

AV100III
Color
Image Scanner
User's Manual

Version 1.1

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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 instruction manual, may cause harmful interference to radio communication. 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 or more 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.

CAUTION: Any changes or modifications not expressly approved by the manufacture of this device could void the user's authority to operate the equipment.

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1. Introduction

Congratulations on your purchase of Avision AV100III color image scanner. Avision Inc. is one of the leading companies in the world to develop high performance sheet-fed scanners.

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

Figure 1-1 shows how the scanner is packed. Please check all the items against your checklist. If you did not receive all the items, please contact your authorized local dealer immediately.

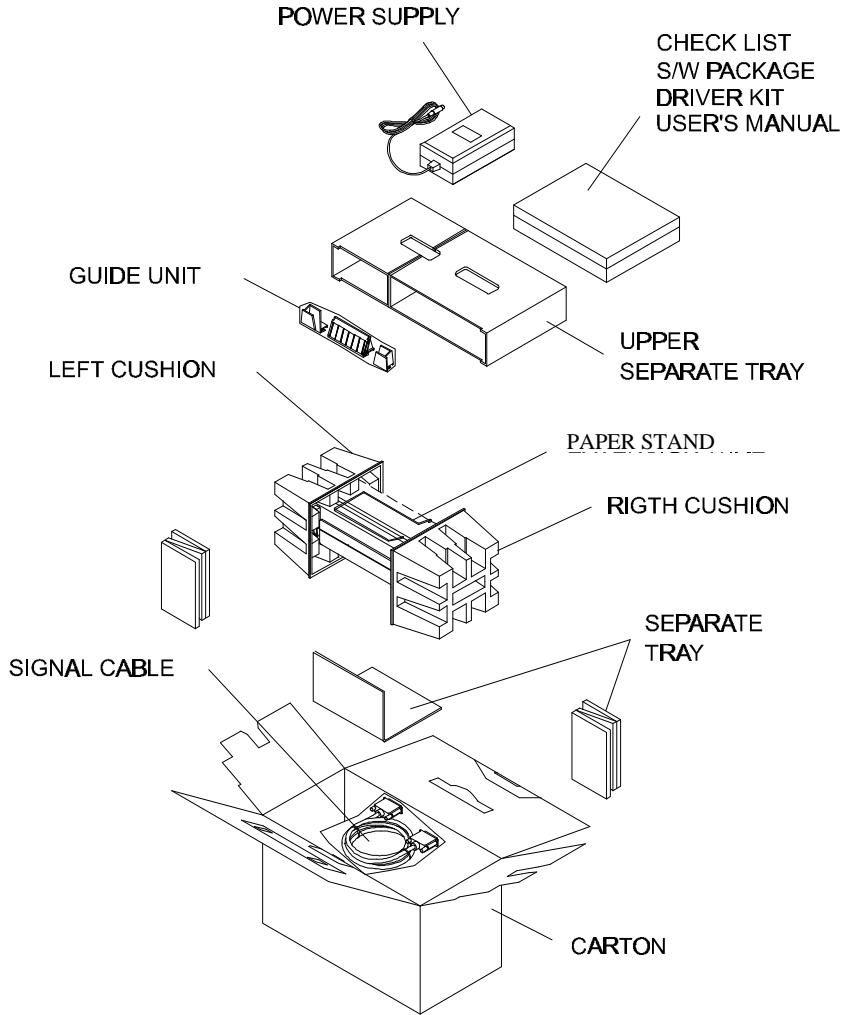


Figure 1-1 Scanner packing

2. Scanner Installation

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 a level surface. Tilted or uneven surfaces may cause mechanical or paper-feeding problems.
- * Retain the scanner box and packing materials for shipping purposes.

2.1 Installation of the Scanner

Please unpack the scanner carefully, and check the contents against the *checklist*. If any items are missing or damaged, please contact your dealer immediately.

Installation of the slide guides, the paper guide and the paper stand. (See Fig. 2-1)

1. Open the scanner front door by slightly pulling it away from the unit.
2. Insert the paper guide into the center notch located on top of the unit.
3. Insert the two slide guides to the left and right of the paper guide. When properly installed, the guides should move freely from side to side.
4. Insert the two ends of the paper stand into the small holes on both sides of the paper guide.
5. Close the scanner front door.

