

Model FB735

ImageReader Ultra Color Flatbed Scanner

User's Manual

Version 1.0

Ó Info Peripherals 1997

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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:

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- * 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

Welcome

Thank you for purchasing an Info ImageReader Scanner. This product is the result of our efforts to develop high technology computer peripherals that are easy to use, affordably priced, and that enhance your computing experience. The FB7 is designed in an exact A4 size and less weight in an aim to save the most space possible while maintaining the highest quality scanning results as well as quality optical resolution at 300 x 600 dpi.

Using this manual

This manual includes complete instructions for scanner installation, use, and maintenance. Note that *se,Ó* in this context, refers to scanner operation independent of the task performed with the application software. This guide is organized in a *o* as you read *Ó* format. For best results, perform the tasks as they are presented.

This manual assumes that you have a basic understanding of the DOS and Windows operating system. As a convention, this guide presents all references to guide names or sections in italics, and commands you must type at a command line are presented in a **different** typeface.

Assistance

If you experience difficulties and cannot find solutions within this guide, please contact Info Technical Support Department at (800) 777-3280, Monday through Friday, between 8:00 AM and 4:30 PM, Pacific time. If you wish, you may fax questions to (408) 538-2577, or email questions to tech@infoconnection.com.

Provide a fax number or email address for return contact. We maintain a BBS at (408) 538-2580 that contains the latest updates to our software, as well as a web site at www.infoconnection.com, and fax on demand system at (408) 538-2585.

What is TWAIN?

TWAIN is the interface that links the scanner with scanning software applications. TWAIN is an industry standard that enables you to use the ImageReader with any TWAIN-compliant software application.

With the introduction of Windows 95, the TWAIN specification has been overhauled to take advantage of the 32-bit architecture. Your scanner installation software contains two TWAIN sources — one for using your scanner with 16-bit applications (i.e. InfoCenter Lite) and one for using your scanner with 32-bit applications (i.e. Adobe Photoshop). Use the following as a guide to select the appropriate source.

16-bit applications are legacy Windows 3.x programs that you are running under Windows 95.

32-bit applications are programs specifically designed for Windows 95, to take advantage of performance enhancements provided by the new architecture.

Please Note: Windows 3.1x does not support 32-bit applications, therefore the 16-bit scanning source should always be selected when running Windows 3.1x. You may experience scanning problems if you do not use the appropriate source.

A note about application software

The scanner hardware by itself is not very useful. It takes a combination of the scanner hardware and application software to

perform any task. Before scanning, you need to choose the appropriate application(s) to use for the task at hand. Please read this section to gain an understanding of the types of scanning software there are.

Scanning software generally falls into two groups, Graphics (image editing), or OCR (Optical Character Recognition). Each type has specific features designed to address the technical challenges faced in the scanning of graphics or of text.

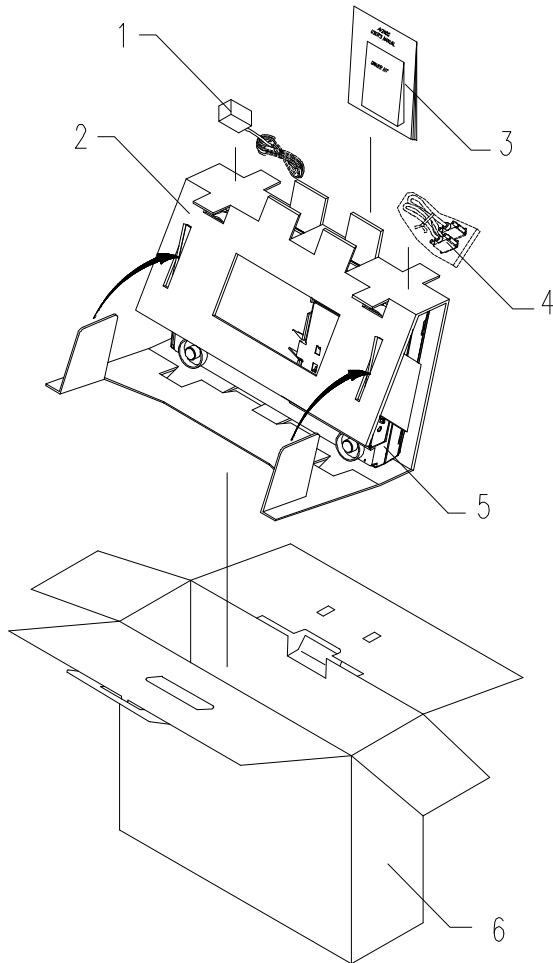
Graphics: Software provides the user with image editing tools for performing extensive modifications to art, photographs, or other continuous tone images. While having the ability to scan text, unlike OCR software it is not designed to specifically identify individual characters. Any image scanned using a graphics program can only be saved in a graphics file format (i.e. Tiff or Gif). It cannot be saved as an editable text file. Your system software CD includes iPhoto Express image editing software to facilitate your image editing requirements.

