

CyberVision

User's

Guide

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CyberView

User's Guide

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Part 15 This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and if not installed and used in accordance with the instructions, may cause harmful interference to radio communication. However, there is no guarantee interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

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- Increase the separation between the equipment and the 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.

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Safety Regulations

The **ScanAce** 123xS is designed to comply with:
UL 1950-D3
CSA C22.2 No. 950-M89
TUV/GS

Warning: For your personal safety, besides the general maintenance mentioned in the manual, do not try to remove any mechanical parts or any electronic devices. If you need service, contact PIE customer support for reference to an authorized service center in your area.

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The **ScanAce** 123xS is designed to comply with:
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- Vor jedem Reinigen ist das Gerät vom Stromnetz zu trennen. Verwenden Sie keine Flüssig- oder Aerosolreiniger. Am besten dient ein angefeuchtetes Tuch zur Reinigung.
- Um eine Beschädigung des Gerätes zu vermeiden sollten Sie nur Zubehörteile verwenden, die vom Hersteller zugelassen sind.
- Das Gerät ist vor Feuchtigkeit zu schützen.
- Bei der Aufstellung des Gerätes ist auf sicheren Stand zu achten. Ein Kippen oder Fallen könnte Verletzungen hervorrufen. Verwenden Sie nur sichere Standorte und beachten Sie die Aufstellhinweise des Herstellers.
- Die Belüftungsöffnungen dienen zur Luftzirkulation die das Gerät vor Überhitzung schützt. Sorgen Sie dafür, daß diese Öffnungen nicht abgedeckt werden.
- Beachten Sie beim Anschluß an das Stromnetz die Anschlußwerte.
- Die Netzanschlußsteckdose muß aus Gründen der elektrischen Sicherheit einen Schutzleiterkontakt haben.
- Verlegen Sie die Netzanschlußleitung so, daß niemand darüber fallen kann. Es sollte auch nichts auf der Leitung abgestellt werden.
- a - Alle Hinweise und Warnungen die sich am Geräten befinden sind zu beachten.
 - b - Wird das Gerät über einen längeren Zeitraum nicht benutzt, sollten Sie es vom Stromnetz trennen. Somit wird im Falle einer Überspannung eine Beschädigung vermieden.
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 - b - Flüssigkeit ist in das Gerät eingedrungen.
 - c - Das Gerät war Feuchtigkeit ausgesetzt.
 - f - Wenn das Gerät nicht der Bedienungsanleitung entsprechend funktioniert oder Sie mit Hilfe dieser Anleitung keine Verbesserung erzielen.
 - g - Das Gerät ist gefallen und/oder das Gehäuse ist beschädigt.
 - h - Wenn das Gerät deutliche Anzeichen eines Defektes aufweist.
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 - j - Wenden Sie sich mit allen Fragen die Service und Reparatur betreffen an Ihren Servicepartner.
- Somit stellen Sie die Betriebssicherheit des Gerätes sicher.

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CHAPTER 1

Using the CyberView

This chapter gives you a quick overview of how to use CyberView to perform scanning. For a more detailed explanation of the available options of each, see the next chapters respectively. In this chapter, you will find information and instructions for:

1. Powering Up the ScanAce series product
2. Placing the Original
3. Starting the CyberView

Powering Up the ScanAce Series Product

1. Switch on your ScanAce series product you have.
2. Switch on your PC or Macintosh computer system.
3. Wait until the ScanAce series product indicates it is ready.
4. Load the CyberView.

You can load the CyberView through your TWAIN-compliant image processing application software.

Placing the Original

1. Raise the document cover of your ScanAce series product.
2. Place the original facedown on the glass plate.

To scale an image while scanning, you need to place the original facedown with the corner of the original next to the document set mark "0".

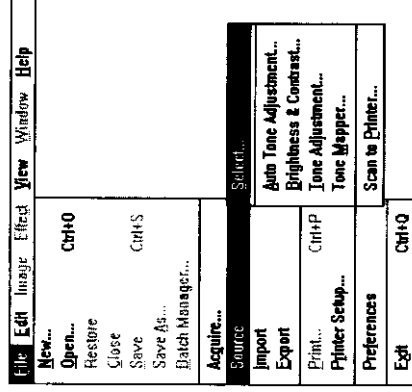
3. Lower the document cover of your ScanAce series product.

Starting the CyberView

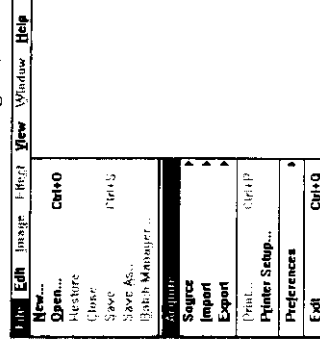
The CyberView can be started from any other TWAIN-compliant application software. The following procedures use ImagePals Go as an example for starting the CyberView. Please note that starting the CyberView within other software follows the same basic procedures.

To start the CyberView from ImagePals Go:

1. If you have more than one scanner connected to your computer or this is the first time you use the ScanAce after you installed it, choose **Select Source** from the File menu. Select PIE Scanner from the options available.



