

User's Manual

AV8300

Document Imaging Scanner



Avision Inc.

(D/N: 250-0896-E Rev. 1.0)

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Table of Contents

1. INTRODUCTION	1-1
2. SOFTWARE INSTALLATION.....	2-1
2.1 INSTALLING THE CD SOFTWARE.....	2-2
3. SCANNER INSTALLATION	3-1
3.1 PRECAUTIONS	3-1
3.2 SCANNER UNPACKING	3-1
3.3 LOADING THE PAPER WITH ADF.....	3-3
3.4 FIXING PAPER ON THE GLASS BOARD	3-4
3.5 CONNECTING THE CABLES.....	3-5
4. IDENTIFY THE USB DEVICE.....	4-1
5. SCANNER OPERATION.....	5-1
5.1 USER INTERFACE OPERATION.....	5-1
6. USER INTERFACE.....	6-1
6.1 SCAN METHOD	6-1
6.2 DETERMINING YOUR RESOLUTION	6-2
6.3 SELECTING A PROPER IMAGE TYPE.....	6-5
6.4 ENHANCING YOUR IMAGE.....	6-11
6.5 CONTRAST	6-12
6.6 INVERT IMAGE	6-13

6.7	MIRROR.....	6-14
6.8	PREVIEW AUTO-AREA:	6-15
6.9	PAPER SIZE:	6-15
6.10	UNITS.....	6-15
6.11	DESCREEN	6-16
6.12	SHARPEN.....	6-17
6.13	COLOR ADJUSTMENT	6-17
6.14	AUTO LEVEL.....	6-18
6.15	ADVANCED SETTINGS	6-18
6.16	CURVES.....	6-3
6.17	COLOR BALANCE	6-4
6.18	COLOR DROP-OUT	6-6
6.19	CUSTOM SETTINGS.....	6-7
6.20	MISCELLANEOUS.....	6-9
7.	ISIS INTERFACE OPERATION.....	7-1
8.	CARE AND MAINTENANCE	8-1
8.1	CLEANING THE ADF	8-1
8.2	CLEANING THE GLASS.....	8-2
8.3	REPLACING THE ADF DETACHABLE PAD MODULE	8-3
9.	TROUBLESHOOTING.....	9-1
9.1	FREQUENTLY ASKED QUESTIONS	9-1
9.2	TECHNICAL SERVICE.....	9-4

1. INTRODUCTION

Congratulations on your purchase of AV8300. Avison is one of the leading companies, which make high quality document scanner. To ensure the optimum performance of the scanner, please take a few minutes to read through this manual before you install and operate the new scanner. The manual contains important information on how to unpack, install, operate, and maintain the scanner properly. Figure 2-1 in the next page shows how the scanner is packed. Please check if all items are included.



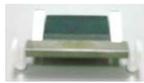
AV8300 Scanner



Power cable/Power adapter



USB cable



Pad



Quick Guide
/CD

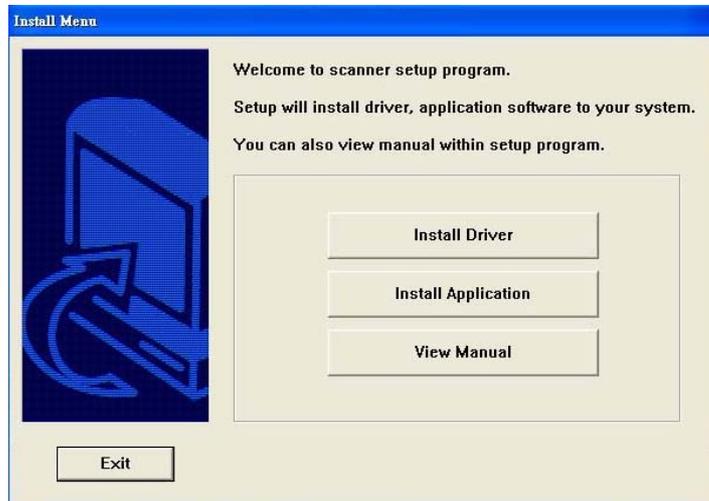
2. SOFTWARE INSTALLATION

To run the scanner at rated speed as recommended, you must have the following minimum requirements:

- IBM compatible PC 586, Pentium or higher
- Microsoft Windows 98 / 98SE / Me / 2000 / XP
- USB port (USB 2.0 card recommended)
- At least 100 MB of free hard disk space
- At least 128 MB of system memory
- A CD-ROM drive

2.1 INSTALLING THE CD SOFTWARE

1. Insert the supplied CD into your CD-ROM. The installation menu appears, as shown below.



Note: If the Installation menu fails to appear, an alternative method is to click the Start button on the task bar, choose Run, and type "d:\cdsetup.exe" (D: your CD-ROM drive in use) and click O.K.

