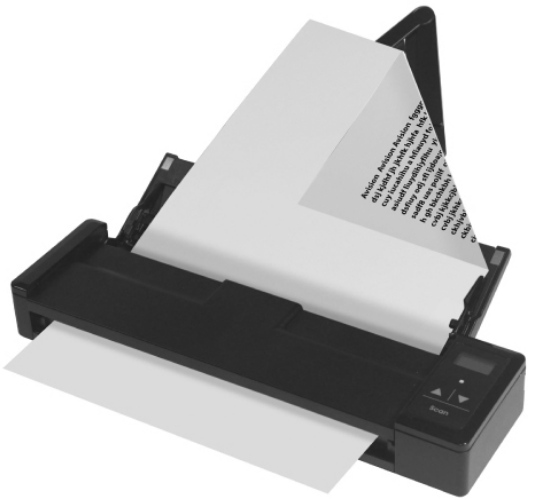
Mobile Scanner

User's Manual



Regulatory model: FF-1301S

manual-en-250-0844-E-AV110v1

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Warning and Precautions of the lithium-ion battery

Warning:

Danger warning to prevent the possibility of the battery from leaking, heating, explosion, please observe the following precautions:

- Don't immerse the battery in water and seawater. Please put it in cool and dry environment if no using.
- Do not discard or leave the battery near a heat source as fire or heater
- Being charged, using the battery charger specifically for that purpose
- Don't reverse the positive and negative terminals
- Don't connect the battery to an electrical outlet directly.
- Don't connect the positive and negative terminal directly with metal objects such as wire. Short terminals of battery is strictly prohibited, it may damage battery.
- Do not transport and store the battery together with metal objects such as necklaces, hairpins.
- Do not strike, throw or trample the battery.
- Do not directly solder the battery and pierce the battery with a nail or other sharp object.
- Do not use lithium ion battery and others different lithium polymer battery model in mixture.
- Prohibition of use of damaged cells.
- Don't bend or fold sealing edge. Don't open or deform folding edge. Don't fillet the end of the folding edge.
- Don't fall, hit, bend battery body.
- Battery pack designing and packing Prohibition injury batteries.
- Never disassemble the cells.
- Keep the battery away from babies.
- Any components contacting these two edges, they must be insulated.

Caution:

- Risk of explosion if battery is replaced by an incorrect type. Dispose the battery according to local regulations.
- Never place batteries or devices on or in heating devices, such as microwave ovens, stoves, or radiators. Batteries may explode when overheated or its performance will be degenerate and its service life will be decreased.
- Do not use it in a location where is electrostatic and magnetic greatly, otherwise, the safety devices may be damaged, causing hidden trouble of safety.
- If the battery leaks, and the electrolyte get into the eyes. Do not wipe eyes, instead, rinse the eyes with clean running water, and immediately seek medical attention. Otherwise, eyes injury can result.
- If the battery gives off an odor, generates heat, becomes discolored or deformed, or in any way appear abnormal during use, recharging or storage, immediately remove it from the device or battery charge and stop using it.
- Avoid charging batteries for more than a week, as overcharging may shorten battery life. Over time, unused batteries will discharge and must be recharged before use.
- Disconnect chargers from power sources when not in use.
- Use batteries only for their intended purposes.
- Store the battery at 0°C to 40°C.
- Avoid exposing your device and batteries to very cold or very hot temperatures. Extreme temperatures can cause the deformation of the device and reduce the charging capacity and life of your device and batteries.
- Prevent batteries from contacting metal objects, as this can create a connection between the + and – terminals of your batteries and lead to temporary or permanent battery damage.
- In case the battery terminals are dirt, clean the terminals with a dry cloth before use. Otherwise power failure or charge failure may occur due to the poor connection with the instrument.
- Be aware discharged batteries may cause fire. Follow all local regulations when disposing of used batteries or devices.
- Never crush or puncture the battery. Avoid exposing the battery to high external pressure, which can lead to an internal short circuit and overheating.

Federal Communications Commission (FCC) compliance information statement
Part 15

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.
However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

European Union Regulatory Notice

Products bearing the CE marking comply with the following EU Directives:

- Low Voltage Directive 2006/95/EC
- EMC Directive 2004/108/EC
- Restriction of the use of certain hazardous substances (RoHS) Directive 2011/65/EU

CE compliance of this product is valid if powered with the correct CE-marked AC adapter provide by Avision.

This product satisfies the Class B limits of EN55022, EN55024, safety requirements of EN 60950 and ROHS requirements of EN50581.

*This machine is certified as Class 1 LED product.

Disposal of Waste Equipment by Users in Private Union

This symbol on the product or on its packaging indicates that the product can not be disposed of with your other household waste. Instead it should be sent to appropriate facilities for recovery and recycling in an effort to protect human health and the environment. Fore more information about where you can drop off your waste equipment for recycling, please contact your local city office, your household waste disposal service or the shop where you purchased the product.

As an ENERGY STAR® Partner, Avision Inc. has determined that this product meets the ENERGY STAR guidelines for energy efficiency.

System Requirements

CPU:	Inte l® Core™ 2 Duo or higher
Memory:	32 bit: 1 GB 64 bit: 2 GB
Optical Drive:	DVD-ROM Drive
USB Port:	USB port 2.0 (compatible with USB 1.1)
Compatible Operating System:	Microsoft Windows XP(SP3), Windows Vista, Windows 7, Windows 8.x (32-bit/64-bit)

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1. Introduction

Congratulations on your purchase of the color sheet-fed image scanner. With this scanner, you can scan documents from the auto document feeder increase your productivity.

Before you install and operate the new scanner, please take a few minutes to read through this manual. It provides proper instructions for you to unpack, install, operate and maintain the scanner.

1.1 Package Items

The following figure indicates the package contents. Please check all the items against your checklist. If you do not receive all the items, please contact your authorized local dealer immediately.

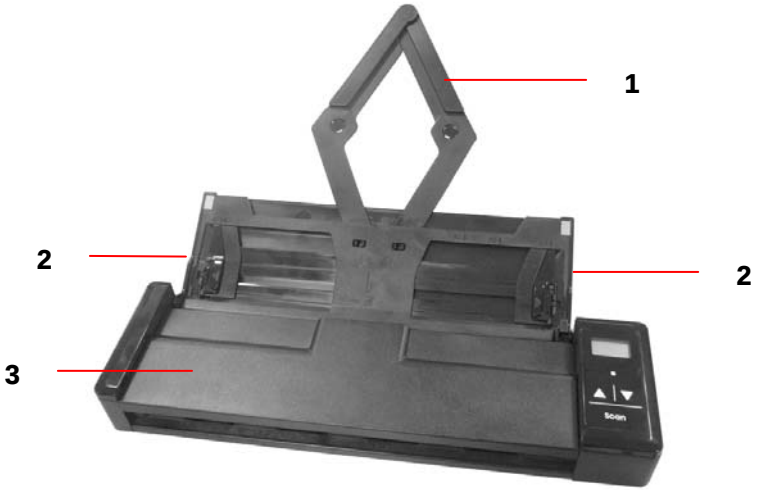
<table>
<tr><td>
Scanner</td><td>
Carry Bag</td></tr>
<tr><td>
Quick Guide</td><td>
USB Cable</td><td>
Calibration Sheet</td></tr>
<tr><td>
Li-Ion Battery</td><td>
Software CD</td><td>
Cleaning Cloth</td></tr>
<tr><td colspan="3">
Online Registration Notice</td></tr>
</table>

Note:

1. Only use the Li-ion Battery AP-120 made by APACK/CB-PD (NP-120) made by City Bright included in the product. Using other battery may damage the machine and void the warranty.
2. Please unpack the packing carefully, and check the contents against the checklist. If any items are missing or damaged, please contact your dealer immediately.
3. To access more service supports, please visit our official web site at www.avision.com to register your product.

1.2 Front View

Item	Name	Description
1	LCD display	Displays the battery status and function button via the software application - Button Manager V2.
2	System indicator light	Indicates the operating/warning status of the scanner. **Solidly lit in green color:** The power is turned on. **Flashing in red color:** • Paper is jammed. • A double feed has been detected and the scanner has stopped. • The top unit is open.
3	Up/Down Arrow	Used to scroll up and down to select your function button via the software application - Button Manager V2.
4	Scan	Press to start a scan via the software application - Button Manager V2.
5	Feed tray	This tray is used for feeding documents. Open it when scanning documents.

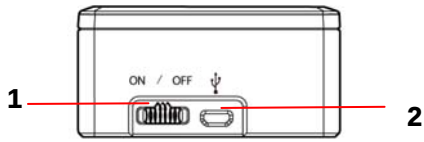


Item	Name	Description
1	**Document Extension Plate**	Open the plate to support the document when loading a long document.
2	**Document Guides**	These guides ensure documents are fed straight. Raise the guides when loading a document, and then align them to the edges of the document to be scanned.
3	**Feeder Cover**	Open this when cleaning the scanner.

1.3 Rear View

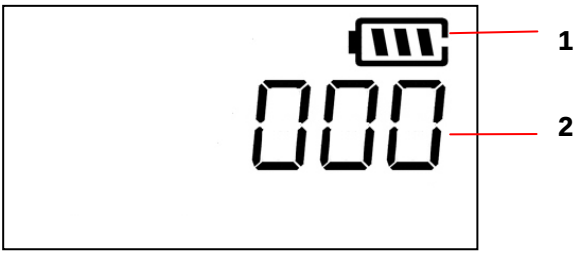
Item	Name	Description
1	**Plastic card feeder**	Used to insert and hold a business card or a plastic card.

1.4 Side View



Item	Name	Description
1	**Power switch**	Turn to the [**ON**] position to power on the scanner or turn to the [**OFF**] position to power off the scanner.
2	**Micro USB port**	Used to plug the micro end of the USB cable to connect to PC.

1.5 LCD Display



Item	Name	Description
1	**Battery status**	Indicates the power status of the battery.
2	**Button Number**	000: Indicates no computer has been connected. 001~009: Indicates the function number via the software application – Button Manager V2.

2. Scanner Installation

2.1 Precautions

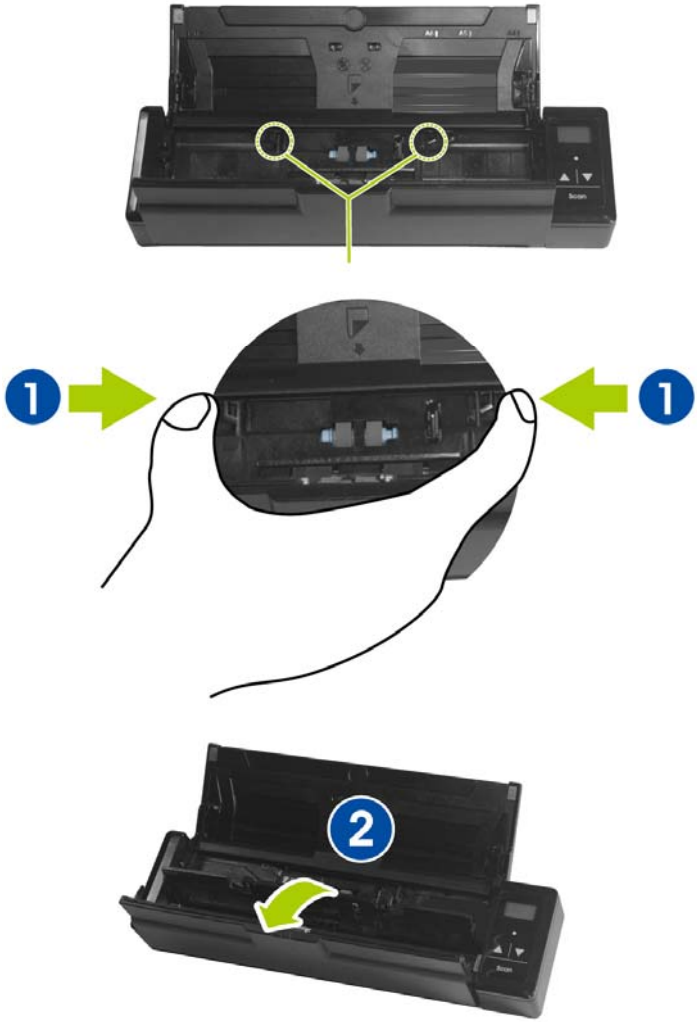
- Keep the scanner out of direct sunlight. Direct exposure to the sun or excessive heat may cause damage to the unit.
- Do not install the scanner in a humid or dusty place.
- Place the scanner securely on an even, flat surface. Tilted or uneven surfaces may cause mechanical or paper-feeding problems.
- Retain the scanner box an d packing materials for shipping purposes.

2.2 Installing the Battery

1. Open the feed tray.

2. Open the feeder cover.

3. Open the battery cover.

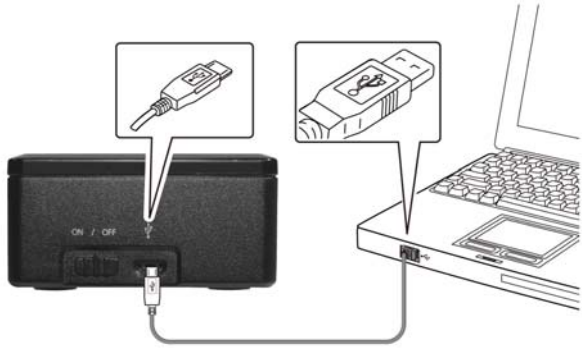


4. Load the battery into the battery container. Make sure the battery is loaded with the correct polarity. Note the copper strips on the battery should be touching the copper strips on the device. Note: Please use only the supplied battery.

5. Close the battery cover and feeder cover.

2.3 Charging the Battery

1. Turn off the scanner.
2. Connect the micro USB connector to the USB port of the scanner.
3. Connect the other USB connector to the USB port on your computer.



Important:

- For first-time use, please charge the battery for at least 4 hours.
- While charging the battery, the blue LED light will be solidly on. After the charging is completed, the LED light will be extinguished.

2.4 Installing the Feed Extension Plate

1. Open the feed tray.

2. Open the feed extension plate.

3. Raise the right and left document guides to load your document.

2.5 Installing the Scanner Driver

NOTE:

1). To ensure your computer can identify the USB scanner, please install scanner driver first before connecting the scanner to your computer.

2). The scanner driver contains TWAIN driver. After the installation of scanner driver is completed, this scanner allows you to scan via a TWAIN interface. Start your TWAIN-compliant image editing software application to select a TWAIN interface.

1. Place the supplied CD-ROM onto your CD-ROM drive.

2. The software installation graphic appears. If not, run **"setup.exe"**.

Contents on the installation graphic:

- **Install Scanner Driver:** To communicate with your scanner, you need to install the scanner driver.
- **Install Button Manager V2**: To use the buttons on the scanner, you need to install Button Manager V2. To ensure Button Manager V2 works properly, please FIRST install scanner driver before installing the Button Manager V2.
- **Install Adobe Reader:** To view the user's manuals for the scanner and Button Manager V2, you need to use Adobe Reader to open and view the manuals in pdf file format. If you already have Adobe Reader installed on your computer, you may disregard this item.
- **View Manual:** Click **"View Manual"** to view or print the detailed user manual for the scanner and Button Manager V2 respectively.

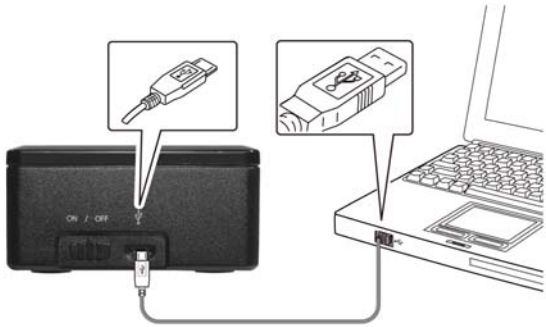
3. Click **Install Scanner Driver** to install the scanner driver and then click **Install Button Manager V2** to install the Button Manager V2 unto your computer. If you have installed Button Manager V2 before installing the scanner driver, you need to restart your computer.

2.6 Turning on the Power

Turn the **Power Switch** to the [**ON**] position to turn on the scanner.

2.7 Connecting to a Computer

1. Connect the micro USB connector to the USB port of the scanner.
2. Connect the other USB connector to the USB port of your computer. (If you are connecting to a desktop computer, please connect to the USB port at the rear side of your computer.)



3. The computer should detect a new USB device and prompt a **"New Hardware Found"** message.
4. Follow the on-screen instructions clicking the [**Next**] button. When the certification screen is prompted, click [**Continue Anyway**] to complete the installation.
5. When the **Finish** dialog is prompted, click the **Finish** button.

3. Completing Your First Scan

3.1 Suitable and Unsuitable Original Types

Suitable Original Types

The scanner used with the feeder dock is designed to obtain the best scanning results with the following types of originals:

- Photos and documents (3"x5", 4"x6", 5"x7", 8.5"x14") (76 x 127mm, 102 x 152 mm, 127 x 177 mm, 216 x 356 mm)
- Business cards [standard 3.5" x 2" (88 x 50 mm) or larger]
- Document weight: 60 ~ 107 g/m² (16 to 28 lb)
- Long Page (216 x 916 mm) (available for 300 DPI only)

Unsuitable Original Types

Do not use the following types of originals for scanning in the feeder dock, otherwise the feeder dock may malfunction or cause the original to jam in the slot.

