



Color Flatbed Scanner

User's Guide

OPTIONS
by IBM

Note: If you are using this product in the United States, Canada, or Puerto Rico, be sure to read the information under Appendix C, “Product Warranty” on page 3-5 before using this information and the product it supports.

For all other countries, the warranty terms and conditions applicable in the country of purchase are available from IBM or your reseller.

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Contents

About This Book iv

Part 1: Quick Installation Guide 1-1

Part 2: Installation Guide 2-1

Introduction	2-1	About the Scanner Utility	2-6
Product Description	2-1	Using TWAIN Control Features	2-6
Before You Begin	2-2	Using Filter Features	2-7
Installing the Scanner Hardware	2-3	Using Advanced Features	2-8
Step 1. Disconnecting Power	2-3	Scanning Hints	2-8
Step 2. Connecting the Scanner	2-3	Using Action Manager	2-9
Step 3. Connecting Power	2-3	Working With Actions	2-9
Installing the Scanner Software	2-3	Using the Action Creator	2-10
Step 1. Installing the Scanner Setup Software	2-4	Defining a Copy Action	2-10
Step 2. Installing Additional Software	2-4	Defining a Fax Action	2-11
Testing the Scanner	2-5	Defining a Scan and Save Action	2-11
Testing in Windows 95 and Windows NT	2-5	Finding Another Editor	2-12
Testing in Windows 3.X	2-5	Finding Another Graphics Program	2-12
About the Scan Button	2-5	Using Touch Free Operation	2-13
Setting Up the Scan Button	2-6	Uninstalling the Scanner Software	2-14

Caring for Your Scanner	2-14
Maintaining Your Scanner	2-14
Cleaning Your Scanner	2-14

Part 3: Appendixes 3-1

Appendix A. Troubleshooting	3-1	Appendix C. Product Warranty	3-5
Appendix B. Help and Service Information	3-3	Appendix D. Notices	3-8
Step 1: Problem Solving	3-3	Notices	3-8
Step 2: Preparing for the Call	3-3	Trademarks	3-8
Step 3: Placing the Call to IBM	3-4	Electronic Emissions Notices	3-9

About This Book

This book is divided into three parts:

- Part 1 contains quick installation instructions in the following languages:
 - English
 - Brazilian Portuguese
 - French
 - German
 - Italian
 - Spanish
- Part 2 contains more detailed information, including:
 - Color flatbed scanner description
 - Installation instructions
 - Operating instructions
 - TWAIN interface instructions
- Part 3 contains safety, troubleshooting, service, warranty, and notice information.

Note: The illustrations in this publication might be slightly different from your hardware.

Part 1: Quick Installation Guide

Part 1 contains the color flatbed scanner installation instructions in abbreviated form. For a description of the scanner and more detailed information about how to install and use the scanner, see “Part 2: Installation Guide” on page 2-1.

Before You Begin

Before installing your scanner, verify that you have received the following components:

- Color flatbed scanner (TWAIN compatible)
- Scanner cable
- Power adapter
- Scanner setup CD
- Scanner application CDs
(Windows 95 and Windows NT only)

The CDs include the following:

- Scanner setup software
- Optical character recognition (OCR) software
(Windows 95 and Windows NT only)
- Image editing software
(Windows 95 and Windows NT only)

Contact your place of purchase if parts are missing or damaged. Be sure to retain your proof of purchase. It might be required to receive warranty service.

<p>There are no serviceable parts in the scanner. Do not attempt to disassemble the scanner. Disassembly of the scanner voids user warranty.</p>
--

Installation Requirements

Before you begin installing the scanner, be sure your system meets the following requirements:

Hardware Requirements

- IBM Personal Computer or compatible computer
- 80486 processor (or later version)
- Windows 3.1 (or later)
- 16 MB RAM
- CD-ROM drive

Software Requirements

Installation and application instructions are written for the following operating systems:

- Microsoft Windows 3.X
- Windows 95
- Windows NT

The color flatbed scanner uses an enhanced parallel port (EPP). It also functions with a standard printer port (SPP) interface that supports bidirectional communication, but its performance will be much slower. The scanner does not function properly with an SPP port that is not bidirectional. If your computer printer port does not support EPP, consider purchasing an interface card that supports EPP technology to maximize the scanner's performance. An EPP interface card can be purchased from any local computer hardware store. See the user's guide that came with your computer to determine if your system supports EPP or SPP technology.

Installing the Scanner Hardware

Step 1. Disconnecting Power

1. Turn off the computer and all attached peripherals.
2. Disconnect the power cords from the computer and all attached peripherals.

Step 2. Connecting the Scanner

If you have a printer connected to your computer:

1. Disconnect the printer cable from the computer printer port.
2. Plug the scanner cable into the computer printer port and the rear of the scanner (computer icon).
Note: If your computer has more than one printer port, plug the scanner into the enhanced parallel port (EPP).
3. Plug the printer cable into the rear of the scanner (printer icon).

If you do not have a printer connected to your computer, plug the scanner cable into the computer printer port and the rear of the scanner (printer icon).

Note: If your computer has more than one printer port, plug the scanner into the enhanced parallel port (EPP).

