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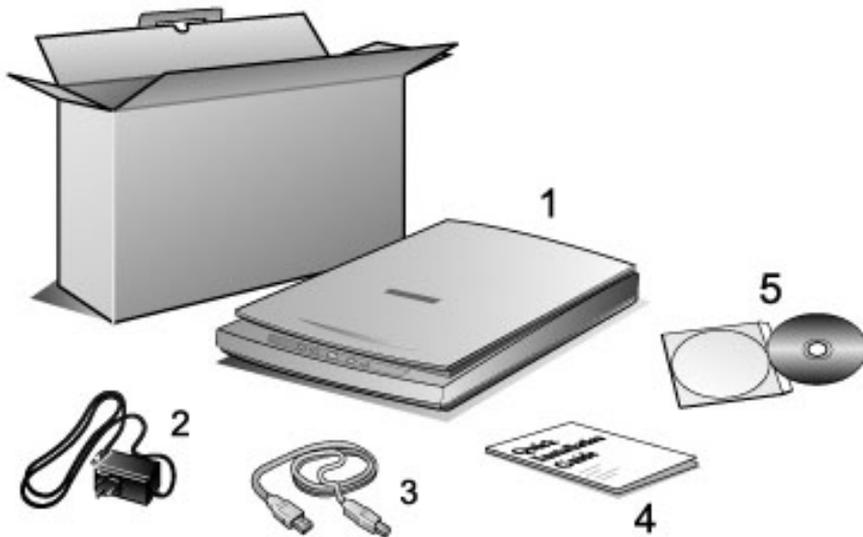
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I. How to Set up Your Scanner¹

Box Contents²



1. Uniscan Scanner
2. Power Adapter
3. USB Cable
4. User's Guide
5. Setup/Application CD-ROM (The complete scanner user's guide is available on the included CD-ROM)

¹ The scanner illustration(s) may appear different than from the actual scanner itself.

² Save the box and packing materials in case you need to transport this scanner in the future.

Setting up the Scanner

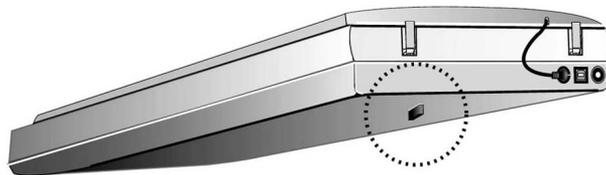
Step 1. Hassle-Free Lock Mechanism

This scanner has an automatic locking mechanism to hold the scanning head in place during transportation. When the locking switch (located on the scanner's underside) is pressed, it automatically unlocks the scanning head; when not pressed, it automatically locks up the scanning head again.

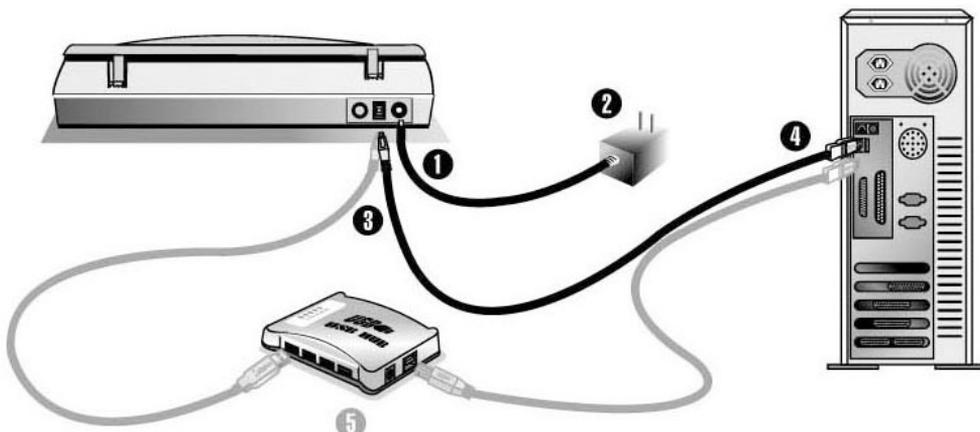


Attention

1. Always place your scanner on a flat and smooth surface before proceeding the scanner setup or any scanning task.
2. When you need to move the scanner, do keep the locking switch NOT PRESSED to ensure accurate and problem-free use of your scanner.



Step 2. Connecting the Scanner to Your Computer



1. Plug the power adapter into the scanner's power receptor.
2. Plug the other end of the power adapter into a standard AC power outlet.
3. Plug the square end of the included USB cable to the USB port at the rear of the

scanner.

4. Plug the rectangular end of the USB cable to the USB port on the back of your computer.
5. If you plan to connect your scanner to a USB hub³, make sure that the hub is connected to the USB port in your computer. Next, connect the scanner to the USB hub.