- Originals thicker than 0.76 mm
- Original with either side shorter than 50 mm
- Originals with lots of black or dark colors
- Original with dark colors surrounding the edges
- Printed media (newspapers, magazines, etc
- Soft and thin materials (thin paper, cloth, etc.)
- Curl or wrinkle originals
- Originals with staples or paper clips.
- Originals that exceed acceptable size – 8.5" (width) x 14"(length) (216 x 356 mm) (in 600 dpi)

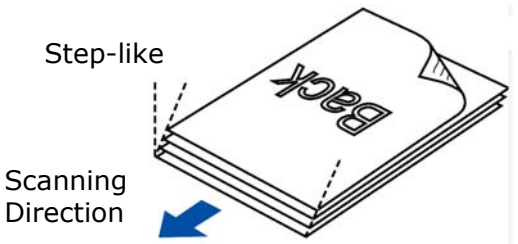
3.1.1 Loading Your Document in the ADF Paper Tray

Fanning Your Document

Note:
To avoid occasional multi-feeds or paper jams, please fan your documents and align the top edges before feeding them into the scanner. The auto document feeder can hold up to 8 pages (75 g/m^2, 20 lbs) at a time.

1. Hold both ends of the documents and fan them a few times.

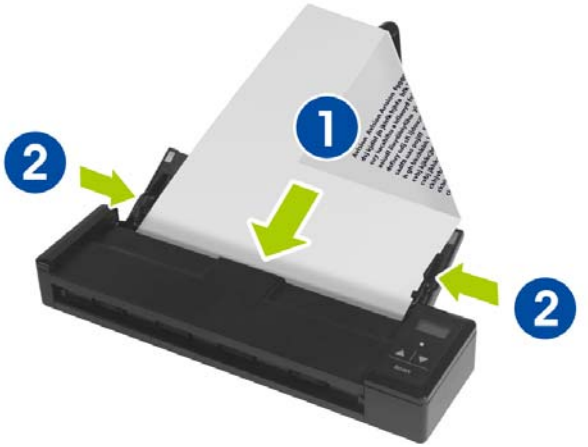
2. Rotate the documents by 90 degrees and fan them in the same manner.
3. Align the edges of the documents in a step-like pattern (see picture below).



Document Feeding

1. Load the stack of document **FACE DOWN** with the top of the pages pointing into the feeder. Up to 8 pages of plain paper can be loaded at one time in the feeder.

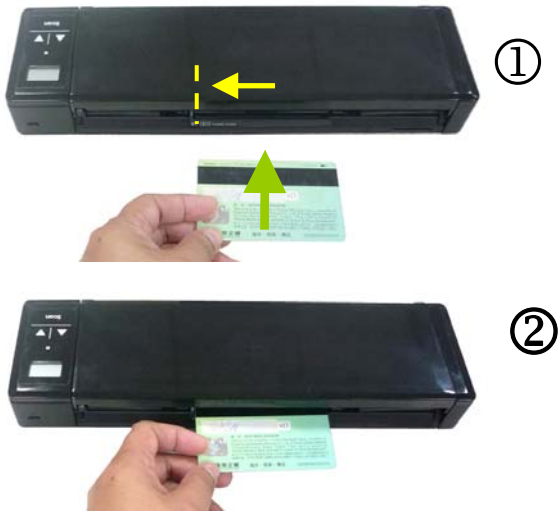
2. Make sure the document guides are aligned with the edges of the stack.



3.1.2 Loading Your Card

1. Make sure the feeder cover and paper tray are closed as shown.

2. Insert your plastic card **FACE DOWN, TOP EDGE FIRST** into the scanner's feeding slot for cards at the back of the scanner, align it to the left edge of the slot (①), and gently push the card into the feeding slot (②) as indicated.



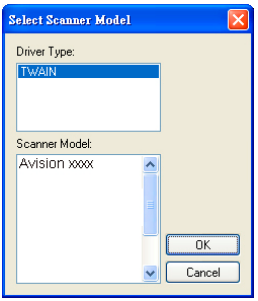
3.2 Verifying Your Scanner Installation

To verify if your scanner installation is correct, Avision provides you a useful test program called Avision Capture Tool. With this tool, you can perform simple scans and view the captured images. In addition, it helps you complete your scan at a rated speed.

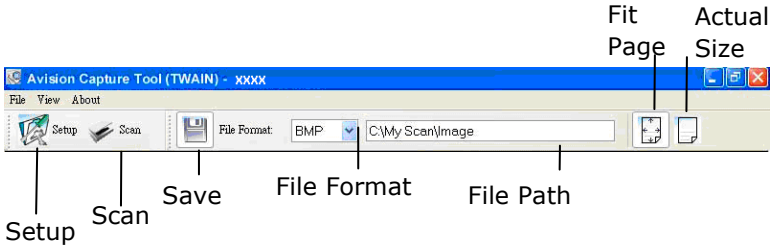
The following procedure describes how to verify your scanner installation. If the installation is not correct, please review the preceding section to check if the cable connection and scanner driver have been successfully installed.

Before you begin, be sure the scanner is on.

1. Select Start>Programs>Avision xxx Scanner>Avision Capture Tool. The Select Scanner Model dialog box will be displayed.



2. Select your driver type and scanner model and click OK. The following Avision Capture Tool dialog box will be displayed.



3. Choose your desired file format from the File Format drop down list box. (Default is JPEG, other choice includes TIFF, MTIFF, PDF, MPDF, GIF, and BMP.) The supported file formats vary depending on your scanner model.

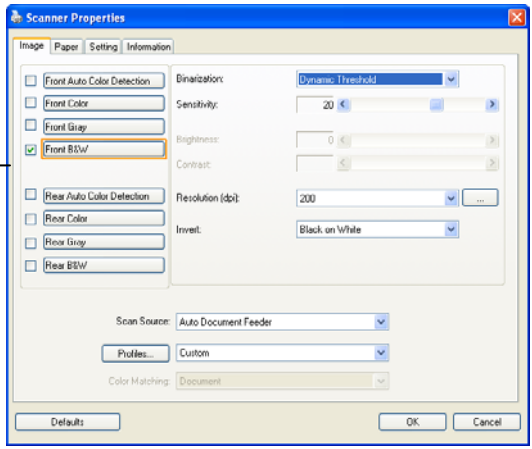
4. Type your desired folder name and file name in the File Path box. (Default is C:\Documents and Settings\user Name\My Documents\My Scan\Image.)

Note: If you do not wish to save the scanned image, deselect the Save button since default is Save Enable. In this case, the thumbnail view will be disabled. And therefore, after viewing all the scanned images, only the last one will remain on the screen.

5. Click the Setup button (

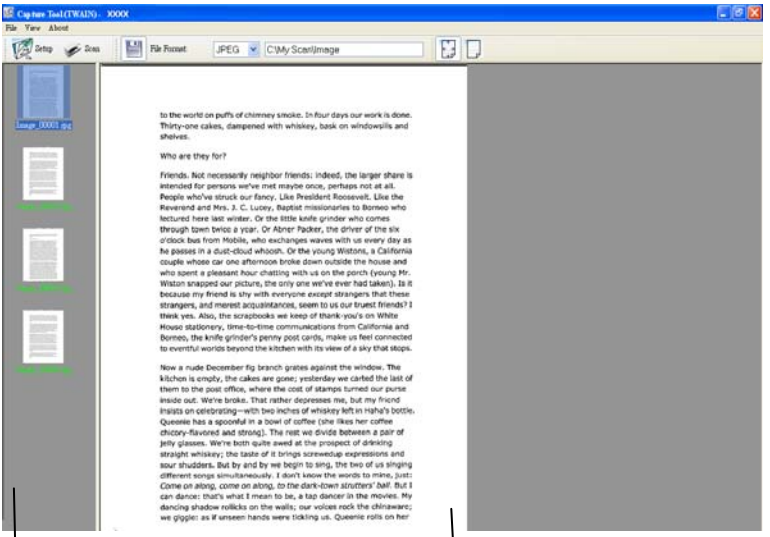
) or choose Setup from the File menu to prompt the Scanner Properties dialog box.

Image Selection Box



6. From the Image Selection Box, choose your desired image type for your scanned image. (Default is Front B&W) If you have a duplex scanner, choose Front and Rear to scan both sides of your document.
7. Click OK to quit the Scanner Properties dialog box. (To learn more details about the Scanner Properties dialog box, please see the subsequent chapter, *Using the Scanner Properties Dialog Box*.)
8. Place your document face down on the document glass or face up in the auto document feeder.
9. In the Scan Validation dialog box, click the Scan button (

) or choose Scan from the File menu.
10. The document will be scanned and displayed in the Scan Validation screen. After the scanned images have been displayed, your scanner installation verification is completed.

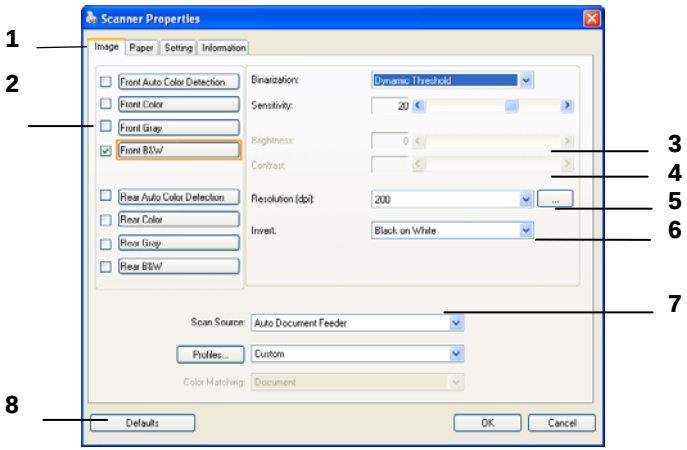


Thumbnail View

Fit Page View

11. You can view the scanned image in Fit Page ( ) or Actual Size (100%) button ( ) from the Viewing toolbars at the right side.
12. Click the Close box or Quit from the File menu to exit the Scan Validation Tool.

3.3 A Glance of the Scanner Properties Dialog Box

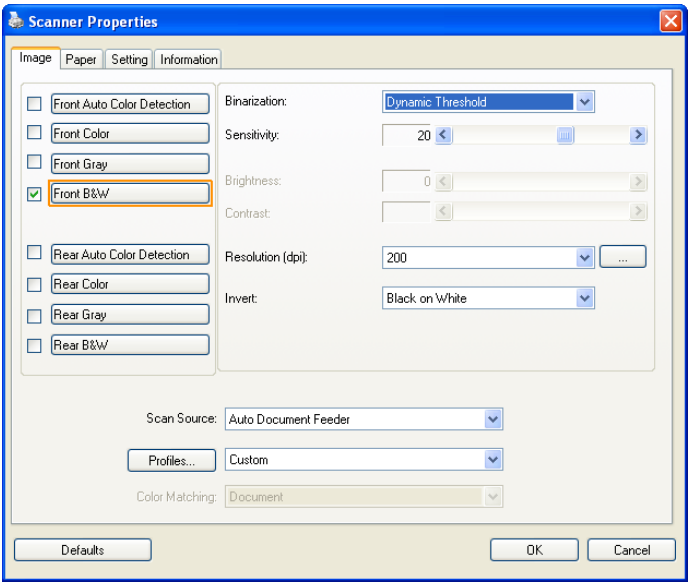


1. Tab Options	Choice: Image, Compression, Color Dropout, Paper, Multi-Feed Detection, Preview, Options, Settings, Information.
2. Image Selection Box	Choose your image type and the side of document you wish to scan. Options vary based on type of scanner.
3. Brightness	Adjust the brightness level from –100 to +100.
4. Contrast	Adjust the contrast level from –100 to +100.
5. Resolution	Determine the quality of the scanned image. The industry standard is 200 dpi.
6. Invert	Reverse the color of your scanned image.
7. Scan Source	**Choice:** Auto Document Feeder, Flatbed, Flatbed (Book), Automatic (varies due to different scanner model)
8. Defaults	Reset all values on the tabs to the factory default settings.

4. Using the Scanner Properties Dialog Box

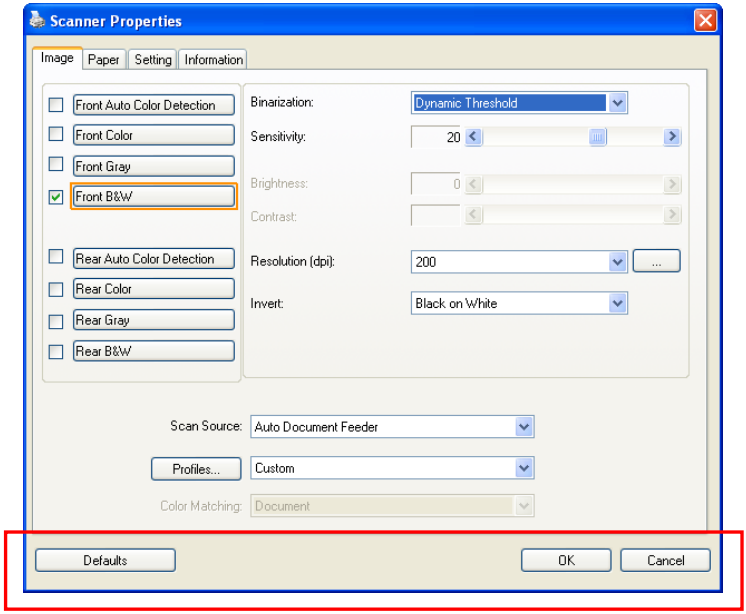
The Scanner Properties dialog box allows you to configure the scanner's settings. It consists of several tabbed windows each of which will be described in this chapter.

Note: In this chapter, all options are available based on a duplex (double-side) scanner. If you have purchased a simplex (single-side) scanner, all options are available for single sided only.



The Scanner Properties dialog box

4.1 Buttons on the Scanner Properties Dialog Box



The buttons on the Scanner Properties dialog box

Buttons	Description
Defaults	Click the **Defaults** button, the factory default settings will be shown on each tab.
Cancel	Click the **Cancel** button to leave the Scanner Properties dialog box.

The following table shows the default settings :

Tab name	Default settings
Image	Image : Front B&W Binarization : Dynamic Threshold Resolution : 200 dpi Invert : Blank on White Scan Source : Auto Document Feeder Threshold : None Brightness : None Contrast : None
Compression	None
Color Dropout	None
Paper	Cropping : Automatic Deskew : Yes Orientation : Portrait OverScan : 0.00 Unit : Inch
Multi-Feed Detection	None
Preview	None
Options	Rotation Degrees : None Blank Page Removal : None Edge Fill : White , 0 mm Image Control Option : None
Setting	Enable Energy Saver : Enable, 15 minutes after last scan action Show Scanning Progress : Yes Show Warning Message : Yes Save Settings after Closing : Yes
Imprinter	Digital Imprinter

4.2 Showing or Hiding Tabs

The [**Scanner Properties]** dialog box is displayed in default with three basic tabs - Image, Paper, and Information. To show more tabs, click the [**Scanner Properties**] icon to access more scan settings.

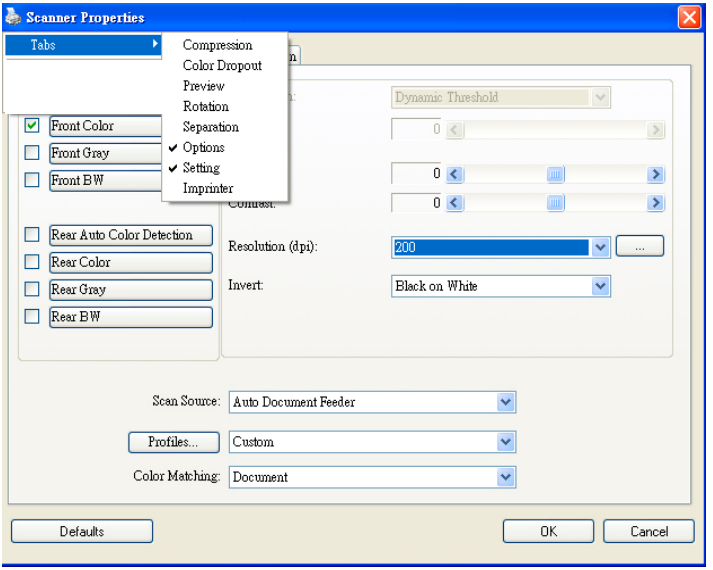
To show more tabs,

1. Click the [**Scanner Properties**] icon ( ) on the upper left corner, and choose [**Tab**] to show available tab names. The available tabs include Compression, Color Drop out, Preview, Rotation, Separation, Multi-Feed, Options, Settings, and Imprinter. (Note: the options vary based on scanner model.)
2. Choose the tab you want to display. The selected tab will be shown with a check mark and then displayed in the [**Scanner Properties**] dialog box.
3. To access the settings, click the selected tab on the top of the [**Scanner Properties**] dialog box. The page of the selected tab will be displayed.

To hide a tab window,

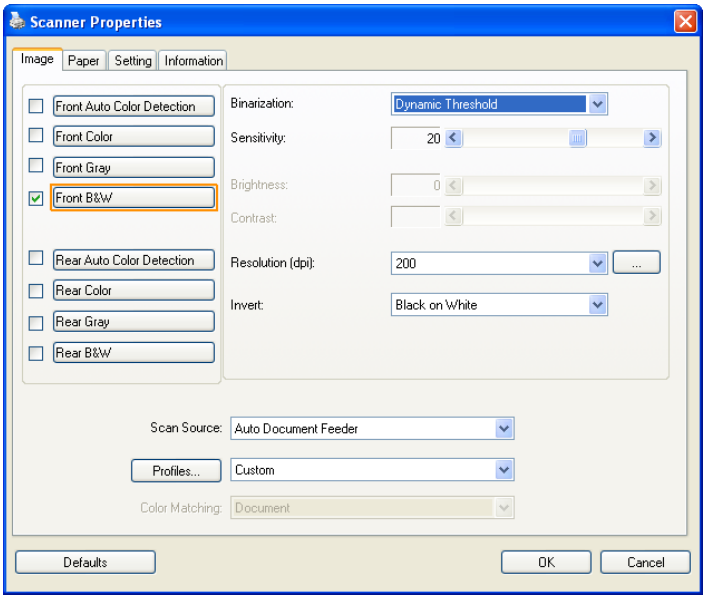
1. Click the [**Scanner Properties**] icon ( ) on the upper left corner, and choose [**Tabs**] to show available tab names.
2. Choose the tab you want to hide. Then, the selected tab will be hided in the [**Scanner Properties**] dialog box.