Step 3. Connecting Power

1. Reconnect the power cords to the computer and all its peripherals.
2. Plug the power adapter into the rear of the scanner.
3. Plug the power adapter power cord into an ac power outlet.
4. Turn on the computer and start Windows.

Step 4. Installing the Scanner Software

The scanner must be connected to your computer before you can install the software. Before installing the scanner software, make sure that the scanner is properly connected as described in “Installing the Scanner Hardware” on page 1-2.

Note: The setup program on the setup CD must be run from within Microsoft Windows.

Windows 95 and Windows NT:

1. Close all open applications.
2. Insert the color flatbed scanner setup CD into the appropriate drive.
3. Click on START and select RUN.
(If Autorun is enabled, steps 3 and 4 will not be necessary.)
4. Type the letter of the drive, a colon and SETUP (such as, E:SETUP), then press ENTER.
5. Follow the onscreen instructions carefully to properly install the scanner software.
6. After the scanner setup software is installed, restart the computer.

7. Install the software applications. Follow the installation instructions provided with each application.

When prompted during the software installation, select TWAIN as your scanner driver and IBM Flatbed Scanner-32 as your source.

Windows 3.X:

The scanner must be connected to your computer before you can install the software.

1. Close all open applications.
2. Insert the color flatbed scanner setup CD into the appropriate drive.
3. From Program Manager, choose FILE and RUN.
4. Type the letter of the drive, a colon and SETUP (such as, E:SETUP), then press ENTER.
5. Follow the onscreen instructions carefully to properly install the scanner software.
6. After the scanner setup software is installed, restart the computer.
7. Go to “Using Action Manager” on page 2-9 for instructions on how to use Action Manager.

Step 5. Testing the Scanner

Windows 95 and Windows NT:

1. Start Windows.
2. Press the Scan Button located on the front of the scanner to enable the scanner software. This button turns on the scanning lamp and accesses the scanner software.

If the scanner software does not pop-up:

- a. Click on Start and enter the PROGRAMS folder.
 - b. Select the scanner application folder.
 - c. Select SCAN TOOL.
3. Place a color picture on the scanning window and close the document cover.
 4. Click on the Scan button.

The scanner will start up and scan the document to your image-editing program. The scanner LED should blink during scanning. If the test fails, see Appendix A, "Troubleshooting" on page 3-1.

5. See the documentation that came with your applications for information about how to edit scanner images.

Windows 3.X:

1. Start Windows.
2. Press the Scan Button located on the front of the scanner to enable the scanner software. This button turns on the scanning lamp and accesses the scanner software.
If the scanner software does not pop-up:
 - a. Enter the scanner program group and double-click on Action Manager.
3. Place a color picture on the scanning window and close the document cover.
4. Double-click on the Scan & Save action.

The scanner will start up and scan the document to your Paintbrush program. The scanner LED should blink during scanning. If the test fails, see Appendix A, "Troubleshooting" on page 3-1.

5. Go to "Using Action Manager" on page 2-9 for information about how to edit scanner images.

Part 2: Installation Guide

Introduction

Product Description

The Color Flatbed Scanner is a data-entry system for entering text and graphics into your computer without using the keyboard.

The scanner has the following features:

- Contains optical character recognition (OCR) capabilities (Windows 95 and Windows NT only)
- Contains a cold cathode lamp for quality images and long-lasting operation
- Contains an image editor for quality image editing (Windows 95 and Windows NT only)
- Contains a pass-through printer port so that the scanner and printer operate off the same port on your computer
- Reproduces images in red-green-blue (RGB) color and grayscale
- Reproduces high-quality half-tone art
- Supports enhanced parallel port (EPP) technology
- Conforms to the TWAIN scanner interface standard

You can also use the scanner optical character recognition (OCR) capability to convert printed text into electronic files for easy editing.

Before You Begin

Before installing your scanner, verify that you have received the following components:

- Color flatbed scanner (TWAIN compatible)
- Scanner cable
- Power adapter
- Scanner setup CD
- Scanner application CDs
(Windows 95 and Windows NT only)

The CDs include the following:

- Scanner setup software
- Optical character recognition (OCR) software
(Windows 95 and Windows NT only)
- Image editing software
(Windows 95 and Windows NT only)

Contact your place of purchase if parts are missing or damaged. Be sure to retain your proof of purchase. It might be required to receive warranty service.

There are no serviceable parts in the scanner. Do not attempt to disassemble the scanner. Disassembly of the scanner voids user warranty.

Installation Requirements

Before you begin installing the scanner, be sure your system meets the following requirements:

Hardware Requirements

- IBM Personal Computer or compatible computer
- 80486 processor (or later version)
- Windows 3.1 (or later)
- 16 MB RAM
- CD-ROM drive

Software Requirements

Installation and application instructions are written for the following operating systems:

- Microsoft Windows 3.X
- Windows 95
- Windows NT

The color flatbed scanner uses an enhanced parallel port (EPP). It also functions with a standard printer port (SPP) interface that supports bidirectional communication, but its performance will be much slower. The scanner does not function properly with an SPP port that is not bidirectional. If your computer printer port does not support EPP, consider purchasing an interface card that supports EPP technology to maximize the scanner's performance. An EPP interface card can be purchased from any local computer hardware store. See the user's guide that came with your computer to determine if your system supports EPP or SPP technology.

