

# *Founder U100 Utility*



## *User's Manual*



# **Preface**

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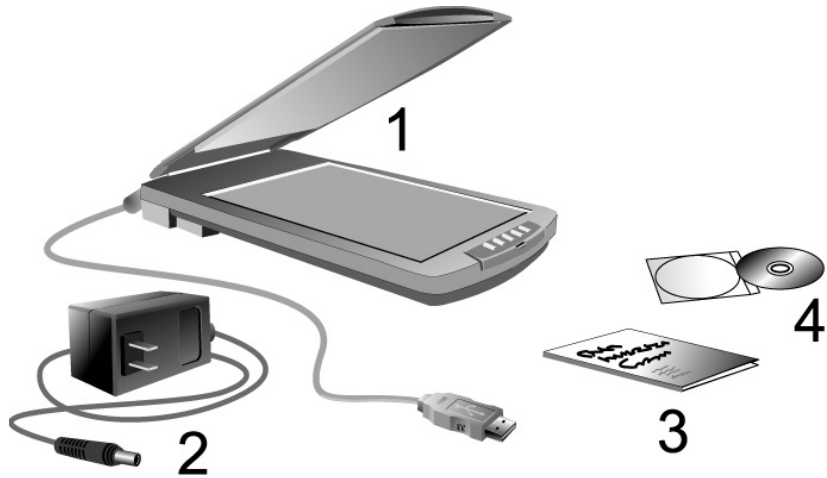
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## Chapter 1

### About the Founder U100 Utility

#### Equipment included:

Please ensure all the following items are included before installing the Founder U100 scanner.



1. Founder U100 Scanner
2. Power cable
3. Quick guide
4. Installation CD

## Unlocking the Scanning Unit

The Founder U100 scanner includes a scanning bar lock to prevent the scanning bar from shifting during transport. Before using the scanner, you must unlock the scanning bar lock located on the bottom of the scanner. If you wish to move the scanner, it is recommended that you first lock it to prevent the scanning bar from damage.

1. Pull the seals off the scanner.
2. Gently turn the scanner over.
3. Push the lock switch toward the unlock mark.



4. Return the scanner to a horizontal position.

## Connecting to the Scanner

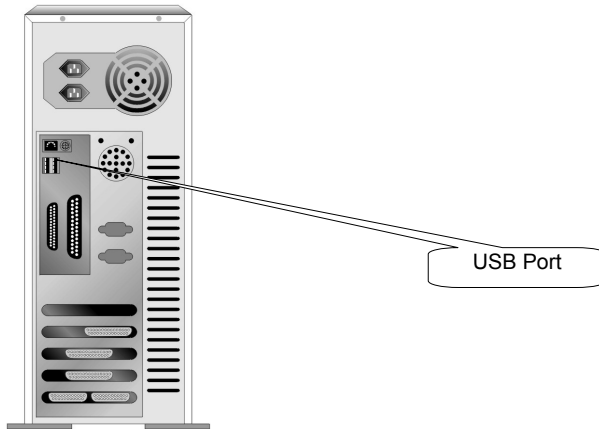
This scanner uses the USB interface, which is only supported by Microsoft Windows 98/Me, 2000 or XP.

Plug & Play devices are supported by the USB interface. To verify whether your computer supports USB, first make sure there is a USB port at the back of your PC (some computers have USB ports in other locations, such as on the monitor or keyboard).

If your computer does not have any USB ports, you may need to install a USB interface card (check your computer User's Manual for USB



support information).



Note: Use only USB connectors and the power adapter included with the scanner. Use of any non-authorized connectors or adapters may result in malfunction.

## Comparing USB 1.0 vs 2.0: The Need for Speed

USB 2.0 extends the speed of the connection from 12 Mbps on USB 1.1 up to 480 Mbps on USB 2.0, providing an attachment point for next-generation peripherals which complement higher performance PCs and user applications. USB 2.0 is both forward and backward compatible with USB 1.1, resulting in a seamless transition process for the end user. In fact, USB 2.0 uses the same cables and connectors as USB 1.1. USB 2.0 offers a compelling opportunity for peripherals vendors to migrate their USB peripherals to higher performance, while still being able to sell the same peripherals into the huge installed base of USB-capable PCs. USB 2.0 is also expected to lead to the development of higher performance peripherals that will bring new applications to the PC.

USB 1.1's data rate of 12 Mbps is sufficient for many PC peripherals such as telephones, keyboards, mice, digital joysticks, floppy drives, digital speakers, and low-end printers. These peripherals will continue to operate with no change in USB 2.0 systems. The higher bandwidth of USB 2.0 will permit PC peripherals with more functionality, including

higher resolution video conferencing cameras, next generation scanners and printers, fast storage units, and faster broadband Internet connections. It will make today's user applications more productive, such as taking the time to download a "roll" of digital photos from a few minutes on USB 1.1 down to a few seconds on USB 2.0. In addition, the higher bandwidth will support the most demanding PC user applications, such as digital image creation and interactive gaming, where multiple high-speed peripherals will be running simultaneously. The higher data rate of USB 2.0 will also open up the possibilities of new and exciting peripherals.

As with USB 1.1, USB 2.0 is expected to eventually be in industry chipsets. Once these chipsets reach high volume, it is expected that USB 2.0 will be about the same cost as USB is today. Because of this, USB 2.0 is expected to supercede USB 1.1, which is already a ubiquitous connector on PC systems today. Also like USB 1.1, USB 2.0 will satisfy the peripheral-interface needs of desktops, mobile systems and other classes of host platforms. To satisfy the needs of power-sensitive applications such as notebook computers, USB 2.0 will provide the same power-management mechanisms as USB 1.1 to allow aggressive management of I/O power consumption. This is expected to allow USB 2.0 to find use even in demanding low-power systems.

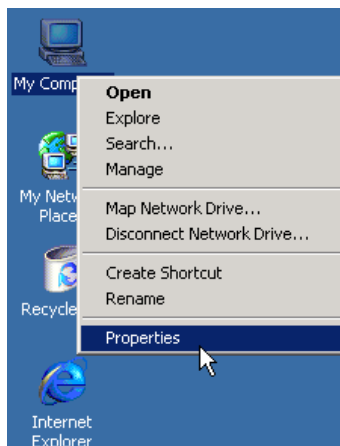
### Notes Regarding the USB2.0 Interface.

If your computer did not come with a built-in USB2.0 port as standard equipment, you can still use the USB2.0 interface to connect the scanner by installing a USB expansion card that supports the USB2.0 interface and by installing the latest USB2.0 driver. To use this interface, the computer must be running on of the following systems: Windows Millennium Edition(Me), Windows 2000 Professional, Windows XP Professional or Windows XP home Edition. Please note that Windows 98 does not support this interface.

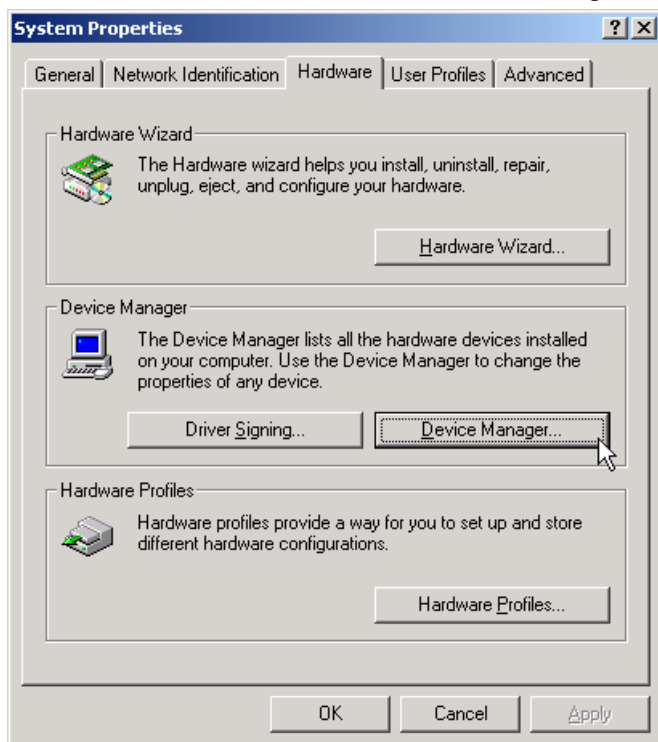
## Verifying the USB Interface Version

After the scanner has been successfully connected, you can use the following procedure to confirm which USB interface is in use, USB2.0 or USB1.1:

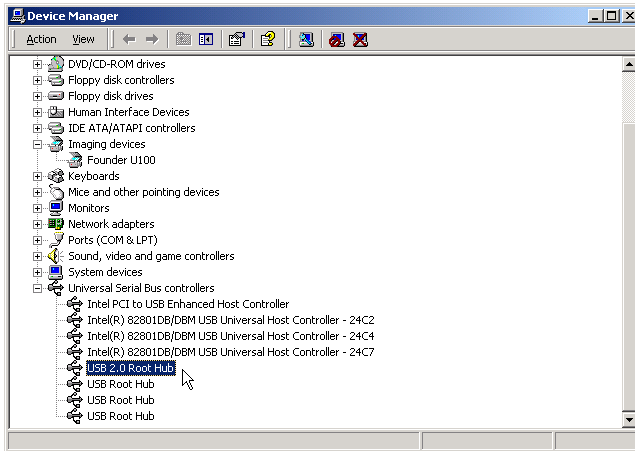
1. Right Click on the **My Computer** shortcut on the Windows Desktop. Choose the **Properties** selection.