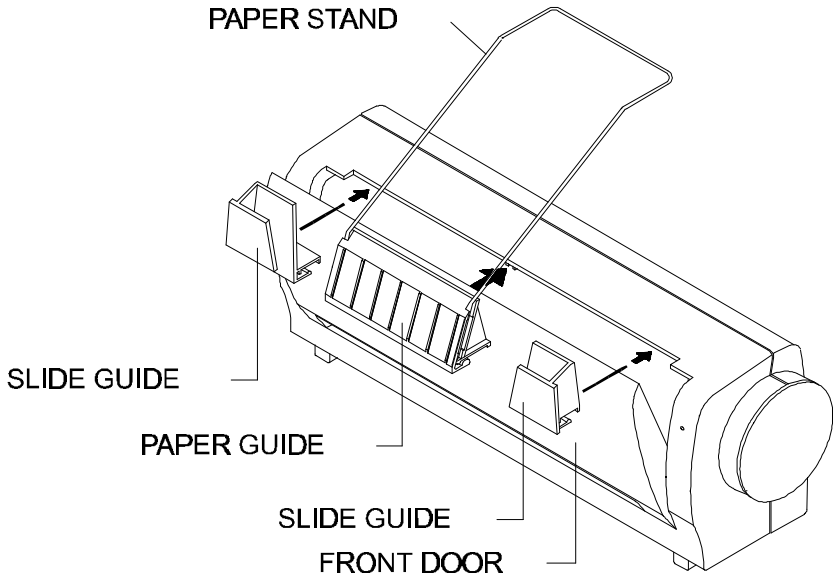


Figure 2-1 Install the slide guides, the paper guide and the paper stand.

Document loading

Standard paper size should feed easily through the scanner. To avoid occasional paper jam or double feed when automatically feeding multiple documents, loosen the paper before loading. (Figure 2-2)

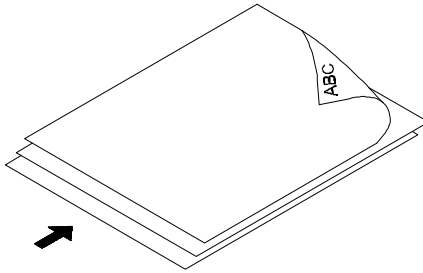


Figure 2-2 Loosen the paper before loading.

Document feeding

Insert the document to be scanned face down in the scanner. Align the two sides of the document with the slide guides. (Figure 2-3)

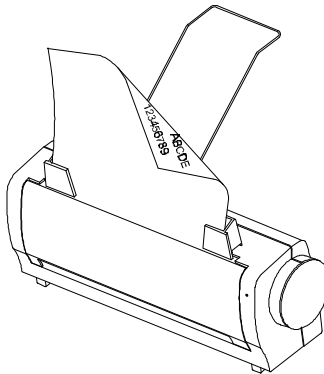


Figure 2-3 Place documents in the ADF.

Scanning Small Documents

To scan small documents, such as business cards, exchange the positions of the two slide guides, adjust the distance in between so that it suits the size of the document, and hand feed the document. (Figure 2-4)

1. Open the scanner front door.
2. Remove the two slide guides. Exchange their positions and reinsert them with the left guide going now to the right and the right now to the left.
3. Close the scanner front door.

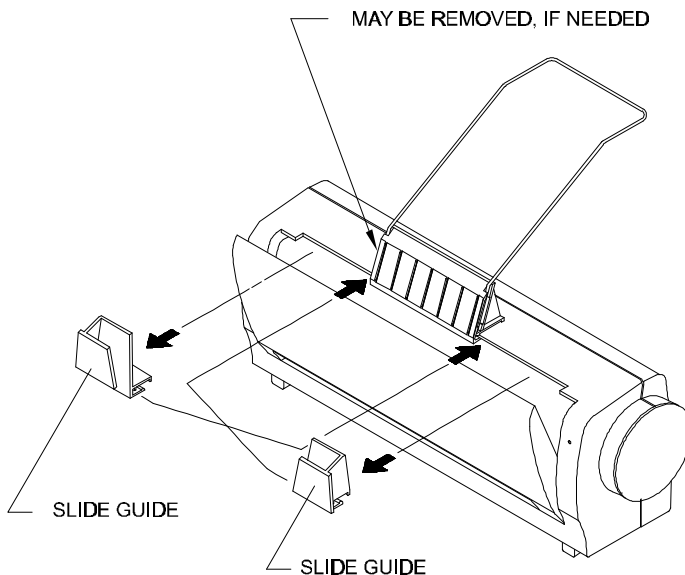


Figure 2-4 Exchange the positions of the two slide guides.

2.2 Connecting the Cable

Be sure the scanner power is off.

Connect the power cable and signal cable as shown below.

