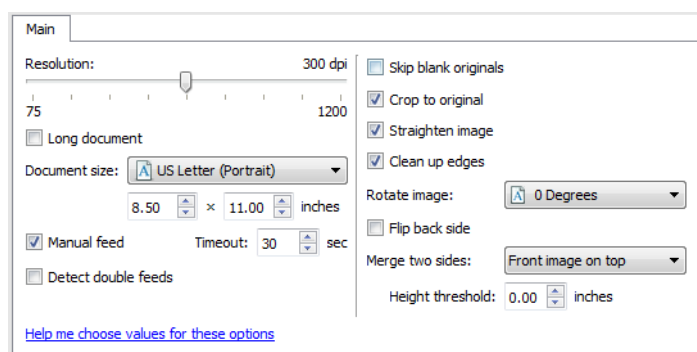
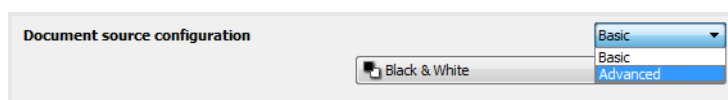


Select the option **Do this for all conflicts** to have the action you select in this dialogue be used for all conflicts found.

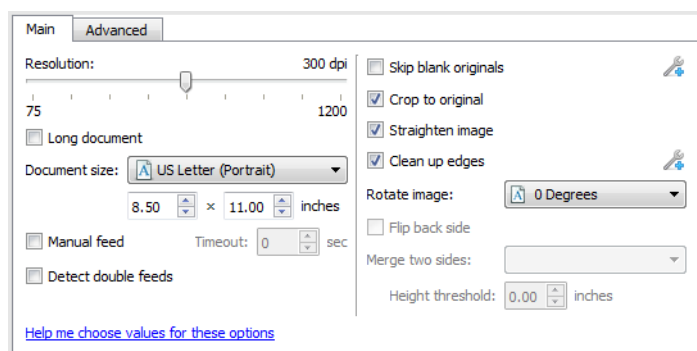
Document Settings

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.

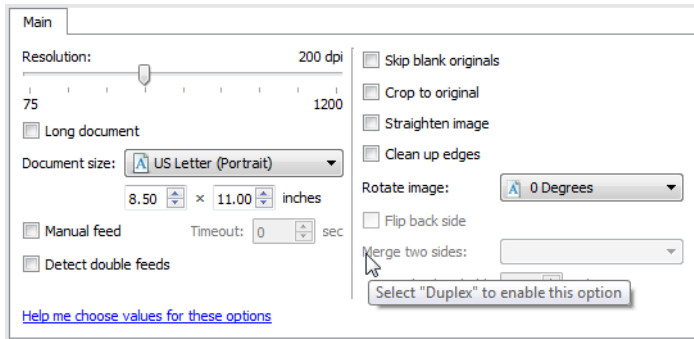


The **Document settings** section when the **Advanced** document source configuration mode is selected.

- **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.

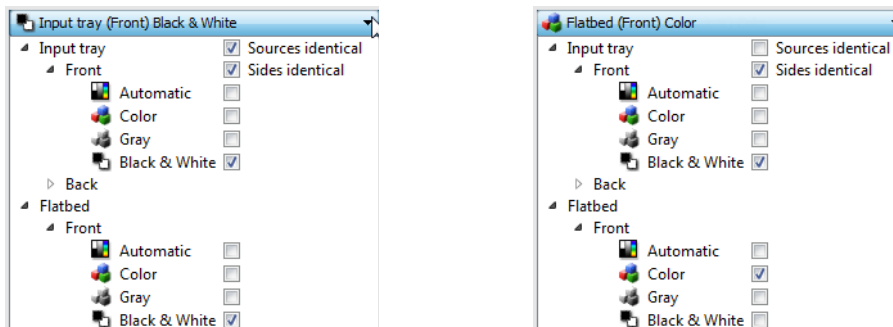
Disabled Options in this Section

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.



When you are using a scanner that has multiple sources, such as an ADF with Flatbed combination scanner, some options may be disabled based on the current source displayed in the source list. For example when the flatbed source is selected, the manual feed option will be disabled.

If an option is unavailable, check to see which source is displayed at the top of the source list when in the Advanced interface view.



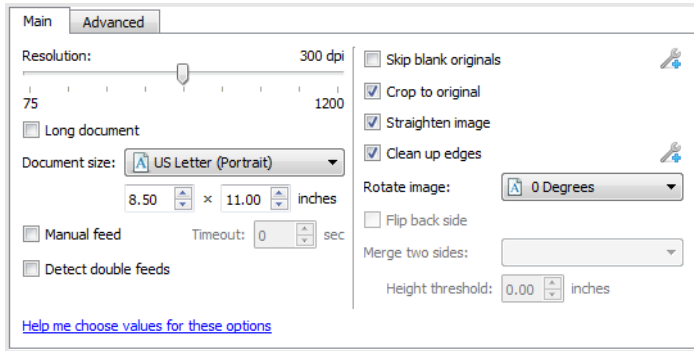
Click on one of the color modes under the source you want to configure. That source will now be displayed at the top of the list, and the options for that source will be available in the scanner interface.