Installing the Scanner Hardware

Step 1. Disconnecting Power

1. Turn off the computer and all attached peripherals.
2. Disconnect the power cords from the computer and all attached peripherals.

Step 2. Connecting the Scanner

If you have a printer connected to your computer:

1. Disconnect the printer cable from the computer printer port.
2. Plug the scanner cable into the computer printer port and the rear of the scanner (computer icon).
Note: If your computer has more than one printer port, plug the scanner into the enhanced parallel port (EPP).
3. Plug the printer cable into the rear of the scanner (printer icon).

If you do not have a printer connected to your computer, plug the scanner cable into the computer printer port and the rear of the scanner (computer icon).

Note: If your computer has more than one printer port, plug the scanner into the enhanced parallel port (EPP).

Step 3. Connecting Power

1. Reconnect the power cords to the computer and all its peripherals.
2. Plug the power adapter into the rear of the scanner.
3. Plug the power adapter power cord into an ac power outlet.
4. Turn on the computer and start Windows.

Installing the Scanner Software

The scanner must be connected to your computer before you can install the software. Before installing the scanner software, make sure that the scanner is properly connected as described in “Installing the Scanner Hardware.”

Note: The setup program on the setup CD must be run from within Microsoft Windows.

The software setup program on the setup CD:

- Copies the software files to a directory you select
- Creates a program group named Action Manager in Windows Program Manager (Windows 3.X only)

Step 1. Installing the Scanner Setup Software

Windows 95 and Windows NT:

The scanner must be connected to your computer before you can install the software.

1. Close all open applications.
2. Insert the color flatbed scanner setup CD into the appropriate drive.
3. Click on **START** and select **RUN**.
(If Autorun is enabled, steps **3** and **4** will not be necessary.)
4. Type the letter of the drive, a colon and **SETUP** (such as, **E:SETUP**), then press **ENTER**.
5. Follow the onscreen instructions carefully to properly install the scanner software.
6. After the scanner setup software is installed, restart the computer.
7. Install the software applications. Follow the installation instructions provided with each application.

When prompted during the software installation, select **TWAIN** as your scanner driver and **IBM Flatbed Scanner-32** as your source.

Windows 3.X:

The scanner must be connected to your computer before you can install the software.

1. Close all open applications.
2. Insert the color flatbed scanner setup CD into the appropriate drive.
3. From Program Manager, choose **FILE** and **RUN**.
4. Type the letter of the drive, a colon and **SETUP** (such as, **E:SETUP**), then press **ENTER**.
5. Follow the onscreen instructions carefully to properly install the scanner software.
6. After the scanner setup software is installed, restart the computer.
7. Go to "Using Action Manager" on page 2-9 for instructions on how to use Action Manager.

Step 2. Installing Additional Software

Your scanner is TWAIN compliant and functions with most available TWAIN-compatible scanning software. Make sure that any new software you may purchase for your scanner conforms to the TWAIN standard. Follow the installation instructions that came with the software application.

Note: Any software not provided with your scanner is not supported by IBM. Refer to the manufacturer of the software for assistance with configuring the software to work with the scanner.

Testing the Scanner

Testing in Windows 95 and Windows NT

1. Start Windows.
2. Press the Scan Button located on the front of the scanner to enable the scanner software. This button turns on the scanning lamp and accesses the scanner software.
If the scanner software does not pop-up:

- a. Click on Start and enter the PROGRAMS folder.
- b. Select the scanner application folder.
- c. Select SCAN TOOL.

3. Place a color picture on the scanning window and close the document cover.
4. Click on the Scan button.

The scanner will start up and scan the document to your image-editing program. The scanner LED should blink during scanning. If the test fails, see Appendix A, "Troubleshooting" on page 3-1.

5. See the documentation that came with your applications for information about how to edit scanner images.

Testing in Windows 3.X

1. Start Windows.
2. Press the Scan Button located on the front of the scanner to enable the scanner software. This button turns on the scanning lamp and accesses the scanner software.
If the scanner software does not pop-up:
 - a. Enter the scanner program group and double-click on Action Manager.
3. Place a color picture on the scanning window and close the document cover.
4. Double-click on the Scan & Save action.
The scanner will start up and scan the document to your Paintbrush program. The scanner LED should blink during scanning. If the test fails, see Appendix A, "Troubleshooting" on page 3-1.
5. Go to "Using Action Manager" on page 2-9 for information about how to edit scanner images.

About the Scan Button

The scan button, located on the front of your scanner, has two functions. This button turns on the scanning lamp and opens an application without you having to enter the Windows Start menu. Pressing the scan button is the quickest and easiest way to prepare the scanner for use.

Setting Up the Scan Button

Note: *Setting Up the Scan Button* only applies to Windows 95 and Windows NT users.

The scanner software enables you to determine which program the scan button opens. The application you choose will depend on your scanning needs.

Once you have installed your software, you will have two new icons on the Windows desktop: Scan Button Setup and Scan Button. The Setup Button dialog enables you to associate an application to the scan button. Once an application is defined, you press the scan button, (or double-click on the Scan Button icon), to open the associated application.