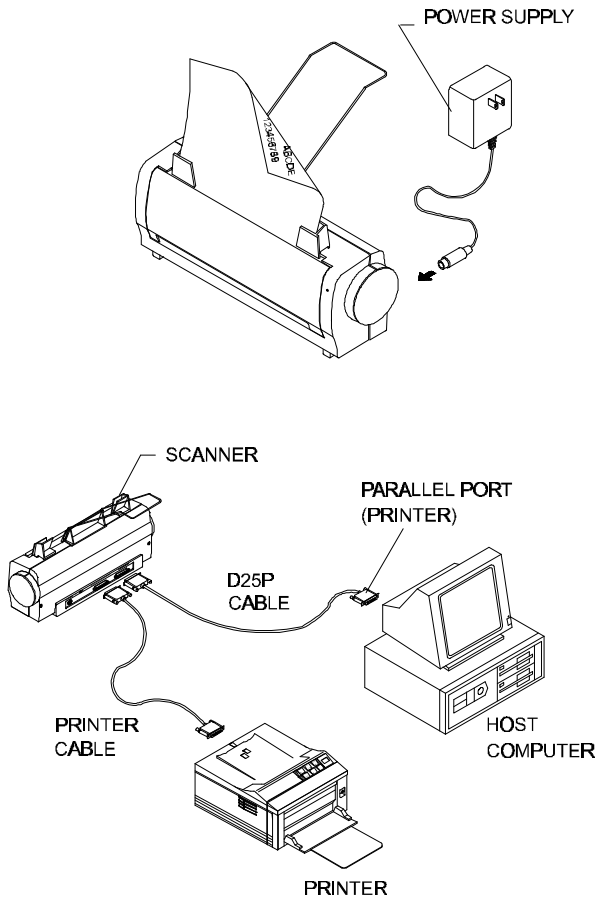


Figure 2-5 AV100III scanner cable connection

3. Scanner Driver Installation

To run at rated speed, the AV100III color image scanner must have the following minimum requirements:

- * IBM compatible PC 386/486 or Pentium;
- * Microsoft Windows 3.1 or Windows 95;
- * DOS 5.0 or higher;
- * One printer port available (enhanced parallel port recommended);
- * 2 megabytes of available hard disk space for installation;
- * 4 megabytes of RAM (8 megabytes or higher recommended);
- * A video graphics array (VGA) monitor;
- * A Microsoft Windows-compatible pointing device (e.g., the mouse);
- * A 3.5" floppy disk drive.

3.1 Auto-Installation Program

Installation procedure of Avison scanner driver with Avison Auto-installation Program is as follows:

1. Start Windows 3.1 or Windows 95.
2. Insert Avison Sheet-fed driver into your disk drive.

For Windows 3.1 or Windows 3.11 (See Figure 3-1,3-2)

3. From the File Menu, choose RUN, type a:\setup.exe or b:\setup.exe, and then click O.K.

For Windows 95

3. Press the Start button, choose RUN, type a:\setup.exe or b:\setup.exe (the drive in use), and click O.K.
4. Follow the instructions on the screen to complete the installation (usually just clicking O.K. will complete the installation).

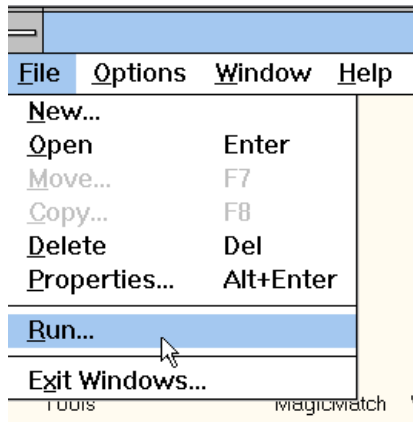


Fig. 3.1

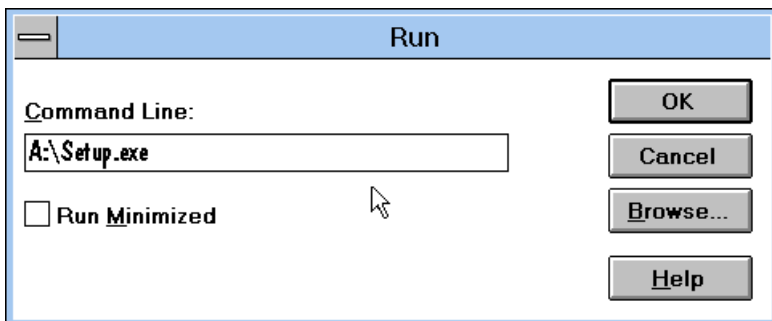


Fig. 3.2

3.2 An Example of CONFIG.SYS

The installation will add the line
DEVICE=C:\AV3C\DRVR\AV3C.SYS
in the CONFIG.SYS file.

CONFIG.SYS

```
DEVICE=c:\ WINDOWS\HIMEM.SYS  
DEVICE=c:\ WINDOWS\EMM386.EXE noems ram  
BUFFERS=40,0  
DOS=UMB,high  
BREAK=ON  
DEVICE=C:\DOS\ANSI.SYS  
SHELL=C:\COMMAND.COM C:\ /E:1024 /P  
DEVICE=C:\AV3C\DRVR\AV3C.SYS
```

3.3 *Uninstall the Scanner Driver*

You can uninstall the scanner by simply double-clicking on the *Uninstall* icon stored in the Avision Sheet-Fed Driver group.