Note: The [**Image**], [**Paper**], and [**Information**] tab can not be hided since they preprogrammed to be displayed by default.


Scanner Properties
Tabs
Compression
Color Dropout
Preview
Rotation
Separation
Options
Setting
Imprinter
Front Color
Front Gray
Front BW
Rear Auto Color Detection
Rear Color
Rear Gray
Rear BW
Dynamic Threshold
0
0
0
Resolution (dpi):
200
Invert:
Black on White
Scan Source:
Auto Document Feeder
Profiles...
Custom
Color Matching:
Document
Defaults
OK
Cancel

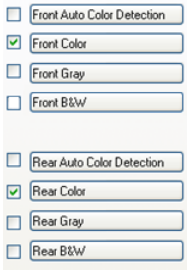
4.3 The Image Tab

The Image tab allows you to choose the front side and (or) the rear side of your document, the type of image, and to set several basic scan settings. Note that except for the resolution, you can set individual scan settings for the front side and the rear side. For example, all settings in the Image tab, Compression tab, Color Dropout tab can be set individually for the front and the rear side. However, the settings in the Paper tab, the Option tab, and the Setting tab have to be set the same for the front and rear side.



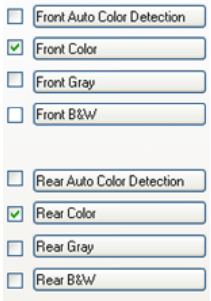
The Image tab dialog box

4.3.1 The Image Selection Box



The Image Selection box includes the image type and document side option. If you wish to scan both the front side and the rear side of your color document, you can check both Front Color and Rear Color at the same time. Note the options vary based on type of scanner.

Example 1 : Scanning a two-sided color document, both sides in color

 **Side / Image Selection**	**Front**	**Rear**

Example 2 : Scanning a two-sided color document, one in B&W, the other in color

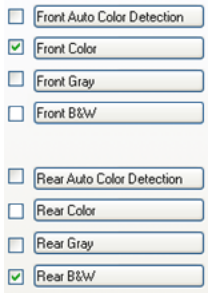
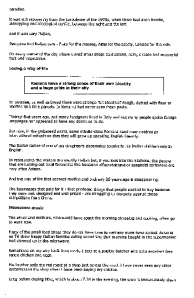
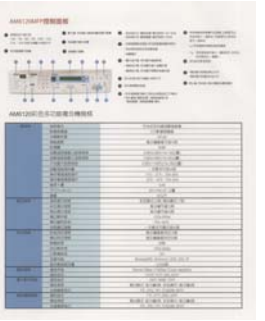
Side / Image Selection	Front	Rear
		

Image Type	Description
Color	Choose Color if you wish to scan a color image for your original in color.
Gray	Choose Gray image if your original contains actual shades of gray.
B&W	Choose B&W if your original contains only text, pencil or ink sketch.



B&W

Gray



Color

Front/Rear Auto Color Detection:

Click to automatically detect and scan the front or the rear page of your color document in color image mode. If your document is in colors, the scanner will automatically scan the document into a color image. If your document is non-color, you can choose the output to be either B&W or Gray from the Non-Color Selection option. This option is useful when you have a mixture of color and non-color document.

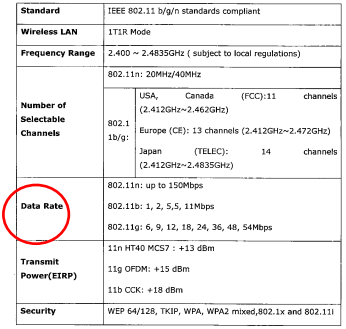
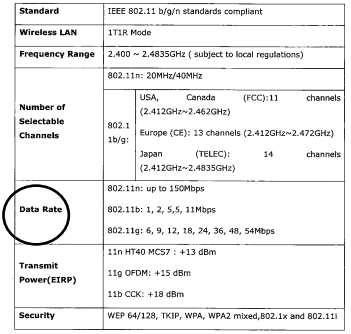
Note: If you choose Front Rear Auto Color Detection, you can not specify the image mode of your rear page and vice versas.

Sensitivity of Auto Color Detection

If your documents contain primarily B&W text and small amount of light or pale colors and you do not wish them to be recognized as color image to save the file size, you can increase the sensitivity value to let these images to be detected as B&W. The value ranges from 1 to 100. The default is 37.

Standard	IEEE 802.11 b/g/n standards compliant	
Wireless LAN	1T1R Mode	
Frequency Range	2.400 ~ 2.4835GHz (subject to local regulations)	
Number of Selectable Channels	802.11n: 20MHz/40MHz	
	802.11b/g:	USA, Canada (FCC):11 channels (2.412GHz~2.462GHz) Europe (CE): 13 channels (2.412GHz~2.472GHz) Japan (TELEC): 14 channels (2.412GHz~2.4835GHz)
Data Rate	802.11n: up to 150Mbps 802.11b: 1, 2, 5,5, 11Mbps 802.11g: 6, 9, 12, 18, 24, 36, 48, 54Mbps	
Transmit Power(EIRP)	11n HT40 MCS7 : +13 dBm 11g OFDM: +15 dBm 11b CCK: +18 dBm	
Security	WEP 64/128, TKIP, WPA, WPA2 mixed,802.1x and 802.11i	

Original

 | **Standard**	IEEE 802.11 b/g/n standards compliant
Wireless LAN	1T1R Mode
Frequency Range	2.400 ~ 2.4835GHz (subject to local regulations)
Number of Selectable Channels	802.11n: 20MHz/40MHz 802.11b/g: USA, Canada (FCC):11 channels (2.412GHz~2.462GHz) Europe (CE): 13 channels (2.412GHz~2.472GHz) Japan (TELEC): 14 channels (2.412GHz~2.4835GHz)
Data Rate	802.11n: up to 150Mbps 802.11b: 1, 2, 5.5, 11Mbps 802.11g: 6, 9, 12, 18, 24, 36, 48, 54Mbps
Transmit Power(EIRP)	11n HT40 MCS7 : +13 dBm 11g OFDM: +15 dBm 11b CCK: +18 dBm
Security	WEP 64/128, TKIP, WPA, WPA2 mixed,802.1x and 802.11i | Sensitivity: 1 (The image is recognized as a color one)	 | **Standard**	IEEE 802.11 b/g/n standards compliant
Wireless LAN	1T1R Mode
Frequency Range	2.400 ~ 2.4835GHz (subject to local regulations)
Number of Selectable Channels	802.11n: 20MHz/40MHz 802.11b/g: USA, Canada (FCC):11 channels (2.412GHz~2.462GHz) Europe (CE): 13 channels (2.412GHz~2.472GHz) Japan (TELEC): 14 channels (2.412GHz~2.4835GHz)
Data Rate	802.11n: up to 150Mbps 802.11b: 1, 2, 5.5, 11Mbps 802.11g: 6, 9, 12, 18, 24, 36, 48, 54Mbps
Transmit Power(EIRP)	11n HT40 MCS7 : +13 dBm 11g OFDM: +15 dBm 11b CCK: +18 dBm
Security	WEP 64/128, TKIP, WPA, WPA2 mixed,802.1x and 802.11i | Sensitivity: 100 (The image is recognized as a black and white one)

4.3.2 Other Image Options

Binarization This is the process of converting a grayscale or color image to a bi-tonal image. There are several different methods of performing this conversion. **Options: Dynamic Threshold, Fixed Processing, Halftone 1~5, Error Diffusion**.

Dynamic Threshold: Selecting **Dynamic Threshold** allows the scanner to dynamically evaluate each document to determine the optimal threshold value to produce the highest quality image. This is used to scan mixed document containing faint text, shaded background, or color background with a single setting. If Dynamic Threshold is selected, Threshold, Brightness, and Contrast are not available.

Sensitivity of Dynamic Threshold
Occasionally your scanned image may contain small dots or speckles. To remove these spots, increase the sensitivity value by moving the bar to the right. The value ranges from 1 to 30. The default is 20.

Fixed Processing: Used for black-and-white and other high contrast documents. A single level is set to determine the black-and-white transition. The threshold is programmable over the entire density range. **Fixed Processing** sets Contrast to 0. If **Fixed Processing** is selected, Contrast is not available.

Halftone: In addition to the black and white display, Halftone can present a somehow gray shade of image by using different size of dots. Halftone image looks like the picture we have seen in the newspaper. **Options include Halftone 1, Halftone 2, Halftone 3, Halftone 4, Halftone 5.**

Error Diffusion: Error Diffusion is a type of Halftone. Error Diffusion gives good image texture and makes text in images more readable than Halftone.

Halftone Image

Error Diffusion Image

Threshold Used to convert a grayscale image to a bi-tonal image. The value ranges from 0 to 255. A low threshold value produces a lighter image, and can be used to subdue backgrounds and subtle, unneeded information. A high threshold value produces a darker image, and can be used to help pick up faint images.
Adjust the threshold setting by dragging the Threshold sliding bar to the left or right to achieve the desired threshold setting.

200 dpi, Threshold:50, Brightness: 0

200 dpi, Threshold:100, Brightness: 0

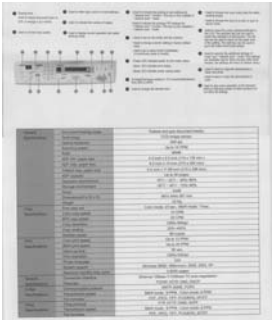
Gray

Document Type: Choice: Normal, Photo, Document

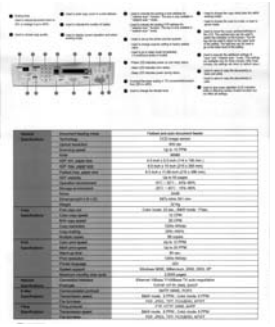
Three options of document type are provided when you choose Gray as the image type for your scanned document. Choice: Normal, Photo, Document.

- **Document:** Choose Document if your original contains pure text or a mixture of text and graphic since it is an optimal setting for regular business document. When using Document, only Threshold can be adjusted.
- **Photo:** Choose Photo if your original contains photo to reproduce your photo in vivid grayscale image. When using Photo, no Threshold and Contrast can be adjusted.
- **Normal:** When using **Normal**, Threshold, Brightness, and Contrast can be adjusted.

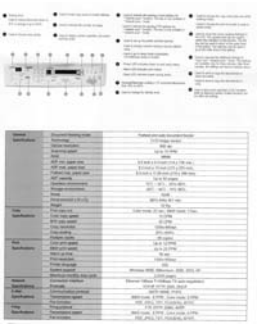
Threshold: The value ranges from 0 to 255. The default is 230. A low threshold value produces a lighter image, and can be used to subdue backgrounds and subtle, unneeded information. A high threshold value produces a darker image, and can be used to help pick up faint images. Adjust the threshold setting by dragging the **Threshold** sliding bar to the left or right to achieve the desired threshold setting.



Normal



Photo



Document (Threshold: 230)

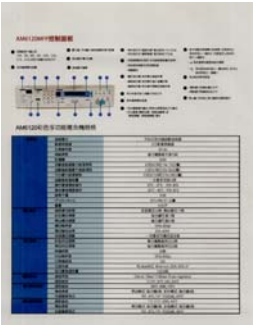
Normal

Photo

Document (Threshold: 230)

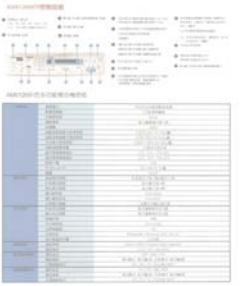
Brightness Adjusts the lightness or darkness of an image. The higher the value, the brighter the image. Drag the slider to the right or left to increase or decrease the brightness. The range is from –100 to +100.

Contrast Adjusts the range between the darkest and the lightest shades in the image. The higher the contrast, the bigger the different grayscale. Drag the slider to the right or left to increase or decrease the contrast. The range is from –100 to +100.



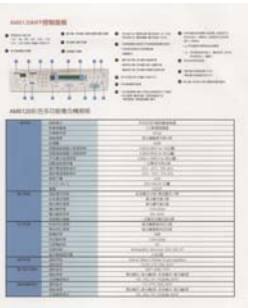
Brightness: -50

Brightness: 0 (Normal)

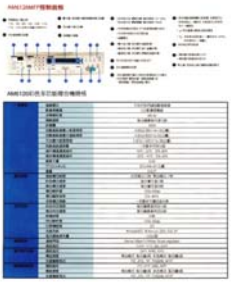


Brightness: +50

Contrast: -50



Contrast: 0 (Normal)



Contrast: +50

Resolution

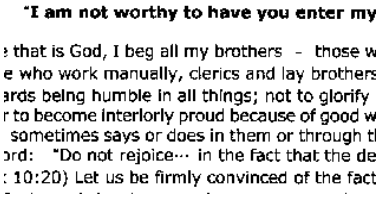
A good control of the resolution results a good detail of an image that scans. The resolution is measured by dots per inch (dpi). Normally, the greater the dpi number, the higher the resolution and the image file size. Be aware that greater resolution takes more time to scan, and more disk space for the scanning image. For your information, an A4 size color image scanned at 300 dpi at True Color mode consumes approximately 25 MB of disk space. A higher resolution (usually means over 600 dpi) is only recommended when you need to scan a small area at True Color mode.

Choose a resolution value from the drop down list. The default value is 200 dpi. Available resolutions are 75, 100, 150, 200,300, 400 and 600. Or you may choose your desired value by clicking the box in the right side of the drop down list and press the arrow key to select your desired value and then click the Add button to include it in the drop down list. **Note:** The resolution is up to 300 dpi if an imprinter or a MICR reader is installed or connected to the scanner.

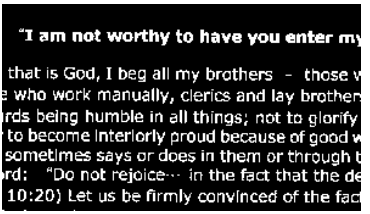
Resolution: 75 dpi

Resolution: 150 dpi

Invert Reverses the brightness and the colors in the image. The default setting is Black on a White background. Reverse mode is White on a Black background. For color images, each pixel will be changed into its complementary color at the command of Invert.



Black on White



White on Black

Scan Source

Choice:

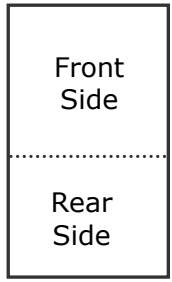
- **Auto Document Feeder:** Used to scan multiple pages.
- **Flatbed:** Used to scan a single page. For example, pages from newspaper clipping, paper with wrinkles or curls.
- **Flatbed (book):** Used to scan several inside pages from book.
- **Automatic:** Allow the scanner automatically set its scan source. If **Automatic** is selected and there is document in both the auto document feeder (ADF) and the flatbed, then the scan source will be automatically set to ADF. If **Automatic** is selected and there is document only in flatbed, then the scan source will be set to flatbed.
- **Merge Two Sides into One Image:** If you have a sheet-fed duplex scanner with front input tray, you can scan an A3 size document with an innovative method. Thus, fold your A3 size document into A4, and then load the paper in the front tray. Choose Merge Two Sides from the Scan Source option and then the scanner is able to scan both sides of your document and merge two A4 images into one A3 image.

  When you select Merge Two Sides into One Image, the Cropping or Multi-feed function will be disabled.

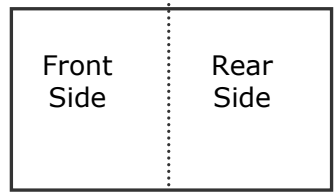
  Note: The feature must be used with a carrier sheet. Regarding how to load a document with a carrier sheet, refer to section 4.6.2, Other Paper Selection.

Note the options vary based on type of scanner.

Select the "Merge Vertically" option to merge the front side and the rear side of a page into one image vertically. If the "Merge Vertically" option has not been selected, the front side and the rear side of a page will be merged into one page horizontally.



Merge Vertically



Merge Horizontally

Note the options vary based on type of scanner.

Color Matching

The purpose of Color Matching is getting the accurate color. This option uses the default parameters (ICC profile) to adjust the colors of the image.

Choice: None, Document, Photo

- **None:** C hoose "None" to disable this option.
- **Document:** Choose "Document" if your original contains pure text or a mixture of text and graphic since it is an optimal setting for regular business document.
- **Photo:** Choose "Photo" if y our origin al contains photo to reproduce your photo in vivid color image.

Normal

After Color Matching

4.3.3 Scanning color images

The following options are available for scanning color images.

- Brightness
- Contrast
- Resolution
- Invert

4.3.4 Scanning grayscale images

The following options are available for scanning gray images.

- Brightness
- Contrast
- Resolution
- Invert

4.3.5 Scanning B&W images

The following options are available for scanning B&W images.

- Binarization (Dynamic Threshold)
- Resolution
- Invert

Or

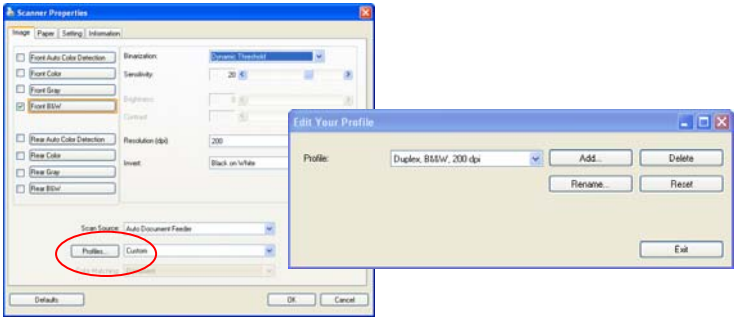
- Binarization (Fix Processing)
- Threshold
- Brightness
- Resolution
- Invert

4.3.6 Editing Profiles

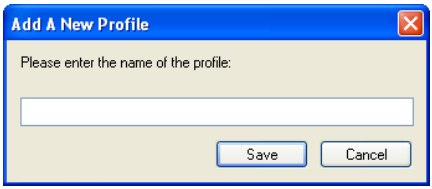
The Scanner Properties dialog box allows you to change and save your frequently used scan settings into a profile. You can edit these profiles by renaming or deleting them.