To create an association to the scan button:

1. Double-click on the Scan Button Setup icon to open the Setup Button dialog box.
2. Select the Program Group from the Group list box. The program group's applications will display within the Item field.
3. Click on the application that you want associated with the scan button.
4. Click on OK.

You are now ready to open an application using the scan button, or by double-clicking on the Scan Button icon. To change an association, repeat this procedure.

About the Scanner Utility

The Scanner Utility allows I/O verification and scanner lamp control. The I/O verification feature allows verification of the I/O port type, (EPP or SPP), and the I/O port address. Lamp control enables you to program the lamp to remain on or be set to turn off after a predetermined amount of time.

Note: The scanner lamp can always be turned off/on by pressing the scan button.

Using TWAIN Control Features

The TWAIN interface enables you to edit image attributes, such as, the scan mode, resolution (dots per inch), and scale, before scanning. Image-editing offers many ways to enhance and process your images using colors, paint techniques, and special effects. See the documentation that came with your application for specific instructions on how to use these features.

Note: Your scanner comes with 32-bit applications for Windows 95 and Windows NT, and a 16-bit application for Windows 3.X. The 32-bit applications are not compatible with Windows 3.X; however, if you are using a 16-bit scanning application inside Windows 95, you must select the 16-bit TWAIN source for your scanner to function properly.

Scan Mode

There are three scan modes: RGB color, grayscale, and line-art. The RGB color mode captures detailed color during scanning. This mode is the best choice for scanning pictures and documents that contain detailed color and graphics.

The grayscale mode captures more than two gray values during scanning. This is useful when scanning documents that contain photographs or detailed pictures.

The line-art mode captures only 2 values (black and white). This is useful for documents created with a laserjet, inkjet, or bubblejet printer (no photographs or other images).

Resolution

Resolution refers to how many dots per inch (dpi) or pixels are scanned. The greater the resolution value, the clearer the image. A grayscale image scanned at a resolution of 150 will be clearer than one scanned at a resolution of 100. For a listing of what resolutions you should use with each mode, see “Scanning Hints” on page 2-8.

Scale

Scale adjusts the size of scanned images. Use the scale control to preadjust the size of the image before saving it.

Brightness

Brightness adjusts the amount of light that is concentrated into a scanned document.

Contrast

Contrast adjusts the tonal range of an image by lowering mid-tone values and increasing values for high and low tones. Use contrast to adjust the shading on your scanned images.

Inverse

The Inverse control reverses the colors of an entire image, or portions of an image. When inversed, a black-and-white image looks like a photo negative.

Using Filter Features

Note: Filter features are only available in the 32-bit applications for Windows 95 and Windows NT.

Filters improve your scans by sharpening images and removing excessive dots and distortion. The filter menu items are:

Average

The Average filter determines the medium depth of an image, and averages adjacent pixels to make images appear softer.

Blur and Blur More

The Blur filters enable you to dull the edges within an image, and decrease the contrast by making dark edges lighter and light edges darker.

Sharpen and Sharpen More

The Sharpen filters enable you to sharpen the edges within an image by making the edges in the image more distinct. It also increases contrast by making dark edges darker and surrounding light edges lighter.

Descreen

The Descreen filter applies filtering to images that contain moiré patterns (or herringbone). A moiré pattern is created from scanning pictures in magazines or printed material that use color dithering. Leave the Descreen option checked at all times.

Using Advanced Features

Note: Advanced features are only available in the 32-bit applications for Windows 95 and Windows NT.

The advanced menu items are for user's familiar with image-editing tools and how they affect images. These menu items are:

Enhance

Enhance pops-up TWAIN's color correction options. These options adjust the color level of your scanned images. These options are:

Histogram

Histogram is a representation of statistical data by rectangles: widths represent class intervals and heights represent similar frequencies.

Tone Map

Tone Map modifies the tonal range and adjusts highlight, midtone, and shadow areas of an image. Use this option to determine if a dark or light image has any detail that can be uncovered or enhanced.

Gamma Data

Gamma values follow a smooth curve. By adjusting the gamma, you change the tonal range of the selected channel (color). Gamma values are primarily a measure of a channel's brightness.

Channels

Each image represents one of 3 additive colors (red, green, and blue). The Channels option splits a color image into individual hue, saturation, and lightness channels.

Preferences

The Preferences option changes the unit of measure from standard to metric, or from metric to English.

Monitor Gamma

The Monitor Gamma option helps you correctly adjust the RGB hue settings on your monitor so that the image on your screen matches the image that is printed.

Scanning Hints

B/W & Grayscale Scanning

When scanning B/W images, match the dpi to the resolution of your printer, or scanner. For example, if you have a 300-dpi scanner, set the resolution to 300. If you have a 600-dpi printer, set the scanning resolution to 600. When scanning in grayscale, set the resolution to 150.

Color Scanning

Scanning in color takes up a lot of disk space; therefore, when

experimenting with color images, use a resolution between 75 and 100 dpi to conserve hard disk space.

For Additional Help

There is a directory under the HELP menu, that contains complete information about all of your image-editing program's functions. Use it to guide you through any questions you may have.