2. Click "Install Driver" to install the TWAIN or ISIS driver.
3. Click "Install Application" to install all application software.
4. Follow the on-screen instructions to install applications respectively.
5. Restart the PC after installing all software applications

3. SCANNER INSTALLATION

3.1 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.
- ✓ Be sure to use the proper AC power source.
- ✓ Place the scanner securely on an even, flat surface. Tilted or uneven surfaces may cause mechanical or paper-feeding problems.
- ✓ Keep the shipping box and the material in case you may need to ship the scanner again.
- ✓ Use only the AC adapter (ADP-50ZB, made by Delta Electronics, Inc.) included with the machine. Using other AC adapters may damage the machine and void the warranty.

3.2 SCANNER UNPACKING

Please unpack the scanner carefully. If any item is missing or damaged, please contact your authorized Avison dealer immediately.

Remove the shipping lock:

1. Unlock the scanner by moving the lock switch to the "Unlock" position. (Refer to the Lock/Unlock figure.)



Lock position

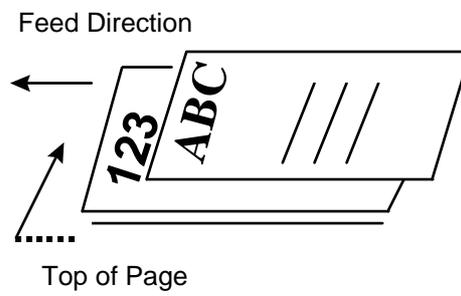


Unlock position

Figure 3-1 Lock Removal

3.3 LOADING THE PAPER WITH ADF

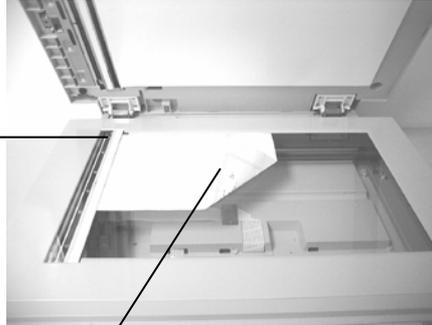
Place your document with the text face up and make the top of the page to the left side as shown below.



3.4 FIXING PAPER ON THE GLASS BOARD

Align the document to the reference mark, as indicated.

Reference Mark



Document

Lay the paper on the scanner

3.5 CNNECTING THE CABLES

Be sure the scanner power is switched off.

Connect the power cable, ADF cable ,and USB cable as below.



Power cable USB cable ADF cable

Cable Connection

Turning on the Power

The power is controlled by a toggle switch on the side of the scanner. To turn on the scanner, press the switch toward "1".

4. IDENTIFY THE USB DEVICE

1. After connecting the cables successfully, turn on your computer.
2. The computer should detect a new USB device and prompt a “New Hardware Found” message.



(Windows 9X/Windows ME)

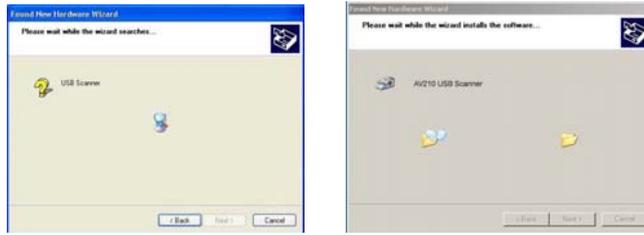


(Windows 2000/XP)

3. In Windows 9X or Windows ME, confirm that the “**Search for a better driver.**” is selected and click the “**Next**” button.



In Windows XP, click the Next button to continue.



4. When the **Finish** dialog is prompted, click the **Finish** button.



(Windows 9X/Windows ME)



(Windows 2000/XP)

5. SCANNER OPERATION

For TWAIN Application

AV500U allows you to operate the scanner from within a TWAIN or plug-in software application. As the scanner driver is not a stand-alone software, it has to be started from within a **TWAIN/ISIS*-compliant** software application and then the scanner driver is able to scan and load the image to your computer. The command to start the scanner driver may vary due to different software applications. To check the correct command, please refer to the user manual of your software application.