To add a new profile,

1. Customize your settings. (For example, change your resolution, image type, cropping method, scan size, or other scan settings.)
2. Click the Image tab and then choose "Profiles" to prompt the "Edit Your Profile" dialog box.



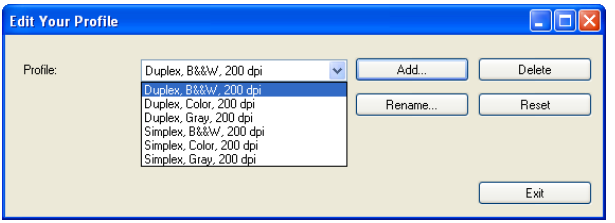
3. Click "Add" to enter the name of the profile and then choose "Save".



4. The new profile will be saved and shown in the "Profiles" dropdown list box.

To load a profile,

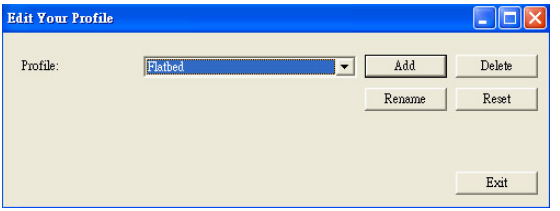
1. From the Image tab dialog box, choose your favorable profile from the "Profiles" dropdown list box.



2. Your favorable profile will be immediately loaded and displayed on Scanner Properties dialog box.

To delete a profile,

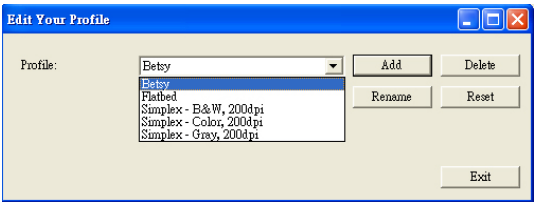
1. From the Image tab dialog box, click "Profiles" to prompt the Edit Your Profile dialog box.



2. Choose the profile you want to delete from the dropdown list box.
3. Click "Delete". A Confirm message "Are you sure you want to delete this profile?" is prompted.
4. Choose "Yes" to delete or "Cancel" to quit.

To rename a profile,

1. From the Image tab dialog box, click "Profiles" to prompt the Edit Your Profile dialog box.



2. Choose the profile you want to rename from the dropdown list box and then click the Rename button.

3. Enter new name for the profile.

4. Choose "Save" to save the new profile or "Cancel" to quit.

Note:
The preset default profiles include Flatbed, Simplex-B&W, 200 dpi, Simplex-Gray, 200 dpi, Simplex-Color, 200 dpi, Duplex-B&W, 200 dpi, Duplex-Gray, 200 dpi, Duplex-Color, 200 dpi. If you have a simplex or a sheetfed scanner, the duplex or the flatbed option will not be available.

4.4 The Compression Tab

The Compression tab allows you to compress your scanned image and choose the level of compression. Bi-tonal images are normally compressed using CCITT standard called Group 4 (G4). Color and grayscale images are often compressed using JPEG technology. Move the **JPEG Quality** slider to the right or left to increase or decrease the level of compression. Note the greater the compression level, the lower image quality. Default is 50%.

Note that the compression depends on your image editing application. If your image editing application does not support the type of compression format, then either a warning message will appear or the image quality of the compressed file will not be acceptable.

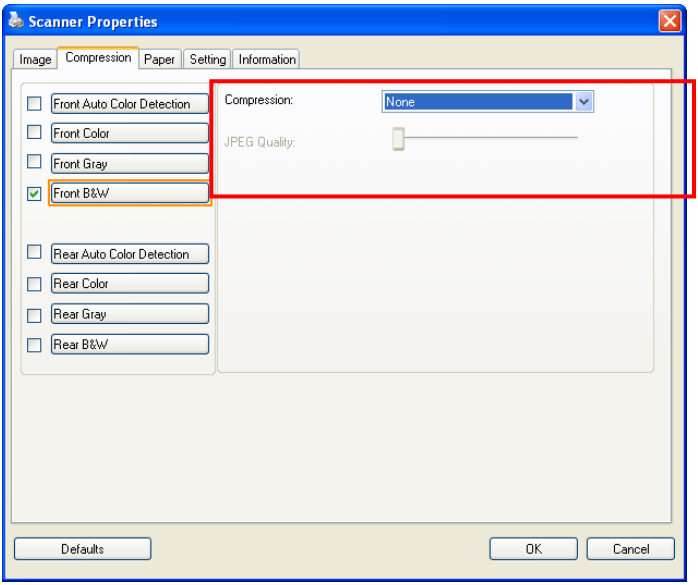
JPEG (Joint Photographic Editor Group). This group developed and lent their name to a file compression standard for color and grayscale images that is widely used by scanners, and software applications. On Microsoft Windows-based systems, a file with the extension .jpg has normally been compressed using this standard.

For scanning color or gray images, the following compressions are available:

- None
- JPEG

For scanning B&W images, the following compressions are available:

- None
- G4



The Compression tab dialog box

4.5 The Color Dropout Tab

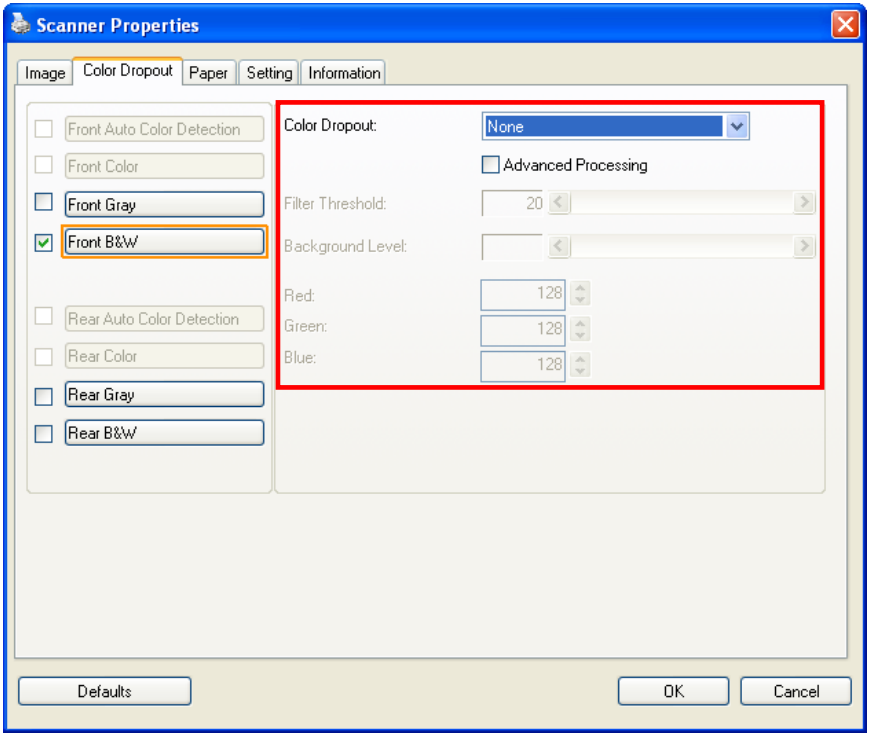
4.5.1 Color Dropout Selection

Color Dropout tab allows you to drop either of the red, blue, or green color in your scanned image. If your image contains red color watermark or background, choose the R (Red) channel then any red watermark or background will be removed. This feature is used to sharpen your text when using OCR (Optical Character Recognition) software.

The "Custom" option allows you to specify your desired color to be removed by entering its RGB (Red, Green, and Blue) value respectively.

Tolerance: Specify the allowable color range to be removed for the color you selected. Specified range: 1 ~ 100
The large the numeric value, the wider the color dropout range is.

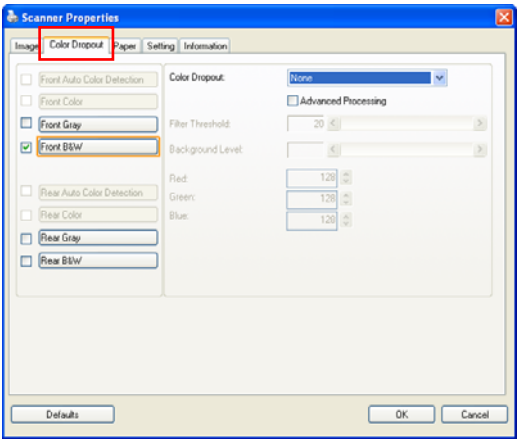
Note that this function supports only black & white and gray images. Therefore, be sure to choose any black & white or gray image type while applying this function.



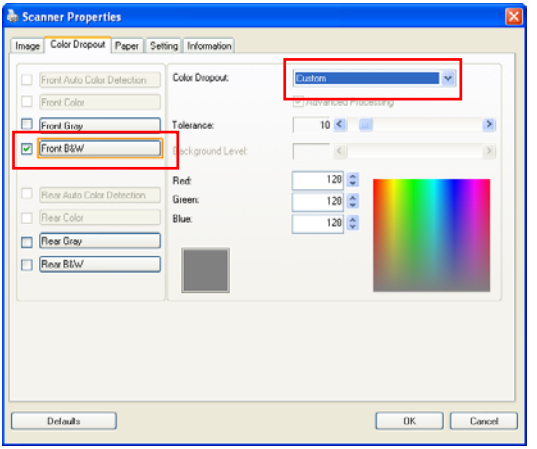
The Color Dropout dialog box

To select a color on the Color palette,

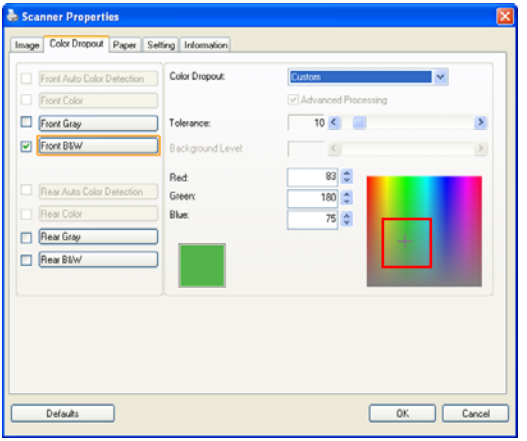
1. Click the Color Dropout tab from the Scanner Properties dialog box.



2. Choose Gray or B&W from the Image Selection box and click "Custom" from the Color Dropout drop-down menu. The Color palette appears.



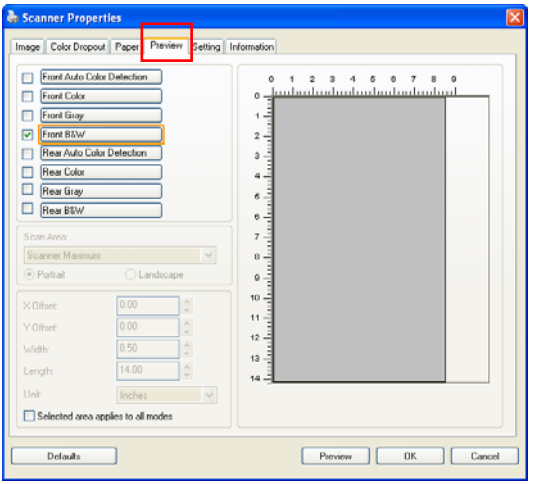
3. Move your cursor over the palette. The cursor becomes a cross sign.



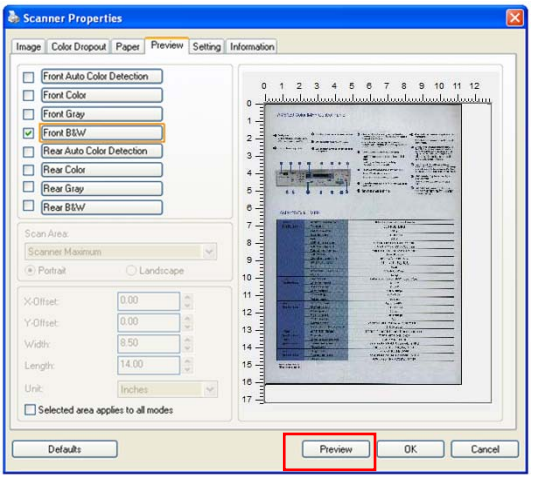
4. Click t o ch oose a color. T he RGB values are changed simultaneously.

To select a color or view a color dropout result via the Preview window,

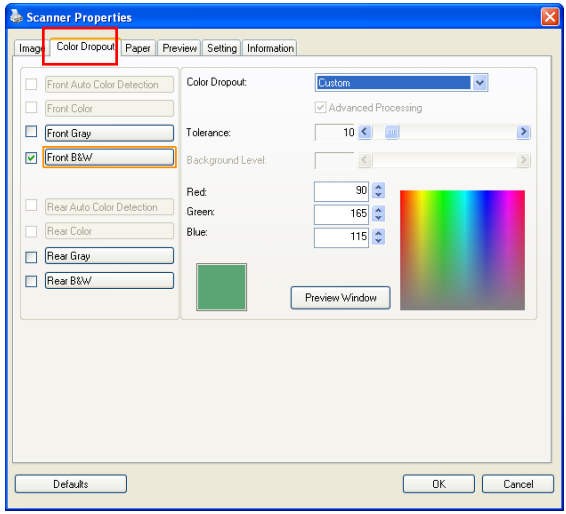
1. Click the Preview tab to open the Preview dialog box.



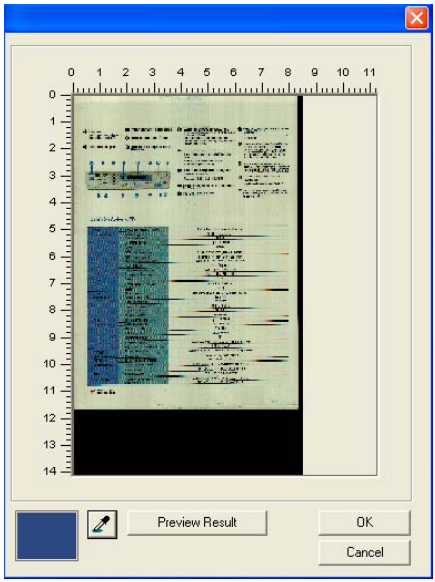
2. Place your document on the flatbed or load your document in the ADF Paper Tray. Then, click the Preview button to get a preview image at a low resolution. The preview image will be displayed.



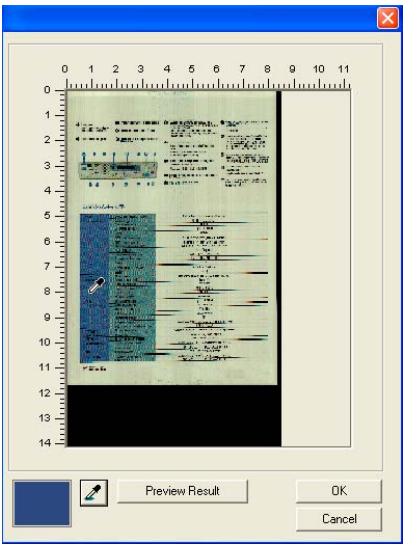
3. Click the Color Dropout tab. The Color Dropout dialog box is displayed with a Preview Window button.



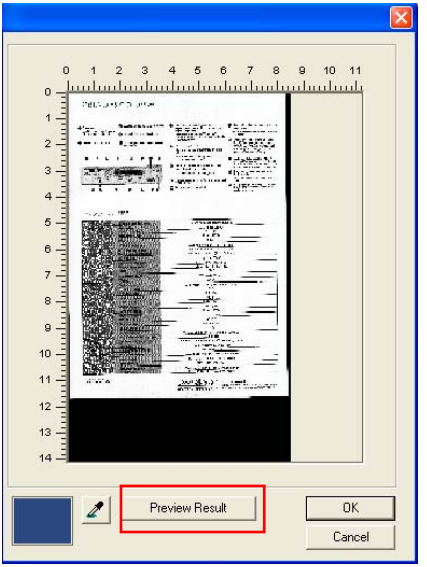
4. Click the Preview Window button to prompt the Preview window as shown.



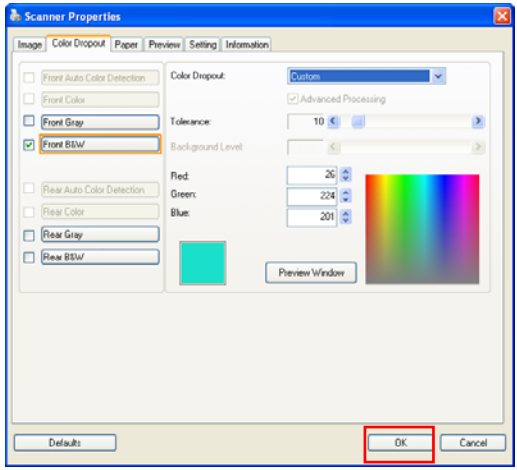
5. Click the E yedropper button ( ) and then move the cursor over the preview image. Click to select a color which you wi sh to remove.



6. Click the Preview Result button to view the result after removing the specified color.

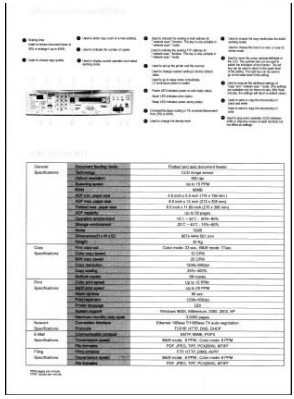


7. If the result is satisfactory, click "OK" to close the Preview window and return to the Color Dropout dialog box.



8. Click "OK" to leave the Scanner Properties dialog box and click the Scan button (

) on the main window of Avision Capture Tool to perform your final scan. The specified color is removed accordingly.