Step 3. Install the Software

1. If the USB components on your computer are functioning correctly, they will automatically detect the scanner causing the “Add New Hardware Wizard” or “Found New Hardware Wizard” to be launched.
2. **For Windows 98 & 2000:**
 - a. Click on the **Next** button when the “**Add New Hardware Wizard**” window is displayed.
 - b. Select “SEARCH FOR THE BEST DRIVER FOR YOUR DEVICE [RECOMMENDED]” and click on the [Next] button.
 - c. The next window will ask you where to search to find the drive. Select “CD-ROM drive”, and deselect “Floppy disk drives” if it is checked.
 - d. Insert the Setup/Application CD-ROM, included with your scanner, into your CD-ROM drive and then click on the **Next** button.
 - e. Click on the [Next] button when the next window displays. Afterwards, for Windows 98 users, please skip to Step 6.
3. **For Windows Me & XP:**
 - a. Insert the Setup/Application CD-ROM, included with your scanner, into your CD-ROM drive.
 - b. Select **Install The Software Automatically [Recommended]** and click on the **Next** button.
 - c. Click on the **Next** button when the next window displays. Afterwards, for Windows Me users, please skip to Step 6.
4. **For Windows Vista:**
 - a. Select “Locate and install driver software (recommended)” when the “Found New Hardware” window is displayed.

³ The USB hub is not included with the scanner.

- b. Click on the [Continue] button when the “User Account Control” dialog pops up.
 - c. Insert the Setup/Application CD-ROM, included with your scanner, into your CD-ROM drive when the system prompts you “Insert the disc that came with your USB Scanner” , and click on the [Next] button.
 - d. During the process of the installation, a message “Windows can’t verify the publisher of this driver software” might be prompted. Please ignore it, and click on [Install this driver software anyway] to continue the installation without any misgiving at your scanner functioning.
5. Windows XP & 2000 Users: During the process of the installation, a message “Windows Logo authorization required” or “Digital Signature required” might be prompted. Please ignore it, and click on **Continue Anyway** to continue the installation without any misgiving at your scanner functioning.
 6. When the system completes the installation, click on the **Finish** button.
 7. Follow the on-screen instructions to install all software that your new USB scanner requires.
 8. After the software is installed, close all open applications and click on the **Finish** button to restart your computer.



Note

If the scanner installation is not started and displayed automatically on the screen, click START, select RUN and type in “d:\install” (where d: is the drive letter assigned to the CD-ROM drive of your computer.)

Testing the Scanner

The following test procedure checks to see if the scanner is properly functioning with your computer and the scanning software. Before testing your scanner, double check to make sure that all connections are securely fastened.

To properly test your scanner, please perform the following steps:

1. Open the scanner's document cover and place a picture face-down onto the scanner glass. The picture should be placed headfirst toward the rear of the scanner, as illustrated below:



2. Gently close the document cover.
3. Next, open the scanner's image-editing program. Click on the Windows START button and then choose **Programs | Presto! ImageFolio | Presto! ImageFolio**.
4. When Presto! ImageFolio opens, click on **File | Select Source**. In the window that opens, choose the model name of the scanner you have installed. Click on the **Select** button to close the window. This procedure allows Presto! ImageFolio to gain access to the scanner.
5. Within Presto! ImageFolio, click on **File | Acquire | Acquire**.
6. The Uniscan TWAIN window will open.
7. If an image appears on your screen, your scanner is working properly. If the image doesn't appear to your liking, you might need to adjust some settings in the Uniscan TWAIN window. To learn how to adjust scanner settings, please refer to the Uniscan Help by clicking the Help button in the Uniscan TWAIN window.

Uniscan Scanner Setup After Windows XP Upgrade

If you plan to upgrade your operating system from Windows 98 or Me to Windows XP after having installed the scanner software, please follow the instructions below:

1. Unplug the scanner's AC power adapter from the electrical outlet.
2. Unplug the scanner's USB cable from the rear of the computer.

3. From the Windows **Start** menu, click on **Programs | Uniscan XXX** (XXX represents your scanner model name). In the pop-up menu that opens, choose **Uninstall Uniscan Scanner**. Follow the on-screen instructions to remove all the scanner software.
4. After uninstallation completes, close all open applications and click the **Finish** button to restart your computer.
5. Start installing your Windows XP upgrade software by following Microsoft's related procedures.
6. When the Windows XP upgrade is done, re-install the scanner's hardware and software. Refer to the hardware and software setup sections of this manual for details.

II. Operating the Scanner

Your scanner accepts documents as small as business cards and as large as A4-sized documents. However, some software programs have limitations as to the information they can handle. The capacity of the computer's memory and free space on your hard drive can also limit the physical size of the document that you scan.

There are two different ways to operate the scanner:

1. From within an image-editing program that can acquire images from the scanner.
2. By using the Uniscan Manager program that is automatically installed as your scanner software.

Uniscan Manager is a program that allows you to conveniently scan images and text without the need to work directly within any image-editing application (i.e. Presto! ImageFolio). Uniscan Manager also includes features to allow you to use your scanner as a copy machine⁴.

Please refer to the Uniscan Manager on-line Help for more information about these functions.