5.1 USER INTERFACE OPERATION

1. Open your TWAIN scanning application.
2. Pull down the File menu and choose **Select Source**.

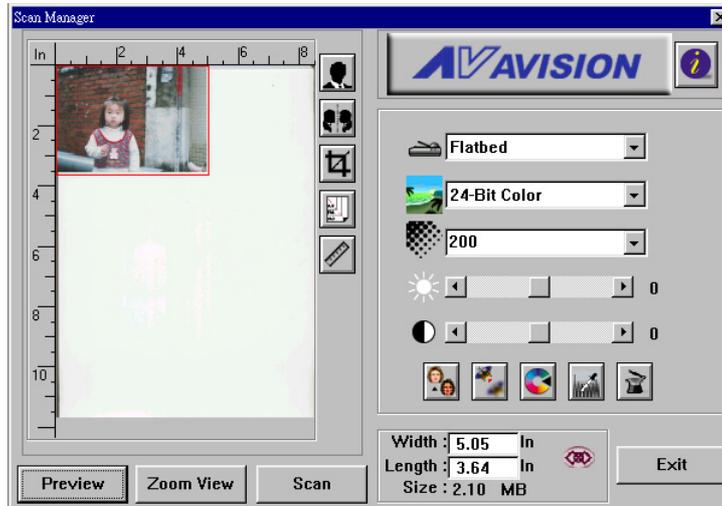
If the Select Source command is not available on the File menu, see your application's user's guide to determine how the TWAIN link is used.

A dialog box with a list of scanning sources appears.
3. Select **AV8300 Scanner**.

You need to select the source only once, unless you want to choose another scanner.
4. Place the document to be scanned in the ADF or on the flatbed glass platen.
5. Pull down the File menu and choose **Acquire**.

A dialog box containing scanning features appears.

6. Select the scanning method you want to use on the **Scan Method** drop-down menu.



7. Select the mode you want to use for your scans on the **Image Type** drop-down menu.
8. Select a scanning resolution on the **Resolution** drop-down menu.
9. Select the settings for the scanning features (e.g., Sharpen, Descreen, etc.) that you want to use.
10. Click on the **Preview** or **Scan** button to preview or scan your document(s).

6. USER INTERFACE

6.1 SCAN METHOD

Select how you want to scan on the **Scan Method** drop-down menu.

ADF/One-page—use this setting if you are using the automatic document feeder (ADF) to scan a single-page document at a time.

ADF /Multi-page—use this setting if you are using the automatic document feeder (ADF) to scan batches of single-page document at a time.

Flatbed—use this setting if you are using the flatbed to scan one page at a time.

Duplex/One-page —use this setting if you are using the automatic document feeder (ADF) to scan a double-page document at a time.

Duplex/Multi-page —use this setting if you are using the automatic document feeder (ADF) to scan batches of double-page document at a time.

6.2 DETERMINING YOUR RESOLUTION

A good control of the resolution results in a satisfactory 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 the greater resolution takes more time, memory and disk space, therefore, up to a certain degree of dpi, the resolution will not visually be improved, and on the contrary, it makes your files more unmanageable.



Resolution: 50 dpi



Resolution: 100 dpi

Tips:

1. *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 recommended only when you need to scan a small area at True Color mode.*
2. *You can also refer to the following table to choose a proper resolution while applying your image to other application.*

<i>Scanner Settings Application</i>	<i>Image Type</i>	<i>Resolution (dpi)</i>
Scan Your Document	<i>LineArt</i>	200
Scan Your Color Picture	<i>True Color</i>	100
OCR*Your Document	<i>LineArt</i>	300

***OCR:** *Stands for Optical Character Recognition, the process to convert an image to a text format.*

6.3 SELECTING A PROPER IMAGE TYPE

Select image type through the mode from the **scanner user interface** for your own purpose.

Each image type described as follows:

Line art (Black and White)

LineArt presents the image in black and white only and there are no intermediate shades of gray in between. That means each pixel of the image is 100% black or 100% white. LineArt is the best choice of image type if you want to scan text, pen or ink drawing. Since only 1-bit of black or white information is required for each *pixel**, the disk space required for saving lineArt image is only about 1/24 of that required to save 24-bit true color images.