2. The System Properties dialog box will appear. Choose the **Hardware** tab and click the **Device Manager** button.

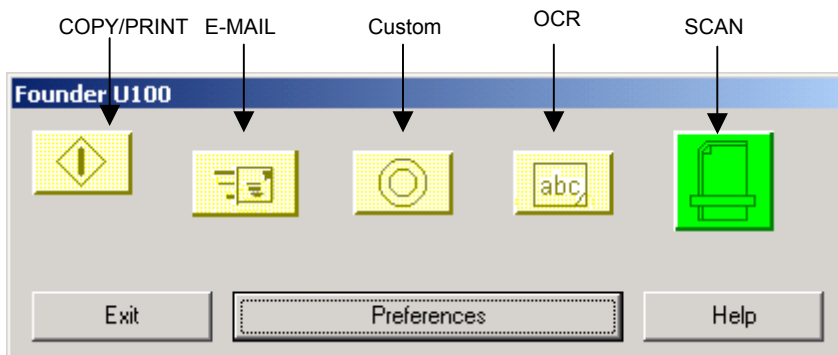


- Expand the **Universal Serial Bus Controllers** group to see whether your computer is using USB 1.0 or USB 2.0.



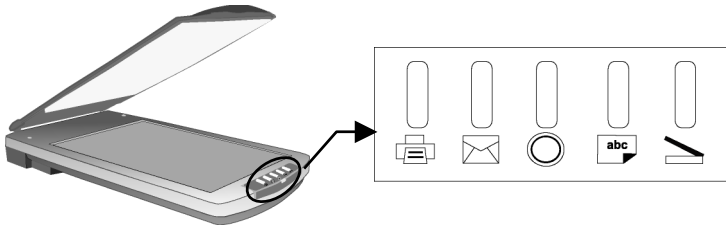
## Software Installation

The *Founder U100 Utility* provides a convenient interface for accessing the advanced scanning functions. With the *Founder U100 Utility*, you can quickly scan documents or images, make a quick copy of a document and send it to the printer, scan an image and send it directly to your email client, Fax an image or document with a Fax application of your own choice, scan text documents and edit them with word processing software, or define a default application to send your scanned document to for post processing.



The *Founder U100 Utility* interface emulates the control pad on the

scanner, and allows you to control scanner functions from your PC:




The *Founder U100 Utility* interface has five buttons: Scan, OCR, Fax, Copy/Print and E-mail. Pressing a button scans an item and sends it to your printer or a specific application, such as your e-mail software.

Each button has a default application pre-selected for post processing. When you install the scanner, the software checks your computer for an application that is appropriate for each button (for example, Microsoft Outlook for the E-mail button). If one is found, the software assigns that application to the button.

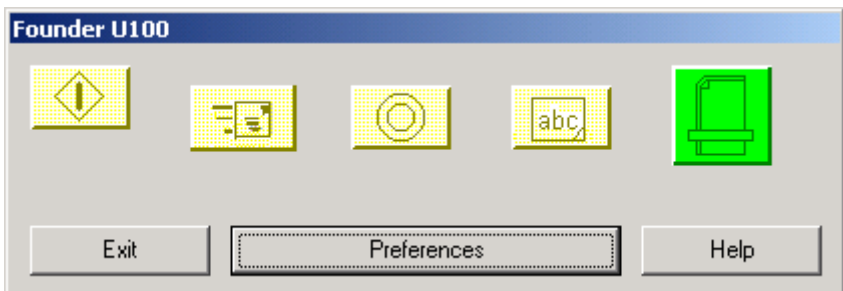
If you want to select another application or customize the scan settings, you can create new configurations or edit existing ones. For example, if you scan color photos for use on the Web, you can create a configuration that works best when scanning pictures for use with HTML.

## Starting the Founder U100 Utility


After installing the scanner software and drivers and rebooting, the scanner icon  will be displayed in the Windows taskbar:



Double-clicking the icon opens the *Founder U100 Utility*:



## About the Founder U100 Utility - Starting the Founder U100 Utility

**Note:** If you have not connected the scanner to the PC, the scanner disconnected icon  will be displayed. You must establish a connection before using the *Founder U100 Utility*.

Once you have connected the scanner via USB port, the Utility will automatically connect to the scanner and display the following message box:



If the connection fails, you will see the following message:

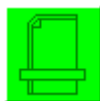



Please refer to [Troubleshooting](#) for more information.

Clicking a button opens the associated application. Click **Help** to display online help for the *Founder U100 Utility*. Click **Exit** to send the Utility back to the Windows Taskbar. Clicking **Preferences** enables you to set preferences for each application.


## The Founder U100 Utility Interface

The following table describes the function of each button on the *Founder U100 Utility* interface:




**Scan Button:** Click  to scan documents and images. The images are sent to Photo Suite SE for post processing. You can change the default post processing application by clicking **Preferences** and selecting a different program.




**Copy/Print Button:** Click  to send a scanned image or document directly to a printer or printer application.




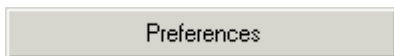
**Custom Button:** Click  to send a scanned image or document directly to a pre-selected application.




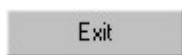
**OCR Button:** Click  to convert a scanned item to black and white text for use with word processing software.




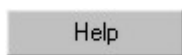
**E-Mail Button:** Click  to send a scanned image or document directly to an e-mail program.




**Preferences:** Click  to set preferences for each button. You can add and choose settings for post processing applications, set scanner status display options, and set advanced properties such as image mode, color control and resolution.



**Exit:** Click  to send the *Founder U100 Utility* back to the Taskbar.



**Help:** Click  to display the online help for the *Founder U100 Utility*.

The next chapter describes how to use each function in detail.





## Chapter 2

### Using the *Founder U100 Utility*

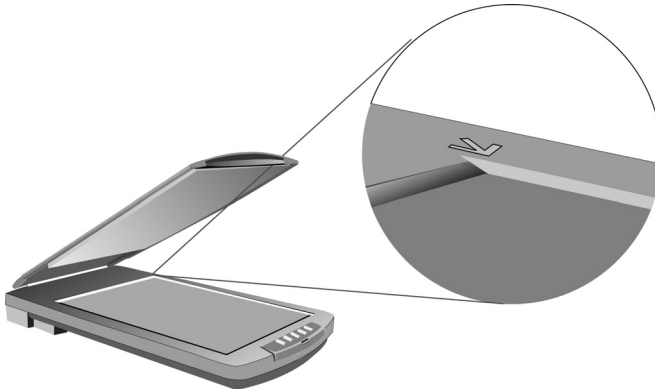
This chapter describes each function in detail.

Note: For information regarding the TWAIN Interface, refer to the TWAIN Interface online help.

#### Scan Function

Use the **Scan** function to scan images or documents and send them to the TWAIN Interface for image post processing. Follow these instructions:

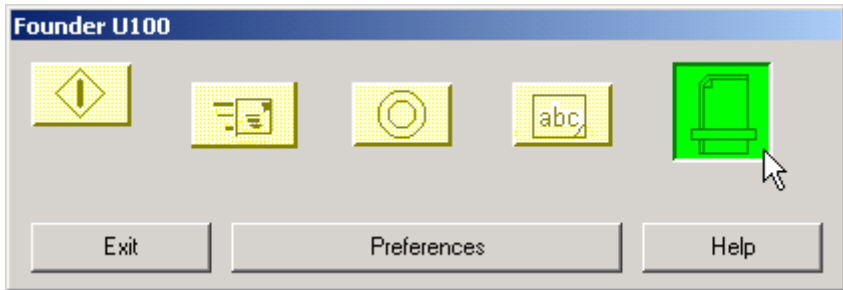
1. Place the item face down on the scanner, with the corner of the paper next to the arrow, as shown:



2. Double-click the *Founder U100 Utility* icon in the Windows taskbar. The *Founder U100 Utility* will open.



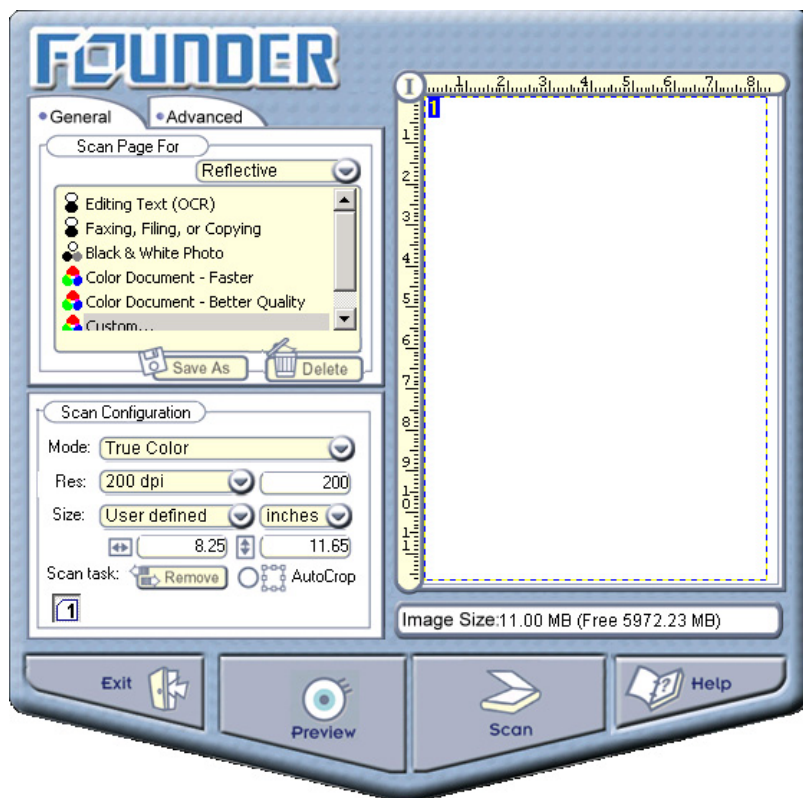
- Click the **Scan** button on the *Founder U100 Utility*. The TWAIN Interface will open.



- In the TWAIN Interface, make any adjustments to the **Scanner Settings** and **Scan Configuration** and click **Scan**.

After the image is scanned, you must wait at least ten seconds for the post-processing application to load.

