

EUT:SCANNER

FCC ID:ITEUECVS12P

ULTIMA ELECTRONICS CORP.

USER'S MANUAL

EXHIBIT B

Table of Contents

Getting Started with TWAIN Source

Opening the TWAIN Source Window	3
Main Page	4
Settings in Main Page	5
Destination.....	5
Scan Mode	6
Filter	6
Resolution.....	7
Brightness.....	7
Contrast	7
Control Buttons in Main Page	8
Advance Page	9
Image Enhancement Tools – Image Box.....	9
Zoom	10
Mirror	10
Invert	10
Descreen	11
Gamma	11
HSV	12
Tone Adjustment	13
Auto Color Control.....	14
Color Correction.....	14
Image Enhancement Tools – Special Effect.....	15
Blur	15
Blur More	15
Sharpen.....	15
Sharpen More	15
Preference Page.....	16
Prescan Setting.....	16
Auto Scanning Setting	17
Destination Default Setting	18
Monitor Calibration	18
ErrorMessage.....	20
TroubleShooting	22

There are four property pages available in the TWAIN source window:

- Main page
- Advance page
- Preference page
- About page

Main Page

This page lets your scanner work in the basic mode. All the control settings available here are fundamental to the scanning process. These settings include scanning destination, scan mode, filter, resolution, brightness, and contrast. The Main page window is shown as follows.

Property pages

You can select any property page by clicking the page tag.

Ruler Switch

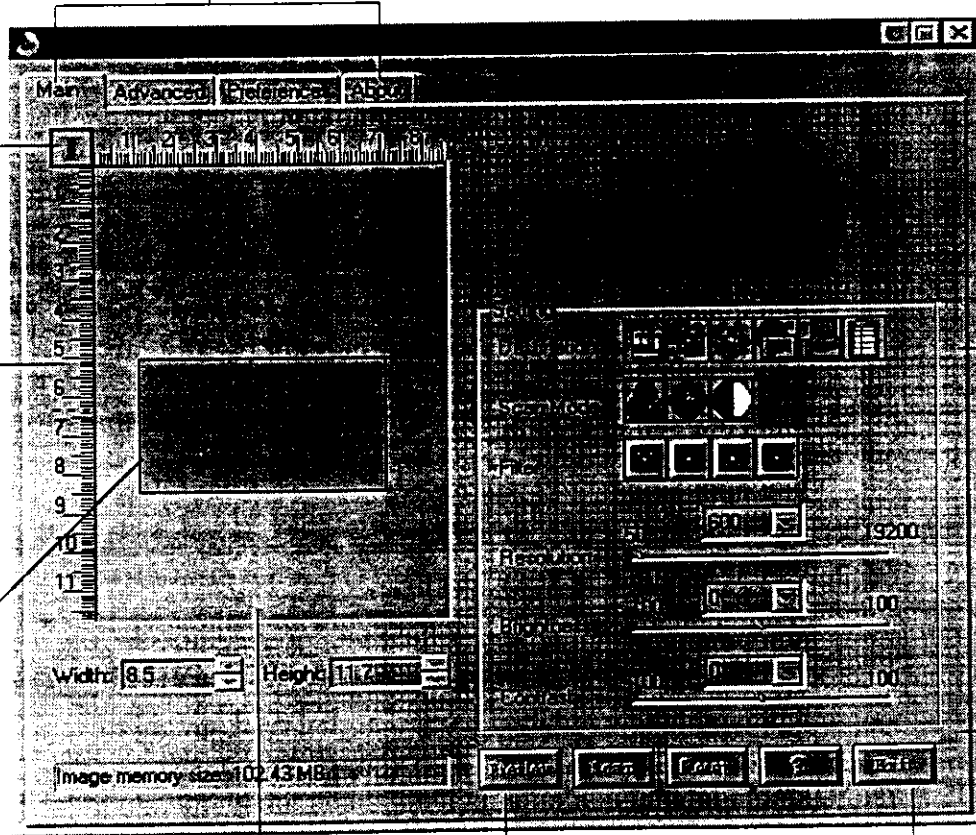
Click here to switch among ruler units.

Ruler

Three measure units are available: Inch, Cm and Pixel.

Scan Rectangle

Lets you define the image area that will be comprised in the final scan.



Preview Window

Lets you preview the prescan image. The maximum size of the preview window is A4.

Control Buttons

Scan Mode

Scan mode lets you decide how the scanner will interpret your image. Three choices are available in the TWAIN source: Color mode, Gray mode, and Black/White mode.

Gray mode

Select Gray mode for images that contain 256 shades of gray.



Color mode

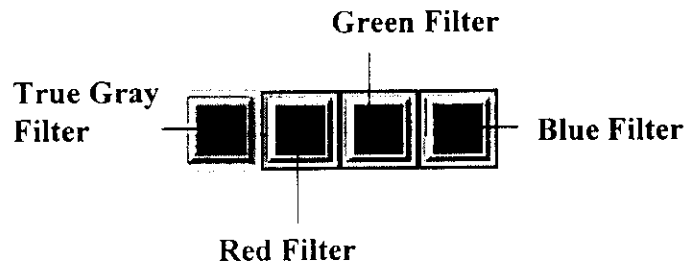
Select this for 24-bit color images.