When Flatbed is displayed here, only the options that can be used for the flatbed will be available in the scanner interface.

Note that even when **Sources identical** is selected, any options that are only available for a specific source will be discarded if the scanner scans from the source that does not have those options.

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 31

- 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:

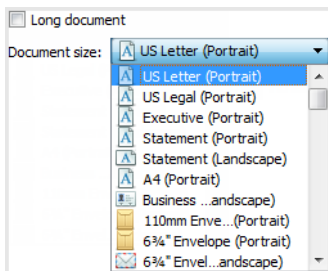
- **Text document** letters, forms, or other typed black and white documents – 100 to 150 dpi
- **Text document** letters or forms with hand printed text – 150 dpi
- **Text document (for OCR)** forms, letters, memos, or spreadsheets – 300 dpi

- **Business cards** or other items with small print – 300 dpi
- **Color page** with graphics or color photographs – 150 dpi
- **Color photographs** of poor quality for image enhancement – 300 dpi
- **Color photographs** for printing – 200 dpi
- **Color photographs** for email – 100 to 150 dpi
- **Magazine page** with graphics, line art, or color photographs – 200 dpi

Document Size

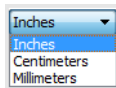
Standard document sizes

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.

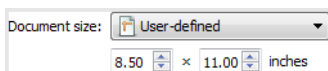


Custom document sizes

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.

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.

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.

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

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.

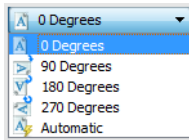
Straighten Image

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

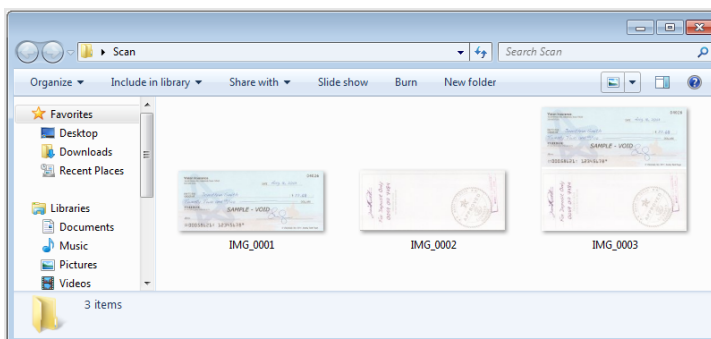
Select this option if you are scanning duplex pages that are calendar style orientation. This option will rotate the back side image 180 degrees from the front side. When scanning in duplex mode without this option selected, the back side image of calendar orientation pages will appear upside down in 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.



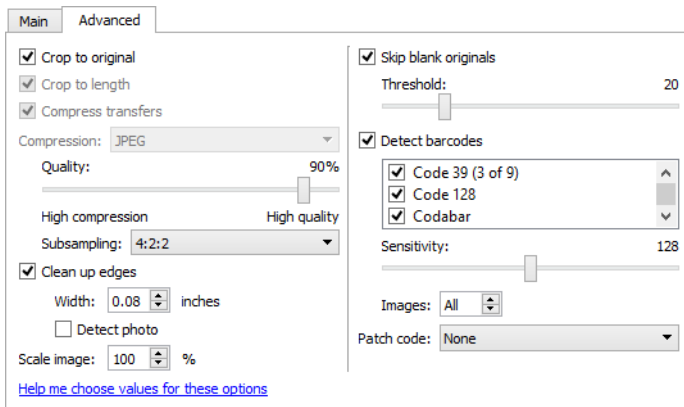
Height threshold

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.

Detect Barcodes

Select this option to enable barcode detection. By default all supported barcodes are enabled, but individual barcodes can be selected or deselected from the list. Only the barcodes that you want to be detected should be selected from the list in order to improve speed and accuracy of detection.

To use this option with custom file naming or job separation, see the OneTouch Guide on the installation disc.

Selecting Barcodes:

When Detect Barcodes is enabled, right-click one of the barcodes and select from the menu options:

- **Select all:** All barcodes in the list will be selected.
- **Deselect all but this:** All barcodes apart from the one currently highlighted in the list will be deselected.
- **Invert selection:** All barcodes that are currently checked will be unchecked. All barcodes that are currently unchecked will be checked.

Sensitivity

Adjust the midpoint gray level for deciding what is black and what is white on a barcode sheet. Lower this value if your barcode appears on a darker background. Raise this value if your barcode appears on a lighter background.

Images

Adjust this value to change the number of pages that will be evaluated for barcodes. During a scan, this number of pages at the start of the batch will be checked for barcodes only and any barcodes on following pages will not be detected.

Barcode Specification

Barcode Types:

The following table outlines the specifications for the supported barcodes.