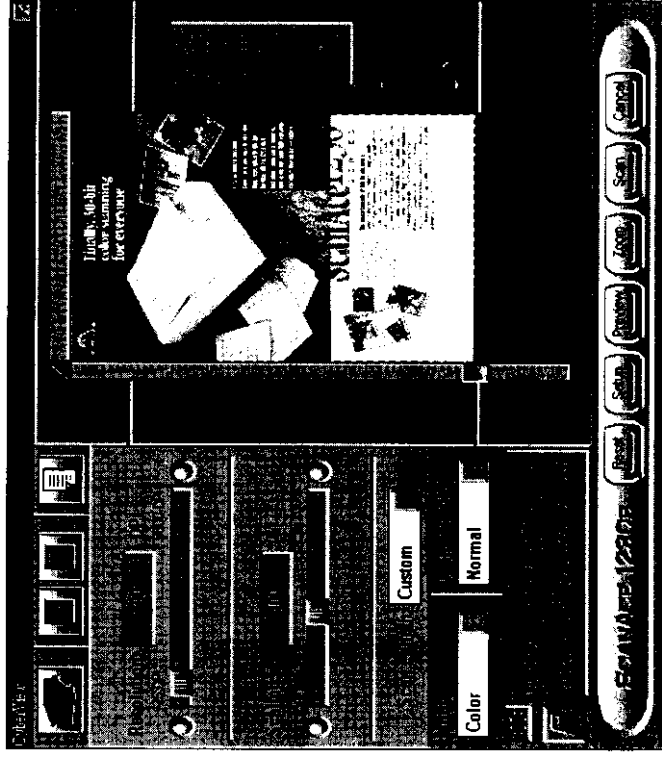
2. From the File menu again, choose the **Acquire** command.



3. The CyberView interface appears.

The CyberView Scan Configuration is displayed.

Parameters such as Color Balance, Gamma, Document Type, Scan Length, Scan Mode, Image Quality, Area Histogram and Calculator are all available for the scan configurations.



Scan Configuration

Using Setup

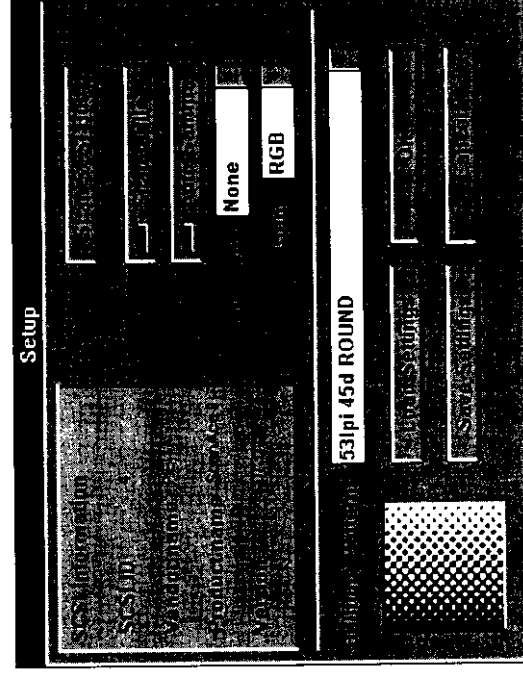
Setup has options for:

1. Scanning the SCSI bus to find the scanner's SCSI ID number
2. Scanning the image to a file
3. Setting scanning options: auto gamma, and film type
4. Choosing the color mode: RGB or CMY used in the software
5. Selecting the halftone pattern
6. Saving and loading setting preferences

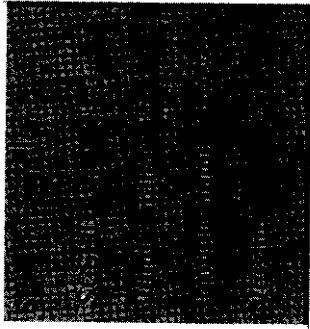


To use the Setup options:

1. Click on the Setup button. The Setup dialog box appears.



If your ScanAce is set up correctly, the SCSI Information will display the correct SCSI ID, Vendor name, Product name and the firmware Version.



Scan SCSI Bus

The Scan SCSI Bus lets you re-scan the SCSI bus to search for the ScanAce in case of loss of SCSI communication between your ScanAce and your PC.

To re-scan the SCSI bus:

1. Click on the **Scan SCSI Bus** button.



Scan to file

Scan to file gives you the option to save your scanned image directly to a file. A green light to the left of **Scan to file** turns on when it is active.

To save the scanned image to a file:

1. Click on the **Scan to file** button.



2. A Save to File dialog box appears. Specify the directory and file name to which you wish to save the image. Click **OK**.

Auto Gamma

Auto Gamma lets you use the corrected gamma for the ScanAce. This gamma is preset by the manufacturer to enhance the shadow details in the image.

To use the Auto Gamma:

1. Click on the **Auto Gamma** button. A green light to the left of Auto Gamma turns on when it is active.



The image in the preview window immediately updates and shows the change. In the actual scan, this gamma is passed to the ScanAce to map the 30 (or 36) bits of data per pixel to 24 bits.

Film Type

Film type gives you the option to convert your scanned film images to an inverted, positive, or negative image.

To convert a film type:

1. Click the arrow at the right of the Film Type box.



2. Four selections appear:

None: No gamma will be applied to your image.

Invert: The gamma is reversed. For example, bright colors are changed to dark, white to black, etc.

Positive film: A preset gamma is applied for a positive film image.

AGFA Negative: A preset gamma is applied.

FUJI Negative: A preset gamma is applied.

KODA Negative: A preset gamma is applied.

The image in the preview window is immediately updated. In the actual scan, this map is passed to the ScanAce to convert the scanned image to the selected film type.

Color

Color lets you choose either RGB (Red, Green, Blue) or CMY (Cyan, Magenta, Yellow) color space for color adjustment.

The CMY color space is not the same as the CMYK used in color separation. The CMY color space is a direct one-to-one translation from RGB color space. The actual scanned image is still encoded in RGB. This tool is useful for people who prefer to work with CMY rather than RGB.

To change color space:

1. Click the arrow at the right of the Color box and select either RGB or CMY from the list box.

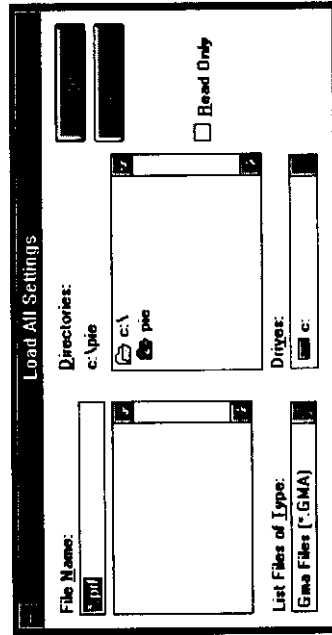


Load Settings

Load Settings lets you recall the resolution, scaling, ruler unit, color balance, and gamma settings you have previously saved.