Lineart Image

**Pixel: A combination of two words: picture and element, a pixel is a single dot on a computer display or in a digital image.*

Halftone

In addition to the black and white display, Halftone simulates gray scale by using different size of dots. Particularly when you view the image at a certain distance, it looks very closely like a gray image yet it consumes the least disk space. Halftone is the picture that we usually see in newspapers or magazines. Since Halftone is one type of black and white image, the disk space required to save a halftone image is 1/24 of that required to save a 24-bit true color image.



Halftone Image

8-Bit Gray

A single-channel image consists of at least 256 shades of gray. An 8-bit scanner produces a grayscale image with 1024 shades of gray between pure black and pure white. Choose this option if you are scanning black-and-white photographs.

With 8 bits of color information per pixel, the file size of an image is eight times larger than a *Black and White* image and 1/3 the size of a *24-Bit Color* image.



Gray Image

8-Bit Color

An *8-Bit Color* image provides 256 color hues in the image. The file size of a 256 color image is 1/3 the size of a *24-Bit Color* image.



8-Bit Color Image

24-Bit Color

A *24-Bit Color* image consists of three 8-bit color channels. The red, green, and blue channels are mixed together to create a combination of one billion colors, which give a more true-to-life quality to the image. Choose *24-Bit Color* if you are scanning color photos.



24-Bit Color Image

6.4 ENHANCING YOUR IMAGE

Brightness: Adjusts the lightness or darkness of an image.

The higher the value, the brighter the image.



6.5 CONTRAST

Adjusts the range between the darkest and the lightest shades in the image. The higher the contrast, the bigger the different gray scales.



6.6 INVERT IMAGE

The invert command reverses the brightness and the color in the image. For color images, each pixel will be changed into its complementary color at the command of *Invert*.



Original



6.7 MIRROR

Click on the **Mirror** button to reverse the image (create a mirror image).



Mirror function is off



Mirror function is on

6.8 PREVIEW AUTO-AREA:

Clicking on the **Preview Auto-Area** button automatically crops the preview scan area to the previewed document. This will then be the cropping area for all of the scanned documents.

6.9 PAPER SIZE:

Select a size on the **Paper Size** list of frequently used scan sizes, including business card, 5 x 3 in., 6 x 4 in., Letter, Legal, B5, A5, A4, A3, or your current scan area to perform an immediate selection of your scan size.

6.10 UNITS

The **Units** button indicates the measuring system that is in use (Inch, Cm, or Pixel).

6.11 DESCREEN

Click on the **Descreen** button to access a drop-down menu that allows you to specify the type of document you are scanning in order to eliminate the moiré pattern* commonly found in printed matter. You can specify *Newspaper*, *Magazine*, or *Catalog*.



Before Descreen



After Descreen

*Moiré pattern—an undesirable pattern resulting from the incorrect screen angle of the overprinting halftone.

6.12 SHARPEN

Click on the **Sharpen** button to access a drop-down menu that allows you to specify a level to sharpen the scanned image. You can specify a Sharpen setting of *Light*, *More*, *Heavy*, or *Extra Heavy*.

6.13 COLOR ADJUSTMENT

Click on the **Color Adjustment** button to enable the button for the **Hue**, **Saturation**, and **Lightness** feature.

NOTE: The **Advanced Settings** button must be enabled in order to use the **Hue Saturation**, and **Lightness** feature.

6.14 AUTO LEVEL

Click on the **Auto Level** button to add shadow to reveal more details in an image.

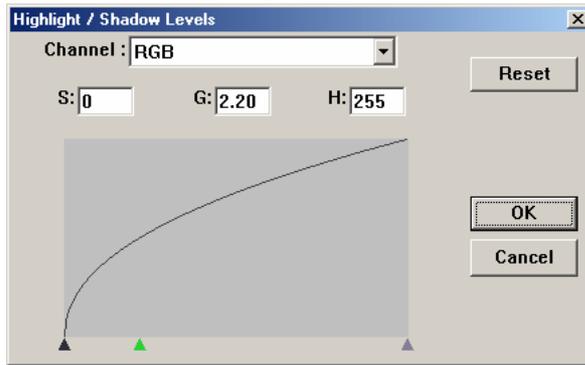
6.15 ADVANCED SETTINGS

Click on the **Advanced Settings** button to view the advanced settings buttons for Highlight / Shadow, Curves, Color Balance, Hue / Saturation / Lightness, Color Drop-out, and Custom Settings (six buttons on the right side of the TWAIN dialog box).