OCR: Software in this category is designed to recognize alphanumeric characters in preparation for export to word processing and desktop publishing applications. In other terms, it creates text files. OCR software will not provide image editing capabilities. If there is no intention of editing a given piece of text (with or without graphics), it may be simpler to scan and save it as a graphic. OCR is one of many scanning control features included in the InfoCenter application software included on your system software CD.

Additional types of applications are available that offer solutions for special or unique tasks. These include document storage, form scanning, fax utilities, copy utilities, custom screen saver creation, photo album creation, and so on. If applications are intended to link directly to the scanning device, look for the TWAIN-

compliant specification. If compliant, you may use these application to scan with your ImageReader scanner.

Figure 1-1 shows how the scanner is packed. Please check all the items against your checklist contained in the box or against this diagram. If there are any missing or damaged parts, please contact your nearest dealer immediately for replacement or repair.



1. Power Adapter, 2. Cushion 3. Manual, Driver Kit CD.
4. D25P Cable, etc 5. Scanner 6. Carton

Figure 1-1 Scanner packing

2. Scanner Installation

2.1 Precautions

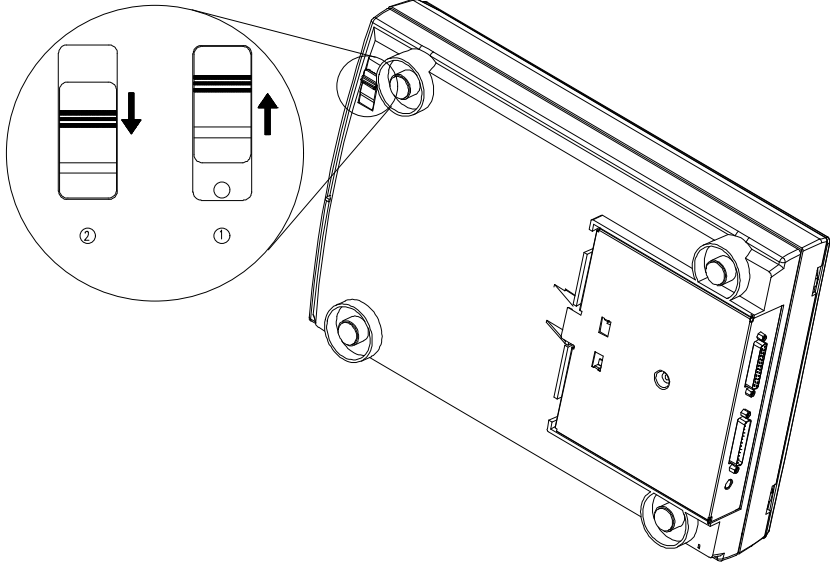
- Keep the scanner out of direct sunlight. Direct exposure to the sun or excessive heat may cause damage to the unit.
- Do not install the scanner in a humid or dusty place.
- Be sure to use the proper AC power source.
- Place the scanner securely on an even, flat surface. Tilted or uneven surfaces may cause mechanical or paper-feeding problems.
- Retain the scanner box and packing materials for shipping purposes.
- Remember to unlock the scanner before use (2.2)

2.2 *Unlocking the Scanner*

As shown below, unlock the scanner by turning the scanner lock to the *Unlock* position.

1. Lock Position 2. Unlock Position

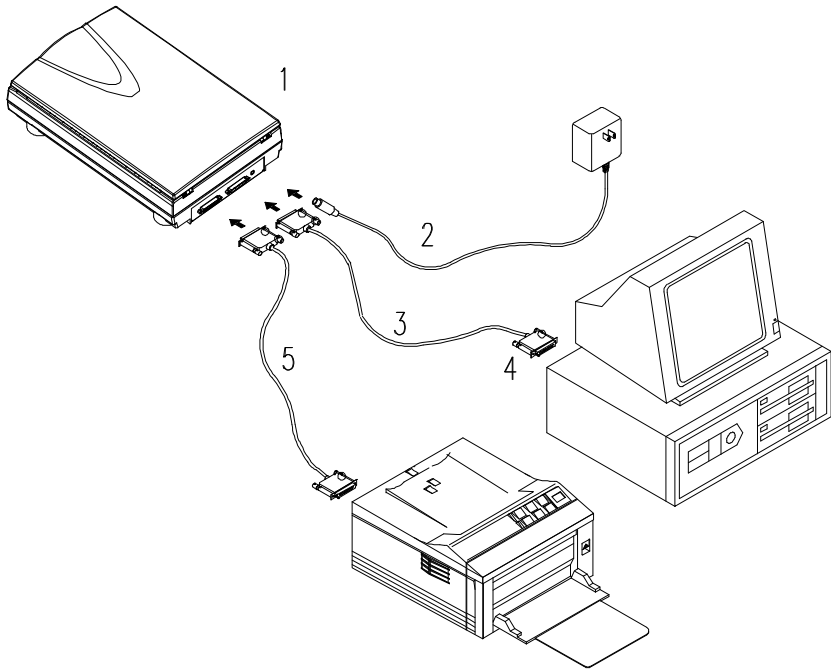
Figure 2-1



Unlocking the Scanner

2.3 *Connecting the Cable*

Connect the power cable and signal cable as shown below.