Using Scanner Buttons

Your scanner is equipped with five function buttons designed to make your scanning experience more convenient and efficient. Each button launches a specialized utility of Uniscan Manager designed to make scanning quick and easy while giving you complete control over the scanning process.

Default button settings are optimized for most frequently scanning jobs. You may, however, change the settings to tailor your every scan by accessing the Uniscan Manager program. Refer to "III. Configuring Scanner Buttons" for more information.

The scanner buttons are available for scanning reflective materials only. To scan negative or positive films, please scan within the Uniscan TWAIN window.

⁴ A printer is required for the copy utility.

File Button

The File button enables you to conveniently scan documents or images, save them automatically to the folder, and send them to the NewSoft Presto! PageManager program to perform other image editing tasks.



Note

Ensure the NewSoft Presto! PageManager program has been installed before using this File button.

1. Place a document or image on the scanning glass.
2. Press the FILE button. (Skip to step 5, if you did not have “**Enable**” and “**Confirm**” checked under **the Preview section** in Uniscan Manager as explained in page 12 of this guide.)
3. The scanner will start prescanning automatically.
4. Click on the **Scan to Album** button in the Prescan window to accept all settings and begin the procedure.
5. Click the **Yes** button to continue scanning the next page.
6. Click the **No** button when you finish scanning.

The document or image will be filed into the default folder of Presto! PageManager.

Copy Button

The Copy button will allow you to make copies of your photographs and text documents much like a normal office copier. Copies can be made on any printer previously installed in Windows.



Note

Ensure the printer driver has been installed before using this Copy button.

1. Place a document or image on the scanning glass.
2. Press the COPY button. (Skip to step 5, if you did not have “**Enable**” and “**Confirm**” checked under **the Preview section** in Uniscan Manager as explained in page 13 of this guide.)
3. The scanner will start prescanning automatically.
4. Click on the **COPY** button in the Prescan window to accept all settings and begin the procedure.
5. Click the **Yes** button to continue scanning the next page.
6. Click the **No** button when you finish scanning.

The document or image will be printed out from your printer.

SCAN Button

The Scan button enables you to conveniently scan photos or text documents into the image editing software, ready for you to edit and save.



Note

Ensure the image editing software (e.g., Presto! PageManager) has been installed before using this Scan button.

1. Place a document or image on the scanning glass.
2. Press the Scan button. (Skip to step 5, if you have checked “Automatically scan after preview completing (flatbed)” within Uniscan Manager window as explained in page 14 of this guide.)
3. NewSoft Presto! PageManager program will be automatically launched with the Uniscan TWAIN window displayed on the screen.
4. After making some adjustments, click the Scan button to begin scanning.
5. The scanned file will be saved automatically under PageManager’s “INBOX” folder.
6. To scan another image, press the Scan button within the Uniscan TWAIN window again. Repeat the above steps until all the scanning tasks are completed.

OCR Button

The OCR button is used to convert images of text documents created by the scanner into text files that can be edited within a word processor. When you press the OCR button, a text document will be scanned, transferred to the FineReader software included with your scanner for optical character recognition, and converted into a format supported by your word processor.

1. Place a typewritten text document face down on the scanning glass.
2. Press the OCR button. (Skip to step 5, if you did not have “**Enable**” and “**Confirm**” checked under **the Preview section** in Uniscan Manager as explained in page 15 of this guide.)
3. The scanner will start prescanning automatically.
4. Click on the **OCR** button in the Prescan window to accept all settings and begin the procedure.
5. Click the **Yes** button to continue scanning the next page.

6. Click the **No** button when you finish scanning.

After you have scanned the document, the text editor opens with the document in the corresponding editing window that you select in the combo box of **Editor**. Remember to save the text document you have created!

E-Mail Button

The E-Mail button lets you scan documents and images directly to your default E-Mail program that has already been installed on your computer.



If Uniscan Manager doesn't detect a MAPI-based E-mail program (which currently include Microsoft Outlook, Eudora, etc.) installed on your computer, the E-mail button can not work.

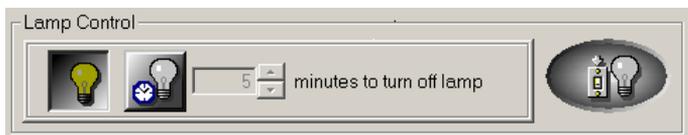
Note

1. Place a document or image face down on the scanner glass.
2. Press the E-Mail button. (Skip to step 5, if you did not have “**Enable**” and “**Confirm**” checked under “**Preview**” in Uniscan Manager as explained in page 16 of this guide.)
3. The scanner will start prescanning automatically.
4. Click on the **Mail** button in the Prescan window to accept all settings and begin the procedure.
5. Click the **Yes** button to continue scanning the next page.
6. Click the **No** button when you finish scanning.

Your E-mail program will be launched, and a new message will be created with the scanned image already inserted as an attachment.