**Note:** For information on setting the TWAIN interface options, refer to the TWAIN interface online help.

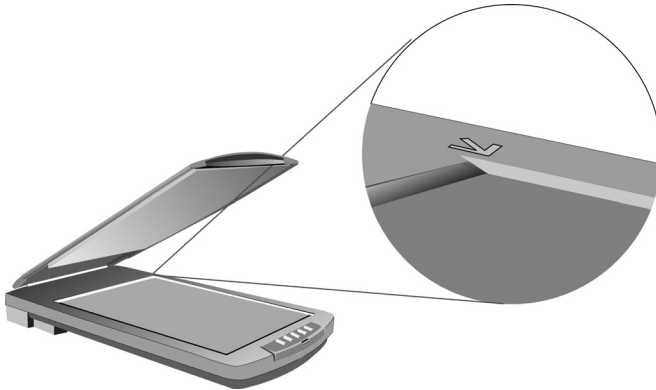


**Note:** You can set the post processing application that the TWAIN Interface sends the image to. Please refer to the [Preferences](#) section for more information about settings.

## Copy/Print Function

Use the Copy/Print function to scan images or documents and send them to the printer.

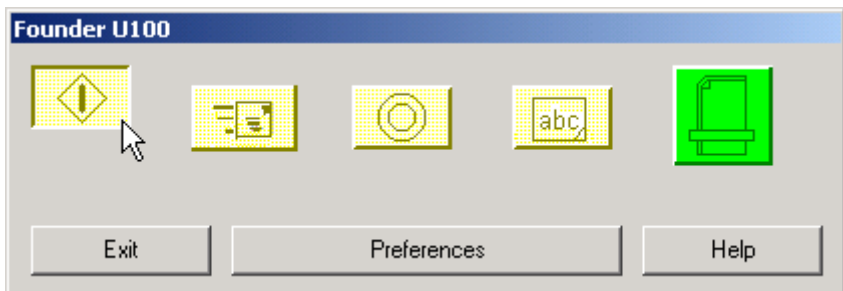
1. Place the item face down on the scanner, with the corner of the paper next to the arrow, as shown:



2. In Windows, double-click the *Founder U100 Utility* icon in the Windows taskbar. The *Founder U100 Utility* will open.

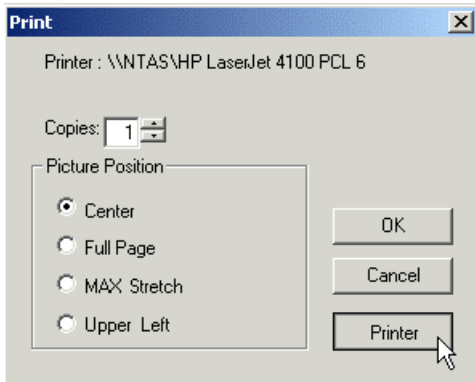


3. Click the **Copy/Print** button on the *Founder U100 Utility* interface.

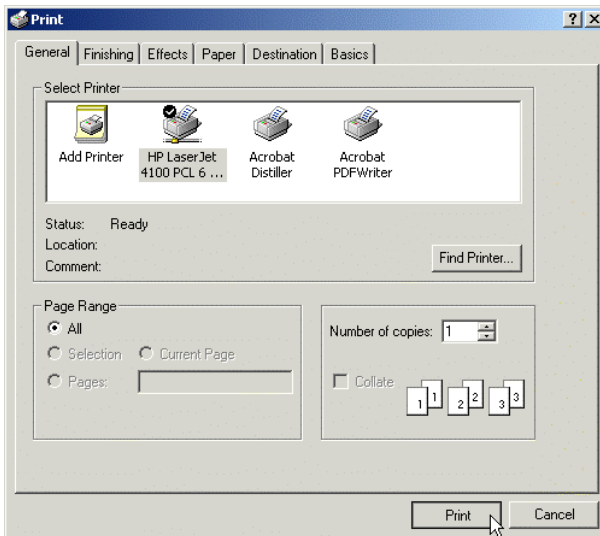


- After the image is scanned, the **Print** dialog box opens. Note that you must wait at least ten seconds for the **Print** dialog box to load.

**Note:** By default, the scanned image is sent directly to the selected printer without opening the TWAIN Interface.



- Click **Printer** to select a printer. A new **Print** dialog box will open. Select a printer icon from the menu. Click **Print** to print out the scanned image, or click **Cancel** to returned to the Scanner Utility Print dialog box.



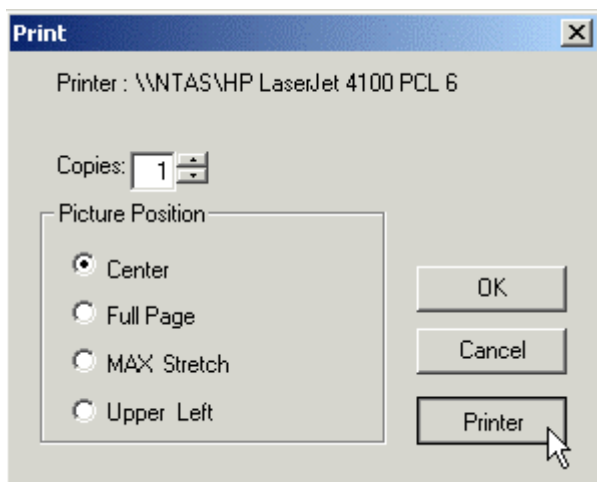
Select Picture Position.

**Center** – prints the image in the center of the paper.

**Full Page** – resizes the image to print over the entire page length or width.

**MAX Stretch** – resizes the image to print over the entire page.

**Upper Left** – prints the image in the upper left corner of the paper.



6. Click **OK**. The document is then sent to your printer.

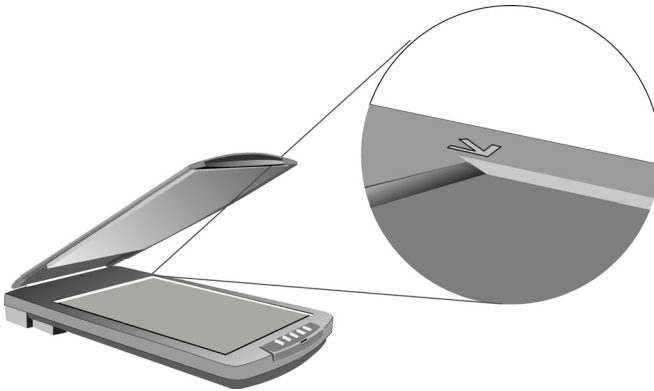


## Custom Function

Use the **Custom** function to scan images and documents and send them to a user-defined application for post processing.

**Note:** Before you can use this function you must assign a default application for post processing.

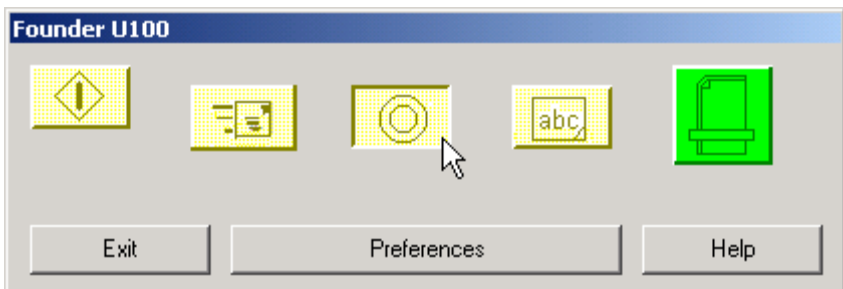
1. Place the item face down on the scanner, with the corner of the paper next to the arrow, as shown:



2. Double-click the *Founder U100 Utility* icon in the Windows taskbar. The *Founder U100 Utility* will open.



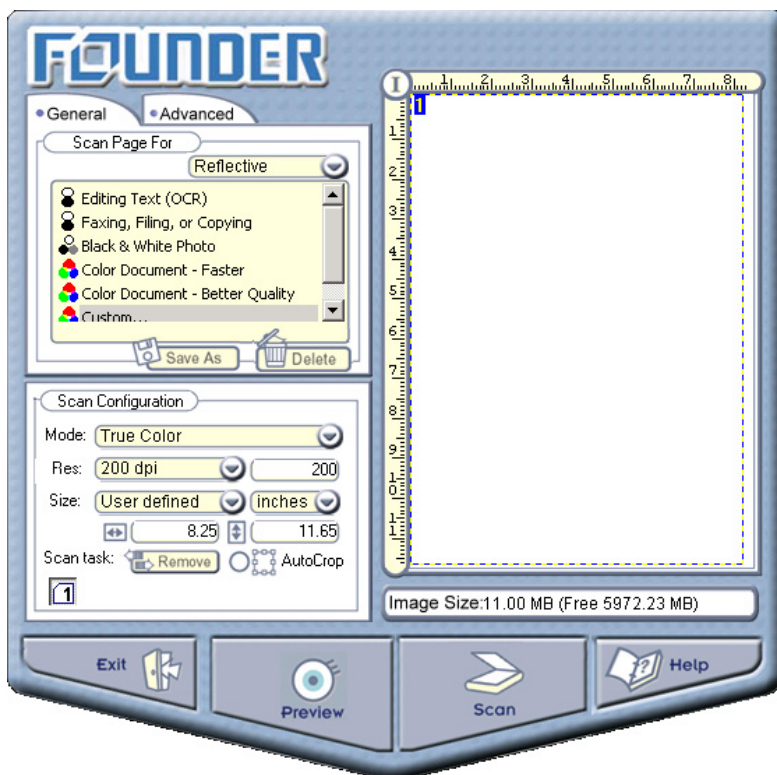
3. Click the **Custom** button on the *Founder U100 Utility*. The TWAIN Interface will open.



4. In the TWAIN Interface, make any adjustments to the **Scanner Settings** and **Scan Configuration**. Then click **Scan**.

After the image is scanned, it is sent to the assigned application for post processing.