Highlight / Shadow

This feature is available when *8-Bit Gray*, *8-Bit Color*, or *24-Bit Color* is selected on the **Image Type** drop-down menu. Highlight refers the lightest point in a scanned image; shadow refers the darkest point.

Click on the **Highlight / Shadow** button to access the Highlight / Shadow Levels dialog box. You can type values in the text boxes or you can place the mouse cursor over the line, click the right mouse button, and drag the line to specify the values you want.

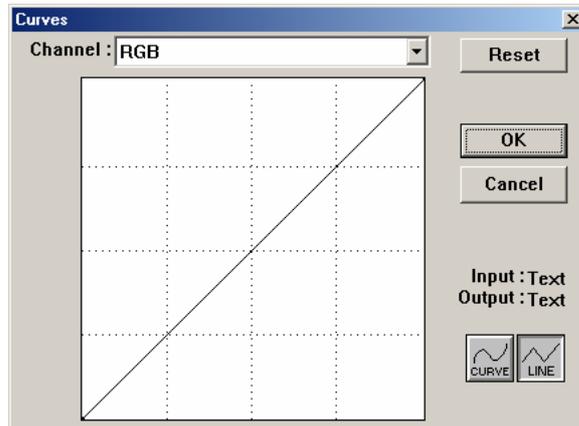


Use the **Highlight** and **Shadow** settings together to extend the range of color and reveal more details in a color image.

6.16 CURVES

When you select the **Curves** button, a dialog box appears that allows you to adjust the midtone of the image without losing details in the lightest and darkest areas.

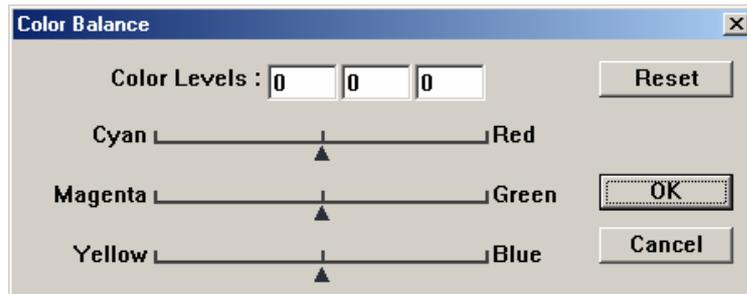
Select the *Curve* or *Line* button, depending on if you want a curved or an angled setting. Place the mouse cursor over the line, click the right mouse button, and drag the line to set the curve you want.



6.17 COLOR BALANCE

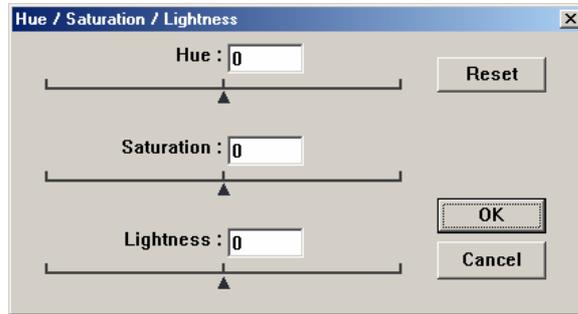
When you select the **Color Balance** button, a dialog box appears that allows you to adjust the color of the image so that it comes close to that of the original.

The default parameters are used to adjust the image. You can type values in the *Color Levels* text boxes or you can drag the sliding arrow under the color.



Hue / Saturation / Lightness

Click on this button to adjust the hue, saturation, and lightness of an image. This button is enabled when the **Color Adjustment** button is selected. You can type values in the text boxes or you can drag the sliding arrow under the each item.



Hue—specify a value in the **Hue** box to adjust the hue up to 360° by clicking on the desired color on the color wheel or selecting a setting on the drop-down menu.

Note that the level of intensity for a color simultaneously changes when the hue adjustment is made.

Saturation—specifies a value in the **Saturation** box to adjust the saturation level of the color. The level of saturation indicates whether the color is pale or rich.

Lightness—specifies a value in the **Lightness** box to adjust the color strength.