Lamp Control

The scanner lamp may be turned ON and OFF manually via the Scanner Utility. From the Windows START menu, click on **Programs** | **Uniscan XXX** (XXX represents your scanner model name) | **Scanner Utility**. In the window that opens, find the Lamp Control section shown below:



As the system regard the lamp being always illuminated as default setting, you will find the icon at the left of the section pressed down. If desired, you could click on the On/Off switch at the far right of the section to immediately turn the scanning lamp on or off.

You may also set the default time for the lamp to automatically turn off after a scan by clicking the up or down arrows next to the area that reads “minutes to turn off lamp.”



The lamp would turn off after the default time you set, if you press any button on the device for further operating, it could be automatically illuminated to proceed the operation acquired.

Maintenance

To keep your scanner working smoothly, take a moment to review the following maintenance tips.

- Avoid using the scanner in a dusty environment. When it is not in use, keep the scanner covered. Dust particles and other foreign objects may damage the unit.
- Do not attempt to disassemble the scanner. There is danger of an electrical shock and opening your scanner will void your warranty.
- Do not subject the scanner to excessive vibration. It may damage the internal components.
- Be sure not to bump or knock the scanner glass as it is fragile and could break.
- Clean the scanner glass by lightly spraying a non-abrasive glass cleaner onto a soft lint-free cloth. Then, wipe the glass thoroughly with the cloth. **DO NOT SPRAY CLEANER DIRECTLY ONTO THE SCANNER GLASS.** Excess liquid residue may fog or damage the scanner.
- Your scanner operates best in temperatures between 10° C to 40° C.

III. Scanner Buttons Configuration



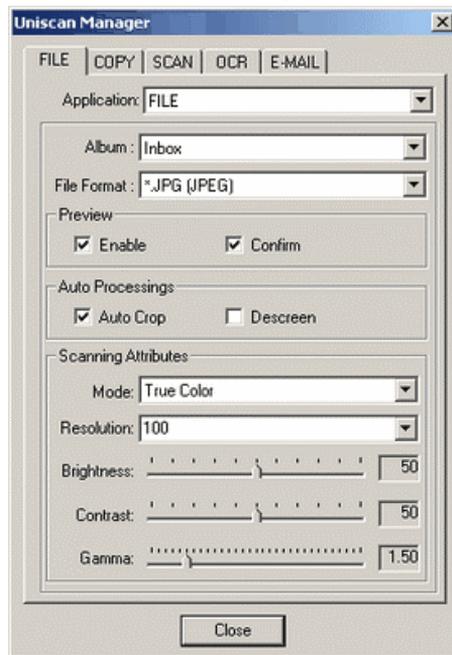
Note

Before starting the button configuration, please ensure the Uniscan Manager program has been opened with its icon  appearing on the Windows system tray. If not, please follow the following steps to open the Uniscan Manager program:

Click on the Windows START button and choose **Program | Uniscan XXXX** (the model name of your scanner) | **Uniscan**.

Configuring the File Button

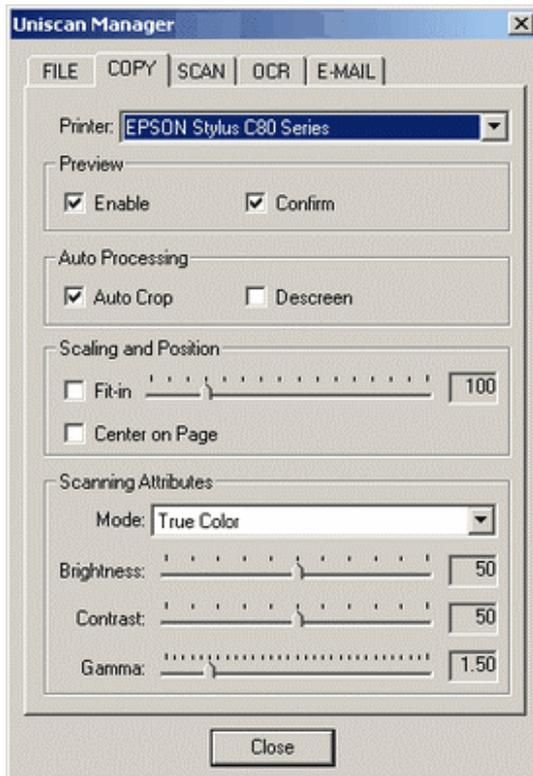
1. Double-click the icon  to open the Uniscan Manager window.
2. Click on the **FILE** tab in the Uniscan Manager window.



3. Check **Enable** and **Confirm** under the Preview section, if you require the system to automatically generate a preview image before proceeding scan.
4. Adjust scanning attributes, if desired.
5. Click the Close button to complete settings.