Line Art mode

Select Line Art for texts and illustrations that contain only black/white without gray shading.

Filter

Filters are provided to produce dropout effects, i.e., to drop the part of the image that is in a color difference from the specified filter. Four options are available: True gray, Red, Green, and Blue filter.



Please note that the filter option will be unavailable if you select the "Color mode" in Scan Mode. The disable filter is shown as follows.



Control Buttons in Main Page

Scan Button

Click the Scan button to perform the final scan and send the result to the destination determined by you.



Prescan Button

Click the Prescan button to perform a prompt low-resolution scan. The prescan image will be displayed in the Preview window.

Help Button

Click this button to get on-line help.

Exit Button

Close this TWAIN source window.

Reset Button

Click this button to return to the default setting.

Zoom

The Zoom command allows you to enlarge the view of an image in the Preview window. However, the zoom function can only enlarge the image view with one defined scale.

To zoom in:

Click the Zoom command. It will magnify the view in the Preview window.

To disable zoom in:

After magnifying the view, click the Zoom command again to reduce the view to its original size.

NOTE:

When zooming in, a vertical scroll bar and/or a horizontal bar will appear to let you scroll through the entire image.

Mirror

Mirror command lets you change the horizontal orientation of a prescan image to one that mirrors the current orientation of the image view across a vertical imaginary line.

To mirror an image:

Click the Mirror command in the Image box.

Invert

The Invert function enables you to make a positive view of a scanned image negative or to make a negative image positive. By applying this command, the brightness value of each pixel will change to an inverse value on 256-color scale.

To invert an image:

Click the Invert command from the Image box after applying the Prescan function.

In the “Channel” checking box:

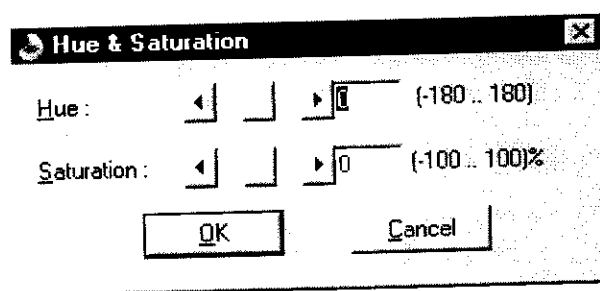
- All** To correct all color components (red, green, and blue) of the image with the same gamma value.
- Red** To correct red component of the image.
- Green** To correct green component of the image.
- Blue** To correct blue component of the image.

If channel “All” is chosen, the gamma value is applied to all the red/green/blue channel. Otherwise, gamma value for red/green/blue is applied to red/green/blue component respectively.

HSV

Choose the HSV command from the Tools menu. The Hue & Saturation dialog box will display and allow you to adjust the hue and saturation of its pixels in an image while keeping the brightness level unchanged.

Hue is the wavelength of light reflected directly from an image and it is represented by the name of colors. Adjusting the hue changes the whole color appearance of the image. Saturation is the strength of the color, referring to how far the color is from a gray of equal intensity. Adjusting the saturation changes the degree of the purity in proportion to the hue.



□ To adjust Hue and Saturation:

1. Hue adjustment

In the “Hue” box, specify an angle value (you can either directly enter the desired value in the edit box or use the scroll bar to select your desired value). The specified angle value represents a move around the color wheel. (Remember that hues are specified as angles on the color wheel. If you are not familiar with the notation of *color wheel*, please refer to any relevant book about color.)