Dimension	Barcode Type	Character Set	Digit
1D	Code39	10 digits 26 upper case letters 7 special characters: -.\$/+ %SPACE 1 start/stop character: *	1 to 32 (excludes start and stop codes)
	Code128	103 data symbols 3 start symbols 2 stop symbols	1 to 32 (excludes start and stop codes)
	Codabar	10 digits 6 special characters: -.\$:/.+ 4 start/stop characters: ABCD	1 to 32 (excludes start and stop codes)
	Code93	10 digits 26 upper case letters 7 special characters: -.\$/+ %SPACE 5 special characters: *(\$)(%)(/)(+)	1 to 32 (excludes start and stop codes)
	ITF	10 digits	6 to 48
	EAN13	10 digits	13
	EAN8	10 digits	8
	UPC-A	10 digits	12
	UPC-E	10 digits	8
	RSS14	10 digits	14-digit GTIN
	RSSExpand	10 digits	Up to 74 digits or 41 alphanumeric characters

Dimension	Barcode Type	Character Set	Digit
2D	Aztec	ASCII data, Binary data (multi-byte characters) or a combination of the above	Up to 3067 alphanumeric characters Numbers: up to 3832 digits Binary data: up to 1914 bytes
	DataMatrix	ASCII data, binary data	Up to 1556 bytes Up to 2,335 alphanumeric characters
	MatrixCode	ASCII data, numeric data	Up to 93 characters Up to 8 symbols
	PDF417	ASCII data, Binary data (multi-byte characters), Combination of the above	Up to 1850 alphanumeric characters Numbers: up to 2710 digits binary data: up to 1108 byte
	QRCode	Numbers, alphabetical characters, symbols, multi-byte characters, control codes or a combination of the above	Alphanumerical: up to 395 characters Numbers: up to 652 digits

Barcode Detection Condition:

The barcodes will only be recognized if the following conditions are met.

Item	Condition
Barcode color	Black
Barcode background color	White
Resolution	150 to 600 dpi
1D Barcode angle	Any angle
2D Barcode angle	Horizontal and Vertical

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.

Patch code 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.

Technical Note:

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

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/m² or higher).
- **Normal** works best with standard printer paper weight 18lb or 20lb (67 - 80 g/m²).
- **High** works best with paper weight lower than or equal to 16lb (60 g/m² or lower).

Paperweight

The Paperweight option applies pressure to the document stack in the input tray. This improves document feeding and paper separation, especially when scanning document stacks containing mixed sizes and paper thickness.

When this option is selected, the scanner lowers a pressure lever onto the document stack when you click Scan. After the lever is in place the scanner will then start feeding pages. When scanning is complete, the lever is automatically released.

Note: you should not use this option if you are scanning plastic cards.

Document Handling

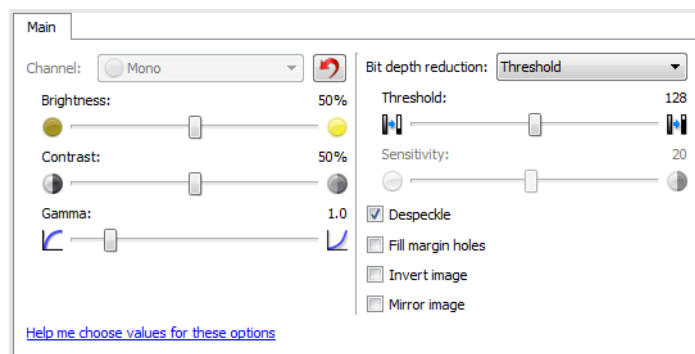
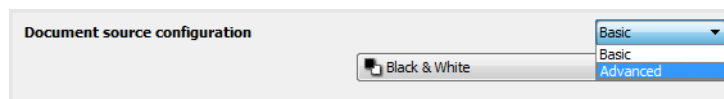
Select the type of paper in your scan batch. Leave the default selection for Normal paper handling to have the scanner feed items at normal scan speeds. Select Delicate to have the scanner slow the feeding motor so that very thin or fragile paper does not tear as it is fed through the scanner.

Image Enhancements

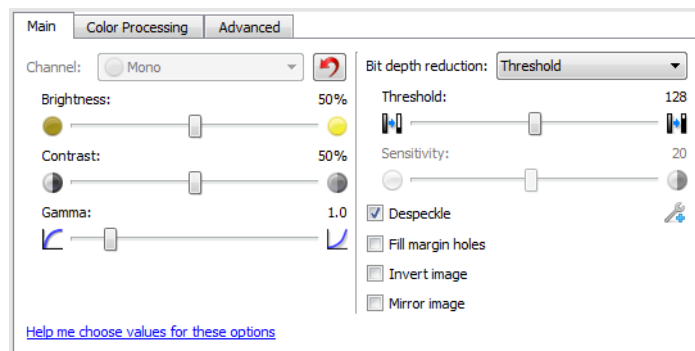
Some features described herein may not be available for the current scanner. Please disregard any information about features that you do not see in the interface for your scanner.