NOTE: These options are available only when
The **Color Adjustment** button is enabled.

6.18 COLOR DROP-OUT

This feature is available when *Black and White*, *Halftone*, or *8-Bit Gray* is selected on the **Image Type** drop-down menu. Click on the **Color Drop-out** button to access a dialog box that allows you to choose to remove the R (Red), G (Green), or B (Blue) color channel while scanning.



For example, if your image contains red text or a red background, choose **R channel** (red) to remove the red text or red background.

This feature is applicable only for black-and-white and grayscale images. Make sure that you have selected a black-and-white or grayscale image type (on the **Image Type** drop-down menu) when you use this option.

Tip

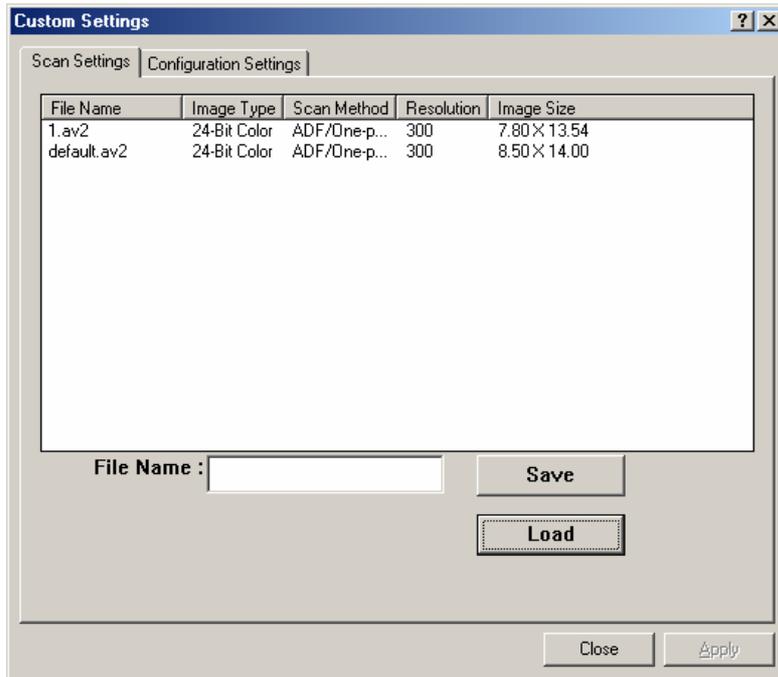
Increasing the brightness after removing one of the color channels will make the image clearer.

6.19 CUSTOM SETTINGS

Click on the Custom Settings button to access a dialog box where you can save your scan settings and configuration settings. There are two tabs: Scan Settings and Configuration Settings.

Scan Settings

The Scan Settings tab allows you to save your scanning feature settings in a file, load an existing file, or delete an existing file.



Saving a scan settings file

Type a name for your settings in the **File Name** text box and click on the **Save** button. Your settings will be saved and the file name will appear in the list box.

Using a scan settings file

You can use an existing settings file. Right-click on the file name for the settings you want to use and click on the **Load** button. The settings in the file will automatically be specified in the scanning features dialog box.

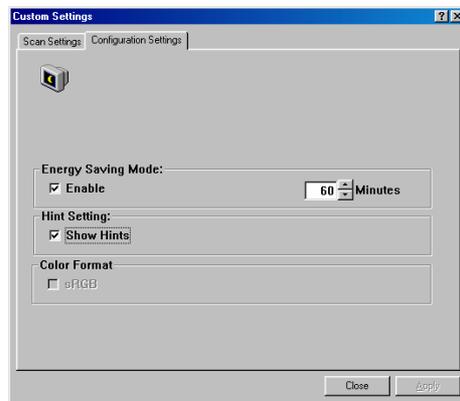
Deleting a scan settings file

Right-click on a file name and press the **Delete** button on the computer keyboard to delete the file.

You cannot delete the default scan settings file default.av2.

Configuration Settings

The Configuration Settings tab allows you to customize some special settings.



Energy Saving Mode—checks the **Enable** box to enable energy savings. You can specify a time delay in the **Minutes** box. Click on the **Apply** button to save the changes.

Hint Setting—check the **Show Hints** box if you want to have flags that show the name of an item appear when you place the mouse cursor on an item in the dialog box. Click on the **Apply** button to save the changes.

6.20 MISCELLANEOUS

Width: Shows the current image width.