Auto Color Control

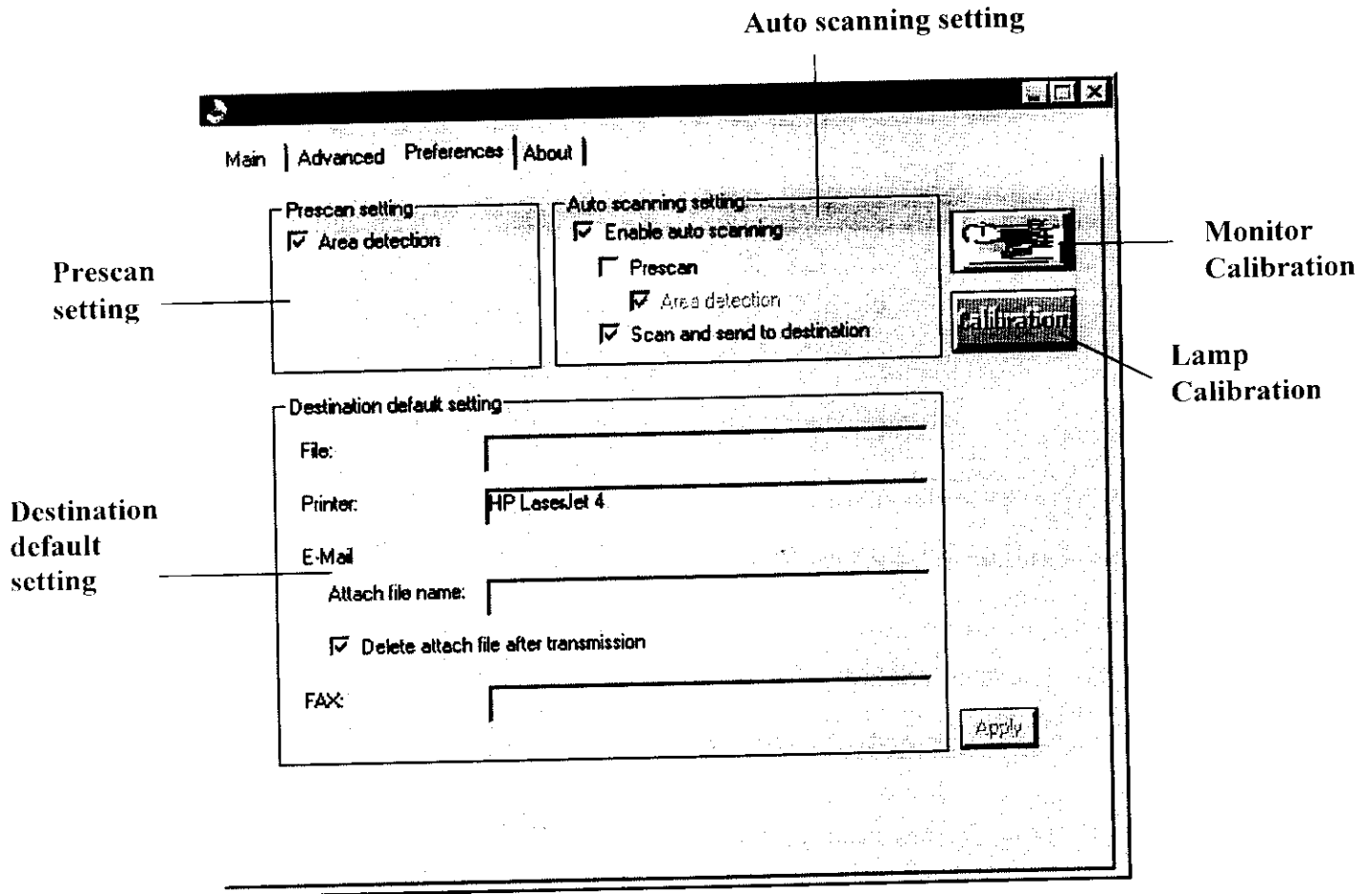
The Auto Color Control automatically adjusts the colors of the scanned document spread over a 256-color scale. Before performing this function, please click on the Preview icon first.

Color Correction

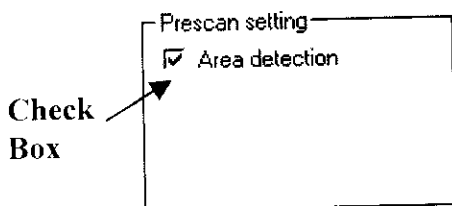
Click on Color Correction icon, and a dialog box will appear. Choose Disable item for scanning without color corrected. Choose Enable Color Correction item for color correction to acquire high fidelity images.

Preference Page

The preference page mainly lets you do three different settings: Prescan setting, Auto scanning setting, and Destination default setting. The preference page is shown as follows.



Prescan Setting



By checking the “**Area detecting**” option in the Prescan setting area, you enable the auto area detection function. Next time you perform the prescan function, the whole area of your scanned image will be automatically highlighted by the scan rectangle in the preview window.

Destination Default Setting

Destination default setting area lets you define the location to save or send your scanned result. You can set up File, Printer, E-Mail, and Fax in this area.

By clicking here, the "Save As" dialog box will display. You can decide the location and folder to save your scanned image file.

Destination default setting

File: _____

Printer: HP LaserJet 4

E-Mail

Attach file name: _____

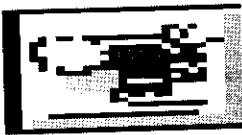
☒ Delete attach file after transmission

FAX: _____

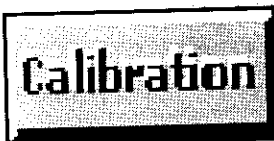
Appoint the printer here. This printer will perform the printing job as you apply the **Send to Printer** in Destination setting.

Type in the fax number to whom you want to send the scanned result.

Monitor Calibration



The Monitor Calibration allows you to adjust the gamma value and gain parameters of your monitor to increase the visual perception. After clicking this icon, a new dialog box entitled "Monitor Color Matching" appears as follows.



The preview scanned image has uneven vertical lines or incorrect color registration. Use this function to rectify the value and acquire better screen display.

Error Message

It will pop-up some messages as you launch the scanner driver. We will explain the errors on the following list.