Using Action Manager

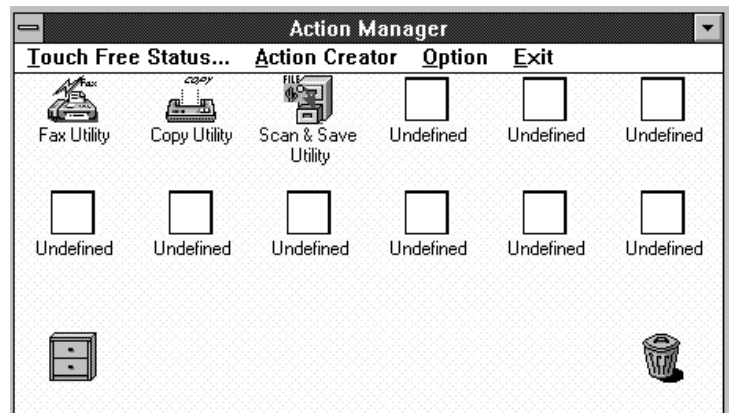
This section describes how to define an action, change an action, and activate an action using Action Manager in Windows 3.X. An action is an operation that is performed by the scanner.

Working With Actions

There are 12 definable icons on the Action Manager screen. Your scanner comes with the Fax Utility, Copy Utility, and Scan & Save Utility icons already defined. You can use the actions as they are defined, change them, or add new actions to adapt the scanner to your needs.

Activating Actions

1. If the Action Manager is not active, double-click on Action Manager.
2. Double-click on the desired action.
3. Follow the instructions on the screen.

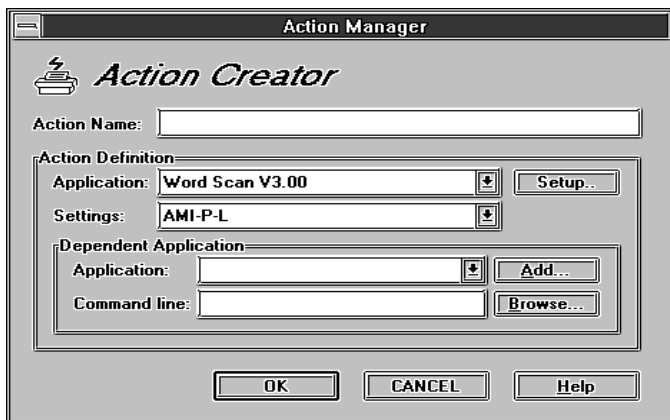


Note: All options available from the Action Manager screen have extensive help information. Use the Help screens if you have questions or problems.

Using the Action Creator

The Action Creator defines or changes actions on the Action Manager screen. The available actions are:

- Copy a document to a printer
- Fax a document (for computers with fax modems)
- Scan and Save a document



Defining a Copy Action

Use the Copy action to print documents on any printer that works with Windows. When you select Copy, you can use the screen that displays to enter or change your printer information.

Use this procedure to define or change a Copy action.

1. Use the right mouse button to select an action or an undefined icon from the Action Manager screen. The Action Creator screen displays.
2. Type a description for your Copy action in the Action Name field.
3. Select **Copy Utility** from the Application list box.
4. Go to the Settings list box and select a copy type.
5. Select **Setup**.
 - a. Verify or change the zoom setting, number of copies, center on page, and sheet status fields.
6. Select **Advanced**. Use this screen to verify or change the scan mode, brightness, contrast, inverse image, and printer information.
7. Click on OK.

Note: If you have problems or questions, select **Help** for more information about the Copy action.

Defining a Fax Action

If your computer has fax capability, you can use your scanner to fax documents.

Use this procedure to define or change a fax action.

1. Use the right mouse button to select an action or an undefined icon from the Action Manager screen. The Action Creator screen displays.
2. Type a brief description for your fax action in the Action Name field.
3. Select **Fax Utility** from the Application list box.
4. Go to the Settings list box and select a text type from the list.
5. Select **Setup**.
 - a. Verify or change the page-is and sheet-status fields.
6. Select **Advanced**.
 - a. Verify or change the brightness, contrast, and printer fields.
7. Click on OK.

Note: If you have problems or questions, select **Help** for more information about the fax action.

Defining a Scan and Save Action

Use the Scan and Save action to record a document in a file and associate it with your graphics program.



Use this procedure to define or change a Scan and Save action.

1. Use the right mouse button to select an action or an undefined icon from the Action Manager screen. The Action Creator screen displays.
2. Type a description in the Action Name field.
3. Go to the Action Definition section and Select **Scan & Save Utility** from the Application list box.
4. Select **Setup**.

- a. Verify or change the scan mode, brightness, contrast, resolution, disposition, and document type information on the Scan & Save screen.
5. Select a scan type from the Settings list box.
6. Select a graphics program from the Dependent Application section. For example, if you are using Paintbrush, select **Windows Paintbrush**.
 - a. Verify that the Command line shows the correct graphics program. For example, if you are using Paintbrush, the Command line is PBRUSH.EXE.

If the Command line is incorrect, type the correct information or select **Browse** to find the disk drive, directory, and graphics program name in your system files.
7. Click on OK.