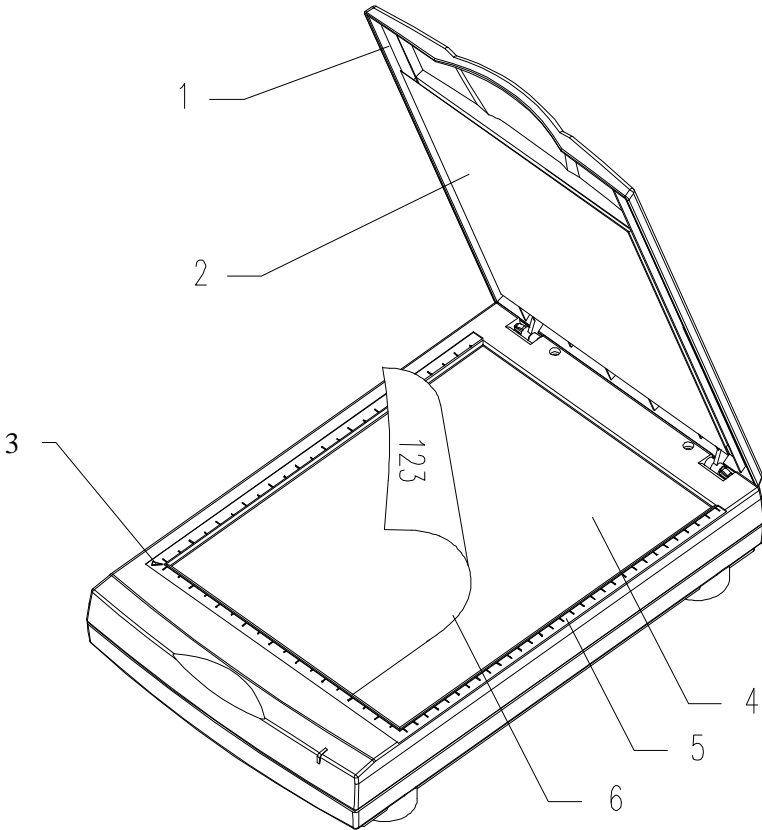


- | | |
|------------------|---------------------|
| 1. Scanner | 2. Power Supply |
| 3. D25P Cable | 4. PC Parallel Port |
| 5. Printer Cable | |

Figure 2-2 ImageReader Ultra scanner cable connection

2.4 Document Placement

As shown in Figure 2-3, place the document on the glass with the text facing away from you.



- | | |
|--------------------|-----------------|
| 1. Document Cover | 2. Document Pad |
| 3. Reference Frame | 4. Glass |
| 5. Document Board | 6. Document |

Figure 2.3 Document Placement

3. *System Requirements*

System requirements are largely dependent on the "work" performed. By work, we are referring to the task or operation performed using the scanner in conjunction with application software.

Because scanners are capable of inputting large amounts of data in relatively short periods of time, they commonly push computer systems to the limits of their capabilities. Before beginning any scanning task or operation, carefully consider your system processing capabilities, especially processor speed, RAM, and available hard disk space. OCR processes, fax operations, and the processing of simple black & white graphics are least demanding. High resolution scanning of large images in full color creates an extreme demand for processor time and memory.

When you are scanning with the TWAIN interface, the number labeled image size (calculated in bytes) provides the working file size that is the result of the selected scanning mode, resolution, and image size. Take careful note of this information.

Minimum and recommended system requirements are:

- * IBM compatible PC 386/486, Pentium or later;
- * Microsoft Windows 3.1, Windows 95, Windows NT;
- * One printer port available (enhanced parallel port recommended);
- * 20 Megabytes of available hard disk space for installation;
- * 8 Megabytes of RAM (16 Megabytes or higher recommended);
- * A video graphics array (VGA) monitor;

- * A Microsoft Windows-compatible pointing device (e.g., mouse);
- * A CD ROM drive.