**Note:** For information on setting TWAIN interface options, please refer to the TWAIN interface online help.

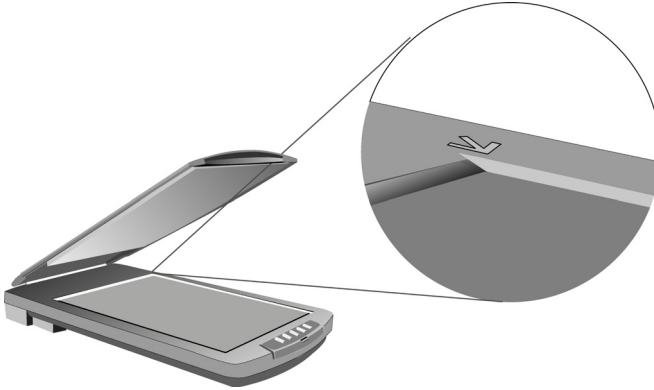




## OCR Function

Use the **OCR** function to scan images or documents and send them to your default word processing application. Follow these instructions:

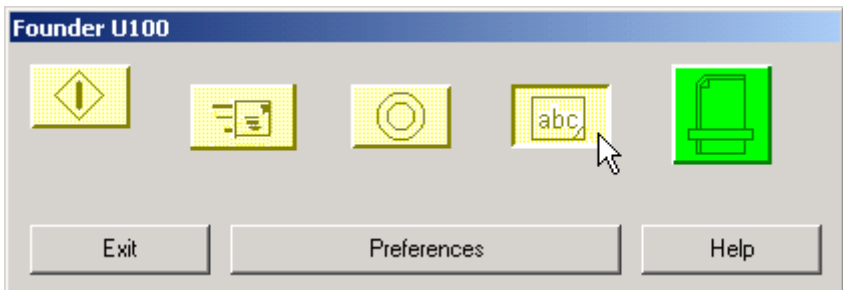
1. Place the item face down on the scanner, with the corner of the paper next to the arrow, as shown:



2. Double-click the *Founder U100 Utility* icon in the Windows taskbar. The *Founder U100 Utility* will open.



3. Click the **OCR** button on the *Founder U100 Utility*. The TWAIN Interface will open.

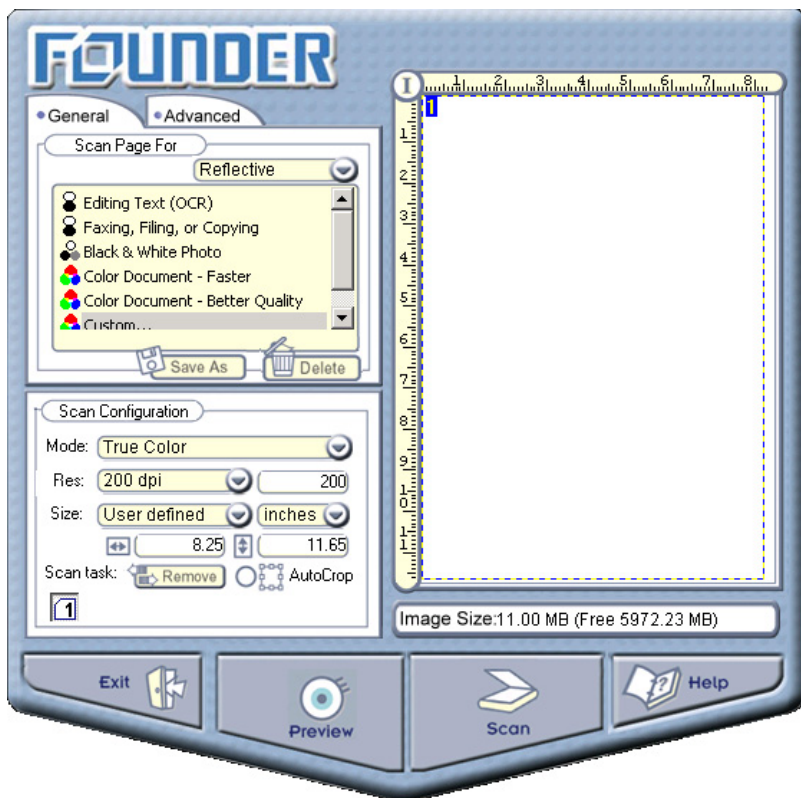


## Using the Founder U100 Utility - OCR Function

4. In the TWAIN Interface, make any adjustments to the Scanner Settings and Scan Configuration, and then click **Scan**.

After the image is scanned, you must wait at least ten seconds for the word processing application to load.

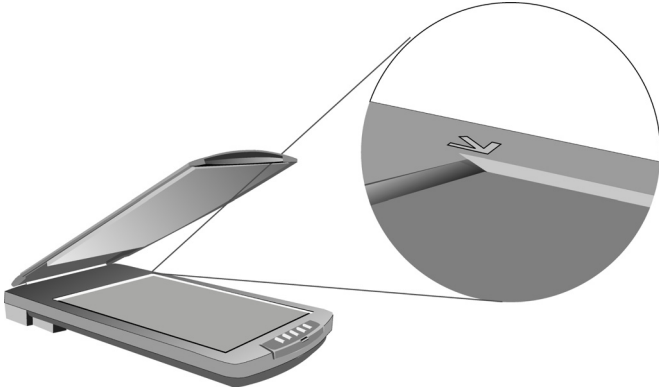
**Note:** Before you can use this function, you must assign a default application for post processing. Refer to [Preferences](#) for more information.



## E-mail Function

Use the **E-mail** function to scan images and documents and send them to your e-mail program. Follow these instructions:

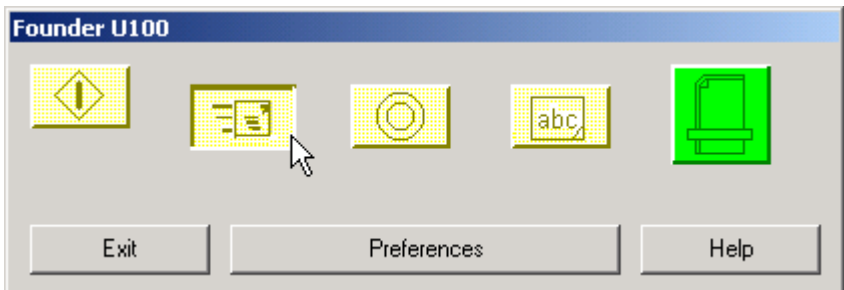
1. Place the item face down on the scanner, with the corner of the paper next to the arrow, as shown:



2. Double-click the *Founder U100 Utility* icon in the Windows taskbar. The *Founder U100 Utility* will open.

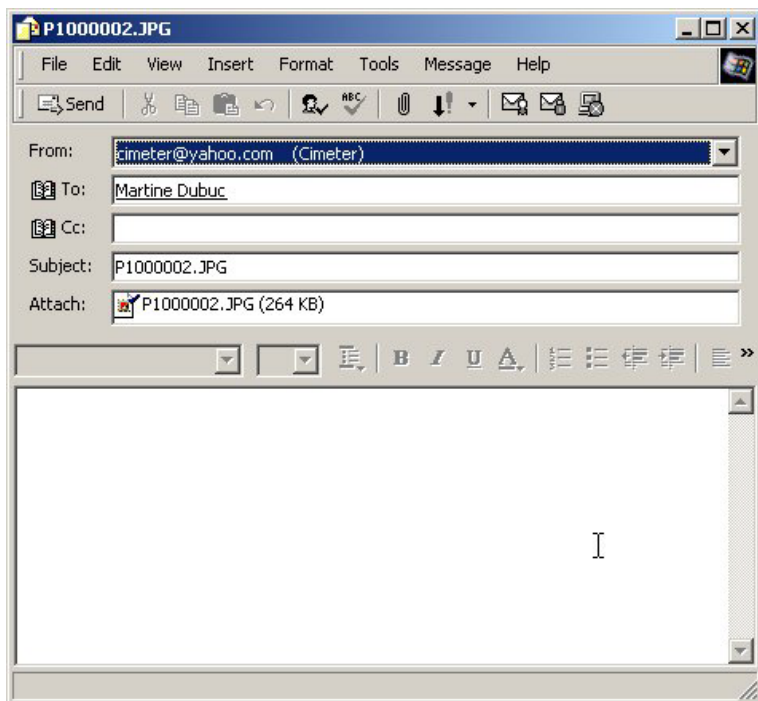


3. Click the **E-mail** button on the *Founder U100 Utility*. The image will then be scanned.




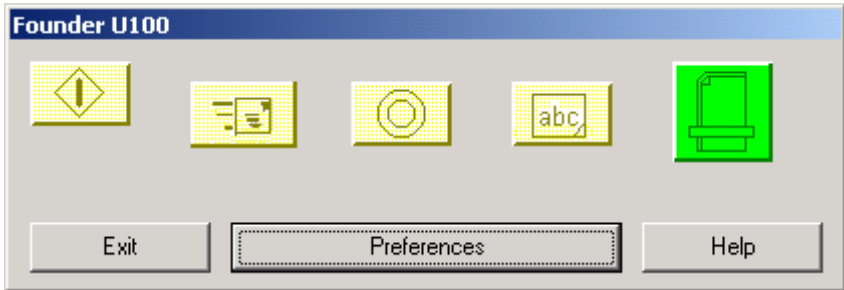
4. After the image is scanned, it is sent to your default e-mail program and attached to a blank e-mail, ready to be addressed

and sent. Note that you must wait at least ten seconds for the e-mail program to load.