4. Scanner Operation & Document Printing

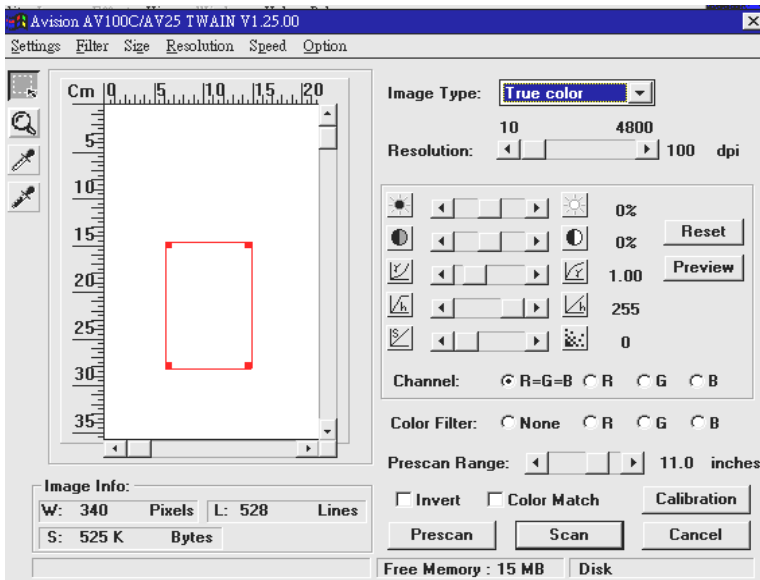
There are two types of application software interface to use with AV100III color image scanner. They are **TWAIN** and **ISIS**. TWAIN is the most popular interface among image-editing application software, while ISIS is most popular among archiving application software.

Scanning Images from within an Application (TWAIN)

1. Open your application and choose ***Select Source*** from the File menu. If the *Select Source* menu options are not available from the File menu, see the user's guide of your application to learn how the TWAIN link is used.
2. A dialog box appears containing the different TWAIN sources you can choose to bring an image into your application.
3. Select ***Avision Sheet-fed*** as the source.
4. You need to select Avision Sheet-fed for just once except when you have used the dialog box to select a different source. In that case, you will need to select *Avision Sheet-fed* as the source again before you can resume your use of AV100III color image scanner.
5. **Do Calibration:** Place a sheet of white, A4-size paper on the ADF and press the *Calibration* button to do calibration. This should be done each time you power on the scanner to use. Also, It is suggested you do it after the scanner has been powered on for 2 minutes, so that the lamp may have enough time to warm up. Or you should

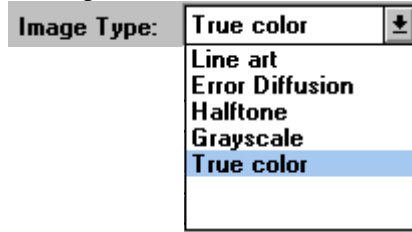
- do this whenever the scanned image seems to be too dark.
6. Place the image to be scanned face down on the scanner.
 7. From the File menu, select *Acquire*.
 8. Avision Sheet-fed TWAIN user interface will pop up on the screen. Click on the *Prescan* or *Scan* button to get the image.

The TWAIN user interface:



4.1 Image Type

You can select the *Type* menu for the mode you want to use with your document or image.



Line art

Line art includes only black and white areas. There are no intermediate shades of gray in between.

Halftone

Halftone simulates different shades of gray by varying the threshold value of a matrix.

Error Diffusion

While taking up but a minimum storage space, error diffusion gives good image texture and excellent image details.

Gray (256 levels gray scale)

Scanner recognizes each point in the image as a shade of gray (continuous tone). 8-bit gray gives more detailed information about the image.

True Color (16.7 million colors)

Color image have continuous tones along with its color hues.

Note: For best OCR and article print-out effect, we recommend the scanning parameters to be that of 300 dpi, black and white mode. To scan pictures or photos, the color or gray scale mode is necessary. But then, these modes invariably take up much more disk space. An A4-size color image scanned at 300 dpi, for instance, takes up as much as 24MB of disk storage space. To save disk space, then, we suggest you set the scanning resolution at 100 dpi for those images intended for screen display use only, now that a scanning resolution of 100 dpi can do quite all right for the said purpose.