3.1 Scanner Driver Installation

3.2 *Auto-Installation Program*

Installation procedures of FB7 Scanner driver with Info Peripherals Auto-installation Program are as follows:

1. Start Windows 3.1 or Windows 95.
2. Insert FB7 CD into your CD ROM drive.

In Windows 3.1 or higher

3. From the File Menu, choose RUN, type d:\driver\FB7.exe (d represents the letter for your current CD ROM drive. If your CD-ROM drive has a different letter designation, substitute the correct letter for the letter "D"). Click O.K.

In Windows 95 or Windows NT

3. Press the Start button, choose RUN, type d:\driver\
setup.exe (d: the CD ROM drive in use), and then click
O.K. (See Figure 3-1,3-2)
4. Follow the on-screen instructions to complete the
installation.

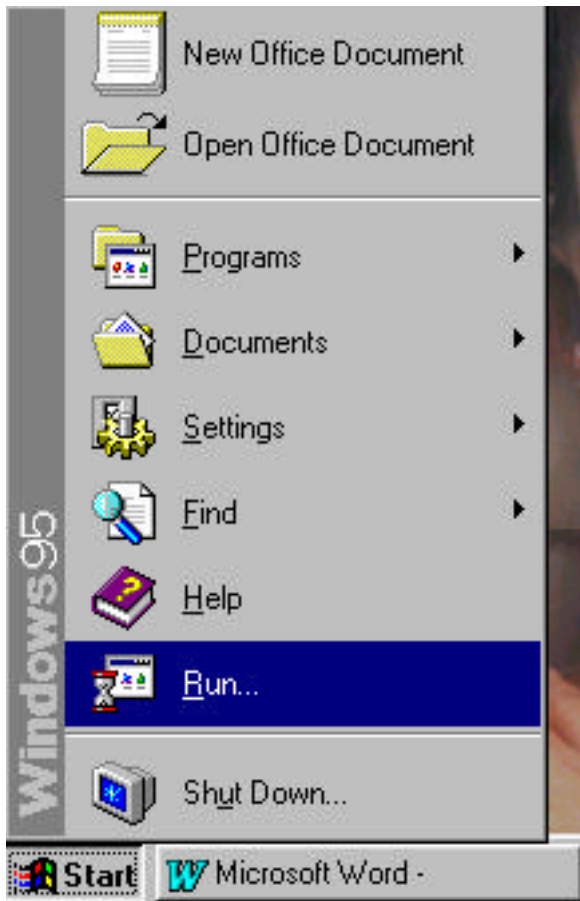


Fig. 3.1

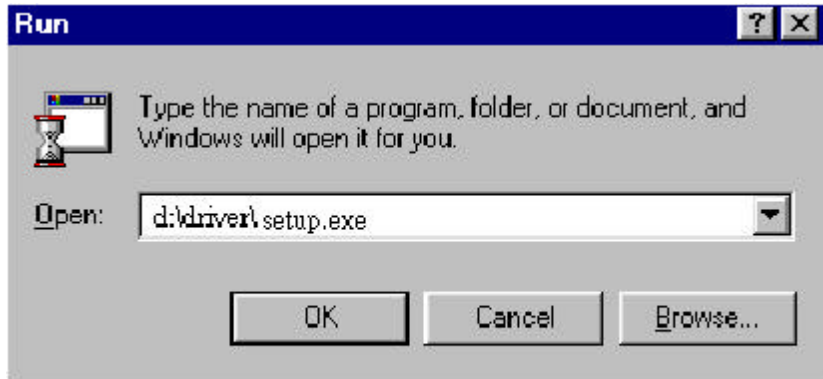


Fig. 3.2

3.3 *Uninstall the Scanner*

You can uninstall the scanner by selecting Start....Programs.... Scanner FB7 and double clicking on the *Uninstall* command from the Scanner FB7.

4. *Scanner Operation & Document Printing*

Scanning Images from within an Application (TWAIN)