Error Message	Solution
Insufficient memory to operate.	● Adjust the width of the scan area or the resolution. ● Close all the other applications.
Can't load dynamic library. Failed to load the scanner driver.	● Close all the other applications which probably using the driver. ● Reinstall the driver from driver disk or Scanner CD.
Mail system has not been set up in your computer. Failed to load your E-mail function from the mail library. Failed to log on MAPI. Failed to send the documents via MAPI. Failed to log off MAPI. Failed to log on E-mail system. Failed to send documents via E-mail system. Can't log off.	● Check whether the Microsoft Mail is setup in your computer correctly.
Errors occurred while calibrating.	● Check whether the scanner connects to the computer. ● Make sure that the scanner connects to power, and the LED is on.
No default printer.	● Install a printer driver and connect the printer to the computer.
Can't print. Failed to activate the printer. Failed to prepare the printing job.	● Make sure that the printer and its driver are setup properly.
Failed to activate the fax.	● Make sure that the fax machine and its driver are setup properly.
Failed to send the scanned image to the Clipboard!	● Not enough system memory. ● Close the other applications.
The image is too large to export to	● Reducing the image size by

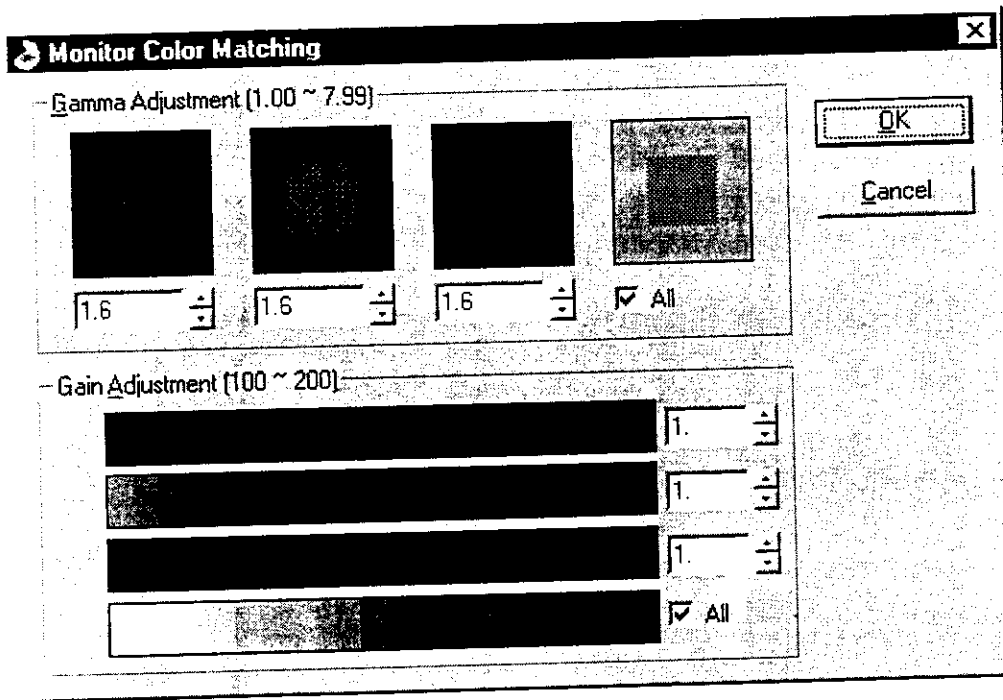
Troubleshooting

If your scanner fails to operate normally, first look through the symptoms listed below and find the one that is closest to the symptom of your scanner. Then follow the recommended remedies listed for that symptom.

No	Symptom	Remedy
01	Scanner does not react.	Please follow these steps: 1. Make sure the power adapter is properly connected. (The LED in the front panel should be on.) 2. Make sure the scanner cable is properly connected. 3. Remove any other EPP device (IOMEGA or Mini SICI device.) 4. Check the BIOS to see if the parallel port is set to "EPP mode." (Please refer to the manuals of your pc and its mainboard.) 5. Reselect the scanner source in the application. 6. Reinstall the scanner driver. 7. Reboot your computer.
02	Scanning speed is too slow.	▶ Lower the resolution (reduce the DPI) 8. Check the BIOS to see if the parallel port is set to "EPP mode." (Please refer to the manuals of your pc and its mainboard.) ▶ Remove EPP device or remove Keypro.
03	Printer does not function.	▶ Make sure the scanner cable and the printer cable are properly connected. ▶ Make sure the LED is on.
04	Scanner does not react when the AutoScan button on the front panel is pressed.	▶ Activate the scanner driver (open the scanner user interface) first, then press the AutoScan button. ▶ Make sure the "AutoScan" function is activated.
05	The TextBridge Classic software does not support Word 97.	▶ Please run the "Tb96updt.exe" in the TBRIDGE folder on your scanner CD. You should then be able to OCR the text into Word 97. You can also download the updated version from this Xerox URL:

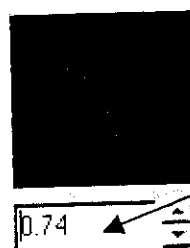
		http://www.xerox.com/xis/tbpro96win/tbpro96wintibsgroupd.htm#tib245 .
06	The image on the screen is too dark or too bright.	▶ Monitors of different brands have different Gamma values which affect the brightness of the image displayed in the Preview Window. Please open the TWAIN source, and click the Monitor Calibration icon on the Preferences page to adjust the Gamma value of the image. You should use the same procedure if this problem occurs in image processing software. ▶ Remove the display screen filter if you have one. ▶ Adjust the light source on your desk.
07	The scanned image is too dark or too bright.	▶ Adjusting the monitor's Gamma value only changes the brightness of the monitor, not that of the scanned image itself. Please open the TWAIN source and adjust the brightness on the Main page. You can also click the Gamma icon in the Advance page to adjust the Gamma value. ▶ Remove the display screen filter if you have one. ▶ Adjust the light source on your desk.

the Clipboard! Image size exceeds 15.9375MB.	adjusting the width or resolution of the scan area.
Cannot save the file. Insufficient disk space.	● Reduce the width of the scan area or the resolution. ● Increase disk space.

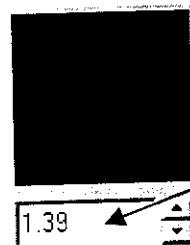


To perform monitor calibration to your computer:

- In the “Gamma Adjustment” box, adjust for a suitable value for each of the primary color channels used by the monitor.



Vary the value here...



....until by your visual judgment the colors of these two areas come to one

To vary the gamma values of the three channels together, check the “All” box.

- In the “Gain Adjustment” box, adjust for a suitable gain value for each of the primary color channels.



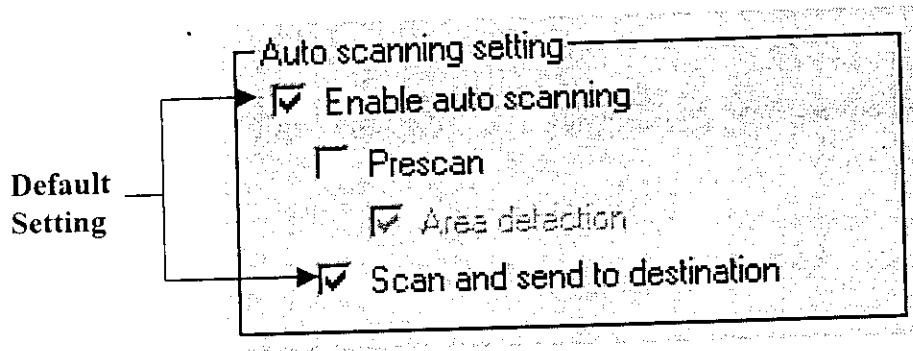
Vary the value here.....

...until by your visual judgment the rightmost edges of this color strip appears black which fades in graduation to the left.

To vary the gain values of the three channels together, check the “All” box.

Auto Scanning Setting

Auto scan is a fully automatic function, which enables you to complete a scanning process with your finger tip. By checking the “Enable auto scanning” option in the Auto scanning setting area, the auto scanning function is empowered. Please note that the default settings for Auto scanning setting are shown as follows.

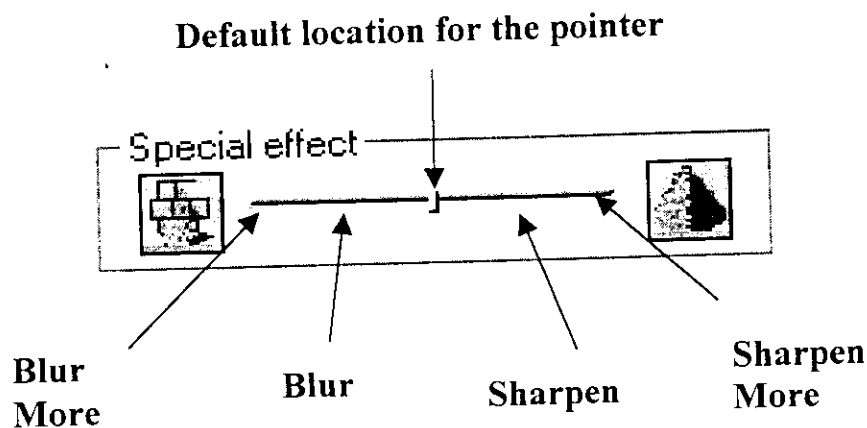


The steps for auto scanning are:

1. Locate the auto scan button which is situated in the front panel of the scanner.
2. Push the button. The scanner will start the scanning process.
3. If you check the “Prescan” box, it first makes a preview scanning and displays the scanned image in the preview windows. (If the “Prescan” box is not checked, you can omit steps 3 & 4.)
4. The scanner performs the auto area detect function (please first check the “Area detection” option) to define the actual area of your scanned image in the preview window. Later, this defined area will be used for final scan.
5. The final scan starts to run and the scanned result will be sent to the destination (e.g., File, Application, Mail, Clipboard, Fax or Disk), which depends on your choice. For the purpose of performing this step, please ensure that the “Scan and send to destination” option is checked. (If the “Scan and send to destination” is not checked, the scanning process will stop at step 4.)

Image Enhancement Tools – Special Effect

Special effect tool enables you to create special and spectacular effects in your scanned image. As you move the pointer to the left, you will get the Blur effect. Reversely, as you move the pointer to the right, you will get the Sharpen effect.