To load a configuration file:

1. Click on the Load Settings button. The Load All Settings dialog box appears.



2. Select a directory from the Directories box containing the file you want to load.

3. Select the file name from the File Name list box, and choose OK.

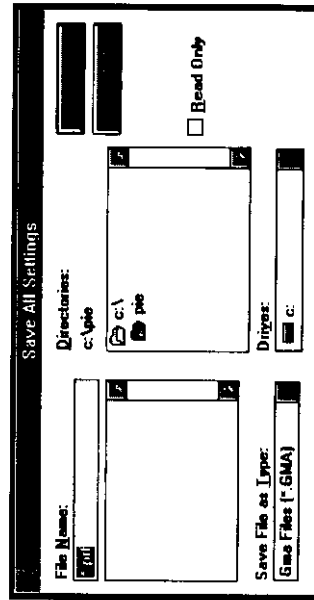
The default file type is *.prf. You can change it to *.GMA for Gamma Settings File.

Save Settings

Save Settings lets you save your current resolution, scaling, ruler unit, color balance and gamma settings to a file.

To save the current settings to a file:

1. Click on the Save Settings button. The Save Settings dialog box appears.



2. Select a directory from the Directories box to which you want to save.
3. Type or select a file name from the File Name list box, and choose OK.

Reset



Reset lets you reset all the scanning parameters to default settings.

To reset all parameters to default:

1. Click on the Reset button.

Choosing a Ruler Unit

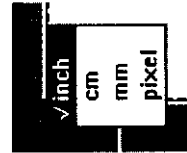
The Ruler Setting button is at the top left corner of the Preview Window. You can select the unit of measurement for the Ruler to inches, centimeters, millimeters or pixels.

To select a ruler unit:

1. Click the Ruler Setting button to bring up the list box.



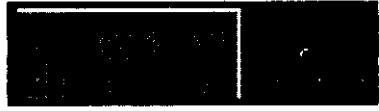
2. Select either inch, cm, mm, or pixel from the list box as your unit of measurement. A check mark (✓) next to the list item is in effect.



Cursor coordinates

The cursor coordinates display in the X,Y box. The zero origin is always the upper left corner on the preview window.

The X (horizontal) and Y (vertical) units are shown in inch, cm, mm, or pixel you selected.



Choosing a Document Type

The CyberView allows you to scan both reflective documents and transparencies (such as films).



Single-Page Reflective Document Icon



Multi-Page Reflective Document Icon



Transparency Icon

To select a document type:

1. Select your desired document type by clicking on the corresponding icon.

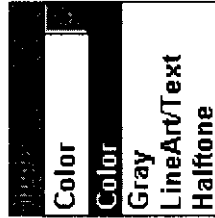
Note: The Multi-Page Reflective Document icon appears only if your ScanAce is connected to an ADF. The Transparency icon appears only if your ScanAce is equipped with the transparency module.

A scanned image is represented in digital form. The Scan Mode you select determines how your ScanAce generates the digital form and type of image it creates. The CyberView supports four scanning modes: Color, Gray, LineArt/Text and Halftone.

The scanning mode can be changed anytime before a preview, zoom, or scan. If a preview is done in color mode, you can switch between color, grayscale, and line art mode without discarding the color information.

To select a Scan Mode:

1. Click the arrow at the right of the Scan Mode box to open the drop-down list box and select a mode.



Color

When you choose Color as Scan Mode, your ScanAce assigns 8-bit for each color. This results in a 24-bit image composed of up to 256 levels of Red, 256 levels of Green, 256 levels of Blue.

Gray

A Gray mode results in an 8-bit image, which contains up to 256 different shades of gray.

LineArt/Text

When you choose LineArt/Text as Scan Mode, your ScanAce assigns one-bit of information to describe each pixel. This results in a 1-bit image where the pixel is either black or white. This feature is useful for text documents containing graphics.

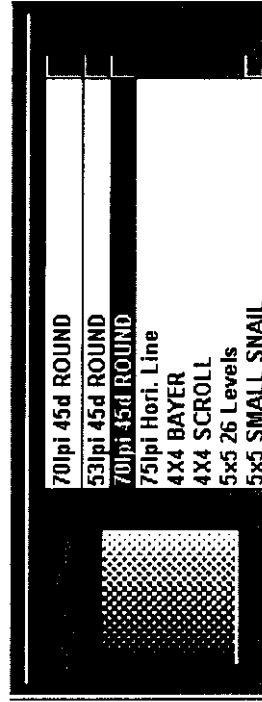
Note: When you create window(s) in LineArt/Text mode, the contents within the window will be converted to Halftone, and the contents outside the window(s) will remain as LineArt. Please refer to the "Mixed Mode Windows Tool" section later in this chapter.

Halftone

The Halftone Mode also results in a 1-bit image composed of black and white values. However, the dots are arranged in a special pattern to simulate shades of gray. This feature is useful for graphic documents containing a few lines of text.

To select a Halftone Pattern:

1. Click the Setup button at the bottom of the CyberView main menu.
2. The Setup menu appears.
3. Click the arrow at the right of the Halftone Pattern box to open the drop-down list box and select one of the patterns.



4. Choose OK.

Note: When you create window(s) in Halftone mode, the contents within the window(s) will be converted to LineArt, and the contents outside the window(s) will remain in Halftone. Please refer to "The Mixed Mode Windows Tool" later in this chapter.