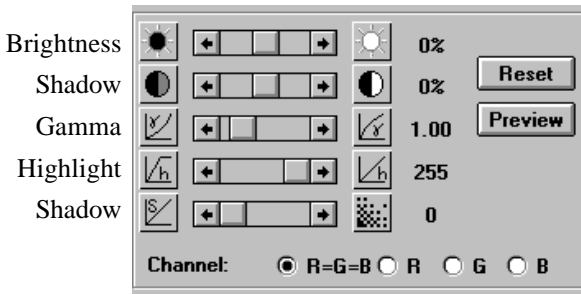
4.2 Resolution Control

Resolution: The number of dpi (dots per inch) that AV100III uses for a *scan*.



4.3 Image Control

- Brightness:** Adjusts the lightness or darkness of an image. The higher the value, the brighter the image.
- Contrast:** Adjusts the range between the darkest and the lightest shades in the image. The higher the contrast, the bigger the different gray scales range.
- Gamma:** Adjusts the midtone of the image without losing details of the lightest and the darkest areas.
- Highlight:** Adjusts the highlight area of the image.
- Shadow:** Adjusts the darkest area of the image.
- Channel:** Used along with the five functions above, this function enables you to select RGB for Red, Green, or Blue filter to display the color image the way you desire.



Color Filter: You can select None, Red, Green or Blue filter for color drop out purpose when in line art / halftone / error diffusion / gray mode. For instance, a text with a red background color hampers the reading. In this case, then, you can select RGB for the Red filter to drop out the background color and facilitate the reading.

Color Filter: None R G B

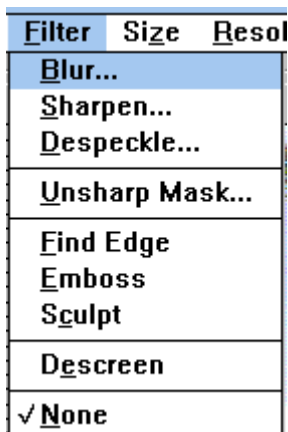
Invert: The invert command reverses the brightness and the color in the image. For color images, each pixel will be changed into its complementary color at the command of Invert.

Invert

Color Match: Adjusts the color quality of the image so that it comes close to that of the original. This function uses default parameters to adjust the image.

Color Match

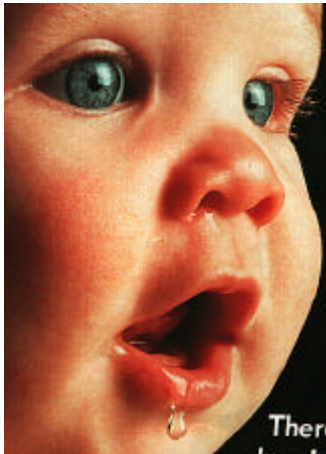
Filter: Gives you special effects on the image. You can select the Filter function from the menu bar.



Descreen: Eliminates moire patterns commonly found in printed matter. The Descreen function can be found in the pull-down Filter menu.



Before Descreen

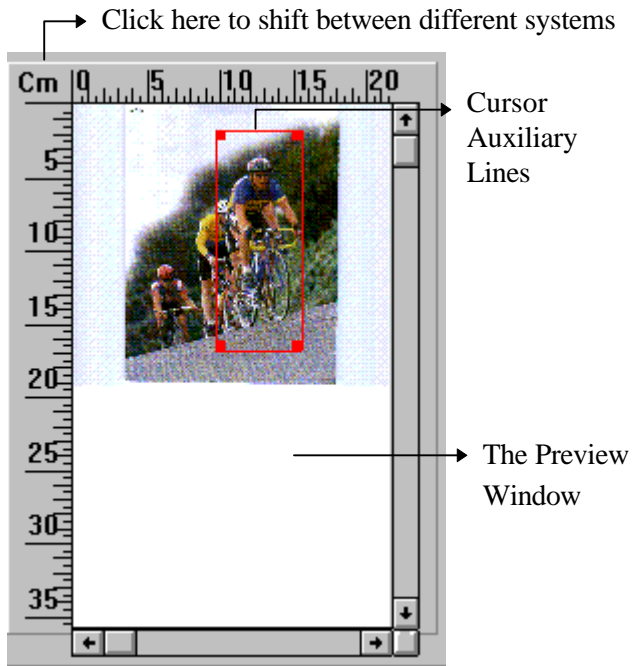


After Descreen

4.4 Scanning

- Cm** Indicates you are currently using the metric system. You can switch to the British system by clicking the Cm abbreviation. The two systems represent a toggle switch.
- Prescan:** Previews your image roughly and allocates the area to be scanned.
- Scan:** Scans the area with the parameters you have set.
- Cancel:** Cancels the current job.

As shown in the illustration below, in the Preview window, you can define the area to be scanned by dragging the cursor auxiliary lines.



4.5 Printing

Connect the printer cable as shown in Figure 4.1.