Blur

Blur is used to slightly soften all or part of an image. It smoothes an image by decreasing the contrast between adjacent pixels.

Blur More

Blur more softens the image moderately.

Sharpen

Sharpen gives emphasis to the color differences between adjacent pixels of different colors. It is used to electronically strengthen the focus of blurry images by means of increasing the contrast of adjacent pixels.

Sharpen More

The use of Sharpen more is to moderately sharpen the image.

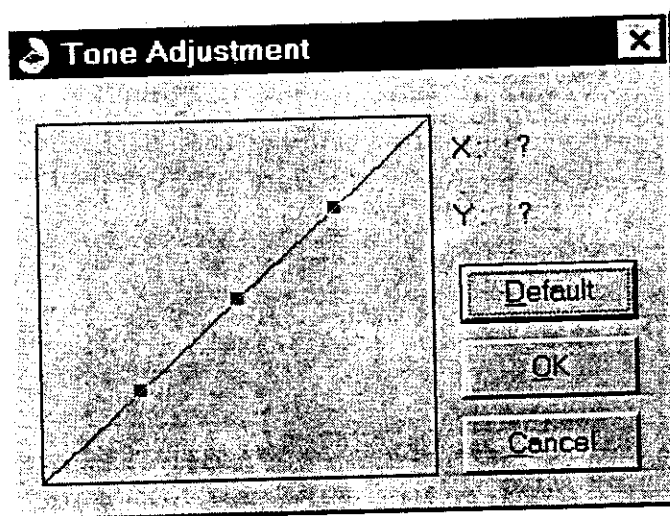
2. Saturation adjustment

In the “Saturation” box, specify a desired percentage value of the saturation. A value of -100 converts the image completely to a grayscale image and a value of $+100$ shows the image with fully saturated hues.

Tone Adjustment

For the purpose of correcting image distortions that take place during scanning, you use the Tone adjustment to make the compensation on scanned images. Tone adjustment allows you control the conjunction between the shadows, midtones, and highlights of your image. Use it to restore detail that is lost in shadows or highlights, to correct over or under-exposure, and to improve the tonal quality of your image.

From the Tools menu, choose “Tone”. A dialog box entitled “Tone Adjustment” appears.

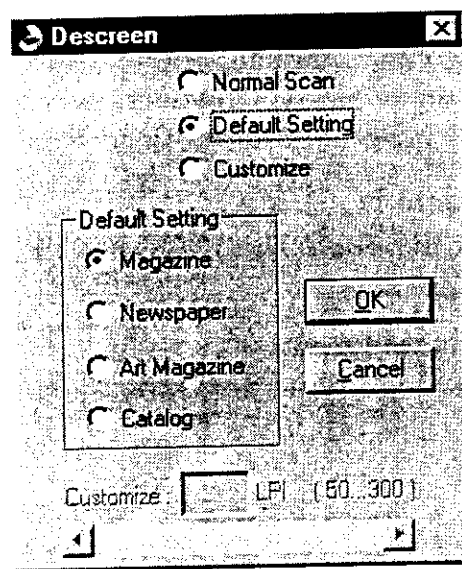


You can adjust the tone value by using the mouse cursor to reshape the tone. Curve-based editing enables you to find out a problem area and make subtle or notable change in that image area. The available range for Tone Adjustment is from 0 to 255, and the default value is $x=130$ and $y=130$.

The Tone Curve takes an original pixel brightness value X as input and Y as a new output brightness value. The resulting curve is a visual representation of the balance between shadows, midtones, and highlights.

Descreen

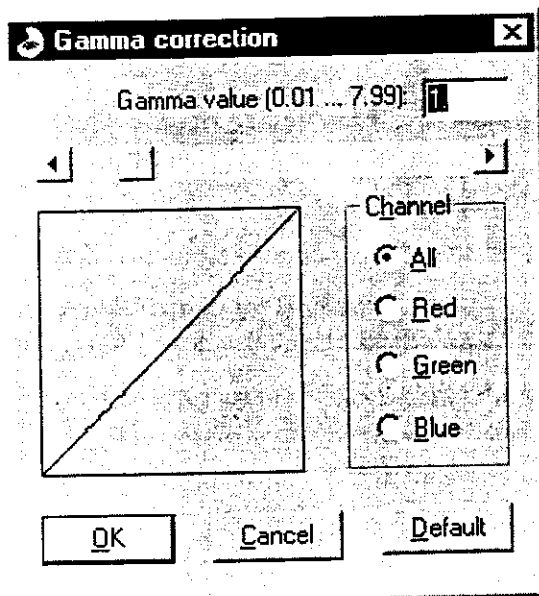
Click the descreen icon, a dialog box titled "Descreen" appears. There are three items in the top dialog box: Normal Scan, Default Setting and Customize. Select "Normal" then descreen will not perform onto the scanned images. Select "Default" to perform the default setting of various document types. In addition, select "Customize" to define your own descreen level by entering a desired value in the number box.