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.

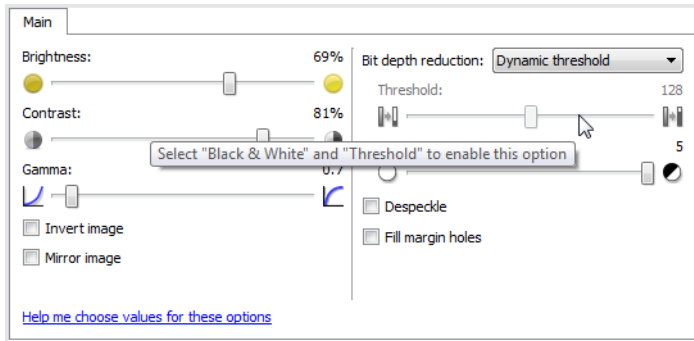


The **Image enhancements** section when the **Advanced** document source configuration mode is selected.

- **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.

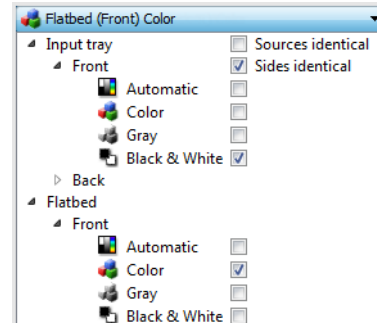
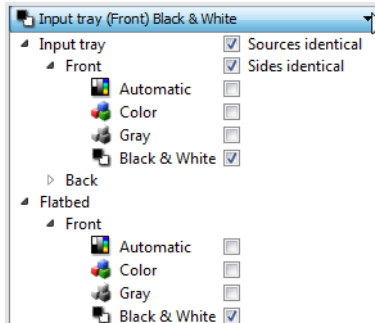
Disabled Options in this Section

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.



When you are using a scanner that has multiple sources, such as an ADF with Flatbed combination scanner, some options may be disabled based on the current source displayed in the source list. For example when the flatbed source is selected, the manual feed option will be disabled.

If an option is unavailable, check to see which source is displayed at the top of the source list when in the Advanced interface view.



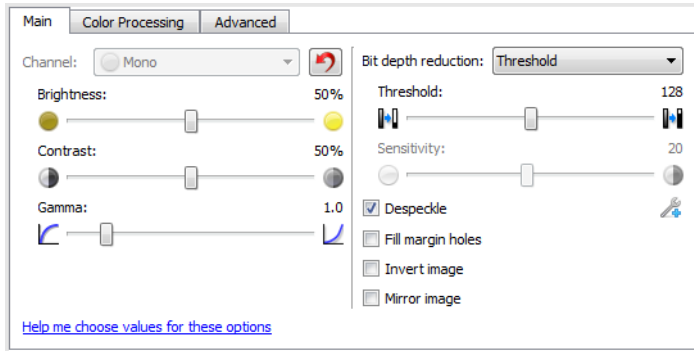
Click on one of the color modes under the source you want to configure. That source will now be displayed at the top of the list, and the options for that source will be available in the scanner interface.

When Flatbed is displayed here, only the options that can be used for the flatbed will be available in the scanner interface.

Note that even when **Sources identical** is selected, any options that are only available for a specific source will be discarded if the scanner scans from the source that does not have those options.

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.



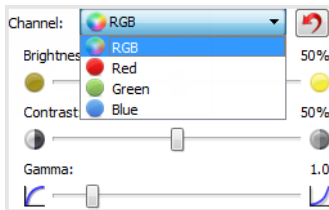
Click on a link below to go to the appropriate page in this section for instructions on adjusting the option that is displayed on the Main tab.

See “Advanced Panel Options” on page 51

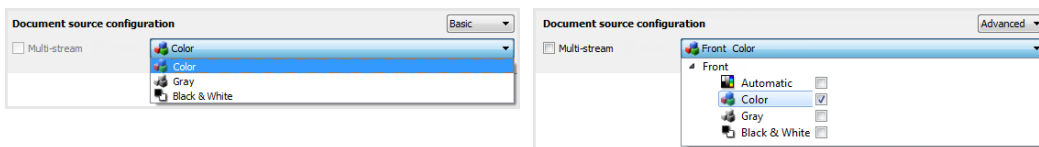
- Despeckle

Channel


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

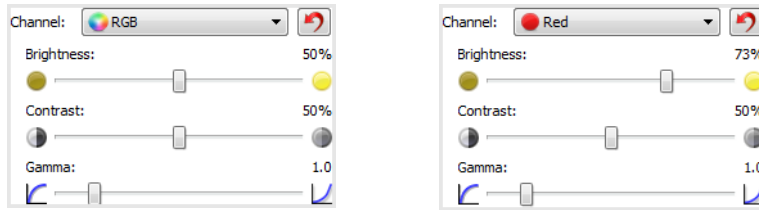


Select **Color** in the Document source configuration list to enable this option.