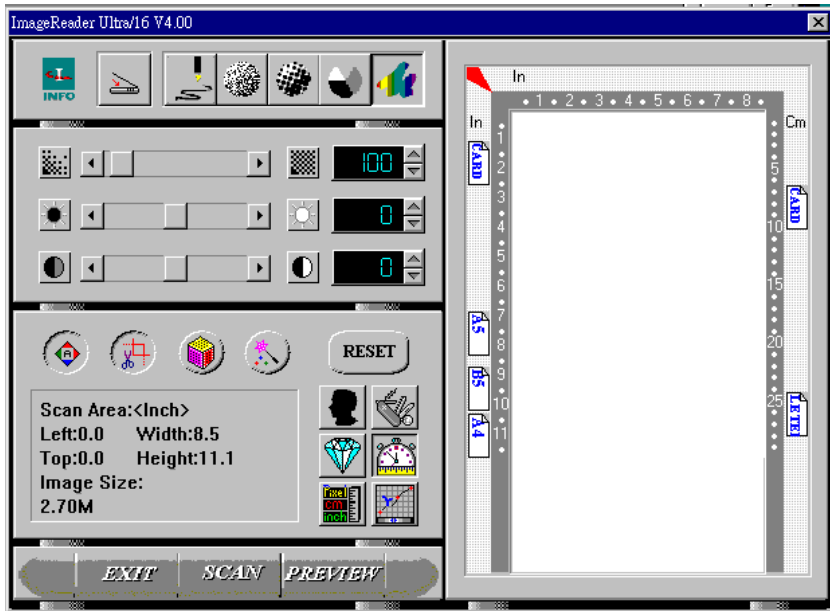
1. Open your TWAIN compliant application and choose *Select Source* from the File menu. If the *Select Source* menu options are not available from the File menu, see the user guide of your application to learn how the TWAIN link is used.
2. A dialog box appears containing the different TWAIN sources that you can choose from to bring an image into your application.
3. If you are scanning from a 16-bit application (i.e. InfoCenter Lite or ImagePals GO!) you need to select the 16-bit scanning source - ImageReader Ultra\16v4.00. If you are scanning from a 32-bit application (i.e. Adobe Photoshop) you need to select the 32-bit scanning source - ImageReader Ultra\32v4.00. Check your application manuals if you are unsure whether you are scanning from a 16 or 32 bit application.

Please note: The 32-bit source is only available under Windows 95. Windows 3.1 users should always select the 16-bit scanning source.

If the wrong source is selected you will receive a "cannot access TWAIN scanner driver" error message. Repeat steps 1-3 and select the correct source. If the problem persists, restart your computer with the correct source selected.

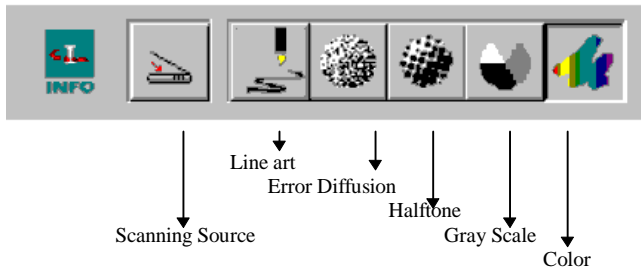
4. If you have previously selected a different source, you will need to select the ImageReader Ultra source again prior to scanning with the ImageReader Ultra scanner.
5. Place the image to be scanned face down on the glass (Fig. 2-3).
6. From the File menu, select *Acquire*.
7. FB7 TWAIN user interface will pop up on the screen. Click on the ***Preview*** (preview allows you to make adjustments to the scan area prior to final scan) or ***Scan*** button to get the image.

FB7 TWAIN user interface:



4.1 *Image Type*

FB7 provides five image types as explain in below:



Scanning Source

Two scanning sources are provided- flatbed as well as transparency.

Line art

Line art presents the image in black and white only and there are no intermediate shades of gray in between.

Halftone

In addition to the black and white display, Halftone can present the gray shades of a scanned image by varying the dot (pixel) sizes.

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)

Gray presents a 256 shades of gray in an image.

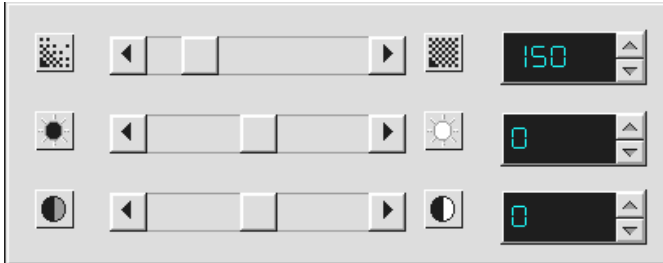
256 Color

The 10 bits color information presents 256 colors and gives more tonal range and subtlety in an image.

True Color (16.7 million colors)

The 30 bits True Color presents 16.7 million color and give much more tonal range and details in a color image.

4.2 Scanning Parameters & Image Control



Resolution: The number of dpi (dots (pixels) per square inch) that the FB7 uses for a *scan*. Generally, denser pixel coverage per square inch (higher resolution) results in sharper images. **Please note:** Scanning resolution has a direct impact on the scanned image file size - higher resolution settings result in a larger file size. Increased demands on your disk space due to high resolution settings can also slow down the scanning process. Avoid exceeding the recommended resolution settings for your scanning task (refer to the scanning software User Guide).

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.