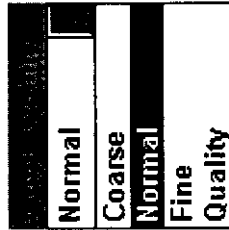
Choosing an Image Quality

Four image qualities are available from the CyberView: Coarse, Normal, Fine and Quality.

The higher the image quality, the clearer the end result. Please note that to generate a better quality image, ScanAce scans the original at a slower pace in order to read image data in greater detail. Therefore, the higher the image quality you choose, the longer the scanning time.

To select an image quality:

1. Click the arrow at the right of the Image Quality box to open the drop-down list box and select a quality.



Previewing Your Image

Setting Page Length (Scan Length)

Before a final scan is made, a low-resolution scan of your document can be done. This quick prescan provides an overview of your image and its orientation before a final scan.

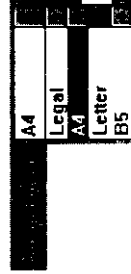
To select the size of preview area:

1. Drag the Scan Length slider up or down to the desired length, or click the arrow at the right of the Scan Length box to open the drop-down list box.



Scan Length
slider

2. Click the up or down scroll arrow, or drag the scroll box to move to the Preset Document Size. The seven available Preset Document Sizes are: Legal (14 x 8.5 inches), A4, Letter (11 x 8.5 inches), B5, 6 Inch and 5 Inch.



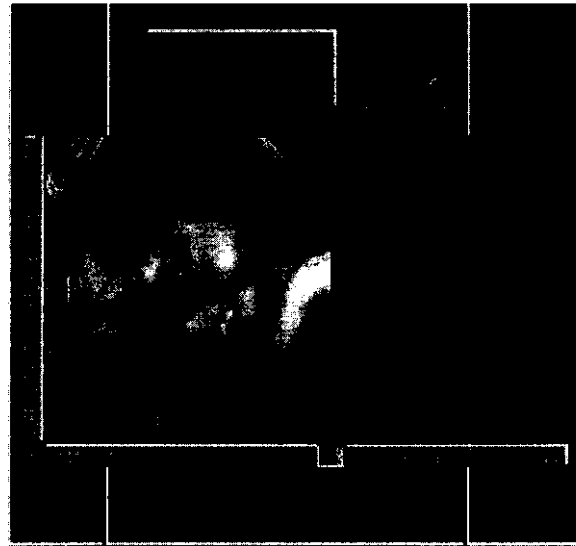
To prescan the image:

1. Click on the **Preview** button.
2. The preview window clears, and the preview scan begins.



*To stop a preview in progress, click on the **Cancel** button or press the **ESC** key.*

3. The image is displayed inside the Preview Window.



The CyberView will re-display the most recently previewed image when you reopen the software.

Using the Quick Zoom Tool

The Quick Zoom Tool lets you quickly zoom in on the preview image for better viewing.

To use the Quick Zoom Tool:

1. Click on the radio button next to the Quick Zoom Tool.



The radio button turns blue when the tool is selected.

2. Move the mouse pointer inside the preview window; the mouse pointer changes to a magnification glass (with "+" sign to mean zoom in).
3. Click on the preview image where you want to zoom in. The image will immediately enlarge to twice the original size.



Original size



Zoom in

4. Vertical and Horizontal scroll bars appear on two sides of the preview window. You can scroll vertically and horizontally to view any part of the enlarged image that exists beyond the borders of the preview window.

To zoom out to the original size:

1. Press down and hold the ALT key. The magnifying glass will show a " " sign.
2. While holding down the ALT key, click anywhere inside the preview window to reduce the image back to its original preview size.

Using the Selection Tool

With the Selection Tool, you can select up to five frames of a prescan image. This is useful for scanning up to five photos or other documents at the same time, or you can select up to five portions of the image or prescan image (*frame*) inside the preview window for calculating histogram, zooming or final scanning.

Only the portion of the image (frame) you selected is captured when the image is scanned.

To activate the Selection Tool:

1. Click on the radio button next to the Selection Tool.



The radio button turns blue when the tool is selected.

With the Selection Tool active, you can create a scanning area frame, or move and re-size an existing frame inside the preview window.

To create a frame:

1. Move the mouse pointer into the preview window. The mouse pointer changes to cross hairs.
2. Drag the cross hairs cursor in any direction to draw a box. Release the mouse button when the box is the size you want. You may select up to five frames by repeating the steps above.

To select a frame:

1. Click anywhere on the outline of the frame or press the TAB key to switch frames sequentially. The selected frame is indicated by a flickering border.

To delete a frame:

1. Select the frame you wish to delete.
2. Press the DELETE key on your keyboard.

To move a frame:

1. Place the mouse pointer inside the frame. The mouse pointer changes to a hand-symbol pointer.
2. Drag the hand-symbol pointer, the outline of the frame moves with it until you release the mouse button.

To re-size a frame:

1. Point to any border or corner of the frame. The cursor changes to two-head arrow.
2. Drag the corner or border to the size you want, and release.

If you drag a border, the frame size changes only on the side of the border. If you drag a corner, the two adjoining sides that form the corner change size at the same time.

The Mixed Mode Windows Tool

When in LineArt/Text mode or in HalfTone mode, you can open up to 8 windows (which can overlap one another). The Mixed Mode Windows Tool is useful for documents containing both pictures and text. It allows you to handle pictures and text respectively in their most appropriate modes.

For clearer text and smoother graphics when using the Mixed Mode Windows Tool, choose the LineArt/Text mode when working on text documents with graphics. For graphic documents with text, choose the HalfTone mode.

Note: When in LineArt/Text mode, the contents within the window(s) you created will be handled in HalfTone, and the contents outside the window(s) will remain as LineArt. Similarly, when in HalfTone mode, the contents within the window(s) you created will be handled as LineArt, and the contents outside the window will remain in HalfTone.

To activate the Mixed Mode Windows Tool:

1. Click on the radio button next to the Mixed Mode Windows Tool.



The radio button turns blue when the tool is selected.