- **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



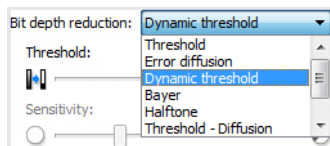
Gamma: 2.6

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

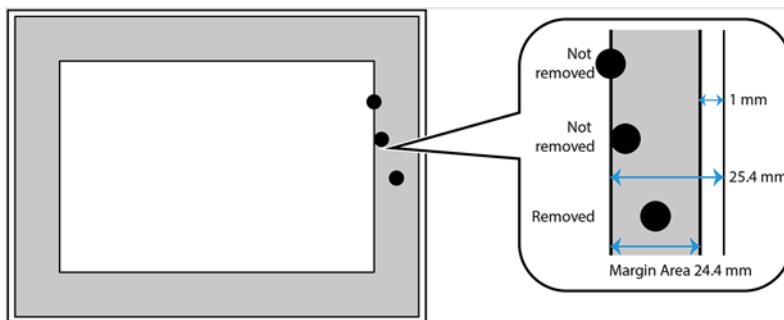


Fill Margin Holes

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.

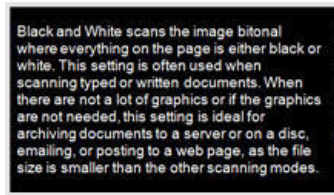
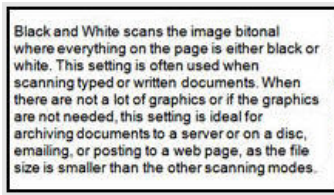
- When using this option ensure the correct document size has been selected or 'Automatic' document size is used. **Fill margin holes** will not work correctly if the document scanned is a different size than what is expected.
- The size of the hole can be between approximately 5 mm and 7 mm
- The maximum 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.



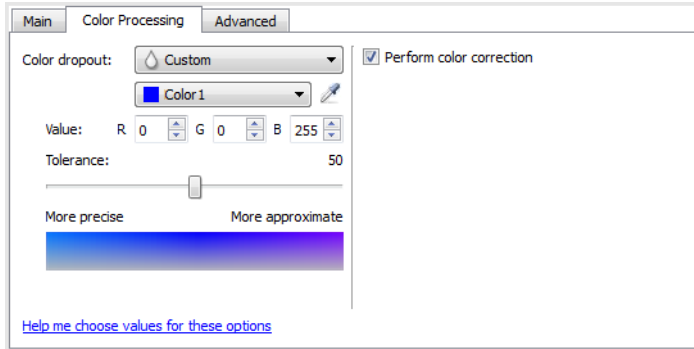
Mirror Image

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



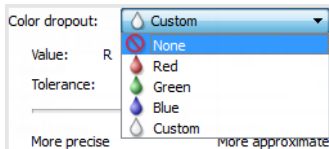
Color Processing Panel Options

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

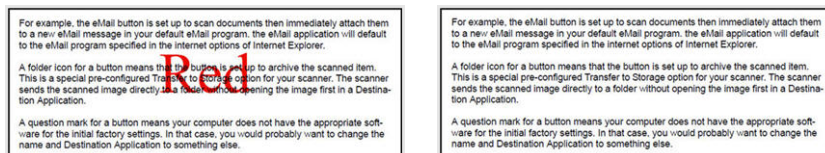


Color Dropout

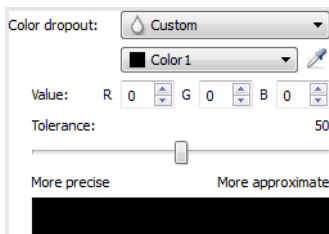
Color dropout tells the scanner and software to remove a specific color from the image. You can select **Red**, **Green**, or **Blue** from the list, or define custom colors to be dropped out of an image.



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.

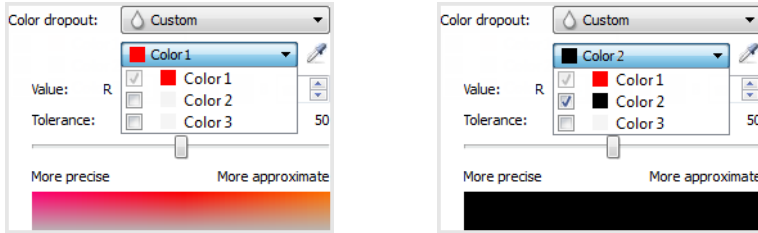


Select **Custom** to enable the fields for setting custom dropout colors and enabling multicolor dropout. You can set the custom color by either inputting the values for **R**, **G**, and **B** in their respective boxes, or by selecting the color from a [sample scan](#).



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.