Height: Shows the current image height.

Size: Shows the current file size of the scanned image.

Lock scale

Click on this button to fix the output width and height despite the selected scan size.

The scale value automatically changes when you apply this option and simultaneously resize the selected area.

Information

Click on the Information button to access a window that gives you information about the scanner and driver.

Preview: Click on the **Preview** button to scan a document so you can review the scanned image. This allows you to specify an area to be scanned and any scanning feature settings to be used for future scans. When a scanning feature is changed and applied, the Preview image is updated for a real-time view of the change.

You can define the area to be scanned by dragging the cursor lines with the mouse.

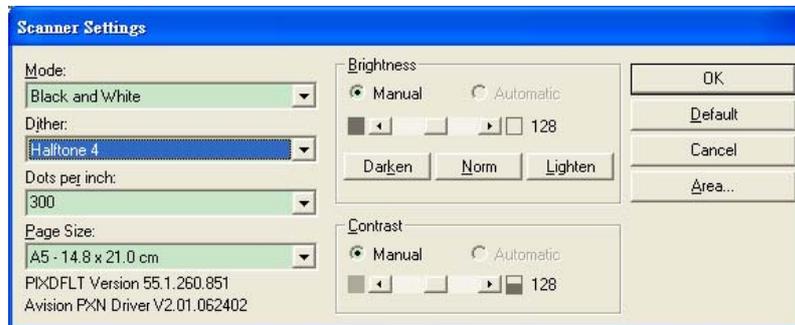
Zoom view: Click on the **Zoom view** button to preview a selected area.

Scan: Click on the **Scan** button to scan the area with the specified parameters. You can define the area to be scanned by dragging the cursor lines with the mouse.

Exit: Click on the **Exit** button to cancel the current job.

7. ISIS INTERFACE OPERATION

The ISIS driver operation method is similar to the TWAIN's. Every function on the ISIS interface screen is briefly described as below:



Mode: select one of scan modes, including b/w, gray, color options.

Dither: 5 halftone levels available, can be disabled.

Dots per inch: select your desired resolution.

Paper Size: select your desired paper size.

Brightness: adjust your scan image brightness or darkness.

Contrast: Adjust the range between the darkest and the lightest shades in the image.

Default: click to reset all settings.

Area: select your desired scan area or position.

8. CARE AND MAINTENANCE

8.1 CLEANING THE ADF

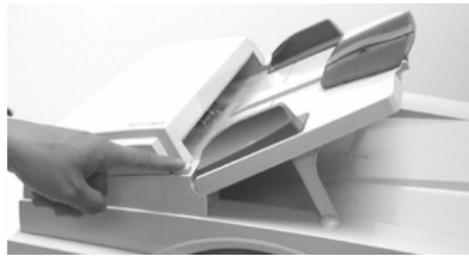
Your scanner is designed to be maintenance-free. However, it still needs to be cleaned occasionally to ensure optimum image quality and performance.

The scanner parts may be contaminated with ink, toner particles or paper coatings. As a result, the scanner needs to be cleaned occasionally particularly in the following cases:

1. Documents do not feed smoothly or easily;
2. Several documents feed at one time.

The cleaning procedures

1. Wet a cotton swab with some isopropyl alcohol. (95%)
2. Open the ADF unit as shown below and wipe the upper feeding roller by moving the swab from side to side. Rotate the roller forward with your finger and repeat the above cleaning procedures until the entire roller is cleaned. Be careful not to snag or damage the pick springs.

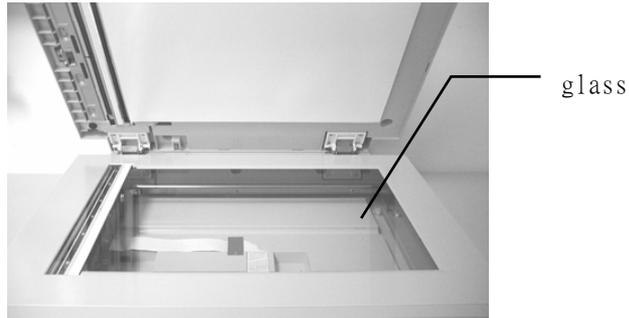


3. Wipe the pad in the direction from top to bottom. Be careful not to hook the pick springs.

8.2 CLEANING THE GLASS

The procedures

- 1) Soak a cotton swab with some isopropyl alcohol. (95%)
- 2) Open the ADF unit and document cover as shown below. Wipe the glass of flatbed and ADF area by moving the swab from side to side.
- 3) Close the ADF unit and document cover. Your scanner is now ready for use.