To create a Mixed Mode Window:

1. Move the mouse pointer into the preview window. The mouse pointer changes to cross hairs.
2. Drag the cross hairs cursor in any direction to draw a red rectangular box. Release the mouse button when the rectangular box is the size you want.

You may create up to 8 mixed mode windows by repeating the steps above.

Working with mixed mode windows is similar to working with frames. Follow the respective instructions outlined in the Selection Tool (page 36-37) section for **selecting, deleting, moving and re-sizing** mixed mode windows.

The Histogram Tool

The Histogram Tool, when activated, calculates and displays a histogram of the portion of the image you have selected. A histogram is a graphic representation of the number of pixels in an image at each brightness (or darkness) value. The Histogram Tool is useful as a reference when adjusting the image.

To activate the Histogram Tool:

1. Click on the **Histogram** button.

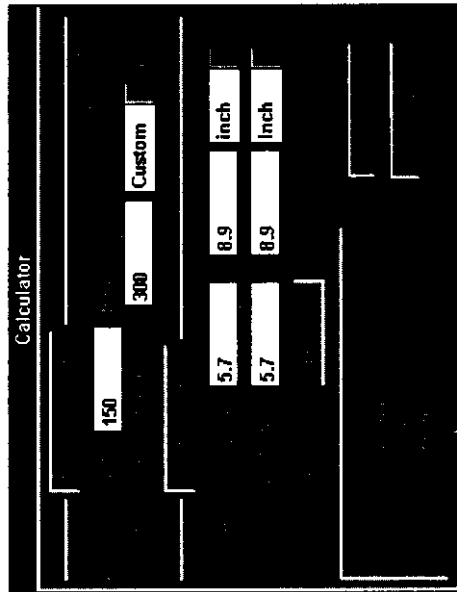


Using the Calculator Tool

The Calculator Tool helps you to set up scanning parameters to scan an image with the right size and resolution for your desired output. You can use the Calculator Tool to either specify a fixed-size selection on the preview image for zoom-in or final scan, or to determine the scanning resolution based on the resolution of the output device and output size.

To specify a fixed-size scanning area:

1. Click on the Calculator button. The Calculator dialog box appears.



2. Select the settings you want to use. For more information about these options, see the list following this step.

The settings in the Calculator dialog box are used in the following ways:

Feature	Function
Line Screen	Specify the halftone screen frequency (lines per inch).
Output Device Resolution	Specify the resolution of output device. For printing applications, the resolution should generally equal two times the halftone screen frequency of the output.
Input Selection	Specify the width and height of the current fixed-size selection.
Output Size	Specify the width and height of the output size if you wish to have your final image size different from your scanning size (enlargement or reduction).

Scan Resolution

Specify the scanning resolution.

The Information box in the Calculator dialog box shows the image size in kilobytes (KB) for your reference. If you are scanning in LineArt/Text mode, refer to the 1-bit size; for Grayscale mode, refer to 8-bit size; and for Color mode, refer to the 24-bit size.



3. Choose OK.

The adjustments you make in the Calculator dialog will replace your previous specifications. You can then move the selected scanning area around in the preview window.

TIP The best way to use the Calculator is to first select the scanning area with either the Selection Tool or the Calculator. Then, specify the resolution of your output device. Finally, specify the output size you desire.

Using Zoom Tool

Zoom lets you see the details of your image close up before you scan. This feature is different from the Quick Zoom Tool. The Quick Zoom Tool enlarges the image by *software interpolation*, i.e. pixels are created and inserted for the enlargement. The Zoom tool actually calculates the preview resolution based on the selection box (*rectangular frame*) and re-scans the image at the higher resolution.



To use the Zoom Tool:

1. Click on the **Preview** button to display a preview image inside the preview window.
2. Use the Selection Tool to create a rectangular frame (selection box) for the area you want to view.
3. Click on the **Zoom** button. The preview window clears, and the zoom scan begins.

Click on the **Cancel** button or press **ESC** key to stop a zoom in progress.

4. In a moment, the close-up fills the preview window. The image is enlarged to the highest percent possible that fits in the rectangular frame (selection box).

Use the Zoom Tool to check color values, set highlight or shadow points, and adjust resolution, color balance and gamma settings before your actual scan.

After you adjust scanning setting:

1. To preview the same zoom-in area again;
Click on the **Zoom** button to re-scan the same area again.
2. To preview the entire image again:
Click on the **Preview** button to re-scan the entire image.

CHAPTER 2

Scanning with the CyberView

This chapter describes how to scan with CyberView. It includes information and instructions for:

1. Adjusting Resolution
2. Adjusting Scaling
3. Software Interpolation
4. Controls for enhancing an image
5. Adjusting the Gamma

Adjusting the Resolution

Resolution refers to the number of pixels per inch (dpi) that your scanned image will contain. The larger the dpi, the more quality and clarity the scanned image will have. It is important to scan at the right resolution for a good reproduction of details and shades. Scanning at higher resolution requires more time, memory and disk space. Too low a resolution will cause a loss of details and a grainy effect.

To set the resolution:

1. Drag the scroll box left or right, or type a value in the Resolution box.



Depending on your ScanAce model, the resolution options range from 25 dpi to 9600 dpi, in 1 dpi increments. If you type a value beyond the 25 to 9600 dpi range, CyberView will automatically reset the resolution. Resolution and scaling are interdependent. The higher you raise the scaling percentage, the lower the resolution will become.

You can calculate scanning resolution with the equation:

$$\text{Scanning resolution} = (\text{output frequency}) \times (\text{enlargement\%}) \times (\text{screen ruling})$$

For example, to get a 4"x 6" printed image at 133 dpi with a screen of 2:1 from a 1.0"x 1.5" original, you need to set the scanning resolution = $133 \times 400\% \times 2 = 1064$ dpi.

Note: The ScanAce's scaling range is from 50% to 200%.