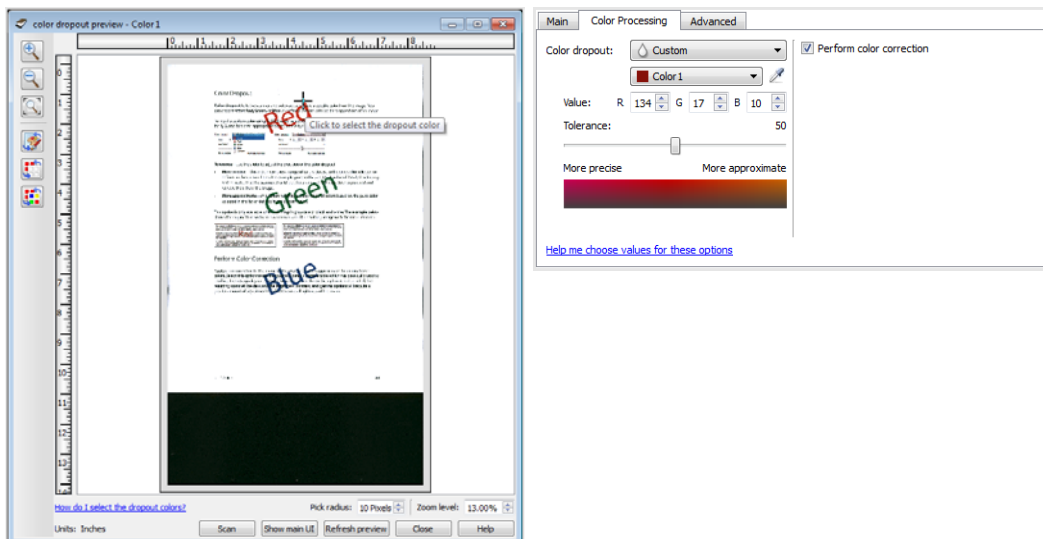
- **More precise**—this option removes a range of colors closest to the pure color selected or defined in the custom fields. For example, pure red has an R/G/B value of 255/0/0. Selecting Red indicates that the scanner should look for a range of RGB reds close to pure red and remove them from the image.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



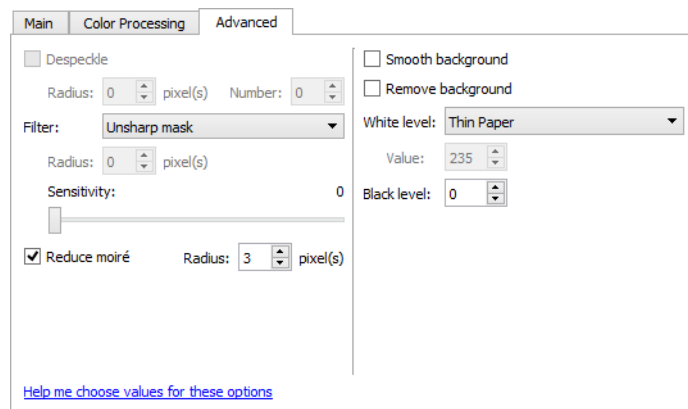
	Click to switch viewing the sample image with and without color correction. Please see “Perform Color Correction” for more information.
	Click to switch viewing the sample image with and without color dropout.
	Click to switch viewing the sample image with only the current color removed and all custom 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.

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.

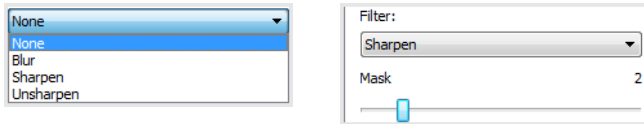
Radius—this is the size of the area that is evaluated for stray dots.

Number—this is the maximum number of dots within the radius that should be considered a speckle. If this number of dots are in the circle, the dots will not be considered a speckle and remain in the image. If there are less than this number of dots in the circle, the dots are considered a speckle and removed from the image.

For example, if the radius is 3 and the number is 5, then the document is evaluated in sections of 3x3 pixels and if there are more than 5 stray dots within a 3x3 area, they are not considered a speckle.

Filter

Use the **Filter** option to increase or decrease the sharpness in the scanned image. Click the drop down menu and select an option from the list.



- **Blur**—softens the appearance of the image by evaluating a pixel and changing its color to an average of the surrounding pixels. Use the Radius field to set the size of the area for each pixel to be evaluated to adjacent pixels. Note that the higher the number is in the **Radius** field, the longer it will take the driver to evaluate the image
- **Sharpen**—sharpens the appearance of the image by evaluating a pixel and changing its color to increase the contrast to adjacent pixels. Use the **Radius** field to set the size of the area for each pixel to be evaluated to adjacent pixels. Note that the higher the number is in the Radius field, the longer it will take the driver to evaluate the image
- **Unsharp mask**—adjusts the contrast of edge detail by evaluating the image and setting a lighter and darker line on either side of the edge. Use the **Sensitivity** slider to adjust the tolerance of the unsharp mask.