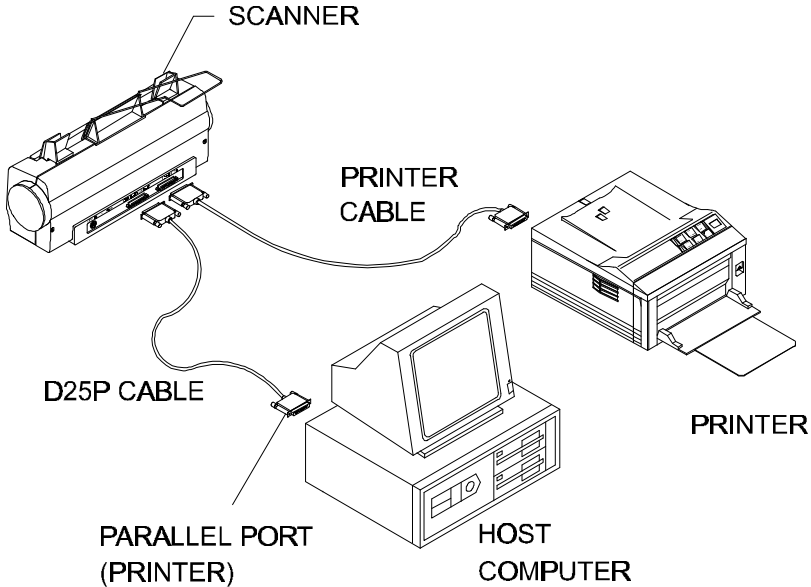


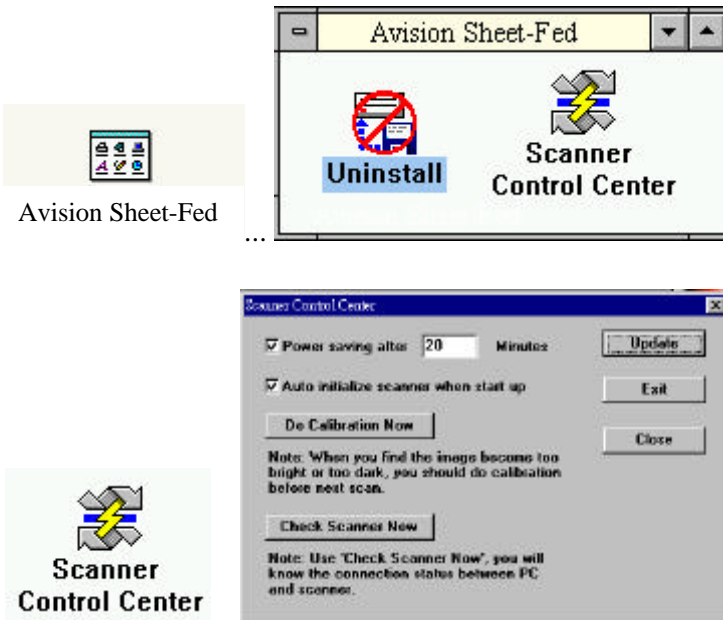
Figure 4.1 Printer cable connection

Attention:

1. Be sure to power on the scanner if you want to do pass-through printing.
2. Do not scan and print at the same time.
3. If your PC does not support EPP mode or have pass-through compatibility problem, please contact your authorized local dealer for an EPP card or an additional interface card.

4.6 Scanner Control Center

Having finished your use with the scanner, you may want to turn it off. The Avison Sheet-fed scanner is not equipped with switch in view of system considerations. However, you can turn off the scanner through the software switch called *Scanner Control Center*: Just right click on the icon and select the *Switch Off* item. *Scanner Control Center* can be found in the Avison Sheet-fed Driver group.



5. Maintenance

5.1 Cleaning the ADF

Your scanner is designed to be maintenance free. However, it still needs to be cleaned (especially, the pad and the feeding roller) 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 will need to be cleaned frequently in case:

- 1) Documents do not feed smoothly or easily;
- 2) Several documents feed at the same time.

The cleaning procedures (See Figure 5-1)

- 1) Soak a cotton swab with some isopropyl alcohol. (95%).
- 2) Open the scanner front door and wipe the upper feeding roller by moving the swab from side to side. Rotate the roller forward with your finger and repeat the cleaning steps above until the entire roller is cleaned. Be careful not to damage the pick springs.
- 3) Wipe the pad in one and the same direction, top down or bottom up. Be careful not to damage the pick springs.
- 4) Wipe where the window glass is contaminated, which is manifested by the constant appearance of a vertical line on some specific part of the scanned image. (See Figure 5-2)

- 5) Close the scanner front door. Your scanner is now ready for use.