You can use **Save to file** from the Setup dialog box to save your resolution setting, along with all the other current settings.

Adjusting the Scaling

Scaling allows you to change the physical size of a scanned image so re-sizing will be unnecessary later.

To set the scaling:

1. Drag the scroll box left or right, or type a value in the Scaling box.



Your scaling options range from 25% to 200% of the original image, in 1% increments. If you type a value beyond the 25% to 200% range, CyberView will automatically reset the scaling. Scaling and resolution are interdependent. The higher you raise the scaling percentage, the lower the resolution will become.

You can use **Save to file** from the Setup dialog box to save your scaling setting, along with all the other current settings.

Software Interpolation

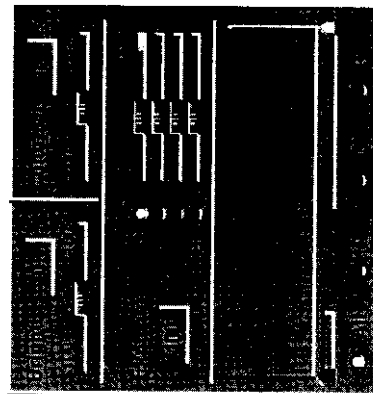
Depending on your ScanAce series model, the optical resolution of your ScanAce series product's hardware is either 600 x 1200 dpi or 300 x 600 dpi. To use the first set of dpi's for example, the ScanAce 1230S can optically resolve up to 600 pixels per inch in X direction and 1200 steps per inch mechanically in Y direction. When the scanning resolution (resolution x scaling) is greater than 1200 dpi, the additional data from the X direction is actually compiled by software interpolation. In the case of software interpolation, pixels are created and inserted by taking the average of the neighboring pixels.

Controls for Enhancing an Image

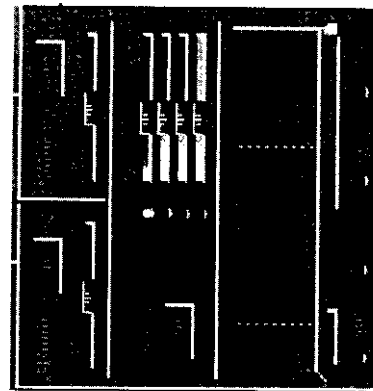
You can enhance an image by adjusting color balance, brightness, contrast, highlight, and shadow.

To bring up the controls for enhancing an image:

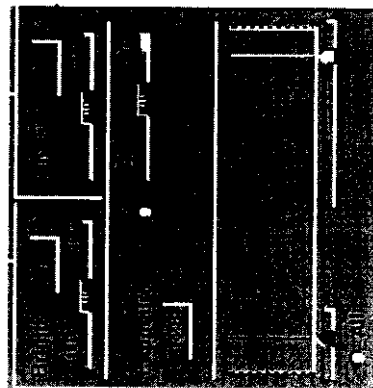
1. Click on the **Color Balance** button. The Color Balance dialog box appears.



Color mode (RGB)



Color mode (CMY)



Gray, LineArt/Text, HalfTone mode

The controls in this group are hardware controls; i.e. when the adjustments are made, the CyberView passes these adjustments to the ScanAce hardware and updates the hardware scanning setting before the image is scanned. Therefore, when adjustments are made, there is no change in the preview window to reflect the adjustments. A new preview, zoom or scan is required to show the effects of these adjustments.

Adjusting Brightness

Brightness controls the lightness or darkness of your scanned image. The higher the brightness value, the lighter the image becomes.

To adjust the Brightness value:

1. Drag the scroll box left or right, or type a value in the Bright box.



The brightness level range from -100% to 100%, in 1% increments. If you type a value beyond than the -100% to 100% range, CyberView will automatically reset the brightness.

After adjusting the brightness,

To preview the image again to see the change:

1. Click on the **Preview** button.

To scan the image with the adjustment:

1. Click on the **Scan** button.

You can use the **Save** to file from the Setup dialog box to save your brightness setting, along with all the other current settings.

Adjusting Contrast

Contrast controls the difference between light and dark pixels of your scanned image. It sharpens your scanned image by increasing the contrast of adjacent pixels. Therefore, the higher the contrast value, the sharper your scanned image becomes. A very low contrast makes colors tend towards a mid-tone gray. Blemishes in your image document or dust particles on the glass plate may also become distinct by applying the contrast control.

To adjust the Contrast value:

1. Drag the scroll box left or right, or type a value in the Contrast box.



The contrast level ranges from -100% to 100%, in 1% increments. If you type a value beyond the -100% to 100% range, CyberView will automatically reset the contrast.

After adjusting the contrast,

To preview the image again to see the change:

1. Click on the Preview button.

To scan the image with the adjustment:

1. Click on the Scan button.

You can use the Save to file from the Setup dialog box to save your contrast setting, along with all the other current settings.

Adjusting the RGB Values

Each pixel in your scan represents a mixture of three primary colors: Red, Green and Blue. You can enhance or decrease the levels of these colors individually by clicking on the R, G, B radio button and dragging the slider bars, or by clicking on the All radio button and dragging the All slider bar to change the RGB color levels simultaneously.



To adjust the color levels:

1. Click on the color radio button next to All, R, G, B.
2. Drag the slider bar left or right, or type a value in the Exposure box.

If you click on the All radio button, the R, G, B levels change simultaneously.

The RGB color level ranges from 25% to 200%, in 1% increments. If you type a value beyond the 25% to 200% range, CyberView will automatically reset the level.

After adjusting the color levels,

To preview the image again to see the change:

1. Click on the Preview button.

To scan the image with the adjustment:

1. Click on the Scan button.

You can use the Save to file from the Setup dialog box to save your RGB level settings, along with all the other current settings.

Adjusting the CMY Values

You can change the RGB adjustments to CMY (Cyan, Magenta, Yellow). This tool is useful for people who prefer to work with CMY rather than RGB.