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

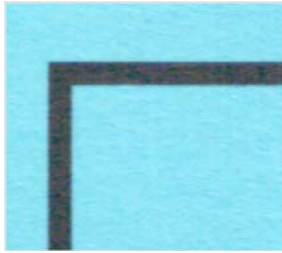


Image with moiré patterns removed

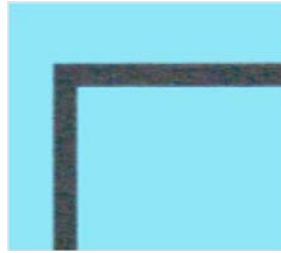
Moiré radius—you can set the size of the area to be evaluated in the Moiré radius field. Adjusting the radius will produce different results for the various types of items that can be scanned. With this feature, you may have to test scan a few times, adjusting the Moiré radius as needed, until you obtain 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

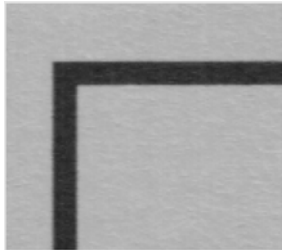
Automatically detect the background color of the scanned item, eliminate minor variations, and make it a solid color in the image. For example, when scanning a blue page the color will be represented in the final scan with varying RGB values representing blue. These varying RGB values occur due to imperfections 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.



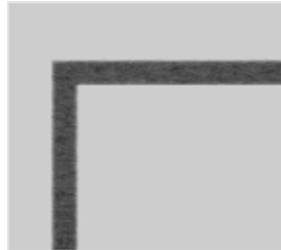
Color scan



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

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.

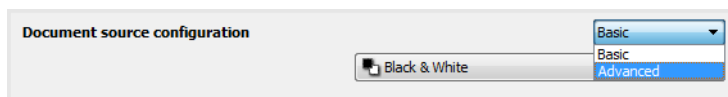
For the best automatic results you can simply select the type of paper you are scanning from the list. Alternatively, you can input a number in the Custom value field. The value you set in this field can be from 128 to 255. If you set the custom value to 128 you are telling the scanner that all pixels 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.

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.

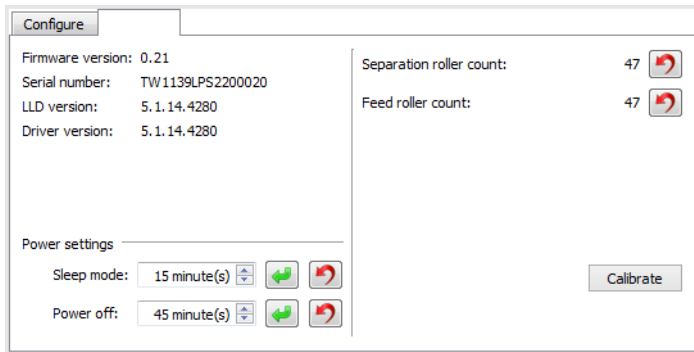


Reordering the Modules

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.
- **Calibrate**—click the **Calibrate** button to start the scanner calibration wizard. The scanner self-calibrates when you click the Calibrate button. The calibration window on-screen will close automatically when calibration is finished. If it doesn’t close automatically, click the Finish button.

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.

Document Handling

These options will only be in the interface if the current scanner supports these features.

- **Enable the detection of excessive document skew**—when selected, scanning will stop if the scanner detects that an item is being fed through at too great of an angle.
- **Exit from opposite side**—When selected, pages will exit from the opposite side that they were fed from. When unselected, pages will exit from the same side they were fed from.

Hardware Properties and Interface Behavior

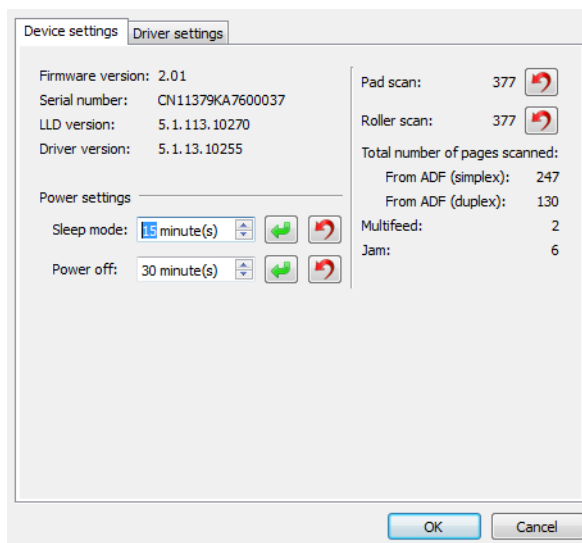
You can use the scanner's properties page to keep track of scanner maintenance, change some of the hardware options, configure the scanner interface behavior, and adjust application options that may be available for your scanner.

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.