Configuring the Copy Button

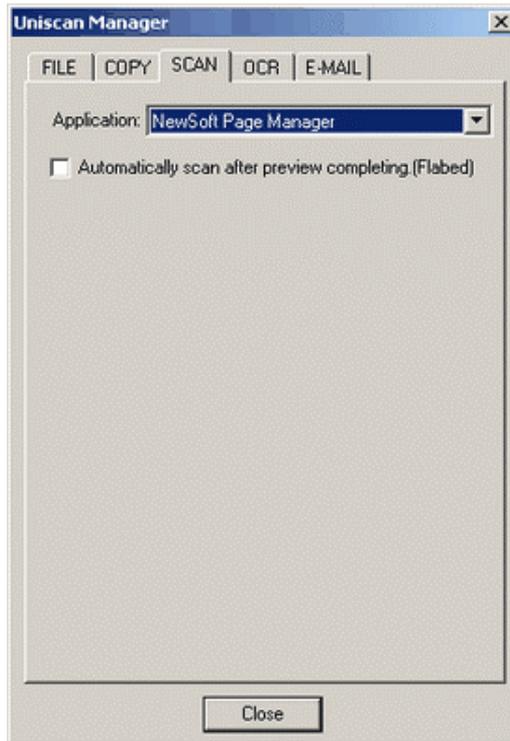
1. Double-click the icon  to open the Uniscan Manager window.
2. Click on the **COPY** tab in the Uniscan Manager window.



3. Select a proper printer from the drop-down menu of **Printer**.
4. Check **Enable** and **Confirm** under the Preview section, if you require the system to automatically generate a preview image before proceeding scan.
5. Adjust scanning attributes, if desired.
6. Click the Close button to complete settings.

Configuring the SCAN Button

1. Double-click the icon  to open the Uniscan Manager window.
2. Click on the **SCAN** tab in the Uniscan Manager window.



3. Choose “NewSoft PageManager” or other application in the “Application” drop-down menu.
4. Click the Close button to complete settings.

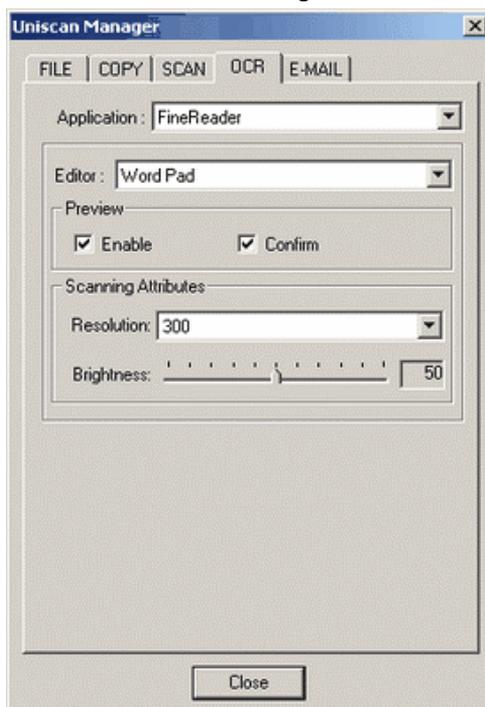


Tip

If you check “**Automatically scan after preview completing (Flatbed)**”, your scanner will start scanning directly after the prescan completes.

Configuring the OCR Button

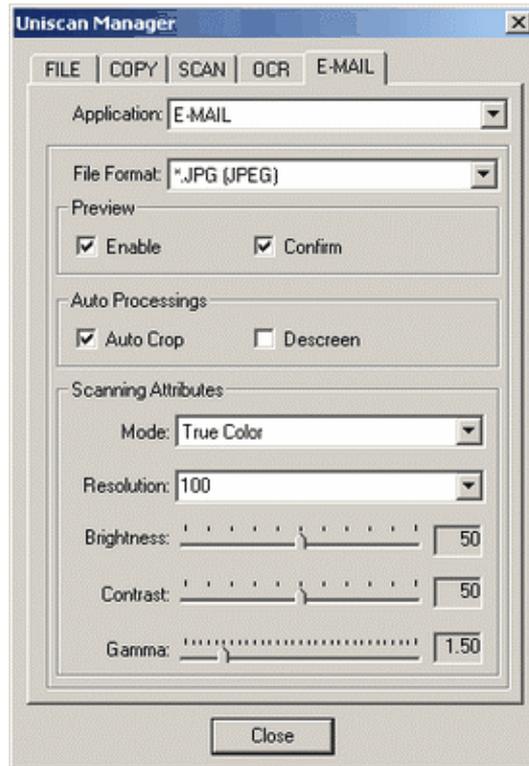
1. Double-click the icon  to open the Uniscan Manager window.
2. Click on the **OCR** tab in the Uniscan Manager window.



3. Choose a word processor in the drop-down menu of **Editor**.
4. Check **Enable** and **Confirm** under the Preview section, if you require the system to automatically generate a preview image before proceeding scan.
5. Adjust scanning attributes, if desired.
6. Click the Close button to complete settings.