Finding Another Editor

If the editor program you want to use is not in the Dependent Application list box, select **Add** on the Action Creator screen to supply the disk drive, directory, and editor program name. For example, to find *WINWORD.EXE* in directory *WINWORD* on disk drive *C* and name it *Word*:

1. Select **Add**. The Add screen displays.
2. Select the directory, drive, and file name.
3. Type **Word** in the Application name field.

4. Click on OK.
 - a. Verify that the Dependent Application section shows the correct Application and Command line information. The application name is Word and the Command line is:

C:\WINWORD\WINWORD.EXE
5. Select **Setup** to complete the setup information that associates scanned documents with your editor.
6. Click on OK.

Finding Another Graphics Program

If the graphics program you want to use is not in the Dependent Application list box, select **Add** on the Action Creator screen to supply the disk drive, directory, and graphics program name. For example, to find PBRUSH.EXE in the **Scanner** directory on disk drive *C* and name it Windows Paintbrush:

1. Select **Add**. The Add screen displays.
2. Select the directory, drive, and file name.
3. Type **Windows Paintbrush** in the Application name field.
4. Click on OK.
 - a. Verify that the Dependent Application section shows the correct Application and Command line information. The application is Windows Paintbrush and the Command line is:

C:\SCANNER\PBRUSH.EXE

5. Click on OK.

Note: If you have problems or questions, select **Help** for more information about the Scan and Save action.



Using Touch Free Operation

Use the Touch Free Status option to define an action to start automatically when you press the scan button.



Use this procedure to define a Touch Free Status option.

1. If the Action Manager is not active, use the left mouse button to select **Action Manager** from the Windows Program Manager screen.
2. Select **Touch Free Status** from the Action Manager screen. The Touch Free Status screen displays.
3. Select an action from the Action list box.

4. Set the Time Delay. This is the amount of time before the defined touch free action starts.

5. Click on OK.

Note: The Touch Free Status is saved until you reset it. This means that each time you press the scan button, the default action is performed unless you select another action before the Time Delay expires.

Uninstalling the Scanner Software

The scanner setup CD and each of the applications come with an uninstall feature that will remove all installed software. If you remove the scanner from your system, uninstall the software to save hard disk space. Close all applications before executing the uninstall program.

Note: All images stored in the application directory will be deleted. Before uninstalling the scanner software, move all images to another directory.

Caring for Your Scanner

Maintaining Your Scanner

Review the following scanner maintenance tips.

- Keep dust away from your scanner.
- Keep your scanner covered when not in use. Dust particles and other foreign objects may damage the unit.
- There are no serviceable parts in the scanner. Do not attempt to disassemble the scanner. Disassembly of the scanner voids user warranty.
- Do not subject the scanner to excessive vibration.
- Operate your scanner in temperatures between 10° to 40°C (50° to 104°F).

Cleaning Your Scanner

Clean the scanner by lightly spraying a nonabrasive glass cleaner on the scanning window. Be sure to wipe up all excess liquid before scanning. Use a nonabrasive cleaner to remove any dust or grease from the scanner exterior.

Part 3: Appendixes

Appendix A. Troubleshooting

Try the following for problems specific to the scanner.

Symptom	Solution
No scanner power	Check for proper attachment of the scanner and the scanner cables.
Scanner does not respond	<ul style="list-style-type: none"> Reset the computer (turn it off and on). Enter the Scanner Utility to verify your printer port settings.
Poor quality scan image on your screen	Check the Windows display setting. The standard display supports 16 colors. If you need more colors, install a video driver.
Vertical lines in the scan image	Clean the scanning glass and recheck the image.
The image is too dark or too light	Check the contrast and brightness settings on the TWAIN driver. Normally both contrast and brightness are set to fifty.
The scanned image is solid black	Check the software brightness adjustment.

Symptom	Solution
No scan image on the monitor	Check the power and attachment cables.
Scanner scans very slowly.	<ul style="list-style-type: none"> Make sure the resolution of the scanner is not set too high. A range between 75-200 should work fine. Set the Parallel Port Mode inside computer's BIOS to EPP (enhanced parallel port).
Cannot print to printer	<ul style="list-style-type: none"> Check that the printer cable is properly secured to the printer and scanner. Make sure printer is turned on. Turn off the computer and the printer. Make sure that the scanner is plugged into a constant power source (leave scanner on at all times). Turn the computer on and enter Windows. Once inside Windows turn on the printer and try printing a document.
Scanner does not respond	Reset the computer (turn it off and on).

Table 1 (Page 2 of 2). Scanner Problem Solving Tips

Symptom	Solution
Scanner does not emit any light.	Unplug the power cable from the rear of the scanner and open the scanner lid. Looking at the front of the scanner while the lid is open plug the power cable back into the scanner. If the light turns on and off quickly, the scanner is working properly.
Only distorted output prints.	Purchase a shorter printer cable and try it. Sometimes when information has to travel a long distance it becomes distorted. Shortening the printer's cable can decrease the possibility of information becoming damaged.
Unable to find scanner	Check your computer's parallel port to see if it's an EPP by entering computer's BIOS. If the parallel port mode is set at ECP or SPP, change to EPP. Save and exit BIOS and run Windows. Enter the Scanner Utility and click the proper address and EPP. Choose Verify Port. If your computer does not support EPP, please purchase an EPP port.
The computer's mouse, keyboard, or floppy drive do not work.	<ul style="list-style-type: none"> Upgrade printer port, or controller card to an EPP interface. Enter BIOS and change the printer port to EPP and its address to 278, or 378.