The image after color dropout

4.5.2 Other Color Dropout Options

Advanced Processing provides two options that can adjust your scanned image in the best optimal result.

Filter Threshold	This value is used to determine the color which will be dropped out. A lower value will drop more of the selected color out, while a higher value will leave more of the selected color in.
Background Level	The pixel which is higher than the background value will be adjusted to the lightest point. Adjust the value for both the Filter Threshold and Background Level to produce the best optimal result.

Example, slightly adjusting the background value makes your text more clear.

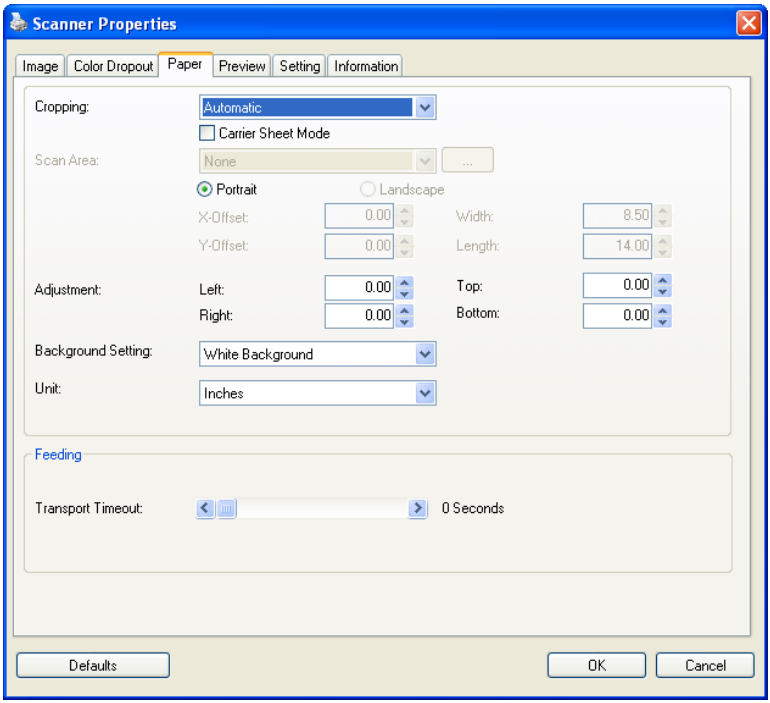
Original

Remove Blue, Threshold: 20, Background: 255

Remove Blue, Threshold: 20, Background Level: 210

4.6 The Paper Tab

The Paper tab allows you to define values relating to image output (i.e., Auto Crop or not, Scan Area, OverScan, Multi-Feed Detection).



The Paper tab dialog box

4.6.1 Cropping

Cropping allows you to capture a portion of the document being scanned. **Choice: Automatic, Fixed to Transport, EOP (End of Page) Detection, Automatic Multiple, Relative to Documents.**

Options	Description
Automatic	Automatic adjusts the cropping window according to different document sizes and automatically straighten a skewed document. Use this option for batches of mixed-sized documents.
Fixed to Transport	This feature allows you to define the area or zone to be imaged. Use for batches of same-sized documents. If you select this option, you can use the arrow keys to define the x and y offset values, width and length to redefine your scanned area. The Display window will show image placement as you change the values.
EOP (End of Page) Detection	This feature allows you to define the area or zone to be imaged. Use for batches of same-width but different length documents. If you select this option, you can use the arrow keys to define the x and y offset values, width and length to redefine your scanned area. The Display window will show image placement as you change the values.

Automatic Multiple	This option allows you to place various sized documents such as photos, ID Cards, or business cards on the flatbed (if available) and lets you create multiple individually cropped images in one scan. Note: To correctly create multiple images, please make sure there is at least 12mm (0.5") of space between each document.
Relative to Document	This option allows you to crop different areas on your documents and deliver these images in B&W, Gray, or Color separately. For example, there are applications which require you to store the entire document in B&W and a part of the document in color to save storage space. This is useful for documents where a photograph or signature appears in a consistent area on the document such as resumes, and so on.

The following options are only available when **Fixed to Transport** is selected.

- **X-Offset** — the distance from the left end of the scanner to the left edge of the scanning area.
- **Y-Offset** — the position from the top end of the document to the top end of the scanning area.
- **Width** — the width of the scanning area.
- **Length** — the length of the scanning area.
- **Center:** automatically calculates the x-offset for center-fed feeding based upon document size selected.
- — relocate the scan area by click the arrow key on the cross sign while retain the scan size. View the result from the Display window.

The Adjustment option is available when [**Automatic]** is selected.

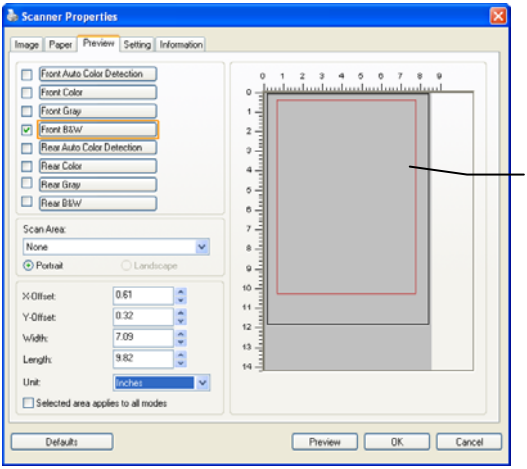
Adjustment —adds a positive/negative margin value top/bottom or toward left/right of the image. Adjustment is used when the automatic document feeder is used. Adjustment reduces the possibility of corner clipping on skewed images. To set Adjustment values, use the [UP/Down] buttons to select where you want to apply the Adjustment values: Top/Bottom or Left/Right, and then select the amount of inches/mm/pixels applied. Select a value within the range of 0.00 to 1.00 / -1.00.

Relative to Document: (used for batches of same-sized documents)

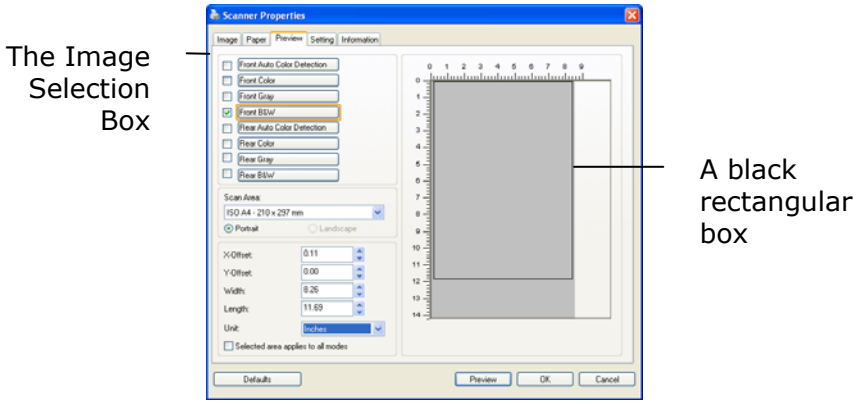
This option allows you to crop different areas on your documents and deliver these images in B&W, Gray, or Color separately. For example, there are applications which require you to store the entire document in B&W and a part of the document in color to save storage space. This is useful for documents where a photograph or signature appears in a consistent area on the document such as resumes, and so on.

The following procedure describes how to reproduce the entire document in B&W and a portion of document (picture) in color.

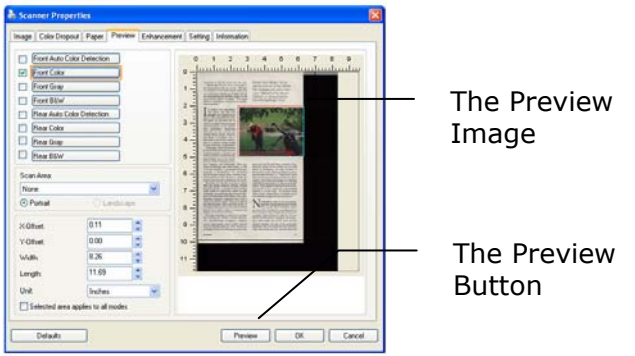
1. On the Paper tab, choose "Relative to Document" or "Fixed to Transport" from the Cropping option.
2. Choose your scan size from the Scan Area option. The selected scan size will be displayed in a red rectangular box. This is also the scan size of your entire document. (For example, ISO B5. If you have not chosen a scan area and leave the selection as None, then the default area will be the scanner's maximum.)



3. Click the Preview tab to display the Preview window. A black rectangular box appears to indicate the max. scan size your have just selected.



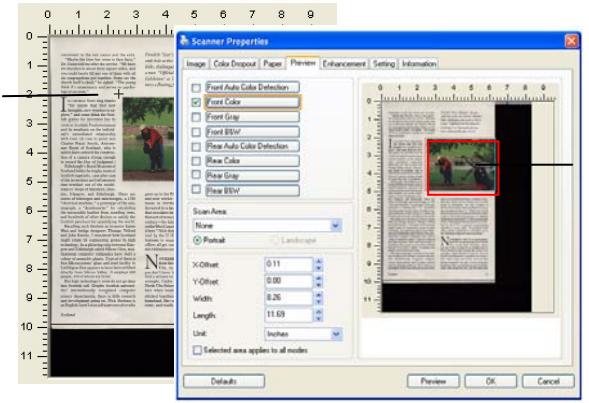
4. Click the Preview button to view the entire image in low resolution to correctly crop your relative scan area.



5. Select image type from the Image Selection box. The selected image will appear in highlighted color. (For example, Front Color)

6. Place your cursor on the Preview window and click your left mouse button. A cross sign will appear as illustrated. Create your relative scan size diagonally by dragging the left mouse button to your preferable size. The selected area will appear in a red box as illustrated.

A Cross Sign



The Relative Area

7. Check the B&W image from the Image Selection box to scan the entire document.
8. Click the Scan button to start scanning the document in two image types and sizes. (See the result in below.)

convenient to the rest rooms and the exits.

"Maybe the time has come to face facts," Dr. Dunn told me after the service. "We have six churches in about three square miles, and you could barely fill any one of them with all six congregations put together. Some say the church itself is dead," he sighed. "The young think it's unnecessary and serves no psychological purpose."

In churches Scots sing thanks "for minds that find new thoughts, new wonders to explore," and some think the Scottish genius for invention has its roots in Scottish Presbyterianism and its emphasis on the individual's unmediated relationship with God. (A case in point was Charles Piazzi Smyth, Astronomer Royal of Scotland, who is said to have ordered the construction of a camera strong enough to record the Day of Judgment.)

Edinburgh's Royal Museum of Scotland holds the trophy room of Scottish ingenuity, case after case of the inventions and refinements that tumbled out of the model-makers' shops of Aberdeen, Dundee, Glasgow, and Edinburgh. There are scores of telescopes and microscopes, a 1780 "electrical machine," a prototype of the stenograph, a "deadrometer" for calculating the extractable lumber from standing trees, and hundreds of other devices to satisfy the Scottish penchant for quantifying the world.

Recalling such thinkers as inventor James Watt and bridge designers Thomas Telford and John Rennie, I wondered how Scotland might relate its engineering genius to high technology. In a glittering strip between Glasgow and Edinburgh called Silicon Glen, multinational computer companies have built a colony of assembly plants. Typical of them is Sun Microsystems' glass-and-steel facility in Linlithgow that appears to have been airlifted directly from Silicon Valley. It employs 600 people, 450 of whom are Scots.

But high technology's roots do not go deep into Scottish soil. Despite Scottish universities' internationally recognized computer science departments, there is little research and development going on. Nick Shelness is an English-born Lotus software executive who grew up in the United States, married a Scot, and now works via his modem out of a mill home in Perthshire. He says Scotland is thwarted by a lack of the serendipitous money that circulates in the U.S. "There was a lot of that sort of money in Glasgow at the turn of the century—the kind of dynamism you still find on the West Coast of the U.S. But you never feel it here," Nick thinks Scotland has been victimized by the U.K.'s mania for concentrating business in major hubs. "In Scotland head offices all get sucked down to London out of this ridiculous urge to be near the throne."

Nowhere in the u.k. is much farther from the throne than the isle of North Uist, in the Outer Hebrides, where you don't have to look for an octogenarian to find a witness to the changes this century has wrought. Cathy Johnson is only 35, but as a North Uist fisherman's daughter she remembers when boats and ferries were all that stitched together the isles of her perforated homeland. She saw telephones and electricity come, and roads and cars, and hot water and

Fiendish "Scot's Maiden," the seventh hole at the isle of Islay's Machrie links, challenger with rough as tall as a man. "Official Loch Ness Monster Exhibition" at Drumnadrochit features a floating fiberglass Nessie.

The entire document in B&W

The relative area in color

4.6.2 Other Paper Selection

Carrier Sheet Mode:
Check this option to automatically crop the scan window according to your document size when scanning non-standard document (fragile, irregular-size document) with a carrier sheet (optional). Note: The availability of this option varies due to scanner model.

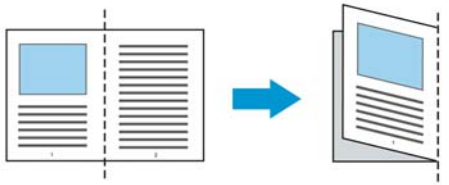
Loading Documents Using a Carrier Sheet

A Carrier Sheet is a plastic sheet specifically used for loading non-standard document onto the scanner. It allows you to scan document that can not be scanned in the regular way. Also, documents larger than A4 size, such as A3 and B4, can be scanned by folding in half, inserting into the Carrier Sheet, and scanning in duplex mode. You can also scan documents that can be damaged quite easily such as photographs, or irregular size documents that are difficult to load directly such as clippings.

To scan document using a Carrier Sheet,

For documents larger than A4/Letter size, such as A3

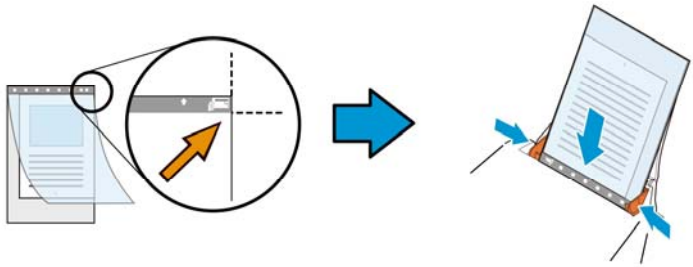
a. Fold the sheet to be scanned in half.
b. Fold the sheet tightly and smooth out crease. Otherwise, the sheet may be skewed during scanning.



1. **Open the Carrier Sheet and place the document inside.**
   Align the top of the document to the top of the Carrier Sheet (the printed area).

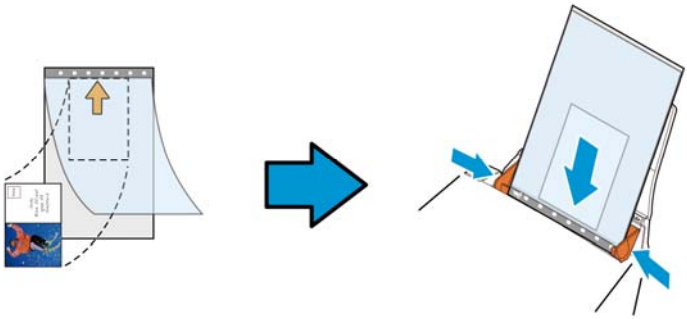
For documents larger than A4/letter size, such as A3

Align the top of the document to the top of the Carrier Sheet (the printed section) and the folded portion to the right edge of the Carrier Sheet so that the document fits into the Carrier Sheet at the upper corner.



For non-standard document

Center your document in the Carrier Sheet.



2. Load the Carrier Sheet with the gray section (printed section) facing downwards.

3. Adjust the paper guides to the width of the Carrier Sheet. Adjust the paper guides so that there is no space between the guides and the Carrier sheet. Space between the guides and Carrier Sheet may cause the Carrier Sheet to become unaligned during scanning, and skew the scanned image.

4. Start the scan.

Notice:

- [Carrier Sheet] is available for the models that support the Carrier Sheet.
- Some functions are disabled when [Carrier Sheet] is checked.
- This option may not work properly on some applications.

Scan Area

Choose your desired paper size with the drop-down list box. Or you may select a custom paper size by clicking the **Scan Area** box and then click **Add** to include in the choice.

None
US Letter- 8.5"x 11"
US Legal – 8.5" x 14"
ISO A4 – 21 x 29.7 cm
ISO A5 – 14.8 x 21 cm
ISO A6 – 10.5 x 14.8cm
ISO A7 – 7.4 x 10/5 cm
ISO B5 – 17.6 x 25 cm
ISO B6 – 12.5 x 17.6 cm
ISO B7 – 8.8 x 12.5 cm
JIS B5 – 18.2 x 25.7 cm
JIS B6 – 12.8 x 18.2 cm
JIS B7 – 9.1 x 12.8 cm
Scanner Maximum
Long Page (<118")

Long Page (<118"):
When you need to scan documents whose length exceeds scanner maximum, please choose **Long Page**. Note if **Long Page** is selected, the **Multi-Feed Detection** will not be available. (Note: This option and the maximum allowable document length vary due to type of scanner.)

When **Long Page (<118")** is selected, be sure to specify your document size in the **Length** and **Width** field.

Notice when scanning long page document:

1. Pull out the extension in the ADF Paper Tray.
2. Secure enough space around the Output Tray to prevent the ejected paper from falling off the Output Tray.
3. To ensure the performance, in color mode, set the resolution to be 300 dpi or lower; in Black and White mode, set the resolution to be 600 dpi or lower.
4. Depending on your system environments, application, or your specified paper size, there may be insufficient memory to perform scanning.