Configuring the E-Mail Button

1. Double-click the icon  to open the Uniscan Manager window.
2. Click on the E-MAIL tab in the Uniscan Manager window.



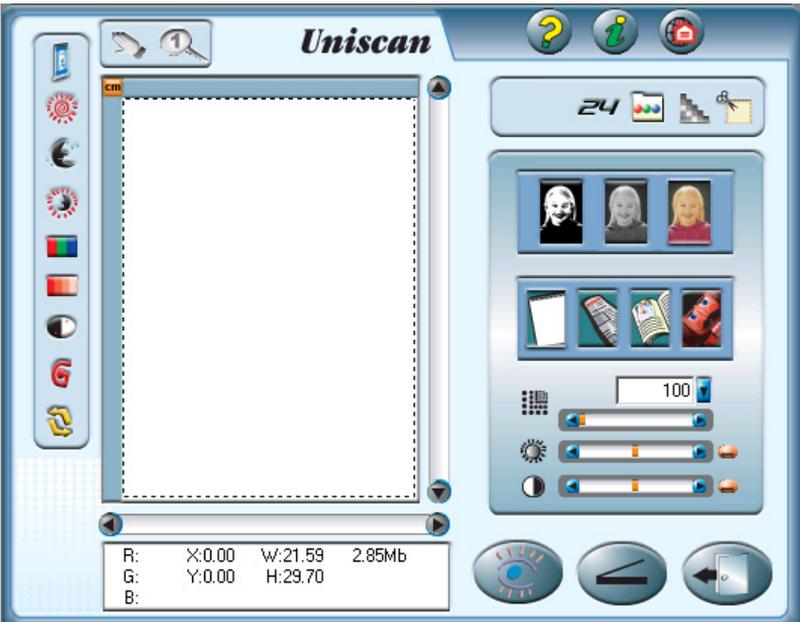
3. Check “**Enable**” and “**Confirm**” under “**Preview**” if you require the system to automatically generate a preview image before proceeding scan.
4. Adjust scanning attributes, if desired.
5. Click the **Close** button to complete settings.

IV. The Uniscan TWAIN Interface

Introduction

The Uniscan TWAIN program is a very important piece of software that comes with your scanner. This program acts as an interface between the scanner hardware and the image-editing software you are using to view and edit images. The Uniscan TWAIN program allows you to adjust a number of settings to define the quality of the scanned image. The following chapter describes the Uniscan TWAIN interface, which automatically opens when you click SCAN, or ACQUIRE from within a TWAIN compatible scanning program or image-editing application.

The Uniscan TWAIN interface allows you to make important adjustments before scanning. For example, you can scan in different modes: black and white, grayscale or color; increase or decrease the resolution, and adjust the brightness and/or contrast. The Prescan option allows you to adjust the borders of the scan area by increasing or decreasing the size of the crop box located inside the Prescan Area. The Uniscan TWAIN interface also provides you with statistics such as how large an image will be after scanning, in terms of both file size and physical dimensions.



Setting Buttons

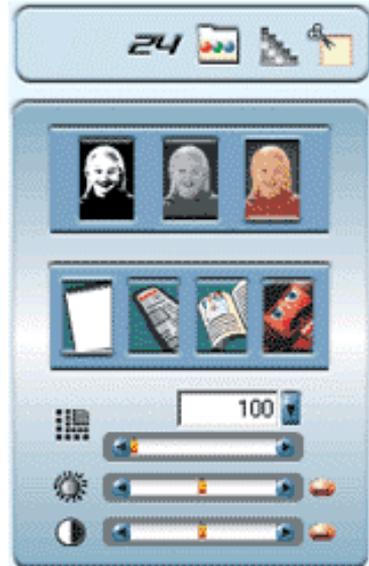
This section describes all of the options available in the Uniscan TWAIN interface. It is very important to correctly configure the Color Mode in order to successfully perform a scan. All other items are optional and allow you to tailor the characteristics of the scanned image.

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Color Depth - Clicking on this button allows you to define the amount of color information stored in each pixel. The larger this value is, the more color information will be included in the image. The following options are available:

- 24-bit
- 48-bit

Although a higher color depth allows for higher quality images, it also increases the size of the image (in terms of computer memory). Also, many older image-editing programs won't accept images with color depths that are too high.



Select Channel - Selects a color channel (master, red, green, blue and gray) on which to work on.

- Master Channel
- Red Channel
- Green Channel
- Blue Channel

When scanning black and white or gray images, this button will be disabled and you can only work on the master channel.



Scanning Speed - Click on this button to activate the high speed scanning mode to shorten the scanning time. Click again to return to normal scanning mode.

NOTE: This function is only available when the topmost optical resolution and true color mode are both selected at the same time.



Auto Crop – Click on this button to activate Auto Crop. Uniscan TWAIN will identify the dimensions of the image you scanned and crop around the edges. The crop shape will be a square or rectangle, in that it will not trace the edges of oddly-shaped images. This command can be useful when scanning smaller images such as photographs.



Color Mode - tell the scanner how to scan the image. There are three color modes:

- B/W Text - Black and white. This mode is best for scanning text only documents.
- Gray - Scans in 256 shades of gray giving black and white images shadow and depth.
- True Color - This scans images in millions of colors for photorealistic image quality.