Table 1 (Page 2 of 2). Scanner Problem Solving Tips

Symptom	Solution
Action Manager does not pop-up after pressing the scanner access button. (Windows 3.X)	<ul style="list-style-type: none"> If you have a printer connected to the scanner, it can cause the Action Manager access button not to work. Disconnect printer cable from scanner and press access button. Make sure Action Manager is open. To open Action Manager, enter the Scanner Program Group and click on the Action Manager icon.
Cannot scan to application software	<ul style="list-style-type: none"> Look at the Scanner Setup option inside of the application and make sure the correct scanner is chosen. Check all connections and make sure they're secure and correct.
The scanner light source stays on all the time.	The scanner light source is designed to stay on all the time. To turn off the scanner light, enter the Scanner Utility and choose Lamp Control.

Appendix B. ***Help and Service Information***

During the warranty period, you can get toll-free technical support 24 hours a day, 7 days a week, to answer any questions about your new IBM option. If you need warranty service, return or exchange is available. In addition, if your IBM option is installed in an IBM computer, you might be entitled to service at your location. Your technical support representative can help you determine the best alternative.

Before calling, please prepare for your call by following these steps.

CAUTION: To avoid electrical shock, unplug your computer and all attached devices from electrical outlets before performing any troubleshooting procedure.

ATTENTION: Pour éviter tout risque de choc électrique, débranchez le cordon d'alimentation de votre ordinateur et de toute autre unité avant d'exécuter des procédures de dépannage.

Step 1: Problem Solving

You might be able to solve the problem yourself. Before calling IBM, you might want to try some or all of the following troubleshooting procedures.

1. Remove and reattach all option cables.
2. Remove and reseat the option.
3. Place the option in a different slot, if one is available.
4. If your option contains jumpers or switches, check that they are set as specified.
5. Reread any software instructions; be sure software settings are correct.
6. Inspect the option for damage, such as bent pins.
7. Check the computer manual for instructions about the installation of upgrades. Look for a section about system setup or system configuration. Follow all procedures.
8. After completing these steps, reassemble the computer and connect the power cord.

Step 2: Preparing for the Call

To assist the technical support representative, have available as much of the following information as possible:

1. Option name: color flatbed scanner
2. Option number: 04K0061
3. Proof of purchase
4. Computer manufacturer, model, serial number (if IBM), and manual
5. Exact wording of the error message (if any)

6. Description of the problem
7. Hardware and software configuration information for your system

If possible, be at your computer. Your technical support representative might want to walk you through the problem during the call.

Step 3: Placing the Call to IBM

Technical support is available during the warranty period to answer any questions about your new IBM option. Response time will vary depending on the number and nature of calls received. Marketing, installation, and configuration support will be withdrawn from the PC Company HelpCenter 90 days after the option has been withdrawn from marketing.

If you call 90 days or more after the date of withdrawal or after your warranty has expired, you might be charged a fee.

For the support telephone number and support hours by country, refer to the following table or to the enclosed technical support insert. If the number is not provided, contact your IBM reseller or IBM marketing representative.

<i>Support 24 hours a day, 7 days a week</i>	
Canada	1-800-565-3344
Puerto Rico	1-800-772-2227
United States	1-800-772-2227

Additional Technical Support Resources

Online technical support is available during the life of your product. Online assistance can be obtained through the IBM PC Company Automated Fax System, the PC Company Web page, and the PC Company Electronic Bulletin Board System.

<i>Online Technical Support</i>	
IBM PC Company Web Page	www.us.pc.ibm.com
IBM PC Company BBS	1-919-517-0001
IBM PC Company Automated Fax System	1-800-426-3395

Appendix C. Product Warranty

The following warranty information applies to products purchased in the United States, Canada, and Puerto Rico. For warranty terms and conditions for products purchased in other countries, see the enclosed Warranty insert, or contact your IBM reseller or IBM marketing representative.

International Business Machines Corporation

Armonk, New York, 10504

Statement of Limited Warranty

The warranties provided by IBM in this Statement of Limited Warranty apply only to Machines you originally purchase for your use, and not for resale, from IBM or your reseller. The term "Machine" means an IBM machine, its features, conversions, upgrades, elements, or accessories, or any combination of them. Unless IBM specifies otherwise, the following warranties apply only in the country where you acquire the Machine. If you have any questions, contact IBM or your reseller.

Machine: Color Flatbed Scanner

Warranty Period*: One Year

**Contact your place of purchase for warranty service information.*

Production Status

Each Machine is manufactured from new parts, or new and used parts. In some cases, the Machine may not be new and may have been previously installed. Regardless of the Machine's production status, IBM's warranty terms apply.

The IBM Warranty for Machines

IBM warrants that each Machine 1) is free from defects in materials and workmanship and 2) conforms to IBM's Official Published Specifications. The warranty period for a Machine is a specified, fixed period commencing on its Date of Installation. The date on your receipt is the Date of Installation, unless IBM or your reseller informs you otherwise.