## Preferences

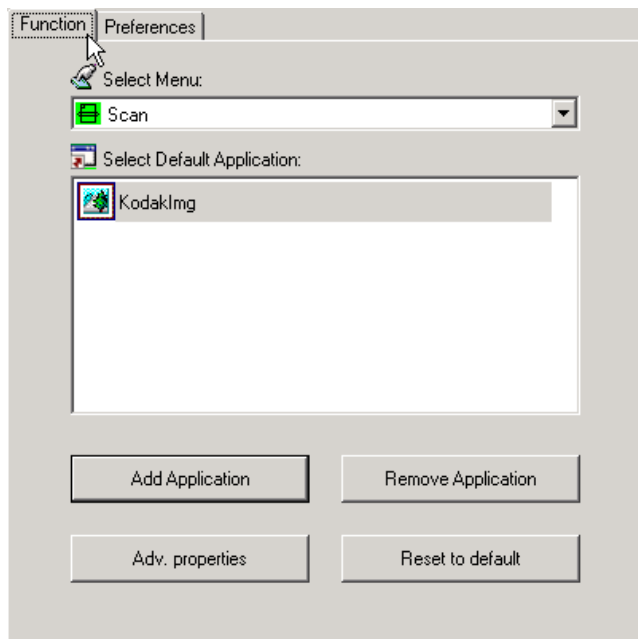
The **Preferences** dialog box enables you to configure the settings for each button and assign applications for post processing. Double-click the scanner icon  in the Windows taskbar to open the *Founder U100 Utility*:



Click Preferences to open the *Founder U100 Utility* Preferences dialog box:

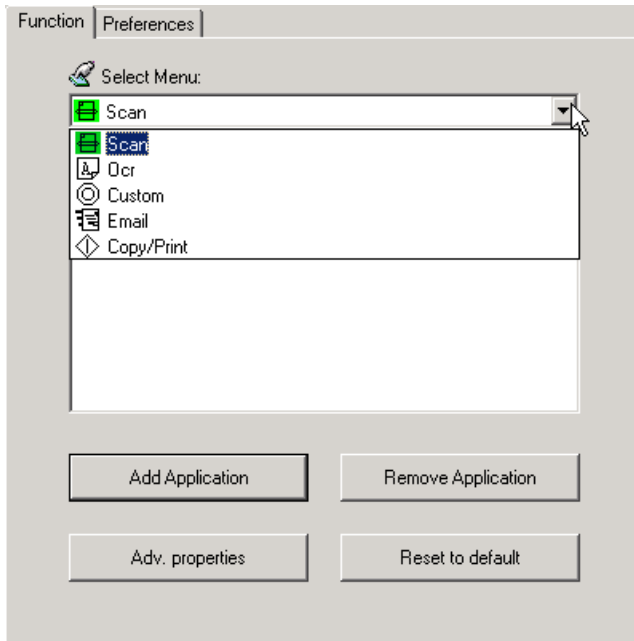
## Function Settings

This section explains how to use the options in the *Founder U100 Utility* Preferences Function Settings tab.



## Select Menu

The Select Menu enables you to choose which button you want to configure and set preferences for. Choose a button from the drop-down menu:



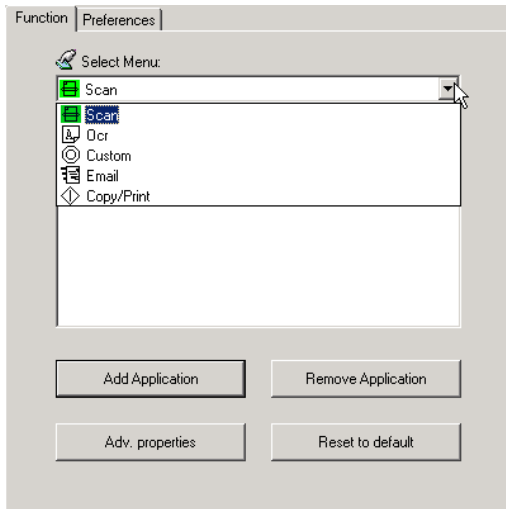
After selecting a button, you can add or remove an application associated with it, set advanced properties, or reset the button to the default values.

### ***Add Application***

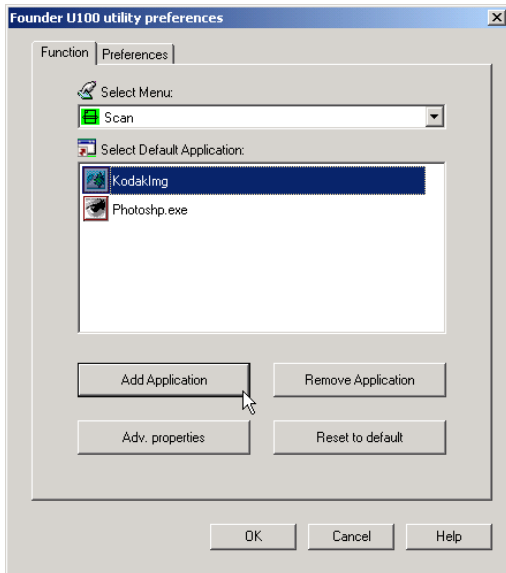
Use **Add Application** to associate an application to a button for post processing scanned images or documents.

1. Select a button from the drop down list.

## Using the Founder U100 Utility - Select Menu

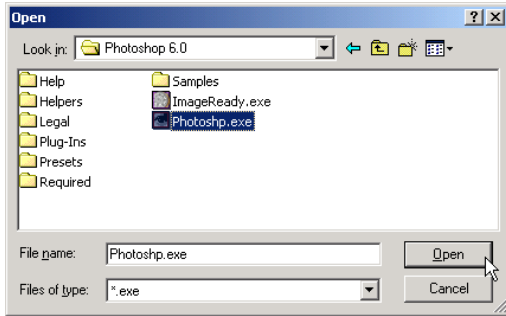


2. The button's default application list is displayed:

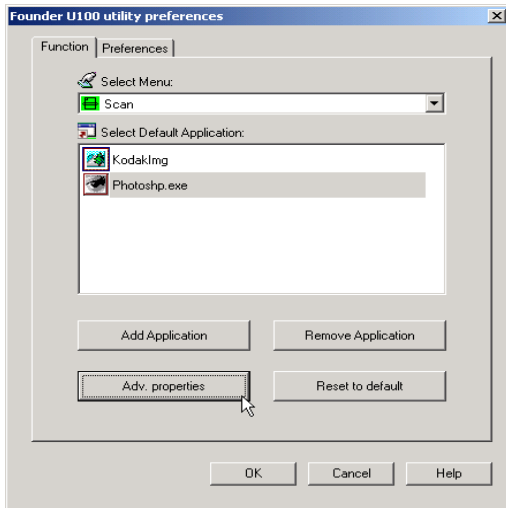


3. Click **Add Application**. The **Open** application dialog box is displayed:

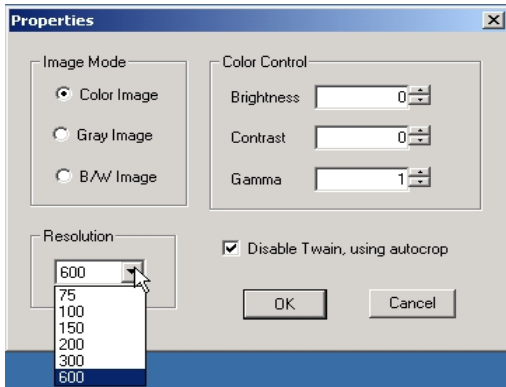




4. Browse to the location of the application that you want associated with the button. Click **Open** to add the application to the default application list:



5. Select the application and click **Adv. Properties**. The **Properties** dialog box is displayed:



The Properties dialog box enables you to set the following items:

- **Image Mode:** select color, gray, or black & white (B/W) for output image mode.
- **Color Control:** enter the brightness, contrast, and gamma in the boxes.
- **Resolution:** select the output resolution from the drop-down menu. You can select a resolution from 75 to 600 dpi.

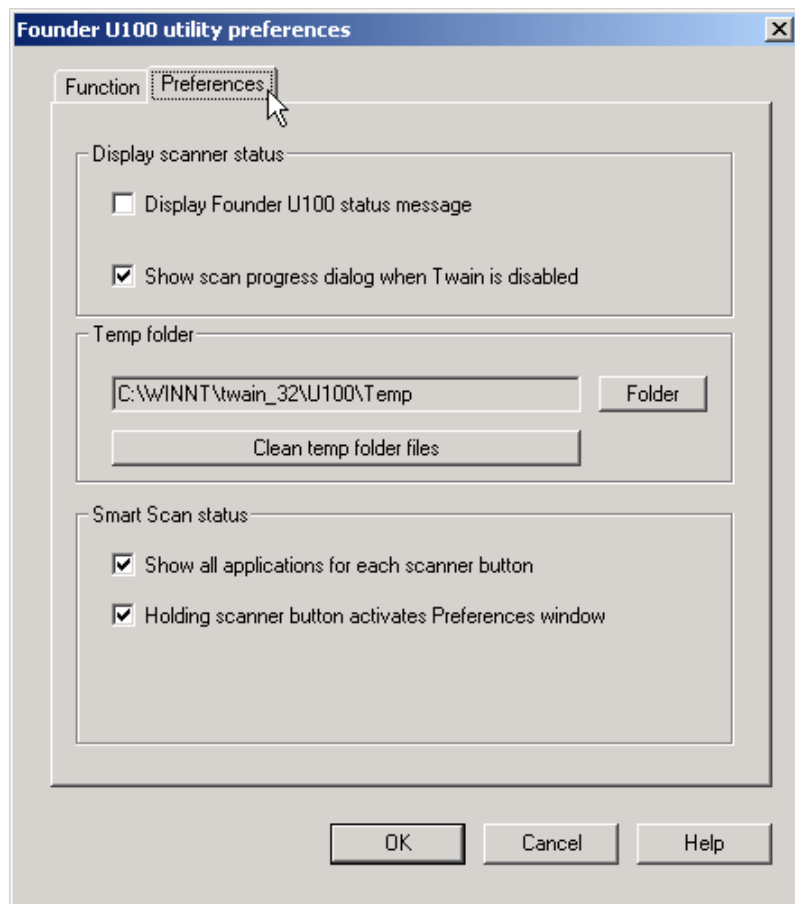
Check the box next to **Disable TWAIN, using autocrop**, to have images scanned directly to the application without being opened in the TWAIN dialog first. The image is automatically cropped before opening in the application.

Click **OK** to save your changes and return to the **Founder U100 Utility Preferences** dialog box or click **Cancel** to exit without saving changes.

To remove an application from the button's default application list, select the application and click **Remove Application**. To return the button's application list to the default settings, select the application and click **Reset to default**.