OverScan
Overscan allows you to add a specific margin at top and bottom or right and left (Options vary based on the type of scanner) of the edge of the image. This is used to reduce possible corner clipping on the skewed images and often applied to a batch of skewed document to be scanned in the auto document feeder. Select a value between 0 and +5 mm. Note the overscan result will not be shown in the Display window and that the availability of the function varies based on type of scanner.

Pre-Feed
Choice: Enable, Disable. If enable is selected, you can set the amount of time the scanner starts pre-feeding your paper after your documents has been loaded into the feeder. The default is disabled. Note: The availability of this option varies due to scanner model.

Transport Timeout
Set the amount of time the scanner will wait and then start auto scan after the first scan job is completed. If you have many separate documents need to be scanned at the same scan settings, this feature is especially useful. The default is 0. The value ranges from 0 to 30 seconds.

Note:

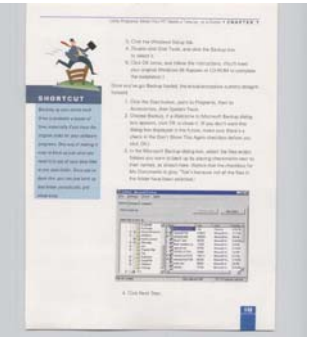
1 Within the specified timeout period, if you load your document to the feeder, the scanner starts scanning automatically.

2 If your scanner has a flatbed option and you place your paper on the flatbed, after the timeout period, you need to click the Scan button on the TWAIN user interface to start scanning.

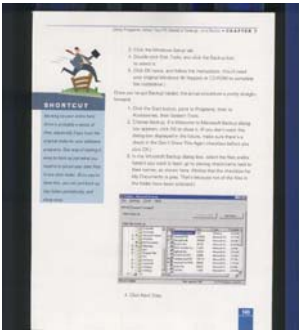
Background Setting

This option allows you to set your scan background. **Choice: White Background, Black Background.**

Note: For a sheet-fed scanner with an auto document feeder, this option is currently available only in the "Auto crop" mode. For a scanner with a flatbed platen, this option is available either in the "Auto crop" or the "Fixed to Transport" mode.



White Background

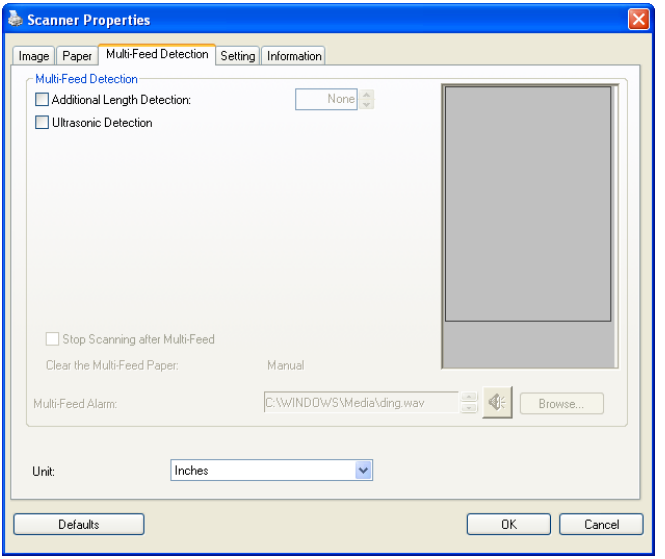


Black Background

4.7 The Multi-Feed Detection Tab

Multi-Feed Detection

Multi-Feed Detection allows you to detect overlapped document that go through the auto document feeder. Multi-Feed usually occurs due to stapled documents, adhesives on documents, or electro-statically charged document. Note： The availability of the function varies based on type of scanner.



Additional Length Detection

Additional Length Detection allows you to define the length of document being multi-fed. This value indicates the additional length exceeding your scan area. The Display window will show the size of the document as you change the value. A value of 0 indicates no additional length detection. The Additional Length Detection is best used when scanning same-size documents in the auto document feeder.

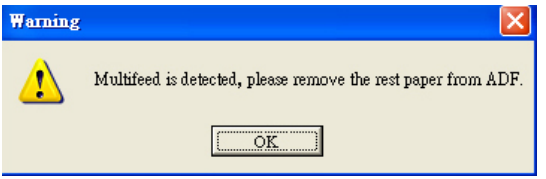
Ultrasonic Detection

Ultrasonic Detection allows you to set overlapped document by detecting paper thickness between documents. Note： The availability of the function varies based on type of scanner.

There are two options available if Multi-Feed is detected.

- **Stop Scanning after Multi-Feed**

  If this is selected, the scanner will stop the feeder and display the following Warning dialog box if multi-feed is detected.



  Action:

  1. Follow the instruction on the Warning dialog box to remove the rest pages on the feeder.
  2. Click OK to close the Warning dialog box.
  3. Scan the rest pages.

Clear the Multi-Fed Paper: Auto

If this is checked, once multi-feed is detected and scanning operation is stopped, the scanner will automatically clear the transport of the multi-fed paper. If this is not checked, once multi-feed is detected and scanning operation is stopped, you need to manually clear the transport of the multi-fed paper. Note: The availability of this option varies based on type of scanner.

- **Multi-Feed Alarm**

  If a wave file is added, the scanner will make a sound alarm if multi-feed is detected yet no Warning dialog box will be displayed.

  If "Stop Scanning after Multi-Feed" is selected, the scanner will stop the feeder.

  If "Stop Scanning after Multi-Feed" has not been selected, the scanner will continue to scan till the end of your document.

  Action:

  1. If "Stop Scanning after Multi-Feed" is selected, follow the action described in the preceding section "Stop Scanning after Multi-Feed" on the previous page to complete your job.
  2. If "Stop Scanning after Multi-Feed" has not been selected, rescan the pages where multi-feed is detected.

How to add the sound alarm：

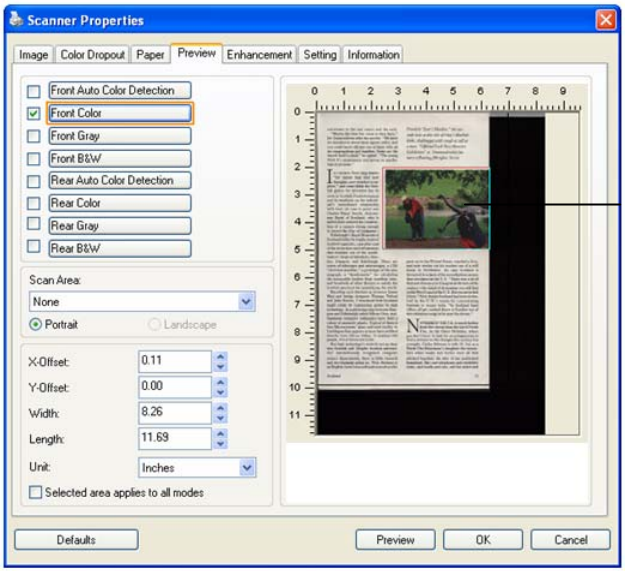
1. Click the Browse button on the right side of the speaker icon. The Open dialog box appears.
2. Choose your wave file.
3. Click the Open button. The wave file is added.

Units
Defines the primary measurement system. **Inches, Millimeters,** and **Pixels** are available.

4.8 The Preview Tab

The Preview tab allows you to preview (a low-resolution scan) your image before final scan. This preview image lets you allocate your scan area. You can choose your scan area by the "Scan Area" drop down list box or placing your cursor on the Display window and dragging it diagonally on the Display window. Then, a red rectangle box will appear to indicate the selected area.

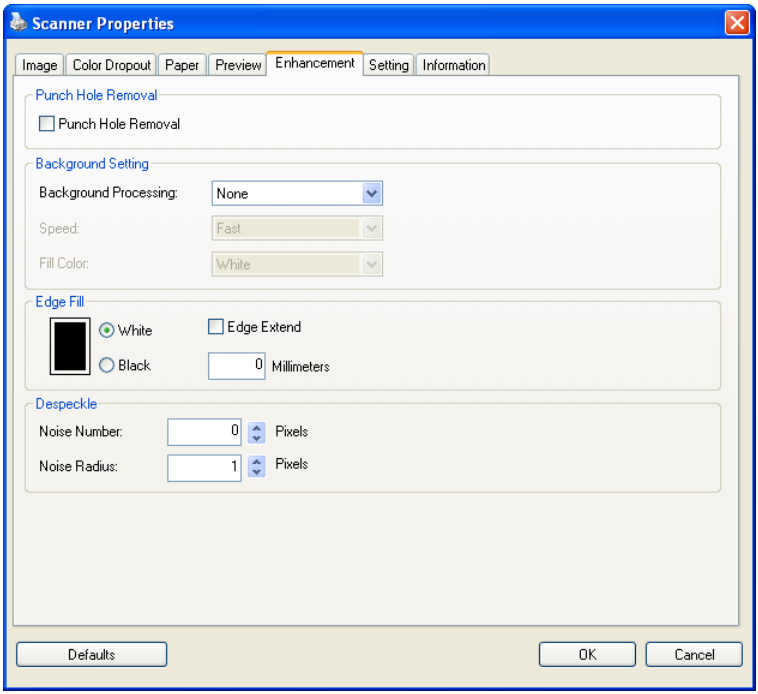
Note: If you choose "Automatic Cropping" on the "Paper Tab", then to select a scan area on the Preview tab is not allowed.



The Preview Tab

4.9 The Enhancement Tab

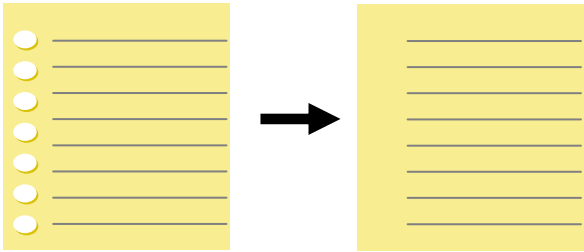
The Enhancement tab allows you to set following additional image processing settings.



The Option tab dialog box

Punch Hole Removal

You can remove punch holes from the output scanned image when scanning punched document. Note the availability of this feature varies depending on your scanner model.



Original Output image

Punch holes can not be removed when:

- Resolution is set lower than 150dpi
- The hole is near the edge of the document
- The holes are not aligned along the edge of the document
- Punch Hole Removal is available only when "Auto Crop" is enabled. If either "Fixed to Transport", "EOP (End of Page) Detection", "Automatic Multiple", "Relative to Documents" is selected from the Cropping option on the Paper tab, the Punch Hole Removal option will be disabled.

Background Processing: The [**Background Processing**] option allows you to smooth background color or remove it to make image clearer. The option is especially useful for documents with color forms such as invoices.
Choices: None (default), Smooth, Removal
- **None -** no background processing will be performed (default)
- **Smooth -** produces images with a more uniform background color. This option improves image quality.
- **Removal -** identifies the background color and then removes it.

Speed: Use this option to select the operating speed to proceed the background processing.
Choice: Fast, Quality.
- **Fast** – proceeds the operation in speed mode.
- **Quality -** proceeds the operation in normal mode with better processing result.

Mode: Auto, Moiré
If [**Smooth**] is selected in the [**Background Processing**] option, then the choices for the [**Mode**] option includes Auto, and Moiré.
- **Auto** - uses the factory preprogrammed mode to proceed background smoothing.
- **Moiré –** Remove the moiré patterns that appear on the background of the image when scanning printed material.

If [**Removal**] is selected in the [**Background Processing**] option, then the [**Mode**] option will be replaced with [**Fill Color**]. Choices: White, Auto.
- **White** - identifies the background color and substitutes it with white.
- **Auto -** identifies the background color and substitutes it with the color of the largest background zone.

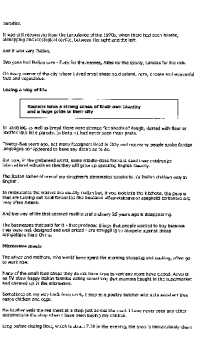
Background Processing: **None**

Background Processing:
Smooth

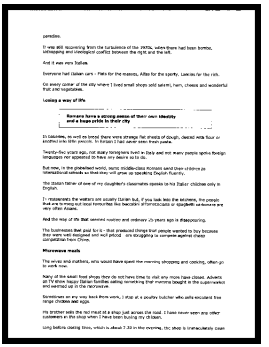
Background Processing:
Removal
Fill Color: White

Note: Background color in small zone will not be processed or removed.

Edge Fill Check White or Black if you wish to add white or black edge on the border of your scanned image. Enter the value from 0 to 5 mm. Default value is 0.



Original

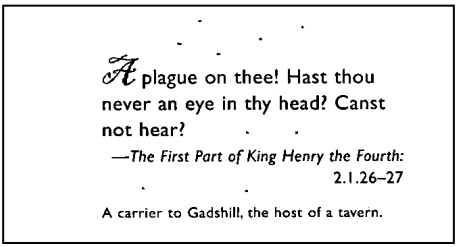


Edge Fill: 5mm (Black)

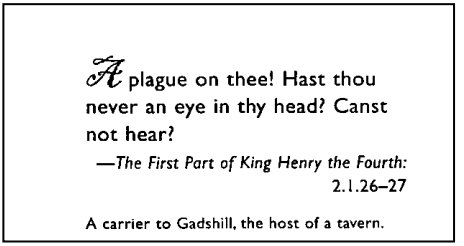
Despeckle

Occasionally small dots or specks appear in the background of a scanned image. Remove unwanted speckles provides a cleaner image for OCR (Optical Character Recognition) processing, and also helps to reduce compressed file size.

Define the speckles (also known as image noise) you wish to remove by specifying its number (size) and radius (range). The measuring unit is pixel. The higher the number, the more speckles will be removed.



Before Despeckle
(noise number:0, noise radius:1)



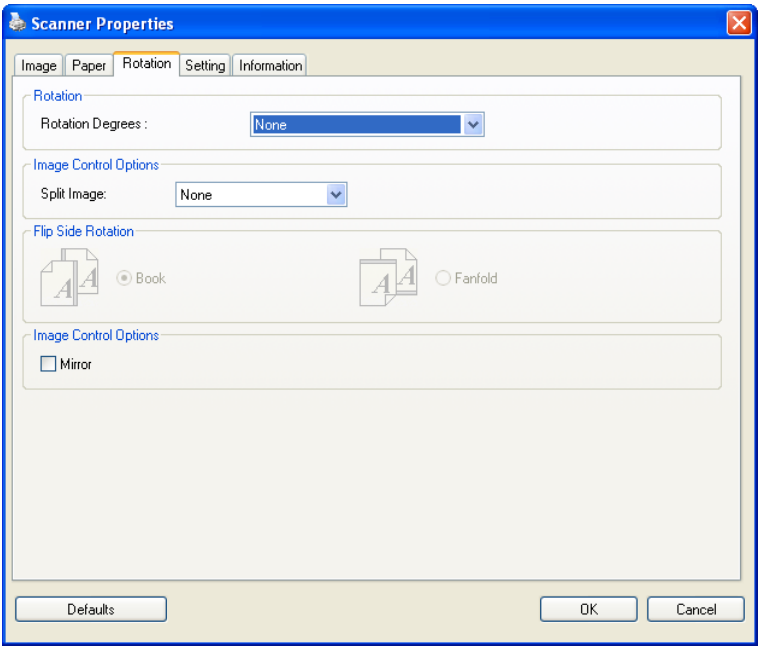
After Despeckle
(noise number:22, noise radius:10)

Note:

- The function is currently available for Black and White image only.
- To scan at rated speed, it is recommended to set the noise radius up to 10 pixels.

4.10 The Rotation Tab

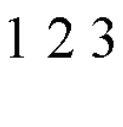
The Rotation tab allows you to set the following image rotating options:



Rotate Image

Choose the rotation angle from the drop down list if you wish to rotate your scanned image.

Choice: None, 90°CW(clockwise), 90°CCW(counter clockwise), 180°, Auto based on contents. Auto rotate every even page.



Original

Rotate 90°CW

Rotate 90°CCW

Rotate 180°

Auto based on contents: When **Auto based on contents** is selected, images can be rotated to their proper orientations based on their contents.

Auto rotate every even page: Automatically rotate 180° on every even page. This is especially useful when you scan the inside pages from a book. As a result, if you choose "Flatbed (book)" from the "Scan Source" option, "auto rotate every even page" will be selected as default.

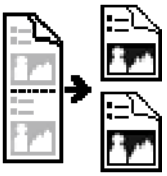
Note: This option varies based on type of scanner.

Split Image

By splitting an image, two separate images are created horizontally or vertically. This is useful for documents containing two pages per image when you want to save them as two images (one page for one image). **Choice: None, Horizontal, Vertical.** Default is None.

Horizontal: Divide one image into the upper half and the lower half.

Vertical: Divide one image into the left half and the right half.



Split Horizontally

Split Vertical

Flip Side Rotation

Select "fanfold" to rotate the image of the reverse side to 180 degrees.

This is applied to double-sided document which are viewed in portrait are sometime fed into the scanner in landscape or vice versa.

Choice: Book, Fanfold.

If "Book" is selected, the image of the reverse side will not be rotated.