Descreen - Descreen 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. The descreen filter is not needed when scanning original photographs or black and white images and text, but is recommended when scanning any printed color graphics, such as a page from a magazine, in order to remove the unsightly interference patterns which may occur. The following options are available:

- None
- Newspaper
- Magazine
- Art Magazine



Resolution - Resolution is measured in dots per inch (dpi). The higher the resolution, the more detailed the image, and the more memory and drive space the image will use.



Brightness - This is the amount of light that is concentrated onto a document while it is being scanned. Raising the brightness increases the amount of white in an image, making it appear more washed out. Lowering the brightness may help you read light or faint text.



Contrast - Contrast adjusts the tonal range of an image by lowering mid-tone values and increasing values for high and low tones. The higher the contrast, the sharper the image. The lower the contrast, the more blurry an image will be.



Prescan - By clicking on the Prescan button, you can scan the source document into the Prescan Area on the left of the Uniscan TWAIN window. This allows you to modify the scan area (for smaller images such as photographs) and gives you a rough idea of what the scanned image will look like before you scan.



Scan – Clicking on this button accepts all settings and begins scanning.



Exit - Clicking on the Cancel button saves your current settings and closes the Uniscan TWAIN window.



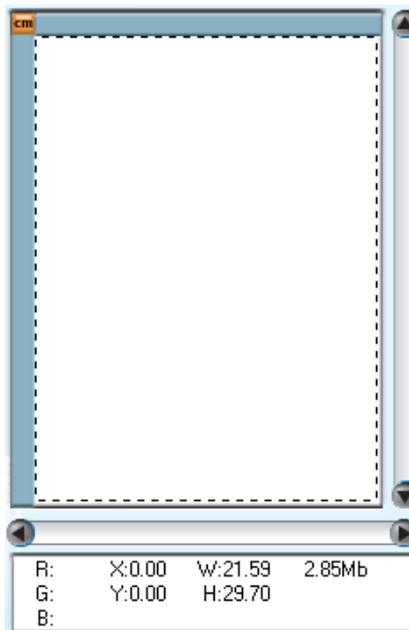
Help - Clicking on this button runs the on-line help program.

Preview Area

The preview area, as shown on the right, is used to display the prescanned images. Here they can be viewed and adjusted before the actual scanning

Preview Window - The Prescan Window is the large white area on the left of the UNISCAN TWAIN window. Documents or images that are prescanned will be displayed there.

The Scan Area Border, designated by the dotted box in the Prescan Area, can be resized and moved. This is very important for keeping the image size (in terms of computer memory) as small as possible. To do this, first preview the document or image you wish to scan by loading it in the scanner and clicking on the Prescan Button. After it appears in the Preview Area, resize and move the dotted box so it fits snugly around the edges of the prescanned image. In this way, only the actual image, or the desired portion of an image will be scanned, and extraneous white spaces (which take up computer memory) will be removed. This feature is especially useful when scanning 3x5 photos, for example.



Hand Tool - The hand tool is used to define a smaller area on the prescanned image in the Preview window that will actually be scanned.

When you click on the hand tool, the icon will appear pressed. Dragging the mouse around the Preview Window opens a dotted square which is the area to be actually scanned. After you release the mouse button, the hand tool button will automatically become raised, and you can then resize the dimensions of the scan area (the square you created) and move it around in the Preview window.

Tip: Activating the hand tool so it appears pressed and double-clicking in the Preview window will cause the entire area in the Preview window to be chosen as the scan area.



Magnifying Glass - The magnifying glass allows you to easily zoom in and out of the prescanned image in the Prescan Window in order to see more details. To use the magnifying glass, click on the hand tool to position the image in the Preview window so that the portion of the image you wish to zoom in is centered, and then click on the magnifying glass to zoom in. The first time you click on the magnifying glass it will zoom in 2x. The second click zooms in to 3x. The third click zooms in to 4x. The next click will cause the zoom to cycle back to 1x.

Note: The magnifying glass only affects the view of the prescanned image in the prescan area and in no way affects the scanning process or the final scanned image.

R:	X0.00	W:21.58	2.85Mb
G:	Y0.00	H:29.70	
B:			

Status Window - The status window contains important image information as follows:

- R, G, B values
- Exact cursor position
- Width and height
- Image size in MB: It is the amount of memory your image will use. The larger the image size, the longer it takes to actually scan the image. Larger images, due to their memory requirements, will also take longer for your image-editing applications to process when making any corrections.

Tips for reducing the file size of an image:

- Change the Color Mode – Color mode collects the most amount of information and therefore requires more memory than grayscale or black and white.
- Reduce the resolution –See Scanning Tips later in this chapter for detailed information about selecting the proper amount of resolution.
- Reduce the scan area - When scanning images that are smaller than a full page, make sure you prescan the image and adjust the scan area borders in the Prescan Area window.
- Some file formats such as GIF and JPEG can compress image data, greatly reducing the amount of space an image takes up on your hard drive.