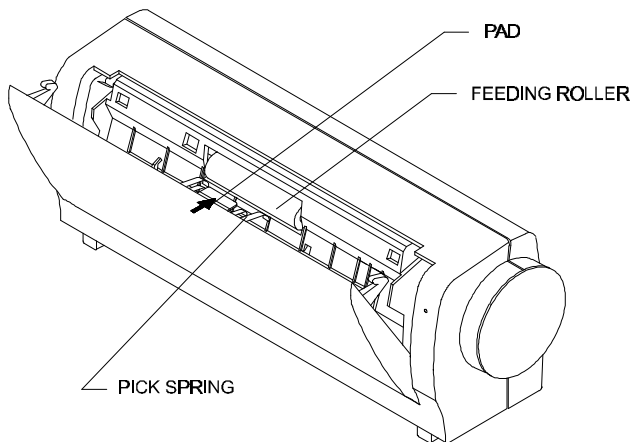


Figure 5-1 Open the scanner front door.

5.2 Cleaning the Window Glass

As shown in Figure 5-2, clean the window glass with an air-blower or a small brush to rid the glass of dust or dirt. Please handle with care and dexterity.

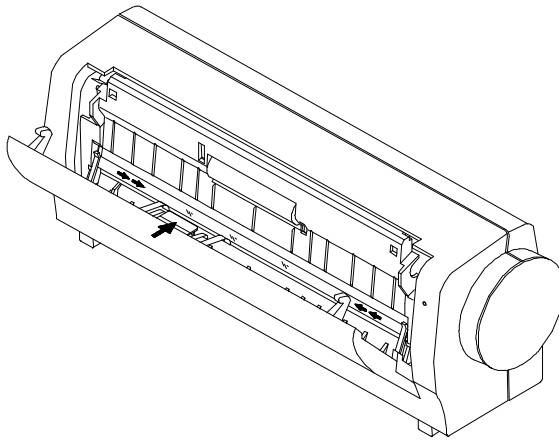


Figure 5-2 Clean the window glass.

6. Troubleshooting

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

If you have any problem with the operation of the scanner, please check the following troubleshooting hints.

6.1 Questions and Answers

Question: Paper becomes jammed during scanning.

- Answer:**
- 1) Open the scanner front door.
 - 2) Pull out the jammed paper carefully.
 - 3) Close the scanner front door.

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

- Answer:**
- 1) Open the scanner front door.
 - 2) Remove the multi-fed sheets of paper.
 - 3) Close the scanner front door.
 - 4) Flatten the corners and edges. Loosen the paper before putting it into the paper guide again.
 - 5) Check the feeding roller condition. If necessary, follow the cleaning directions in section 5.1 and do the cleaning.

Question: Paper becomes skewed in the scanner.

- Answer:**
- 1) Use the slide guide to keep the paper path straight.
 - 2) Check feeding roller condition. If necessary, follow the cleaning directions in chapter 5.1 and do the cleaning.

Question: Why is it that the scanned images always come out to be too dark?

- Answer:** 1) Modify the Gamma setting to 1.8 for your monitor and, when printing, set Gamma to 2.2 for your printer.
- 2) Use the Brightness setting of the TWAIN user interface to get a brighter image.

Question: Why does my scanner scan at a very low speed?

Answer: If you have installed “Works for Windows,” it will install Window Printing System (WPS) in your WIN.INI file. This will share the printer port time remarkably. You can remove the WPS from your WIN.INI file, as follows:

From:

[MS Text Converters]

MSWorksWin=Works for Windows 2.0,C:\WINDOWS\MSAPPS\TEXTCONV\worksdos.cnv,wps
Works for Dos 2.0=Works for DOS 2.0 MSAPPS\TEXTCONV\workswin.con,wps

To:

[MS Text Converters]

MSWorksWin=Works for Windows 2.0,C:\WINDOWS\MSAPPS\TEXTCONV\worksdos.cnv
Works for DOS 2.0=Works for DOS 2.0, C:\WINDOWS\MSAPPS\TEXTCONV\workswin.con

Question: A problem occurs when the printer is printing the documents. What can I do?

Answer: Pass-through printing may pose a problem for some printers. It is suggested that you

- a) add a second printer card for printing purpose,
- or,
- b) add Avison scanner interface card IF05 to perform scanning.

Please call your authorized local dealer for support.

Question: The scanning speed of my scanner is much slower than that of those installed at other computers. Can I speed it up?

Answer: In such case, please

- a) Set you PC printer port to the EPP mode from BIOS setting, or,
- b) Add Avisision scanner interface card IF05 to scan at a higher speed.

Question: Does it take long for the scanner to initialize?

Answer: If your printer port supports SPP mode only, it takes a minute or so for the scanner to initialize. If your printer port supports EPP mode, the initialization process is much faster, can be done in about 20 seconds. Generally, it takes a two to three minutes time for AV100III scanner lamp to warm up. It may be that your scanner lamp is out of order if it works otherwise.