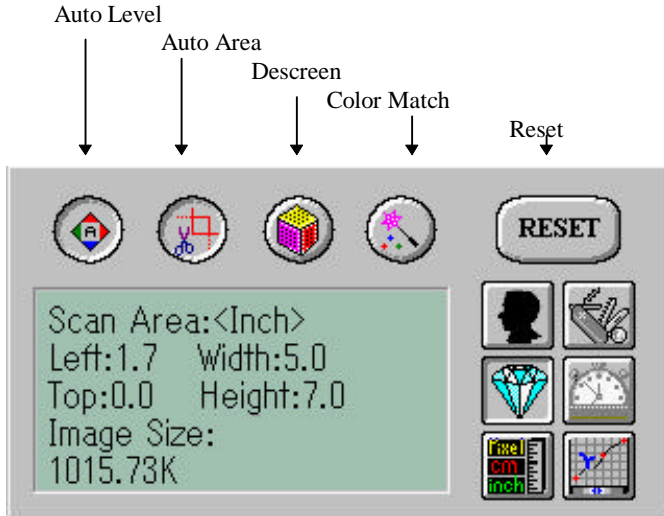


Image Information

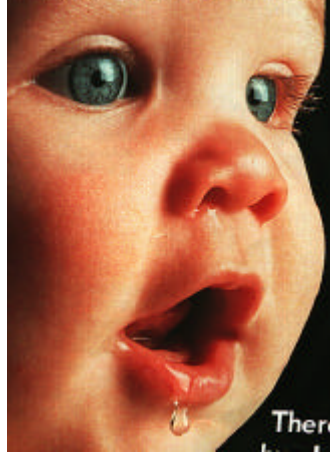
Auto Level: Optimizes the output quality of the scanned image.

Auto Area: Automatically sets the whole document as the scan area, no matter what its size.

Descreen: Eliminates the Moire patterns commonly found in printed matter (refer to figure 4-4)



Before descreen



After descreen

Figure 4-4

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

Reset: Resets the current scanning parameters to the original parameters.

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*.

Calibration: Defines *Brightness* for the scanner. Users are recommended to calibrate the light source if the scanned image looks undesirable or comes out to be too dark.

Quality/Speed Mode:

Users can select the mode to perform scanning according to their own need. Select quality mode scanning if your emphasis is on the quality of the scanned image. Or, select speed mode scanning if you want to speed up the scanning process.

Pixel/Inch/Cm:

Represents the different measuring systems to be used in each scan.

Set Gamma: Adjusts the midtone of the image without losing details of the lightest and the darkest areas at the same time.

Image Information:

Gives specific information of the previewed image.

Such as:

1. Image File size (varies according to scan settings)
2. Size of the scanning area
3. Position of the scanned image within the preview window

4.3 *Scanning*



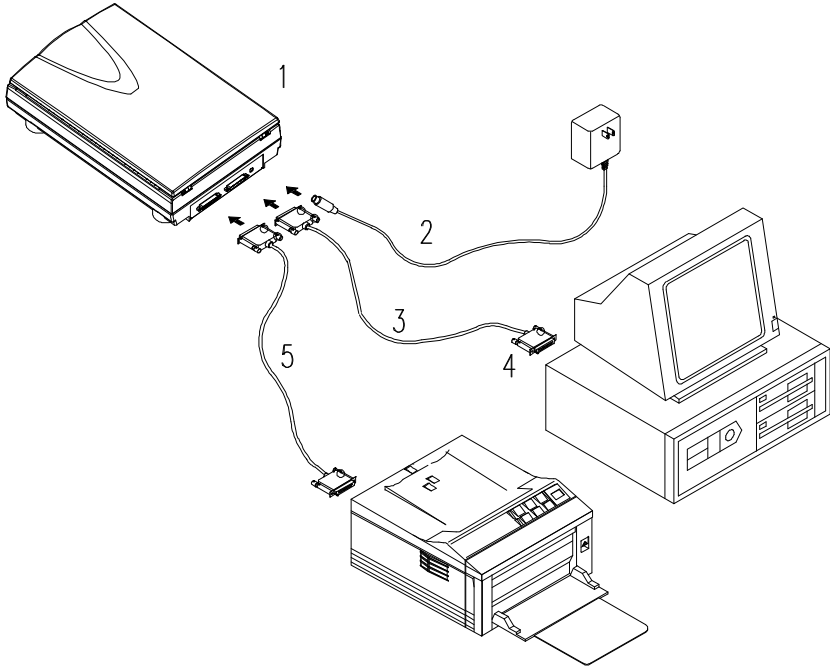
- Preview:** Previews the image to be scanned, allowing you to adjust to scan area prior to final scan.
- Scan:** Executes the final Scan.
- Exit:** Cancels the current scan job.
- Document Size:** To designate the size of your document, just click on its icon on the margin of the preview window

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



4.4 Printing

Connect the printer cable as shown below.