The following illustration shows the documents which should be viewed in portrait are fed into the scanner in landscape

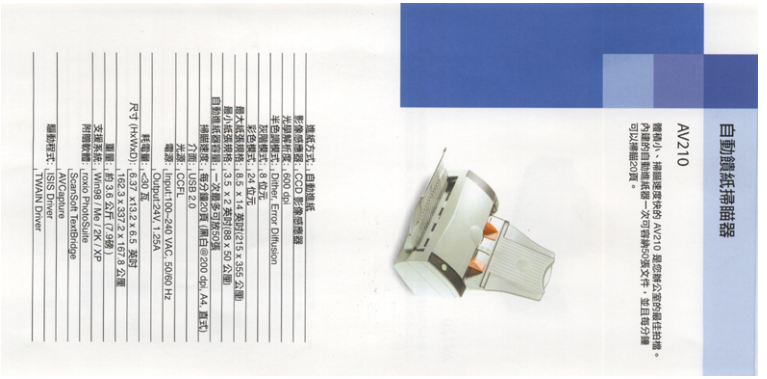


Image Control Option

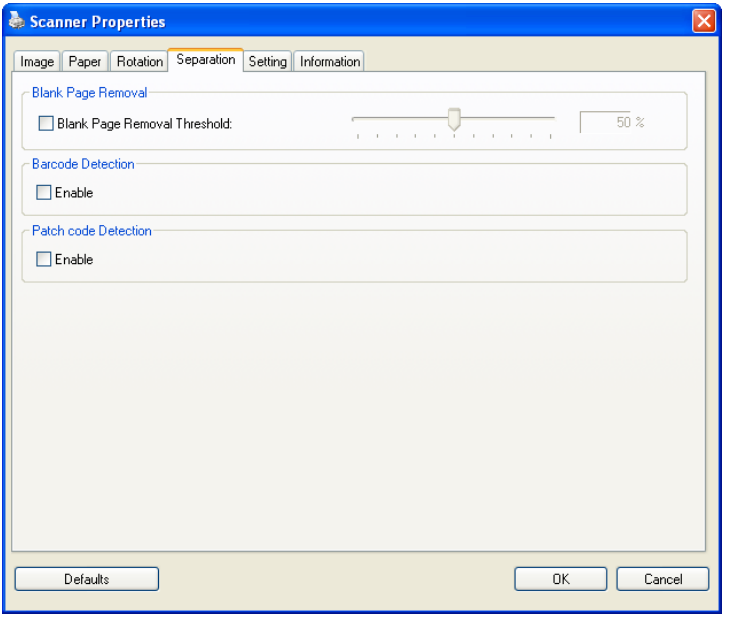
Check the Mirror box if you wish to reverse the right and left side of your image.

Original

The Mirror Effect

4.11 The Separation Tab

The Separation tab allows you to enable the detection engine to detect the blank page, barcode, and patch code and then notify the software application which supports document separation to separate your multi-page documents. Choices: Blank Page Removal, Barcode Detection, Patch Code Detection.



Blank Page Removal Check if you wish to remove the blank page and move the slider to the left or right to your desired threshold.

When the bar code has been detected successfully，a file [avbarcode.ini] will be created and stored in the following path:
Windows XP: C:\Documents and Settings\All Users\Application Data\%PRODUCTNAME%

Vista, Windows 7, Windows 8:
C:\ProgramData\%PRODUCTNAME%

Barcode Detection:
Check [**Enable**] to detect barcode and notify the software application for advanced processing. Please note the whole document will be checked and no specific detection area needs to be designated.

Barcode Types:
The following barcode types can be detected.

One-dimensional barcodes:
Code 39
Code 93
Code 128
EAN-8
EAN-13
ITF (Interleaved 2 of 5)
UPC-A
Codabar
GS1 DataBar (formerly RSS-14)

Two-dimensional codes
Aztec
DataMatrix
MaxiCode
QR Code
PDF417 (MicroPDF417 not supported)

Note:

- Recommended resolution: 200~600 dpi for regular barcode, 300~600 dpi for QR code
- Skewed barcodes may not be recognized correctly.
- Using the same sheet repeatedly may decrease the recognition accuracy due to accumulated dirt on the sheets. If the sheet is not recognized correctly or gets smudged, replace it with a new sheet.

Patch code Detection:
Check [**Enable**] to detect patch codes and notify the software application for advanced processing.

A patch code is a pattern of parallel, alternating black bars and spaces (i.e. a barcode) that is printed on a document. Patch code sheet is most commonly used as a document separator in a stack of document.

You can find various sizes of patch codes (PDF) by choosing [**Start**] menu>[**All Programs**]>[**Avision Scanner Series**]>[**Patch code**] in succession.

Simply print the PDF file to produce the patch code sheet. Insert the patch code sheets to wherever you want the file to separate.

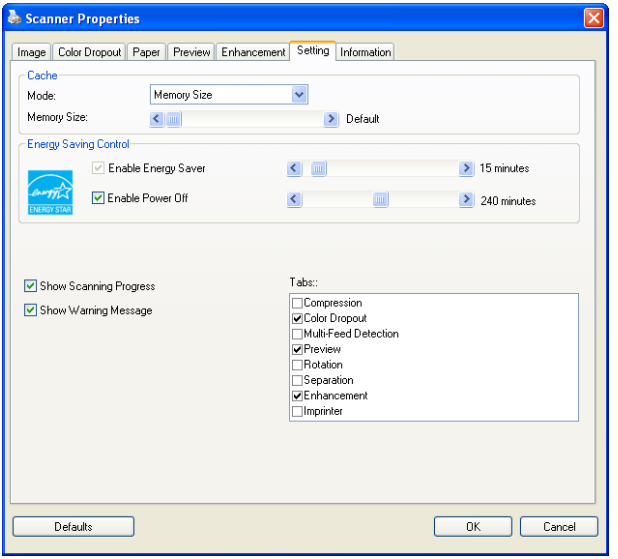
Patch code sheet

Notes to print the patch codes:

- Use blank white paper.
- Set the scaling to 100%. The sheet is not recognized correctly when printed in a size smaller than the original.
- Do not use toner saving mode. The sheet is not recognized correctly when the print is too light.
- Do not use thin paper in order to avoid bleed-through from the back.
- When you copy a patch code sheet that you printed out, make sure to copy by the same size and brightness as the original copy.
- Use the same sheet repeatedly may decrease the recognition accuracy due to accumulated dirt on the sheets. If the sheet is not recognized correctly or gets smudged, replace it with a new sheet.

4.12 The Setting Tab

The Setting tab allows you to set the following settings:



The Setting tab dialog box

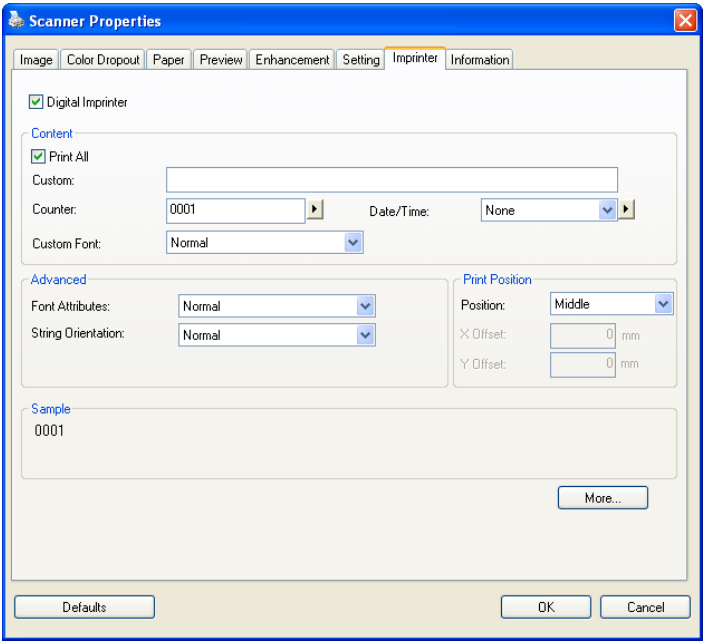
Energy Saving Control	Check the **Enable Energy Saver** box and move the slider to set the amount of time to start the energy saver after your last action. The range is from 1 to 242 minutes. The default value is 15 minutes.
Enable Power Off	Check the **Enable Power Off** box and move the slider to set the amount of time to automatically turn off the scanner after your last action. The range is from 1 to 480 minutes. The default is 242 minutes (4 hours). Note the value of "Power Off" has to be greater than or equal to the value of "Energy Saving".

Cache	**Mode: None, Page Number, Memory Size**. This option allows you to assign a specified memory size from the available RAM to process the image data. By specifying a smaller memory size, you can free more memory for other applications you are running. By specifying a larger memory size, you can have more memory to process the image data especially when you have a large amount of documents needed to be scanned. You can also specify your memory size by the page number. For your information, an A4 color document scanning at 300 dpi consumes approximates 24MB. **Image Count** When the selected cache mode is "none", the image count option allows you to assign number of pages you need to scan. For example, if you wish to scan the first two pages, simply move the page slider to 2, and the scan action will be stopped when the scanning of the first two pages have been completed.

Show Scanning Progress	Check and the scanning progress bar will be shown during scanning.
Show Warning Message	Check to show the warning messages such as "ADF pad count exceeds 50,000 scans (the number varies based on type of scanner). Please replace the ADF pad and reset the pad count."
Save Settings after Closing	Check to save your scanner properties settings after leaving the dialog box. Next time when you open the Scanner Properties dialog box, the previously saved settings will be shown.

4.13 The Imprinter Tab

The Imprinter tab allows you to print alphanumeric characters, date, time, document count and custom message on your scanned image if digital imprinter is selected or at the back of your document if external imprinter is selected.



Choice: External Imprinter, Digital Imprinter. If you have installed an external imprinter, choose external imprinter. If you do not have an imprinter, choose digital imprinter. Note External Imprinter provides a vertical and rear-side print capability while digital printer provides a horizontal and front-side print capability.

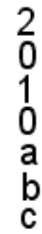
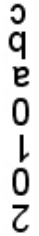
Contents

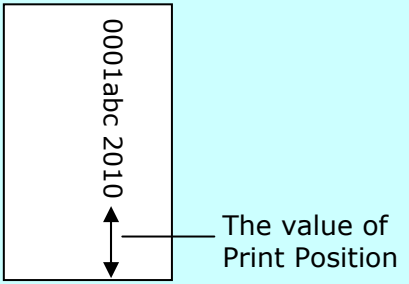
Print All	Check **Print All** to automatically print the text at all pages of your documents. Uncheck **Print All** to print the text for the first page of your documents only.
Custom	Enter your custom text to be included in your print string.
Counter	Show the document count for the scan session. This value is increased sequentially by the scanner.

Date/Time	Choose if you wish to include the date and time in your print string. Format: YYYYMMDDHHSS For example, 20090402170645-check0001 indicates year, month, date, hour, seconds, your custom text and the counter.
Custom Font	Choose your desired font. **Choice: Normal, Fixed Width** **Fixed Width (**Mono spaced) fonts have a fixed character spacing. So each character occupies the same width.

Advanced

Font Attributes	Choose your font attributes. **Choice: Normal, Underline, Double, and Bold.**

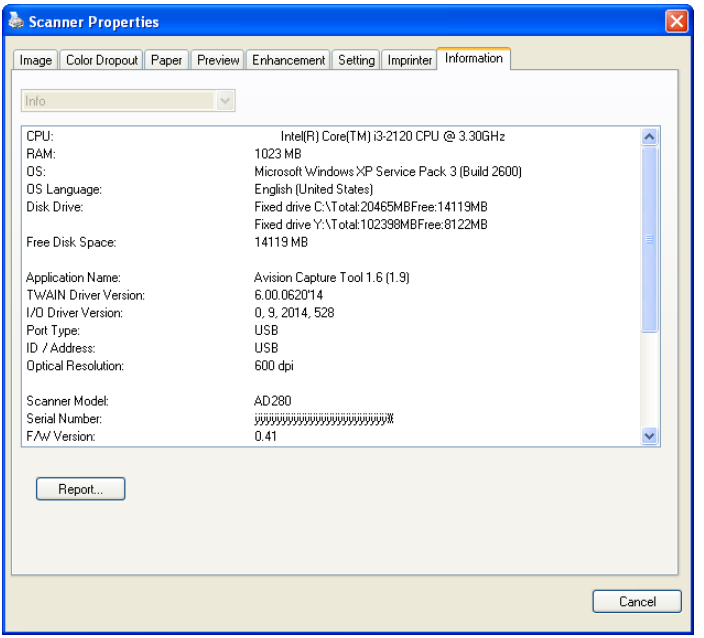
<table>
<tr>
<td>String Orientation</td>
<td>Choose your string orientation.
Choice: Normal, Rotated, Vertical, Vertical Inversion, 90 degrees CW, 90 degrees CCW
<table>
<tr>
<td>
Normal</td>
<td>
Rotated</td>
</tr>
<tr>
<td> 
Vertical</td>
<td> 
Vertical Inversion</td>
</tr>
<tr>
<td>
90 degrees CW</td>
<td>
90 degrees CCW</td>
</tr>
</table>
If you check the digital imprinter to stamp text on your scanned image, the illustration of normal and rotated string is shown below:
<table>
<tr>
<td>
Normal</td>
<td>
Rotated</td>
</tr>
</table>
</td>
</tr>
</table>

Print Position	Choose the position you wish to print your string. Move the slider to the right to increase the value or to the left to decrease the value. Range: 0~355mm, default:0 mm The value indicates the height from the bottom of your paper to the last letter of your string. This option is available only if an external imprinter is installed. 

Print Position (for digital imprinter)
Choose the position of your printed string. **Choice: Top, Middle, Bottom, Custom.** If Custom is selected, enter the X and Y offset value to specify the position.

4.14 The Information Tab

The Information tab displays the following system and scanner information.



The Information tab dialog box

The "Report" button :

If you encounter any error message while using the scanner, click the Report button. A report.txt file [Windows XP: C:\Documents and Settings\All Users\Application Data\%PRODUCTNAME%; Vista, Windows 7, Windows 8: C:\ProgramData\%PRODUCTNAME% (C: system drive)] will be generated. Please send this file to the nearest service center for trouble shooting.

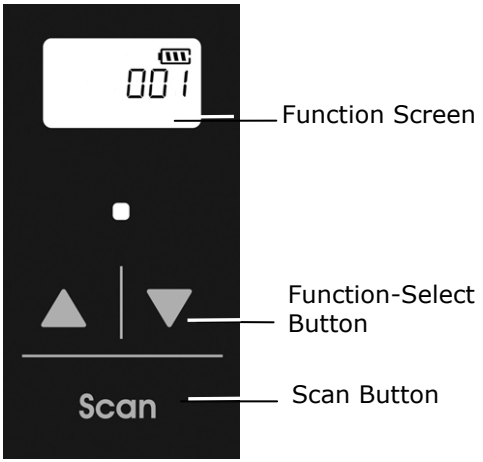
The "Reset Roller Count" button：

After scanning over a recommended number of pages (refer to subsequent section 6.4 Replacing the ADF Roller) through the ADF, the ADF roller may be worn out and you may experience problems with document feeding. In this case, it is highly recommended to replace the ADF roller with a new one. (Note the replacement of the ADF roller has to be performed only by authorized service center. Therefore, please return your scanner for roller replacement.) After replacing the ADF roller, click the "**Reset Roller Count**" button to reset the roller count.

Note：
The lifetime and the replacing procedure vary based on type of scanner.

5. Using the Buttons

The following picture shows the 3 buttons and 1 function screen on the scanner.



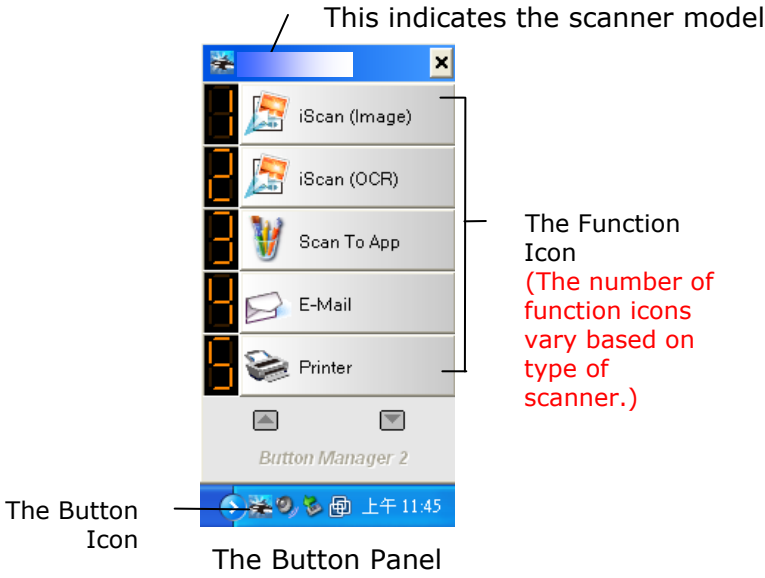
5.1 Installing Button Manager V2

Button Manager V2 provides you an easy way to scan your document and then link the scanned image to your designated software application. All this can be done by a simple touch of the button on the scanner. Yet, before you scan, it is recommended to check the button configurations first to ensure a proper file format and a destination application.

5.2 Checking the Button Configurations before Scanning

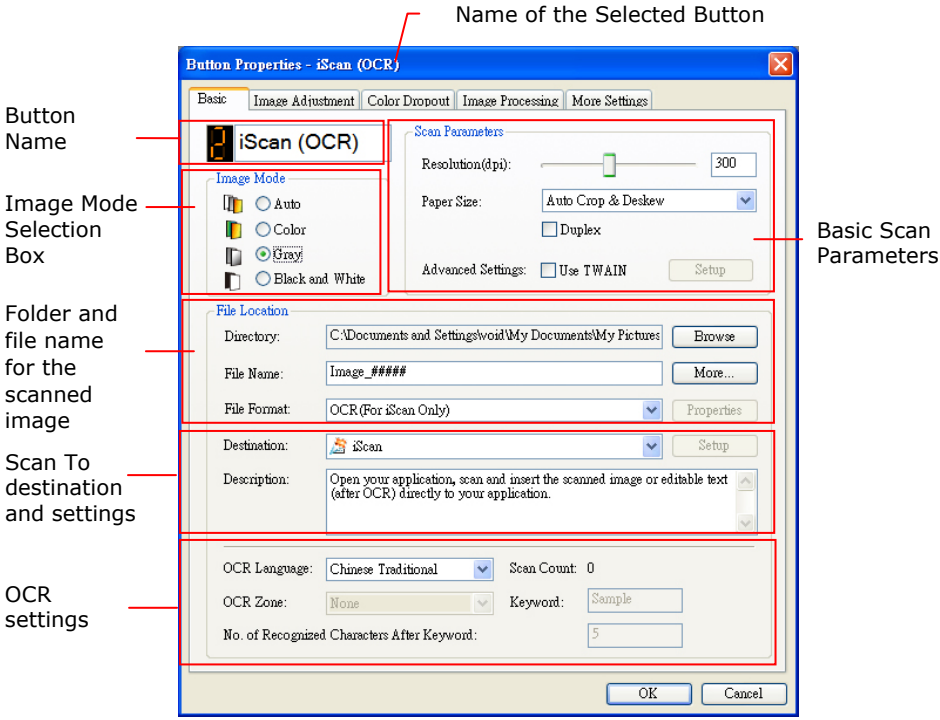
1. Button Manager V2 runs from the system tray. After Button Manager V2 and the scanner driver are properly installed, Button Manager V2 is started and the Button icon will be displayed on the system tray at the bottom right corner of your computer screen.