Question: Sometimes it seems the scanner does not detect paper?

Answer: The AV100III scanner's paper sensor is located central of the paper guide. Please place whatever you want to scan somewhere thereabout and use the slide guides to keep the paper path straight.

Question: Why sometimes pass-through printing does not work at all?

Answer: It may be that you forgot to power on the scanner. When doing pass-through printing, first

and foremost, please remember to power on the scanner. Else, without power, the scanner can not transfer the printing data/signals to the printer.

Question: Why doesn't my GDI printer work with AV100III scanner?

Answer: Disable the "Auto Scan" function in the application, and your printer will function all right.

Question: Why some parallel port devices and software's keypro do not work with AV100III scanner?

Answer: The AV100III scanner can do pass-through printing all right, but not otherwise. As such, if you would like to connect some parallel port devices other than printer, please do not connect them to the same parallel port that AV100III currently uses. It is advisable that you use other parallel ports to connect these devices or keypro. For instance, you can connect AV100III scanner to LPT1, and connect other parallel port devices to LPT2. Or you can add a data switch to avoid the problem.

6.2 *Technical Service*

Technical support for Avision scanner is provided at the Avision Technical Assistance Center (ATAC). Before you 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...);
- * The name and version of your scanning software application;
- * The version of your scanner driver.

Please call us at:

US and Canada Area:

Avision Labs., Inc.

Address :48521 Warm Springs Blvd. #312
Fremont, CA 94539

Telephone number :510-440-8785

Fax number :510-440-8337

Web Site :<http://users.aimnet.com/~avision>

E-mail :avision@aimnet.com

Other Area:

Avision Inc.

Address :No.20, Creation Road I, Science-Based
Industrial Park, Hsinchu, Taiwan, R.O.C.

Telephone number :886-3-5782388

Fax number :886-3-5777017

BBS :886-3-5786149

CompuServe :101400,444

Email :service@avision.com.tw

- Note:
1. You can find the latest driver and documents in Avison BBS. Our service is 24 hours a day. The communication setting is:
2400-19200 BPS, 8N1S.
 2. You will be asked to enter your first name, last name and password at all times.
 3. For first-time user, you will be requested of your full name and password. The same name and same password are required to enter BBS again next time.

7. Specifications

All specifications are subject to change without notice.

The following can not be properly fed by ADF:

- * Paper with clip or staple attached;
- * Paper with ink not totally dry;
- * Paper with inconsistent thickness, such as envelopes;
- * Paper with wrinkles, curls, folds or tears;
- * Tracing paper;
- * Coated paper;
- * Carbonless paper;
- * Paper narrower than 3.5" or wider than 8.5";
- * Items other than papers, such as cloth, metal or OHP film;
- * Notched paper;
- * Paper with an odd (non-rectangular) shape;
- * Very thin paper.

7.1 Model: AV100III

| | |
|---------------------|---|
| Scanner Type: | Desktop Sheet-fed |
| Optical Resolution: | up to 300 dpi * 300 dpi (H*V) |
| Scanning Modes: | Black & White mode Halftone mode (64-step) Error diffusion (2 patterns) 8-bit gray scale (256 levels) 24-bit color (16.7 Millions of color) |
| Document Feed: | Auto Document Feeder (ADF) |
| ADF Capacity: | up to 10 pages |
| Scanning Speed: | 6 pages per minute (200 dpi, line art, letter size) |
| Document Size | Letter, legal, A4, B5, A5, business card |
| Min. Document Size: | 4" x 3.5" (ADF) 3.5" x 2" (manual feed) |
| Paper: | 16 lb. to 24 lb. |
| Interface: | Printer port |
| Power Source: | 110Vac or 220Vac, 50-60Hz, external |
| Power Consumption: | 12 watts (12Vdc,1A) |
| Dimensions: (WxHxD) | 293 mm x 89 mm x 107 mm |
| Weight: | 3.5 lbs. |

EC Declaration of Conformity

According to EN45014

Manufacturer's Name:

AVISION INC.

Manufacturer's Address:

No. 20, Creation
Road, Science-Based
Industrial Park,
Hsinchu, Taiwan,
R.O.C.

declare that the product

Model Number :

Avision Sheet-fed

conforms to the following Product Specifications:

Emission:

EN 50081-1 (1992)
EN 55022 (Class B)
(Conducted Radiated) (1994)
EN 60555-2 (Harmonics) (1987)
EN 60555-3 (Flicker) (1987)

Immunity:

EN50082-1 (1992)
IEC 1000-4-2 (ESD) (1995)
IEC 1000-4-3 (RS) (1995)
IEC 1000-4-4 (EFT/Burst) (1995)
IEC 1000-4-5 (SURGE) (1995)

Date:

December, 1995