## Preference Settings

In the *Founder U100 Utility* Preferences dialog box, click the Preferences tab to open the following screen:

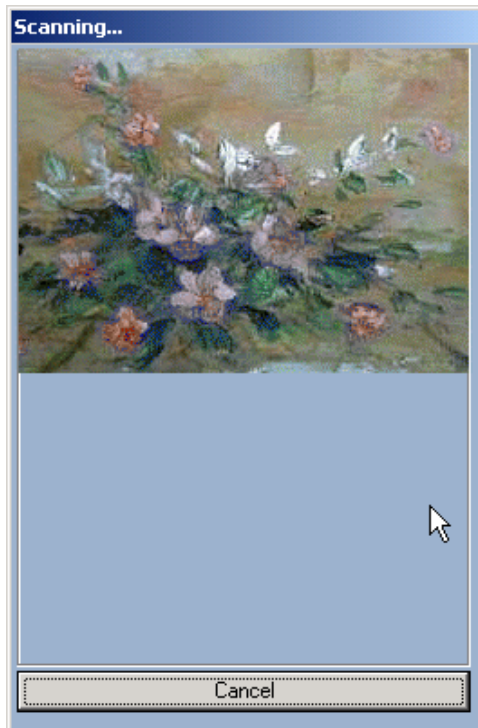


### ***Display Scanner Status***

**Display Founder U100 status message:** click this box to display a *Scanner Activated* message at the top of the Windows desktop:



**Show scan progress dialog when TWAIN is disabled:** click this box to display a scan progress window when the TWAIN box is disabled.



### ***Temp Folder***

This setting enables you to select the folder where image files are stored. Set this folder on a drive with sufficient disk space for large image files. Click **Clean temp folder files** to delete the files in the temp folder.

### ***Smart Scan Status***

**Show all applications for each scanner button:** uncheck this box to display only the applications that were assigned to the button when you installed the software.

**Holding scanner button activates Preferences window:** if this box is checked, pressing and holding any of the buttons on the scanner will open the *Founder U100 Utility* Preference dialog box.

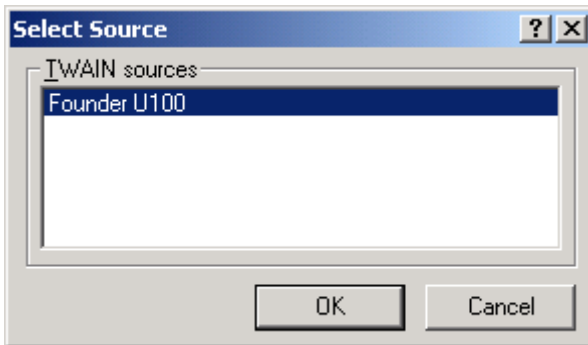
## Scanning with TWAIN compliant applications

In addition to the included Presto! PageManager scanning software, the scanner can also be used with any other application that accepts scans via a standard link called TWAIN. Most major scanning and image software operate using the TWAIN interface, including MGI PhotoSuite, CorelDraw, IphotoPlus, Painter, PhotoDeluxe, PhotoImpact, PhotoShop, TextBridge, and many more. This chapter discusses how to use the TWAIN interface in detail.

### How to Initiate the TWAIN interface

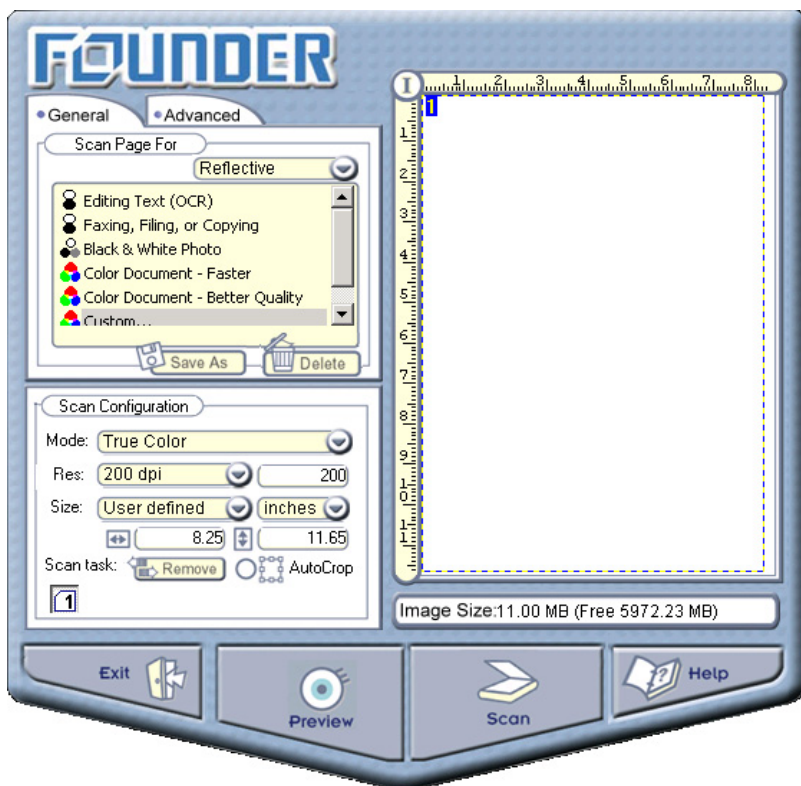
After installing the scanner and associated software, you should be able to find the scanner commands, as follows:

1. From within the TWAIN compliant application, choose **Select Source** in the File menu to show the **Select Source** dialog box. Select the name of the scanner (and, if applicable, the correct model number). Then click **Select** to close the dialog box.

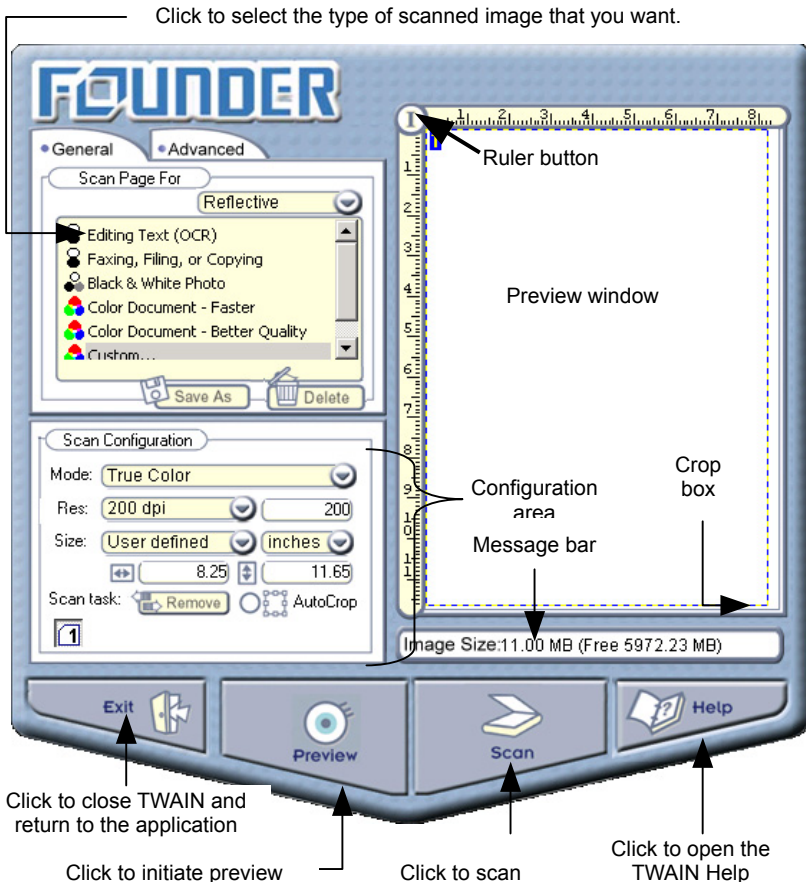


## Scanning with TWAIN compliant applications - How to Initiate the TWAIN interface

2. Choose **Acquire** in the **File** menu, and the TWAIN window will open:



## Scanning settings



### **Preview window**

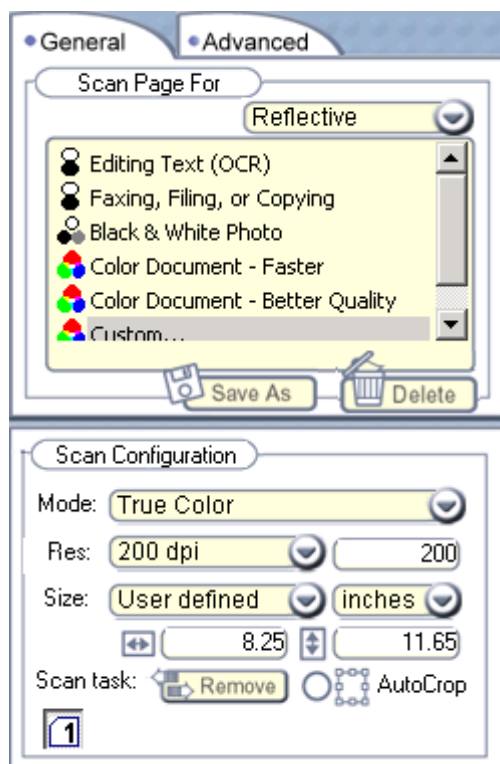
After clicking the preview button, this window shows the document or photo on the scanner glass. You can then view the effects made by changes to the scan settings and define an area to scan: simply drag your mouse to outline the area. You can adjust this area's size by dragging its handles, or its position by clicking on it and dragging. At the top left of the window is a ruler type button; click this to toggle the ruler units between inches, cm, and pixels.

### ***Message bar***

The message bar displays the predicted size of your scan, the current units and the amount of free space on your hard disk. The predicted size changes if you change the scan area size, scan mode and/or resolution. If the image size exceeds the amount of free space, you will not be able to complete the scan. In this case, you can lower the scan mode, resolution or scan area, or create more space on your hard disk.