2. Left-click the Button Manager V2 icon to prompt the following Button Panel.



The Button Panel

3. The Button Panel shows the first five scanning buttons. Right-click the button (function) you wish to check. The Button Properties window appears.

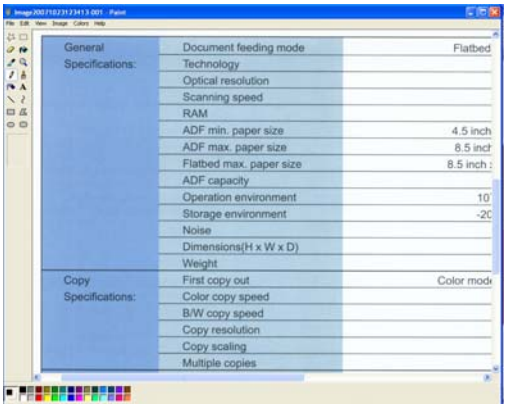


If you wish to change the setting, use this window to reset the setting for the file format, destination application, or other scan settings.

4. Click the OK button to leave the window.

5.3 Scanning From One Touch of the Buttons

1. Adjust the paper guide for the width of paper and load the document with their tops into the automatic document feeder.
2. Check the number on LCD screen on the scanner to ensure if you are selecting the proper scan settings and destination application. (For example, if you wish to scan with button "Scan to App" which opens Microsoft Paint and displays the scanned image in the window of Microsoft Paint, the LCD screen should show #3).
3. Press the **Scan** button on the scanner.
4. After the scanning is finished, the Microsoft Paint software will be launched and the scanned image appears in the main window of Microsoft Paint as below.



Note:

1. For details information on how to use the Button Manager V2, please refer to the user's manual in the supplied CD.
2. You may also use Button Manager V2 on your desktop by starting Button Manager V2 from All Programs or double clicking the Avision Scanner Utility from the Control Panel.

6. Maintenance

6.1 Clean the Scanner Glass, Separation Pad and Rollers

If the scanned images contain streaks or scanned documents become dirty, the scanning glass, separation pad and roller inside the scanner are likely to be dirty. Clean them periodically.

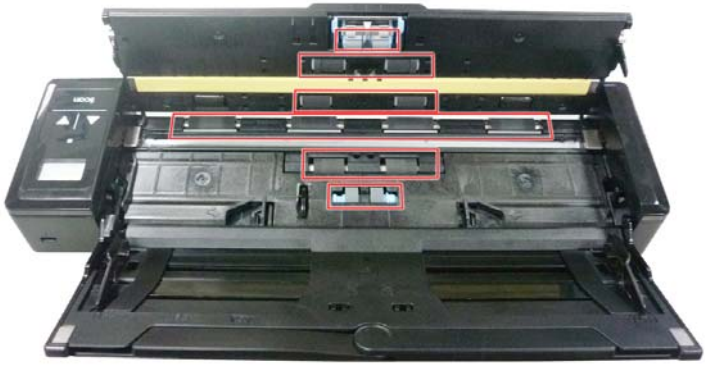
Use only the recommended or supplied tool to clean the scanner and feeder dock.

Cleaning steps:

1. Open the feed tray.

2. Open the feeder cover.

3. Wipe the separation pad, rollers and the glass with the included cleaning cloth.



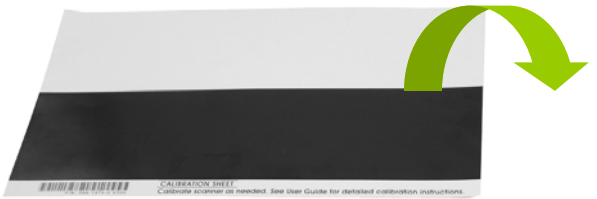
Note:

- Adding some isopropyl alcohol (95%) on the cleaning cloth is more efficient when cleaning the rollers.
- Do not use any solvents or corrosive liquid *(i.e., alcohol, kerosene, etc.)* to clean any part of the scanner, otherwise the plastic material will be permanently damaged.
- Make sure the surface of the document or photo doesn't have any paper clips, etc. or this could damage the scanner glass lens.

6.2 Calibrate the Scanner

Calibrate only if the scanned image looks fuzzy, the color looks abnormal (e.g., darker than normal), after more than 8,000 scans, or the scanner has been stored without use for a long time. The calibration process resets the Contact Image Sensor to resume its color and sharpness precision.

1. Turn on the scanner.
2. Start your TWAIN-compliant image editing software application such as Avision Capture Tool by choosing Start>Programs>Avision XXXX Scanner>Avision Capture Tool (XXXX indicates your scanner model). The Select Scanner Model dialog box will be displayed.
3. Select your driver type and scanner model and click OK. The Avision Capture Tool dialog box will be displayed.
4. Click the "**Setup**" button to prompt the TWAIN user interface.
5. Click the "**Settings**" tab and then click the "**Calibration**" button. An "**Insert calibration sheet**" dialog box appears.
6. Hold the edges of the calibration sheet *(included)* and insert it with the text *face up* and the white area feeding first to the feeder of the scanner as shown.



7. Click the "**OK**" button on the "**Insert calibration sheet**" dialog box to start calibrating the scanner.
8. After the calibration process is finished, [**OK**] will be displayed on the screen.

Warning:
If the calibration process failed, the Red LED will be flashing and [**E19**] will be displayed on the screen. Power off the scanner and then repeat the calibration step again.

Warning:

- Do not interrupt the calibration sequence or try to shut off the device while it is calibrating. If you stop the calibration before it has completed, a calibration error may occur. As a result, you will have to power off the unit and repeat the instructions in this section.
- Calibrate the scanner only when color of the scanned image looks abnormal.
- Keep the calibration sheet from dust and debris. Any dirt may make the calibration chart invalid or impact the calibration result.
- Use only the included calibration sheet to calibrate the scanner.

6.3 Replace the Feed Roller

The feed roller and separation pad inside the scanner wear with scanning. If the feed roller and separation pad are worn, documents may not feed correctly and paper jams may occur. When document feed performance deteriorates, replace the feed roller and separation pad.

Note:
It is recommended to replace the feed roller or separation pad when the total number of pages of documents fed in the scanner exceeds one of the following quantities:
Feed Roller: 100,000 sheets
Separation Pad: 10,000 sheets

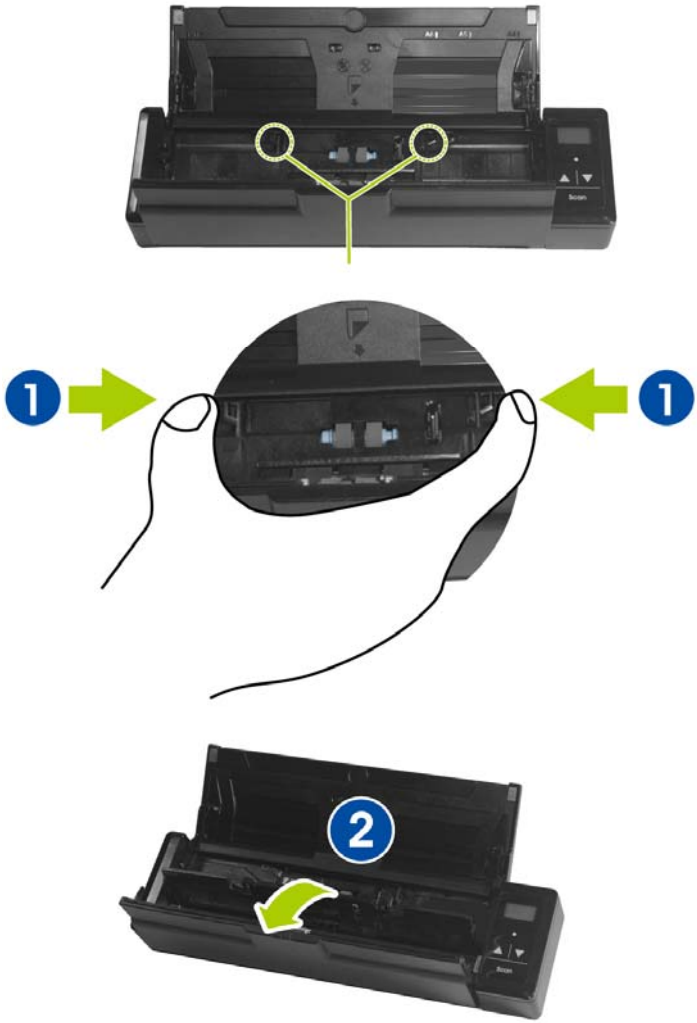
Follow these steps to replace the separation pad and feed roller.

To replace the Feed Roller,

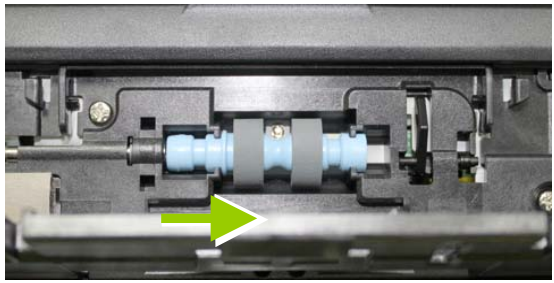
1. Open the feed tray.

2. Open the feeder cover.

3. Open the roller cover.

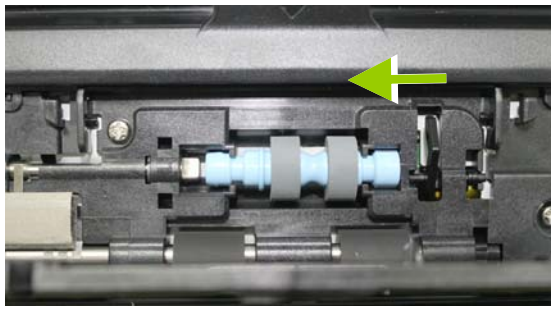


4. Slide the feed rollers to the right.



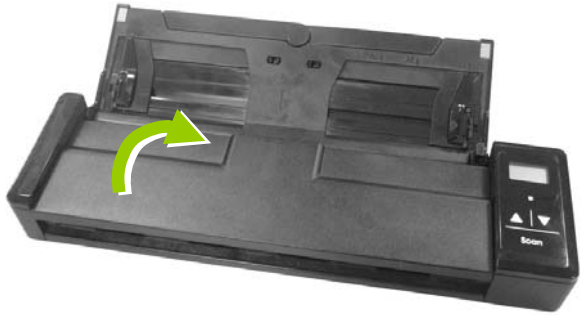
5. Remove the feed rollers.

6. Attach the feed rollers. Insert the left end of the shaft to the notch. A snap-in sound could be heard.



7. Completely close the roller cover so that it clicks into place.

8. Close the feeder cover.



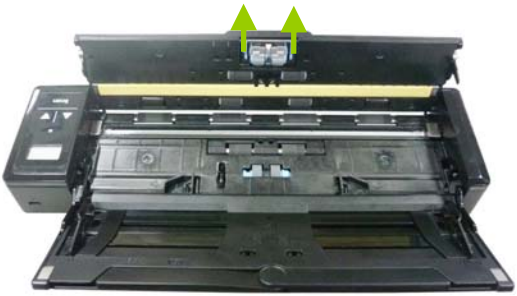
6.4 Replace the Separation Pad

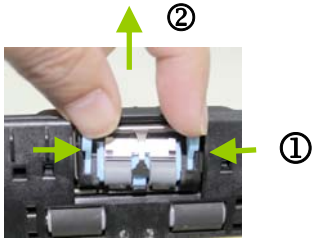
To replace the Separation Pad,

1. Open the feed tray.

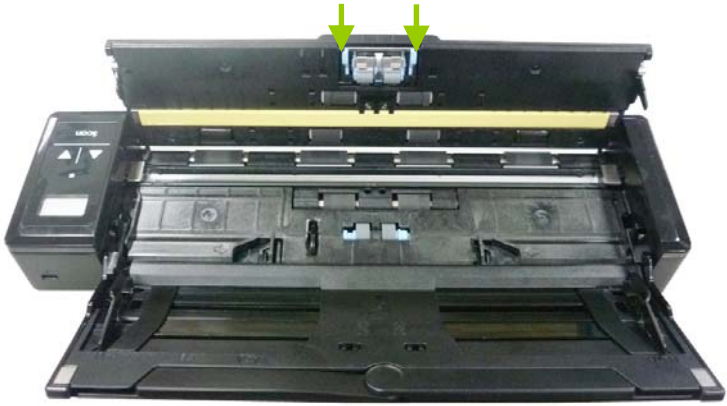
2. Open the feeder cover.

3. Press two arms of the separation pad inwardly with two fingers (①) and lift it up (②) to remove the separation pad.





4. Hold two arms of the separation pad with two fingers and attach the new separation pad to the scanner.



5. Close the feeder cover.

7. Troubleshooting

7.1 Clear a paper jam

In the event of a paper jam, follow the procedures below to remove the paper:

1. Gently open the feeder cover.
2. Carefully pull the paper out of the feed tray.

3. Close the feeder cover. Your Scanner is now ready to use.

7.2 Error Conditions

If there is error during scanning, the LED light will be flashing in red color and error codes will be displayed. Refer to the following table to clear the error conditions.

Error Code / Meaning	Cause	How to restore
E04 **Paper jam**	1. Original has become stuck in the feeder. 2. Original exceeds max. length [300 dpi: 36" (914mm), 600 dpi: 14" (356mm)]	Open the feeder cover and pull the original out of the feeder.
E06 **Cover opens**	Feeder cover opens.	Close the feeder cover.
E19 **Calibration Fails**	Internal check failed and found calibration data error	Recalibrate the scanner (see the "Calibrate Scanner" section.

*** Warning:**
If "low battery" ( ) is indicated on the LCD display, it is recommended to recharge the battery to prevent possible incomplete scanned images or other operational problems.

7.3 Frequently asked questions and answers

Q :	**Paper becomes jammed or multi-fed.**
A :	1. Flatten the corners and edges of your documents. 2. Thoroughly fan your documents before loading them into the scanner. Document might stick together because of static electricity. 3. Reduce the number of pages that you load into the scanner at one time.

Q :	**Paper becomes skewed in the scanner.**
A :	1. Align the document guides to fit the documents as closely as possibly and place the documents so that they feed in straight. 2. Check the condition of the feeding roller. If necessary, follow the cleaning directions in Section 5.1 and perform the cleaning.

Q :	**Why does not my scanner turn on?**
A :	The batteries may not enough power or may not be inserted correctly.

Q :	**Why there are strange lines on the scanned document?**
A :	Please check the following: **1.** Are there scratches on the original or is the original clean ? **2.** Remove any stains or dust from the original before scanning. **3.** Clean the rollers and glass with the included cleaning cloth. (Refer to the section "Cleaning the Rollers and Glass)

Q :	**Why there is a red or gray background with lines on my scanned image?**
A :	The scanner does not enough power to perform a scan. Charge your batteries and restart the scan.

Q :	**Should the scanner feel warm to the touch?**
A :	It is normal for the scanner to emit a small amount of heat after prolonged use. However, if there are strange odors coming from the scanner or the scanner feels a little bit hot to the touch, turn the scanner off immediately.

Q:	**Why does my scanned image always come out too dark?**
A:	1) Please adjust the screen settings to sRGB. 2) Please adjust the brightness settings on the screen from application software.

Q:	**When I choose optical resolution to be 600 dpi, the "auto crop" and "deskew" functions will be disabled.**
A:	Since to perform auto crop and deskew consumes great deal of system memory, it is suggested if you wish to perform "auto crop" and "deskew" functions, please choose your optical resolution to be smaller than 600 dpi to prevent a error message.

7.4 Technical Service

Before contact Avision, please refer to Section 4.14, The Information tab and prepare the following information:

- Scanner serial & revision number (located on the bottom of the scanner);
- Hardware configuration (e.g., your host CPU type, RAM size, free disk space, display card, interface card);
- The name and version of your scanning software application;
- The version of your scanner driver.

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8. Specifications

All specifications are subject to change without notice.

Model Number :	FF-1301S
Optical Resolution:	600 dpi
Scanning Modes:	Black & White/Gray/Color
ADF Capacity:	Up to 8 pages (75 g/m^2) (20 lbs)
Max. Document Size:	216 x 356 mm (8.5" x 14")
Min. Document Size:	88 x 50 mm (3.5" x 2")
Long Page Mode:	916 mm (36") (Available for 300 dpi only)
Paper Weight:	60 ~ 107 g/m² (16 to 28 lb)
ID Card Thickness:	<0.76 mm
Interface:	Micro USB port compatible with USB 2.0
USB Power:	5Vdcm, 500mA
Battery: Rechargeable	Li-ion battery AP-120 (APACK)/CB-PD(NP-120) (City Bright) 3.7V, 1700mAh
Power Consumption:	<4W (operation) <2.9W (power saving)
Operating Temperature:	10ºC~35ºC
Dimensions: (WxDxH)	295 x 81 x 41 mm (11.6" x 3.2" x 1.6")
Weight:	800 g (1.8 lb)

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