Descreen filter is used to eliminate the moire patterns (wavelike lines) in images. As images are scanned directly from screen-print media (like newspapers or magazines), you should notice that scanned images usually come with wavelike patterns and banding lines. As long as the scanning resolution is not set very high, you can apply this function to remove those annoying effects. (When this function is activated, the scanning speed will become slow.)

Gamma

Sometimes you wish to adjust the brightness of midtones of the scanned image while keeping shadow and highlight areas relatively unchanged. The Gamma correction function allows you to increase or decrease the intensity of the middle gray tones.



The available gamma value ranges from 0.01 to 7.99. The default value is 1.0. Changing the gamma value above 1.0 will brighten the midtones, and below 1.0 will darken the midtones. You can either enter the desired gamma value in the edit box or use the scroll bar to select your desired value.

Advance Page

While including the basic functions of the Main page, the Advance page also encompasses image enhancement tools that can be used to compensate for any color distortion of the scanned image. The Advance page is illustrated as follows.

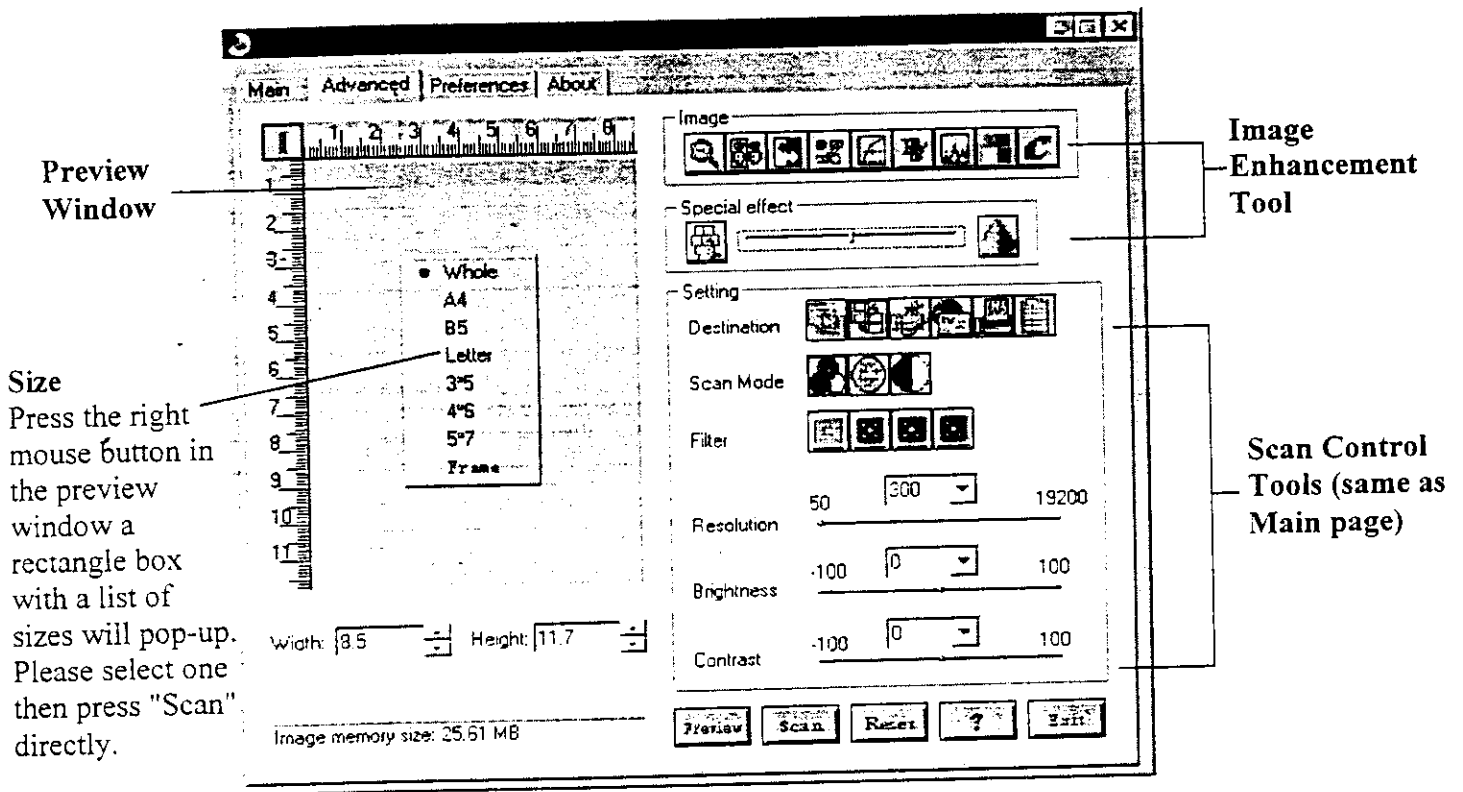
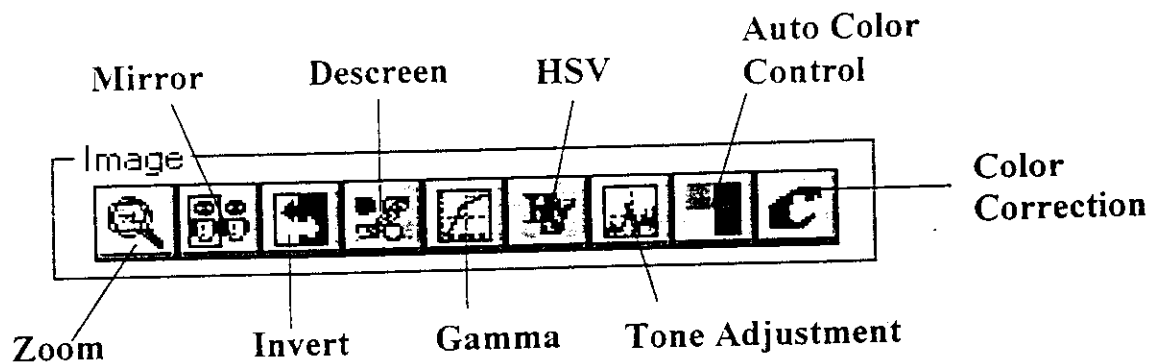
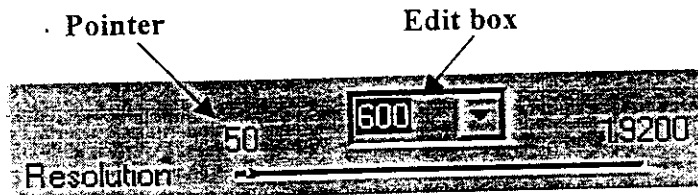