- | | |
|------------------|---------------------|
| 1. Scanner | 2. Power Supply |
| 3. D25P Cable | 4. PC Parallel port |
| 5. Printer Cable | |

Caution:

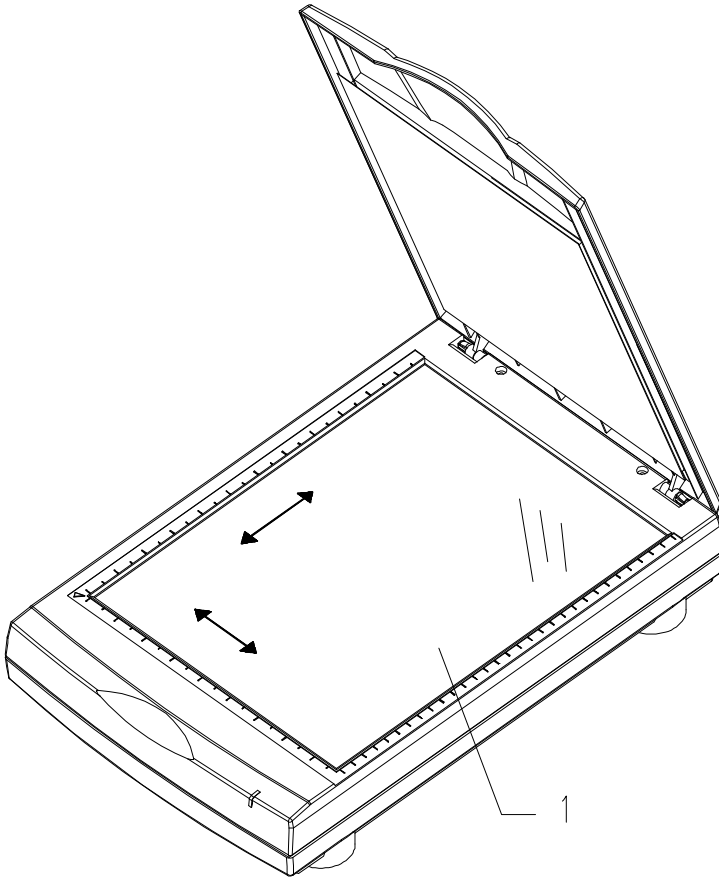
1. **Be sure to power on the scanner if you want to do pass-through printing.**

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 computer dealer or Info Peripherals, Inc. at (800) 777-3208 ext. 2534 to order an EPP interface card.

5. *Maintenance*

Clean the Document Board Glass:

As shown in Figure 5-1, wipe the scanner glass with a piece of soft clean cloth to rid the glass of dust or toner particles.



1. Document Board Glass

Figure 5-1 Clean the document board glass.

6. Troubleshooting

If you have any operational problem, please check the following troubleshooting hints.

6.1 Questions and Answers

Question: Why do I receive the error message "Scanner Test Failed" when attempting to scan?

The following steps should also be followed if your scanner connection test (described in step 3 of Quick Start Guide) is unsuccessful.

Answer 1: Verify that the correct scanning source was selected. Open "Select Source" from the File menu. If you are using a 16 bit application to scan (i.e. InfoCenter Lite) select the 16-bit scanning source (ImageReader Ultra\16v4.00) If you are scanning from a 32-bit application (i.e. Adobe Photoshop) select the 32-bit scanning source (ImageReader Ultra\32v4.00). Then attempt to scan - if the problem persists - restart your computer.

Please note: The 32-bit source is only available under Windows 95. Windows 3.1 users should always select the 16-bit scanning source.

Answer 2: Check that your scanner is connected and tightly screwed in to the computer's port

Answer 3: Check that the AC power cord is connected to the scanner and power outlet.

Answer 4: Follow instructions below to adjust your computer's BIOS printer port setting to EPP, ECP or SPP (according to what your computer supports)

Changing your BIOS Setting

The FB735 - ImageReader Ultra scanner requires that your computer is a PC System with a 486 or Pentium Processor with PCI slots, it must have a motherboard that supports EPP, ECP or SPP parallel port. EPP is recommended in order to achieve the fastest scans. After installing the scanner, you may need to change Printer Port (LPT type) in your BIOS or CMOS settings to accommodate desired (EPP, ECP or SPP) connection. Please consult your computer's hardware manual for instructions if you are unsure about how to accomplish this. **If your system does not support EPP, SPP or ECP call (800) 777-3208 ext. 2534 to order an EPP interface card.**

Caution!

Changing your BIOS or CMOS settings can render your computer system inoperable. Use caution to ensure that only the Parallel mode is changed. Please consult your computer hardware manual for instructions specific to your system.

To Change Your Parallel Port Mode Setting (in most systems):

1. Restart your computer and when in start-up mode press your delete key, this will take you to the BIOS or CMOS menu.
2. locate the Parallel Port option, it will tell you what address the parallel port is set for and the mode of the port.
3. Read your screen for instructions on how to change settings, and change your LPT setting to *EPP or ECP*.
4. Save changes and exit.