## **Settings area**

### **General Settings**



### ***Scan page for***

These options are optimized for various types of scanned images. If you don't wish to use one of the preset options, you can set scan



configuration options manually. The following 6 presets are available:

**Faxing, Filing or Copying** : Provides the fastest scan time and the smallest file size. This is the best setting if you want to fax, file, or copy the scanned images.

**Editing Text (OCR)** : Enhances the use of OCR software for converting image text to editable text. Creates higher quality, larger files than the Faxing, Filing, or Copying setting.

**Black & White Photo** : 256-color greyscale provides the most optimal configuration for scanning black & white photos.

**Color Document – Faster** : This is the default setting. Provides the ideal configuration for scanning color photographs or art, or to work with items for image editing or desktop publishing. Results in a reasonably high-quality (1 million color) image, in a file that is not too large.

**Color Document - Better Quality** : Provides the ideal configuration for color photographs or art, or scan images for image editing, desktop publishing or high-quality output. Results in a slower scan time and a larger file size due to a higher (300 dpi) resolution.

**Custom** : Enables you to set the image type and resolution manually. Users can define a new scanning configuration with customized settings, and enter a personalized name for the new configuration.

### ***Scan Mode***

Scan mode determines the amount of color information collected from your original. Choose this option based on whether the original is color or black & white, and on the purpose of your scanned image (i.e., color display, black & white printing, OCR, etc.). Your choice also influences file size; true-color creates the largest files, while grayscale creates smaller files and black & white creates the smallest. When you change this option, notice the projected file size in the message bar: true-color images are three times larger than grayscale and twenty-four times larger than black & white!

#### **True-color**

This scan mode collects the maximum amount of color information from the original, up to around 16.7 million colors! Choose this option for a color original that you want to display, print or edit in color.

#### **Grayscale**

Use this mode for black & white photos or for scanning color material to print on a black & white printer.

#### **Black & White**

Use this mode to scan text or line drawings - a picture or text

containing black lines only, with no colors or shades of gray.

### ***Resolution***

Resolution determines the amount of detail collected from an original. The higher the resolution, the greater the detail. Select a value based on the purpose of your scan. In general, we recommend you keep the resolution *as low as possible*, because the higher the resolution, the slower your scan and the larger the resulting file size. Furthermore, a lower resolution (100-200dpi) when using True Color or Greyscale can capture more color and detail than most printers or monitors can show. When you adjust the resolution, keep an eye on the projected file size in the message bar. The following are suggested settings for various scan file types:

Document Type	Resolution
Text (printed)	300
Text (fax)	200
Text for OCR	300
Black & White or greyscale image	150
Color photo or image	150

### **100 dpi**

For images to display on screen at about the same size as the original in a presentation or on your web page. Also use this for larger images that you will reduce in size to include in a report or presentation and print out on a normal color or black & white printer (with a print resolution of 300~360dpi).

### **200 dpi**

For small images to display at a larger size on screen, or for any image to be printed out at original size on a color or black & white printer (up to 720dpi print resolution). Also use 200dpi (with black & white scan mode) for clear OCR text (larger than 10pt); for smaller text, use 300dpi.

### **300 dpi**

When quality is critical and a lower resolution is inadequate, choose 300dpi for any size image and for any use (to determine if the resolution is too low, look for squares in the image; see below). Also

use 300dpi (with black & white scan mode) for optimum OCR results.

### Over 300 dpi

Unless you have a specific reason for selecting a higher resolution, we suggest you do not, as the resulting file size may be very large and take up a lot of your hard disk space. For example, a 3" x 5" photograph scanned at 2400dpi, true-color will result in a file over 240MB in size.



72dpi



100dpi



200dpi



300dpi



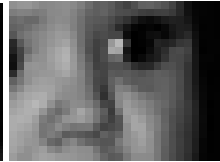
200dpi  
(enlarged 2x)



200dpi  
(enlarged 3x)



200dpi  
(enlarged 4x)



200dpi  
(enlarged 8x)



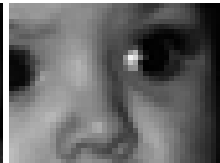
300dpi  
(enlarged 2x)



300dpi  
(enlarged 3x)



300dpi  
(enlarged 4x)



300dpi  
(enlarged 8x)

**Note:** When scanning an image that will result in a file size larger than 25MB, a warning screen will appear giving you the option to cancel.

### *Size*

You can adjust scan size in the preview window, enter a width and length in the size entry boxes, or select a fixed size from the list

## Settings area - General Settings

box. You can move the area by dragging the box. The orientation option swaps the width and height values.

### ***Ruler***

Clicking on the icon in the top left corner of the preview window allows you to toggle the ruler's measurement units from inches to centimeters or pixels ("I", "C", or "P").

### ***Auto Crop***

The auto crop function is disabled by default. Select this option to let the scanner automatically determine the size of the item being scanned. When **AutoCrop** is selected, the scanner makes two passes. The first pass detects the item's size and the second pass scans the item. To enable **AutoCrop**, simply check the **AutoCrop** box in the configuration window.

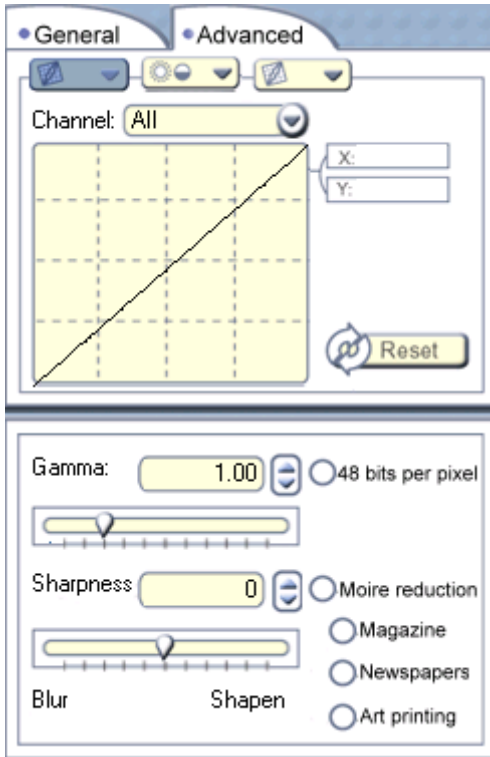
### ***Scan Task***

Displays the previously selected areas for scanning (maximum 10 task areas). To remove a **Scan Task**, select the appropriate number and click **Remove**.

## Advanced Settings

There are three options that can be configured from the Advanced Settings menu – Gamma & Sharpness, Brightness and Contrast. Choose any of these from the menu to open their respective windows.

### Gamma & Sharpness



#### ***Channel***

Select Channel to display the red, green, or blue color curve. The mixed color will be displayed in black. Note: changing the color curve will affect the results of all scanner output.

#### ***X-Y Coordinates***

Display the X and Y coordinates along the curve.

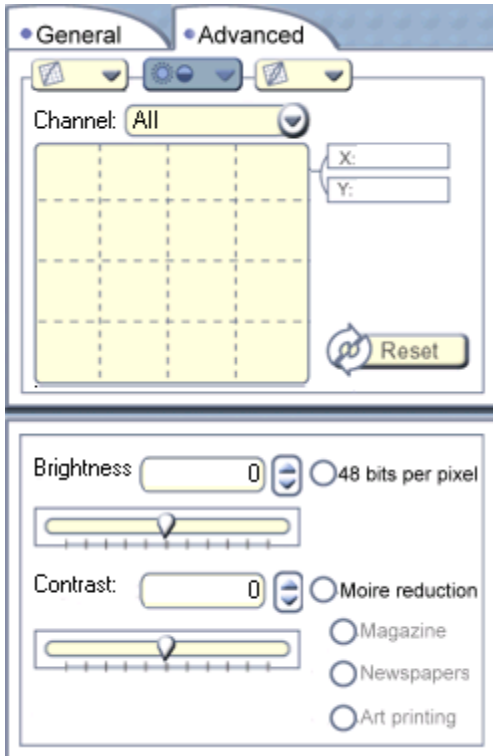
### ***Gamma***

Moving the **Gamma** slider will affect the colors in your image as seen on the monitor. Although the default Gamma setting is ideal for most scans, the computer does not always receive the precise color information from the scanning hardware, and some distortion in color may occur. Through altering the gamma of either the overall image or the selected color, you can achieve the exact coloration you desire.

### ***Sharpness***

Move the slider to make the image sharper or fuzzier.

## Brightness & Contrast



### **Histogram**

A Histogram is a graph of the distribution of red, green, blue, grayscale, hue, saturation, and/or lightness values in an image. The horizontal axis represents the lightness values of the image from black to white (0 to 255). The vertical axis indicates the number of pixels at each value. At a lightness level where there are many pixels of one of the values, the corresponding line spikes; where there are few pixels, it appears close to the horizontal axis. In dark images, most of the pixels are grouped at the left side. If an image is too light, the pixels are grouped at the right.

### **Brightness**

Brightness is a measure, ranging from -100 to 100, of the relative lightness or darkness of the image. Increasing the brightness will bleach the scanning image, while decreasing it will result in a darker

## Settings area - Brightness & Contrast

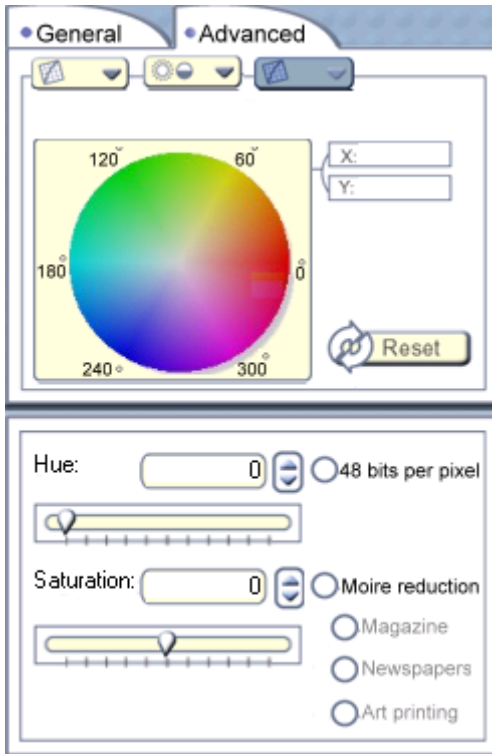
final image. Move the slider to adjust the brightness of the overall image or the selected color.