During the warranty period IBM or your reseller, if authorized by IBM, will provide warranty service under the type of service designated for the Machine and will manage and install engineering changes that apply to the Machine.

For IBM or your reseller to provide warranty service for a feature, conversion, or upgrade, IBM or your reseller may require that the Machine on which it is installed be 1) for certain Machines, the designated, serial-numbered Machine and 2) at an engineering-change level compatible with the feature, conversion, or upgrade. Many of these transactions involve the removal of parts and their return to IBM. You represent that all removed parts are genuine and unaltered. A part that replaces a removed part will assume the warranty service status of the replaced part.

If a Machine does not function as warranted during the warranty period, IBM or your reseller will repair it or replace it with one that is at least functionally equivalent, without charge. The replacement may not be new, but will be in good working order. If IBM or your reseller is unable to repair or replace the Machine, you may return it to your place of purchase and your money will be refunded.

If you transfer a Machine to another user, warranty service is available to that user for the remainder of the warranty period. You should give your proof of purchase and this Statement to that user. However, for Machines which have a life-time warranty, this warranty is not transferable.

Warranty Service

To obtain warranty service for the Machine, you should contact your reseller or call IBM. In the United States, call IBM at **1-800-772-2227**. In Canada, call IBM at **1-800-565-3344**. You may be required to present proof of purchase.

IBM or your reseller will provide certain types of repair and exchange service, either at your location or at IBM's or your reseller's service center, to restore a Machine to good working order.

When a type of service involves the exchange of a Machine or part, the item IBM or your reseller replaces becomes its property and the replacement becomes yours. You represent that all removed items are genuine and unaltered. The replacement may not be new, but will be in good working order and at least functionally equivalent to the item replaced. The replacement assumes the warranty service status of the replaced item. Before IBM or your reseller exchanges a Machine or part, you agree to remove all features, parts, options, alterations, and attachments not under warranty service. You also agree to ensure that the Machine is free of any legal obligations or restrictions that prevent its exchange.

You agree to:

1. obtain authorization from the owner to have IBM or your reseller service a Machine that you do not own; and
2. where applicable, before service is provided —
 - a. follow the problem determination, problem analysis, and service request procedures that IBM or your reseller provide,
 - b. secure all programs, data, and funds contained in a Machine, and
 - c. inform IBM or your reseller of changes in a Machine's location.

IBM is responsible for loss of, or damage to, your Machine while it is 1) in IBM's possession or 2) in transit in those cases where IBM is responsible for the transportation charges.

Extent of Warranty

IBM does not warrant uninterrupted or error-free operation of a Machine.

The warranties may be voided by misuse, accident, modification, unsuitable physical or operating environment, improper maintenance by you, removal or alteration of Machine or parts identification labels, or failure caused by a product for which IBM is not responsible.

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2. the amount of any other actual direct damages or loss, up to the greater of U.S. \$100,000 or the charges (if recurring, 12 months' charges apply) for the Machine that is the subject of the claim.

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Appendix D. ***Notices***

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Electronic Emissions Notices

Color Flatbed Scanner

Federal Communications Commission (FCC) Statement

Note: 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 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 an IBM authorized dealer or service representative for help.

IBM is not responsible for any radio or television interference caused by unauthorized changes or modifications to this equipment. Unauthorized changes or modifications could void the user's authority to operate the equipment.

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.

Responsible Party:

Plustek USA, Inc.
1362 Bordeaux Drive
Sunnyvale, CA 94089
Telephone: 1-408-745-7111

Industry Canada Class B Emission Compliance Statement

This Class B digital apparatus meets the requirements of the Canadian Interference-Causing Equipment Regulations.

Avis de conformité à la réglementation d'Industrie Canada

Cet appareil numérique de la classe B respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

Deutsche EMV-Direktive (electromagnetische Verträglichkeit)

Dieses Gerät ist berechtigt in Übereinstimmung mit dem deutschen EMVG vom 9.Nov.92 das EG-Konformitätszeichen zu führen.

Der Aussteller der Konformitätserklärung ist die IBM UK, Greenock.

Dieses Gerät erfüllt die Bedingungen der EN 55022 Klasse B.

European Union - Emission Directive

This product is in conformity with the protection requirements of EU Council Directive 89/366/ECC on the approximation of the laws of the Member States relating to electromagnetic compatibility.

IBM can not accept responsibility for any failure to satisfy the protection requirements resulting from a non-recommended modification of the product, including the fitting of non-IBM option cards.

This product has been tested and found to comply with the limits for Class B Information Technology Equipment according to CISPR 22 / European Standard EN 55022. The limits for Class B equipment were derived for typical residential environments to provide reasonable protection against interference with licensed communication devices.

Union Européenne - Directive Conformité électromagnétique

Ce produit est conforme aux exigences de protection de la Directive 89/336/EEC du Conseil de l'UE sur le rapprochement des lois des États membres en matière de compatibilité électromagnétique.

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Unione Europea - Directiva EMC (Conformidad electromagnética)

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Union Europea - Normativa EMC

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