Unit Selector shows the measurement units used in the Prescan Area. The measurement units can be changed by clicking on this Unit Selector button.

Enhanced Features Toolbar

The Enhanced Features toolbar is located on the left of the Uniscan TWAIN window. It contains a number of settings that control how the image is scanned and how it is viewed in the Prescan Area.

Most of the toolbar options are considered advanced features. We strongly suggest that you first become familiar with scanning and using the settings in the Uniscan TWAIN window before attempting to use any of the following features. Many of these advanced features will also be available to you in your image-editing software after you scan.



Enhanced Switch - Clicking on this button shows/hides the enhanced settings buttons in the Enhanced Features Toolbar.



Highlight – The highlight represents the high (bright) end of the color spectrum. If the highlight value of the Master channel is lowered to 245, all color values between 245 and 254 will be given the value of 255 (white). Thus, lowering the highlight of the Master channel brightens the whole picture. Doing this also increases the color contrast because all the remaining pixels between the midtone and the highlight will be automatically redistributed over the midtone to 255 range. This redistribution serves to increase the difference between shades of color.

If the highlight for one of the Red, Green or Blue channels is adjusted, then the results will only affect pixels of that color or containing combinations of that color (i.e. Yellow contains Green and Blue and would thus also be affected by changes to one of these channels).



Shadow – The shadow represents the low (dark) end of the color spectrum. If the shadow value on the Master channel is raised to 10, all color values between

one and ten will be given the value of zero (black). Thus, raising the shadow darkens the entire image and raising the shadow in a specific color channel darkens pixels of that color. Raising the shadow also increases the color contrast of darker tones (the range between the midtone and the shadow).



Midtone – The midtone is used to adjust the mid-range of color values. Raising the midtone darkens the image and lowering the midtone brightens the picture. For balanced color, the midtone should be set at 50%.



Hue – Indicates whether a color looks red, green, blue, etc.



Saturation – Represents how pure a color is.



Invert – When inverse is checked, the colors of an entire image will become reversed. A black and white image will look similar to a photo negative.



Before



After



Gamma – Image Gamma is used to adjust the colors in the image that will be scanned into the computer. By adjusting the gamma, you can change the tonal range of the selected color channel. Gamma values are primarily a measure of the brightness of a color. The larger the gamma value, the brighter the color becomes. Adjusting the gamma on the Master channel affects the tonal range for all colors equally. And adjusting the gamma for the individual Red, Green or Blue channels only affects pixels containing that color. Click on a color channel and then drag the slider bar near the bottom of the window to adjust the image gamma.



Reset All –Clicking on this button resets the values of brightness, contrast and all of the enhanced settings in the Enhanced Features toolbar to their default

values.

Scanning Tips

- **More is not always best.** Determine what your final application will be BEFORE you scan. In many cases a high resolution image will do nothing more but dramatically increase the file size, take up more disk space, and slow down the process.
- **Internet Applications:** For e-mailing color photos or pasting images on Web sites, a resolution of 75 dpi is the best choice. This is because the actual viewable resolution of the average monitor is 72 dpi. Additionally, download times are dramatically reduced.
- **Printing to Ink Jet Printers:** Check your printer documentation for recommended printer resolution settings. We recommend ranges between 75-300 dpi in general. Only use a higher scanning resolution (301 dpi and above) for smaller images when detail must be captured in a small area because it will be enlarged later.
- **Laser and Commercial Printers:** When printing an image to a laser printer or commercial printing press, it is important to understand the process in terms of line screen (a.k.a., LPI). Line screens are the number of screen lines per inch when an image is halftoned. Halftoning is the process of breaking the image down into a series of dots to reproduce continuous-tone art when printing on a press. A general rule when printing in one of these two manners is to scan one and a half to two-times the amount of the line screen. Laser printers that have resolution ranges of 300 and 600 dpi will have line screens between 50 and 100. Typical commercial printing is done at an average line screen of about 150. Therefore, an optimal scanning resolution would be from 225 to 300 dpi.

Appendix: Specifications⁵

Uniscan e53	
Physical Dimensions	456 × 272 × 62 mm (W × D × H)
Weight	2.5 Kgs
Operating Temp.	10° C to 40° C
Max. Scan Area	Reflective: 216 mm × 297 mm (8.5" × 11.69")
Scan Method	Single-Pass
Color Modes	Color: Input 48-bit; Output 24/48-bit Grayscale: Input 16-bit; Output 8/16-bit Black & White: 1-bit
Resolution	Optical 2400 dpi (24000 dpi software interpolated)
Scanning Materials	Reflective color or black-and-white originals
Protocols	TWAIN Compliant
Connection	USB 2.0
Lamp Type	Cold Cathode Lamp
Power Adapter	Power Output DC 15V, 1.0A
Power Consumption	Operation: 15 watts maximum Idle: 5 watts
Electrical Safety Regulation	CCC, GB4943-2001, GB9254-1998, GB17625.1-2003

⁵ Hardware specifications may change at any time without prior notice.