The cleaning area

8.3 REPLACING THE ADF DETACHABLE PAD MODULE

After scanning approximately 150,000 pages through the ADF, the pad spring may be worn out and you may experience problems with document feeding. In this case, it is highly recommended to replace the pad module with a new one. For ordering the pad module, please consult your nearest dealer and follow the procedure in below to replace it.

Removing Procedure

1. Open the ADF front cover by pressing the button.
2. Remove the ADF detachable pad module by pulling out the upper part of the pad clamp as shown in the figure below.



Remove the ADF pad in this direction.

Remove the pad module

9. TROUBLESHOOTING

The scanner will automatically perform a simple self-test each time it is turned on. This will help spot major system errors in the scanner itself.

When the test is initiated, the READY LED is flashing. When the test is completed, the READY LED is steadily on.

If you have problems with the operation of your scanner, please check the following troubleshooting hints.

9.1 FREQUENTLY ASKED QUESTIONS

Question: The LED indicates that the scanner is ready, but the scanner does not respond to the scan command from the host computer.

Answer: Please check the signal cable is firmly seated, and invoke the scan command again. If there is still no response, please reset the scanner by turning it off and then on again, and reboot your host computer as well.

Question: Paper becomes jammed during scanning.

Answer: 1) Open the ADF unit.
2) Pull out the jammed paper carefully.
3) Close the ADF unit.

Question: More than one sheet of paper were fed into the scanner.

Answer: 1) Open ADF unit.
2) Remove the multi-fed sheets of paper.
3) Close the ADF unit.
4) Flatten the corners and edges; loosen the paper before reloading it in the paper guide.
5) Check the feeding roller condition and do the cleaning if necessary.

Question: Paper becomes skewed in the scanner.

Answer: 1) Check the feeding roller condition; do the cleaning if necessary.
2) Use the paper guide when feeding the paper.

Question: When I power on the scanner, it makes noises and will not stand ready.

Answer: There are two possibilities:
1) You forgot to remove the shipping lock from the scanner. Please remove the shipping lock first.
2) You did not place the scanner on a flat desktop surface. This may cause the scanner to function improperly.

Question: While scanning, the scanner often makes noises or it scans back and forth.

Answer: Please choose lower speed from the TWAIN user interface for low speed PC.

Question: The scanned image always comes out to be too dark.

Answer: 1) Use your application to modify the Gamma setting to 2.2 and 1.8 for your printer and monitor respectively.

2) Adjust Brightness setting from the TWAIN interface to get a brighter image.

Question: The scanner works well except for the line art, the lines of which seem much thicker than the original.

Answer: Increase the Brightness or adjust the Threshold setting to adjust the line art image.

9.2 TECHNICAL SERVICE

Technical support for Avision scanner is provided at Avision Technical Assistance Center (ATAC). Before contact with ATAC, please 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, etc.)

The name and version of your software application
The version of your scanner driver.

Please call us at:

US and Canada Area: Avision Labs. Inc.

Address:	6815 Mowry Ave. Newark CA 94560, USA
Telephone number:	+1 (510) 739-2369
Fax number:	+1 (510) 739-6060
Web Site:	http://www.avision.com
E-mail:	support@avision-labs.com

Other Area: Avision Inc.

Address:	No.20, Creation Road I, Science-Based Industrial Park, Hsinchu, Taiwan, R.O.C.
Telephone number:	+886 (3) 578-2388
Fax number:	+886 (3) 577-7017
Web Site:	http://www.avision.com
Email:	service@avision.com.tw

10. SPECIFICATIONS

All specifications are subject to change without notice.

Scanner Type	ADF/Flatbed Desktop scanner
Data Output	24-bit color
Optical Resolution	up to 600 x 600 dpi
Light Source	Cold cathode fluorescent lamp
Scanning Document Size	ADF mode 11.8" x 17" Flatbed mode 11.69" x 17"
Interface	USB 2.0
Power Requirement	24V/2.0A
Power Consumption	< 38.4W
Dimension	514 x 505 x 115 mm (WxDxH)
Weight	19.2 kgs