Image Enhancement Tools – Image Box



Resolution

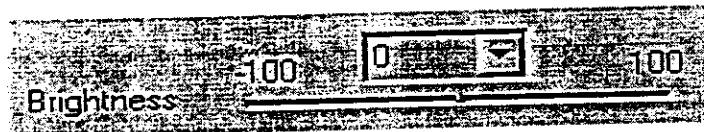
The resolution is measured in dots per inch (dpi), which is used to represent the image detail in a given area. The available resolution ranges from 50 to 19200. Generally, the higher the resolution means the sharper and higher the quality of the scanned image. However, in some cases, high resolution is not necessary because resolution is determined or limited by many factors: image type, the original image's resolution, the output device's resolution, the available memory space in your hard disks, etc.



You can adjust the resolution by dragging the pointer to the desired resolution or directly key the value into the Edit box.

Brightness

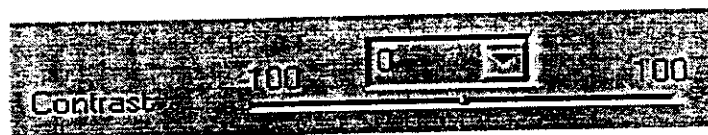
Brightness refers to the intensity of light reflected from or transmitted through an image. The larger the brightness value, the brighter the image appears. You can either drag the pointer or key the value into the Edit box to change the value.



Contrast

Contrast refers to the differences in the brightness between the light areas and the dark areas of an image. The larger the contrast value, the higher the differentiation between the light and the dark areas.

You can either drag the pointer or key the value into the Edit box to change the value.



Settings in Main Page

Destination

Destination is the location where you want your final scanned image to be sent. There are six options available: Application, Disk, Printer, Mail, Fax, and Clipboard.

Send to Application

Click this button to send the scanned image to your application program.

Send to Printer

This selection lets you send your scanned image directly to the printer for a printout.

Send to Fax

This lets you send your scanned image to other people through fax. Please go to the Preference page to set up the fax number.



Send to Disk

Lets you save your scanned image to a disk.

Send to Mail

This function lets you send the scanned image to others through e-mail. Please go to the Preference page to set up the e-mail address.

Send to clipboard

Click this button to save the scanned image in the clipboard and wait for your further application.

NOTE

Make sure that the MS Exchange, MS FAX, Modem and its driver are setup properly. Please refer to Microsoft's web site (<http://www.microsoft.com>) for instructions about setting MS Exchange and MS FAX.

Getting Started with TWAIN Source

Opening the TWAIN Source Window

There are two ways to open the scanner TWAIN source window.

>> To request the TWAIN source from application programs:

1. Choose the "Select Source" command from the File menu of the your application. The Select Source dialog box will be displayed. If you only have installed this TWAIN Source, you can skip this step and step 2. The host application will automatically select it as the default TWAIN source.
2. Select the ARTEC 1236P/636P TWAIN source from the "Sources" list box.
3. Click the "Acquire" command to activate the TWAIN Source.

>> To activate the TWAIN source directly from Windows (stand-alone mode):

1. Click the Windows "Start" button to open the Start menu.
2. Choose Programs > SCANNER 32 > SCAN32 from the menu to run TWAIN source.

NOTE:

Not all application software put their "Select Source" and "Acquire" commands under the File menu. If you couldn't locate these two commands, please check other menus for them. For best results, make sure the Document Cover is closed before performing scan.

FEDERAL COMMUNICATIONS COMMISSION

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. 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 the dealer or an experienced radio/TV technician for help.

Shielded interface cables must be used in order to comply with emission limits.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.