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:

- Sleep mode
- Power off
- Reset device

- Enable the detection of excessive document skew
- Exit from opposite side
- Calibrate
- Counters

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

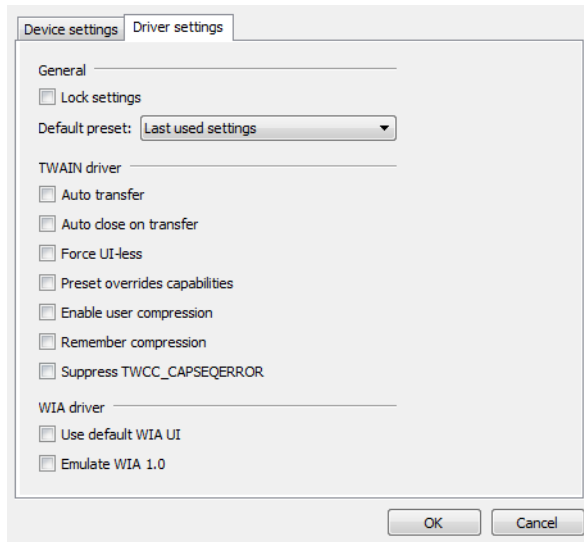
- **Check for update**—check the scanner’s firmware version against the version included with the scanner driver. When the scanner is connected to the computer and this option is selected, or when a different scanner of the same model is connected, a notification will show indicating that the firmware 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

- **Turn lamp on** and **Turn lamp off**—click either of these buttons to immediately turn the scanner lamp on or off.

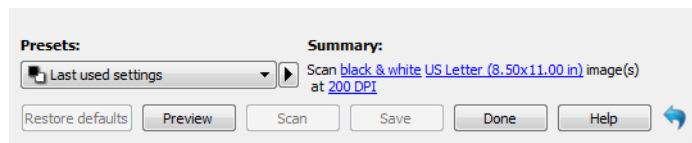
Driver Settings

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**—select this option to ensure the scanner will use the features for the current preset when they conflict with those set by an application.
- **Enable user compression**—this option is enabled only if the scanner and the software allow manual adjustment of the image compression.

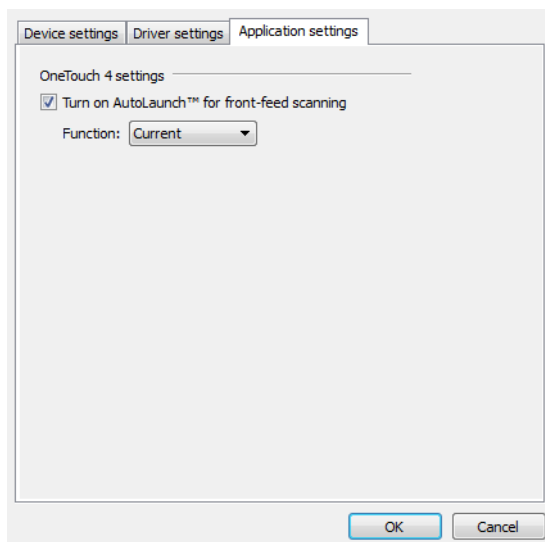
- **Remember compression**—when a compression option is available for user adjustment, it cannot be saved as part of a preset. Select this option to have the compression setting saved.
- **Suppress TWCC_CAPSEQERROR**—return default value if there is a TWCC_CAPSEQERROR error.
- **Make TWAIN topmost UI**—select 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.

Application Settings

This panel will show if your scanner has hardware options that affects the way one of the scanning interfaces behaves. Please disregard this section if you do not see an Application Settings panel.



- **Turn on AutoLaunch™**—this option will be in the interface if your scanner has a front feed. When it is enabled, scanning will start automatically when an item is inserted into the front of the scanner. The instructions for using this option are located in the "Loading Documents" chapter of the scanner user guide.

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.

1. Current bank notes or current paper money.
2. Obligations or securities of a government or bank.
3. Exchequer bill paper or revenue paper.
4. The public seal of Canada or of a province, or the seal of a public body or authority in Canada, or of a court of law.
5. Proclamations, orders, regulations or appointments, or notices thereof (with intent to falsely cause same to purport to have been printed by the Queen's Printer for Canada, or the equivalent printer for a province).
6. Marks, brands, seals, wrappers or designs used by or on behalf of the Government of Canada or of a province, the government of a state other than Canada or a department, board, Commission or agency established by the Government of Canada or of a province or of a government of a state other than Canada.
7. Impressed or adhesive stamps used for the purpose of revenue by the Government of Canada or of a province or by the government of a state other than Canada.
8. Documents, registers or records kept by public officials charged with the duty of making or issuing certified copies thereof, where the reproduction falsely purports to be a certified copy thereof.
9. Copyrighted material or trademarks of any manner or kind without the consent of the copyright or trademark owner.

The above list is provided for your convenience and assistance, but it is not all inclusive, and no liability is assumed for its completeness or accuracy. In case of doubt, consult your solicitor.

Other Countries

Copying certain documents may be illegal in your country. Penalties of fine or imprisonment may be imposed on those found guilty of making such reproductions.

- Currency notes
- Bank notes and cheques
- Bank and government bonds and securities
- Passports and identification cards
- Copyright material or trademarks without the consent of the owner
- Postage stamps and other negotiable instruments

Note: this list is not inclusive and no liability is assumed for either its completeness or accuracy. In case of doubt, contact your legal counsel.

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