Question: Why do my scanning results seem dark?

Answer: 1) Modify the Gamma setting to 1.8 for your monitor and, when printing, set Gamma to 2.2 for your printer (refer to your monitor/printer manuals for instructions on performing gamma adjustments).

- 2) Prior to scanning, increase the Brightness setting of the TWAIN user interface.

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

Answer: Set your PC printer port to the EPP mode in your BIOS setup.

EPP is the fastest and most recommended mode to use. If you do not have this option, you may need to purchase an EPP Interface card. Call Info Peripherals at (800)777-3208 ext. 2534.

Question: How long does it take for the scanner to initialize?

Answer: If your printer port supports SPP mode only, it takes about two minutes for the scanner to initialize. If your printer port supports EPP mode, the initialization speed is much faster, about 20 seconds.

Printer Questions

Question: **What is the function of the Pass-Through Port?**

Answer: The ImageReader Ultra is conveniently equipped with a pass-through port. This port allows you to connect any other parallel port device such as a printer to the scanner so that they can share the same port from your computer.

Question: **How do I use the pass-through port?**

Answer: Connect the printer's cable to the port labeled Printer on the back of the scanner. Both the scanner and the printer are now sharing the same parallel port and can be used at any time, except in tandem.

Question: **Sometimes my pass-through printing does not work at all, why?**

Answer: Your scanner may be off. When performing pass-through printing, be sure the scanner is on (indicated by the power light on scanner front).

Question: After installing *Works for Windows*, my overall printing speed has slowed dramatically. Why?

Answer: If you have installed *Works for Windows*, it adds entries into your win.ini file for the Windows Printing System (WPS). This entry will slow your printing speed considerably. To correct the problem, perform the following adjustments:

1. Edit your win.ini file. From Windows 3.x, click File then

select Run. Type in sysedit and click OK. From Windows 95, click Start, select Run. Type in sysedit and click OK.

2. Close all windows that appear and leave the one labeled C:\windows\win.ini (The title may be different if you have windows on a different drive or different directory name. In either case you will see win.ini at the end of it)
3. Click search then find. Type in the text: MS Text Converters and click Find.
4. You should see 2 lines, one that starts with MSWorksWin. The line below it starts with Works for Dos 2.0. At the end of both lines delete the entry ,wps.
5. Now click File then Exit. When prompted to save changes, do so. After a restart of your computer, your printing should be back to normal

If you are experiencing any printer problems check the following:

- 1) **Check scanner cable connection.** Be sure the cable is plugged into the port marked Printer on the back of the scanner
- 2) **Adjust your printer spooler.** Occasionally there may be a conflict between ImageReader Ultra scanner and specific printers. An indication of this occurs when an attempt to print prompts the error message printer not found or printer not recognized (assuming your computer's BIOS or CMOS is already set to EPP). In this case, you need to adjust your printer spooler to print directly to your printer:

To modify the printer spooler:

1. Click on *START > SETTINGS > PRINTERS*.
2. Right click with your mouse on your default printer, then select *Properties* from the drop-down menu
3. Click on the *Details* tab
4. Click on the *Spool settings* button.
5. In the spool settings window select the option to *Print Directly To The Printer*.
6. Click on *OK* then *OK* once again.
7. If prompted to reboot please do so.

If the problem persists, you will need to disable the Bi-Directional printing option.

To disable the Bi-Directional printing option:

The process of disabling the bi-directional printing option is different for individual printers. Please consult your printer manual or contact the printer manufacturer for instructions specific to your printer.

Please note: Pass-through printing may pose a problem for some printers. In this case, you may need to add a second printer card to your computer for printing purposes, or you may call your local authorized computer printer dealer for further support.

6.2 *Technical Service*

Info Peripheral provides technical support free of charge for the first 90 days after purchase. To ensure the fastest possible service, please prepare the following information prior to contacting us:

- 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.
- Version of Windows (3.1x or 95)

7. *Specifications*

All specifications are subject to change without notice.

7.1 *Model: FB7*

Scanner Type:	Flatbed Scanner
Optical Resolution:	Up to 300 dpi * 600 dpi (H*V)
Maximum Resolution:	9600 dpi
Scanning Modes:	Black & White mode Halftone mode (64-step)

	Error diffusion
	10-bit gray scale
	30-bit color
Document Size	A4, B5, A5, business card
Interface:	Printer port (supports SPP/EPP for PC)
Power Source:	100Vac~240Vac, 50~60Hz, external
Power Consumption:	12 watts (12Vdc,1A)
Dimensions: (WxDxH)	399 x 260 x 73 (mm)
Weight:	2.7kg (5.96lbs)

EC Declaration of Conformity

According to EN45014

Manufacturer's Name: Info Peripherals, Inc.

Model Number : FB7

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