### ***Contrast***

The higher the Contrast, the clearer the image, while lower Contrast results in blurry images. Increasing the Contrast decreases the mid-range hues, and increases the high and low hues. Generally, adjusting Contrast is used to eliminate spots and shadows from scanned black & white or greyscale images, or to "clean" color images. Move the slider to adjust the Contrast of the overall image or the selected color. This function is not suitable for line drawings or other pure black & white images.



## Saturation & Hue



### ***Saturation***

Saturation is the intensity or purity of the colors displayed in the image. The intensity of the color refers to the color's distance from the shade of gray; a value of -100 represents gray, while a value of 100 represents the most intense color.

### ***Hue***

Hue indicates a color's position on the standard color wheel. At a value of 0, the colors stay true to the original image. Changing hue rotates the color's position by the appropriate number of degrees along the color wheel. For example, selecting a hue value of -30 rotates the color's position 30 degrees, while a hue value of 30 represents a clockwise rotation of 30 degrees. Obviously, the greatest hue values are -180 and 180, which changes all the image's colors to the exact opposite colors according to the color wheel.

### ***Moiré Reduction***

Although not always obvious, Moiré patterns interfere with the quality of your scanned image. Depending on their severity, they can appear as waves or patterns superimposed over your image, or simply make the image fuzzier. Moiré is a form of interference caused by the imperfect alignment between pixels sent from the video card and the screen. They appear in all color scan displays, and more often affect scans of printed images than text, as well as scans at higher resolutions as compared to those of lower resolutions.

Moiré patterns are an inevitable result of scanning, and will not be completely eliminated until significant improvements in monitor technology can be made. If your scanned image is overlaid with a ripple, wave, dot or other odd pattern, select **Moiré Reduction** and scan again to remove this phenomenon and produce a cleaner image.

The scanner scanning in half tone pixels causes moiré, which the screen is not able to display well. **Moiré Reduction** operates by replacing half tone pixels with full tone pixels. Use higher levels of Moiré Reduction for objects printed in Matt finish or on plain paper, while lower levels can be used for originals such as gloss finish photographs. A side effect of using the Moiré Reduction feature is a loss in quality of the scanned image; try different settings until you find a setting that gives the best compromise between quality and clarity.

### ***48 Bits per pixel***

Your scanner is capable of scanning images using 48-bit color depth. This provides a more dynamic color and tonal range, giving your scanned images a smoother and more colorful appearance.

The 48-bit color mode is disabled by default because currently only a few application programs (such as Adobe PhotoShop) can accept 48-bit image data. When disabled, your images will be scanned in 24-bit color mode. To scan images in 48-bit color, simply enable *48-bit Color Mode* in the **Color Options** menu.

## **Tips for correcting scanned images**

The above options are for advanced users and users already familiar with image editing tools. We strongly recommend that beginners do not use these tools until they have become familiar with the scanner and the technical terminology related to image creation. Many image editing software applications also include these functions. If you must adjust image color levels, please choose the appropriate options before you begin adjusting. Below are a few practical tips for

your reference.

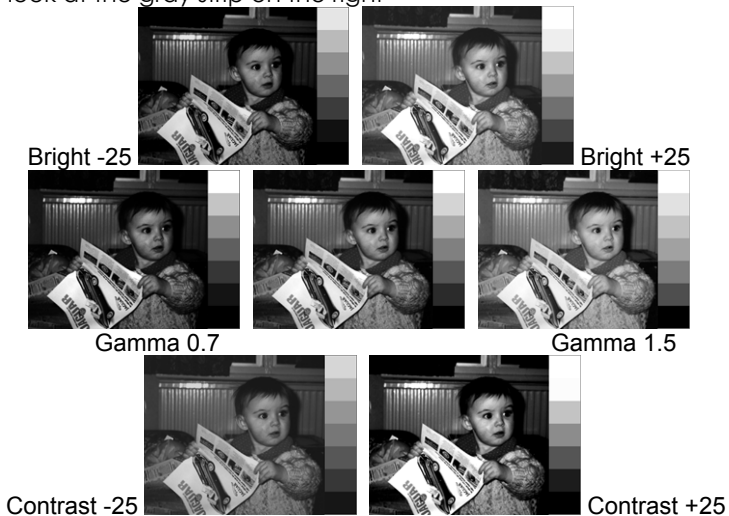
Also known as tone correction commands, these settings adjust images as they are scanned. For example, you may have a photo that is over-exposed (too light); you can thus decrease the brightness or color correction to darken the photo. Contrast makes the difference between dark and light areas more or less obvious. Increasing it increases the difference, while decreasing it reduces the difference. Try small changes at first and view the effect.

Experimentation is the best route to good results. However, for most photos and documents, you will not need to adjust these values.

The color correction control also allows you to adjust the gamma. If you have an "off-color" original, for example one in which skin tones are a little green, try reducing green gamma and/or increasing red gamma. Gamma may be adjusted either by increasing/reducing the gamma of the color, or by reducing/increasing its complementary colors.

After previewing your scan, changes made to these settings are reflected in the preview window. Making changes in this way allows you to experiment without having to scan again to check the results every time.

Hint: look at the gray strip on the right



### **Scanning night shots\***

If you have particularly dark photos (that are correctly exposed) try increasing the gamma a little (maybe up to 1.4) to bring out details in the shadowed areas without affecting the overall tonal range in the image.

### **Scanning snow shots\***

For very light photos, for example from a skiing trip in bright sunlight, reduce the gamma (maybe down to 0.8) to bring out details in the bright areas. This again does not affect the overall tonal range in the image.

- If you use brightness or contrast in the above two cases, you actually reduce the amount of information collected from the original, while gamma collects more information in the darker or lighter areas, and less in the opposite type of area.

### **Scanning text for OCR**

If your OCR result is not satisfactory, it may be because the original is unclear. First, adjust the brightness. Try -10 for bolder text, for lighter, try +10. With this you can increase the contrast slightly for bolder text or decrease the contrast for lighter text.

### **Scanning line art drawings**

If parts of lines fade out after scanning, you can reduce the brightness and/or decrease the contrast in much the same way as for scanning text. Similarly, if you find that scanned lines appear bolder (fatter), reduce the brightness and/or increase the contrast.

## Troubleshooting

This section provides information on maintaining the scanner and answers questions to help you solve problems you might encounter when using it. If you continue to experience problems, or if the problem is not covered in this guide, please contact your local dealer.

### Problems with connections

#### ***Scanner does not respond.***

- Make sure all connections are secure and correct.
- Restart the computer and try again.
- Reinstall the software, restart your computer and then try again.
- Check that the Universal Serial Bus of your computer is Enabled. This setting (Universal Serial Bus Controller) can be found under the System option in your Control Panel in the Device Manager (if in doubt, check Windows Help).

### Problems during installation

#### ***Setup wizard does not autostart.***

- Check your computer system to see if Autostart is available.
- Under Windows, check if your CD-ROM is set to Auto Insert Notification. This setting can be found under the System option in your Control Panel in the properties of your particular CD-ROM model (if in doubt, check Windows Help).

#### ***Cannot find program icons after restarting the computer.***

- If program icons do not appear in the Start menu under Programs, try reinstalling.

#### ***Setup wizard crashes during installation.***

- Reinstall the software.

### Other problems with the scanner

#### ***The scanner's scanning lamp does not light up.***

- Make sure the TWAIN window appears on screen. If not, reselect the TWAIN source and activate the TWAIN interface again.
- Make sure all connections are secure and correct.

#### ***Scanner scans very slowly.***

- Make sure the resolution of the scanner is not set too high (preferably 300 dpi or lower).

- Check your connections (see [Problems with connections](#) above).

### ***Error: Scanner not found.***

Displayed if there is a problem communicating with the scanner. This may be caused by a power outage, misconnection or an installation problem. First check your connections and check that your wall socket and power switches are all turned on. Next check the following:

(1) USB setting is enabled. (2) Power adapter is plugged into the scanner connector. (3) USB cable is properly connected from the scanner to your PC.

## **Problems with TWAIN**

### ***The TWAIN window does not appear after choosing Acquire.***

- Make sure all connections are secure and correct.
- Check that the scanner is selected in the Select Source dialog box.
- Reinstall the software.
- Check your connections (see [Problems with connections](#) above).

### ***Unable to scan to application software.***

- Check that the scanner is selected in the Select Source dialog box.
- Make sure all connections are secure and correct.
- Close all open programs and Windows, restart your computer and try again.

## **Problems with the USB2.0 interface**

### ***The scanner is not operating correctly via the USB2.0 interface.***

- Ensure that you use the USB cable supplied with the scanner.
- Connect the scanner directly to a USB port on the computer, not through a USB hub.
- Use the following procedure to confirm that the computer correctly recognizes the USB expansion card and the scanner.
  1. Right-Click on the **My Computer** icon on your desktop.
  2. Select **Properties** from the popup menu.
  3. Choose the **Hardware** tab and click the **Device Manager** button.

4. Make sure the list of devices contains the **Founder U100** scanner as well as the **USB 2.0** interface.

## **Problems with the scan**

### ***The scanned image is too light or too dark.***

- Check if the Scan Window is clean.
- Adjust the brightness or color gamma settings and try again.

### ***Moiré patterns appear on the scanned image.***

- The original image is commercially printed. Try reducing the resolution by a small amount, for example from 200 dpi to 190 dpi; keep reducing until the patterns disappear. Or you may check **Descreen** under the **Advanced** tab in the TWAIN interface.

### ***Transitions in color are very abrupt (after scanning in true color mode).***

- This is normal if you are using a display mode that can only display 256 or 16 colors. Try using a high- or true-color mode instead. Refer to the Windows Manual and your display card guide for more information.