To change color from RGB to CMY:

1. Click on the **Setup** button. The Setup dialog box appears.
2. Click the arrow at the right of the Color box and select the CMY from the list box.



You can enhance or decrease the levels of CMY colors individually by clicking on the C, M, Y radio button and dragging the slider bars, or by clicking on the All radio button and dragging the All slider bar, you can change the CMY color levels simultaneously.



To adjust the color levels:

1. Click on the color radio button next to All, C, M, Y.
2. Drag the slider bar left or right, or type a value in the Exposure box.
If you click on the All radio button, the C, M, Y change simultaneously.

The CMY color level ranges from 25% to 200%, in 1% increments. If you type a value beyond the 25% to 200% range, CyberView will automatically reset the level.

After adjusting the CMY color levels,

To preview the image again to see the change:

1. Click on the **Preview** button.

To scan the image with the adjustment:

1. Click on the **Scan** button.

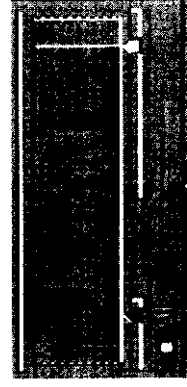
You can use **Save to file** from the Setup dialog box to save your CMY color level settings, along with all the other current settings.

About the Histogram

A histogram is a graphic representation of tonal distribution (the brightness and darkness levels) in an image. It plots the number of pixels at each level. The Histogram Window represents the total range (0 to 255, after converted to 24 bits from 30 [or 36] bits). The tonal distribution in an image can dramatically affect the appearance of an image. You can use a histogram to check for optimum brightness and contrast as you make an adjustment.



Histogram Window
(Color mode)



Histogram Window
(Gray, LineArt, Halftone mode)

TIP The histogram only appears when there is an image in the preview window. For your reference, there are two vertical dotted lines to represent the previous highlight and shadow settings.

Using the Highlight and Shadow Sliders

The CyberView features a powerful graphical solution to assist you in maximizing the graphic information of your scanned image. Below the histogram are two scroll bars with Highlight and Shadow delimiters. These two sliders define the range of the histogram.

To adjust the range of the histogram:

In RGB Color mode:

1. Click on the color radio button next to All, R, G, B.
2. Drag the Highlight and/or Shadow sliders left or right.

If you click on the All radio button, the R, G, B change simultaneously.

To adjust the range of the histogram:

In CMY Color mode:

1. Click on the color radio button next to All, C, M, Y.
2. Drag the Highlight and/or Shadow sliders left or right.

If you click on the All radio button, the C, M, Y change simultaneously.

To adjust the range of the histogram:

In Gray, LineArt/Text, or Halftone mode:

1. Drag the Highlight and/or Shadow sliders left or right.

TIP In case the tonal distribution has too much saturation at highlight and/or shadow, drag the Highlight and/or Shadow sliders outward to the range. If the range is already at maximum, i.e. the two sliders are at the end of the respective scroll bars, you can further expand the range by reducing the contrast using the Contrast controls.

After adjusting the Highlight and/or Shadow delimiters,

To preview the image again to see the change:

1. Click on the Preview button.

To scan the image with the adjustment:

1. Click on the Scan button.

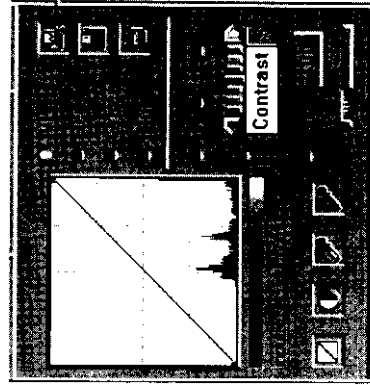
You can use the Save to file from the Setup dialog box to save your Highlight and Shadow delimiters settings, along with all the other current settings.

Adjusting the Gamma

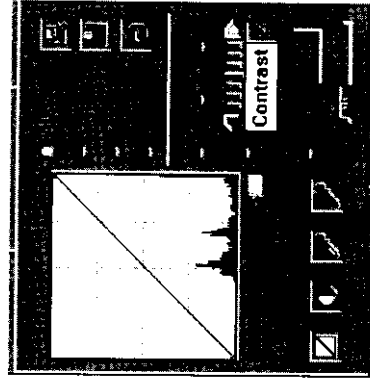
You can make an image enhancement by adjusting the Gamma controls.

To bring up the Gamma controls for adjusting an image enhancement:

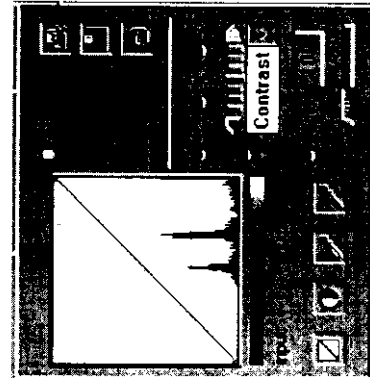
1. Click on the **Gamma** button. The Gamma dialog box appears.



Color mode (RGB)



Color mode (CMY)



Gray, LineArt/Text, Halftone mode

Gamma is basically the level of contrast affecting the mid-grays or mid-tones of an image. The gamma controls let you lighten or darken each color value in an image independently.

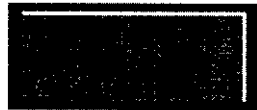
The gamma controls are the most powerful feature in the CyberView. The ScanAce captures 10/12 bits of information per channel (Red, Green, and Blue). These controls let you decide how the 10/12 bits (1024/4096 colors) per channel are converted to 8 bits (256 colors) per channel that your computer uses.

The controls in this group are software controls; for example, when the adjustments are made, the CyberView processes the image in the preview window and shows the result of the adjustments. The processing in the preview image is done in 24-bit mode. Therefore, the histogram may appear to have "gaps" (missing data) when adjustments are made. In the final scan, however, the CyberView passes these adjustments to your ScanAce hardware, and your ScanAce uses these adjustments to map the scanned 30-bit (or 36-bit) image to 24-bit image, which will eliminate any gap in the histogram. Because the final scanned images are acquired from 30 (or 36) bits of data per pixel, image quality is preserved even after mapping to 24 bits.

Using the Gamma Control Line

On the graph in the gamma control display, the horizontal axis represents the input colors (the scanned 10/12 bits per channel), and the vertical axis represents the output colors (8 bits per channel sent to the computer). The lower left corner is black (output value = 0), and the upper right corner is white (output value = 255). When you move the cursor over the graph, input and output values for the point under the cursor are displayed below the graph.

The gamma control line shows the relationship between the input colors and output colors. As you adjust the gamma controls, the gamma control line changes to display the new settings. A straight 45 degree line from lower left to upper right indicates no changes in the color values. Moving any portion of the line up will lighten those colors. Moving any portion of the line down will darken those colors.



XY, Color value box

Any change in the gamma control line defines a new 30-bit (or 36-bit) to 24-bit mapping. The color values next to the preview window show the original color values (top) and the mapped color values (bottom).

If the gamma control line is in the default setting, the top/bottom values are the same. If the gamma control line is adjusted, the value at the top of each color channel indicates the original color values, and the value at the bottom indicates the mapped color values.

Choosing a Gamma Color Channel

In Color mode, when adjusting the gamma, you can apply the changes to Red, Green and Blue color channels simultaneously, or to a single color channel independently.

In Color mode:

To adjust the gamma of all colors simultaneously:

1. Click on the radio button next to All.
2. Adjust the gamma with one of the five different controls: basic, logarithmic, curve, line, and freehand.

To adjust the gamma for a particular color channel only:

1. Click on the radio button next to R, G, or B.
2. Adjust the gamma with one of the five different controls: basic, logarithmic, curve, line, and freehand.

If you are using the CMY color mode other than the RGB, the channels will be CMY instead of RGB.

Setting Basic Gamma

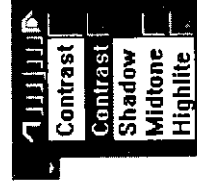
You can adjust the gamma with basic gamma controls. The basic gamma controls let you control the brightness, contrast, highlight, mid-tone, and shadow of the image.

To use the basic gamma controls:

1. Click on the basic gamma radio button.



2. Click the arrow at the right of the basic gamma box to open the list box.
3. Click the up or down scroll arrow, or drag the scroll box to the item you want to select.



4. Click on the level indicator left or right to adjust the gamma control line.

For Brightness control:

Click on the right indicator to brighten the image; click on the left indicator to darken the image.

For Contrast control:

Click on the right indicator to increase the contrast of the image; click on the left indicator to decrease the contrast of the image.

For Highlight, Mid-tone, and Shadow control:

Click on the right indicator to lighten the highlight, mid-tone, or shadow portion of the image; click on the left indicator to darken the highlight, mid-tone, or shadow portion of the image.

With each adjustment, the gamma control line changes, and the preview image will change immediately to reflect the adjustment.

Setting Logarithmic Gamma

You can adjust the gamma with logarithmic gamma controls. The logarithmic gamma controls let you control the logarithmic gamma curve that lightens the shadows and mid-tones more than the highlights.

To use the logarithmic gamma controls:

1. Click on the logarithmic gamma radio button.



2. Drag the slider bar left or right, or type a gamma value in the Logarithmic Gamma box.

Logarithmic gamma control is an intermediate control that gives you a wide range of adjustment from 11% to 779% (uncorrected gamma is 100%)

With each adjustment, the gamma control line changes, and the preview image will change immediately to reflect the adjustment.

Setting Curve Gamma

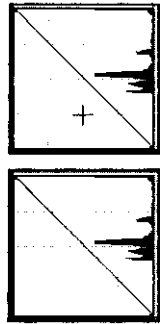
You can adjust the gamma with curve gamma controls. The curve gamma controls let you insert control points on the gamma control line and create variable curves in the gamma control line.

To use the curve gamma controls:

1. Click on the curve gamma radio button.



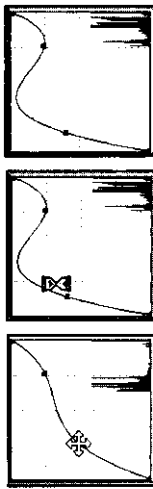
2. Move the cursor onto the graph. The cursor changes to cross hairs.



3. Click anywhere on the graph to set a control point. The line curves to include that point in the gamma correction. You can set a total of 10 points on the curve.



4. Once you have set a control point, you can drag the curve to adjust it. Move the cursor onto any control point so that the cursor changes from cross hairs to cross-arrows. Drag it in any direction to modify the curve. The preview image will change immediately to reflect the adjustment.



5. To remove a control point from the gamma line, move the cursor onto that control point, and drag it out of the gamma graph. Once the control point is removed, the gamma curve refits itself onto the rest of the points to form a new curve, and the preview image will change immediately to reflect the adjustment.

Setting Line Gamma

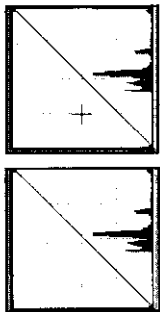
You can adjust the gamma with line gamma controls. The line gamma controls let you insert control points on the gamma control line and create variable line segments in the gamma control line.

To use the line gamma controls:

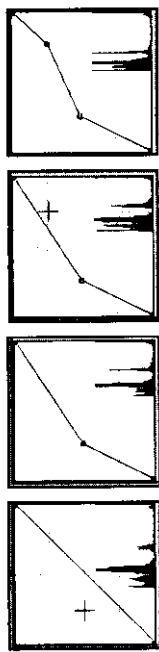
1. Click on the line gamma radio button.



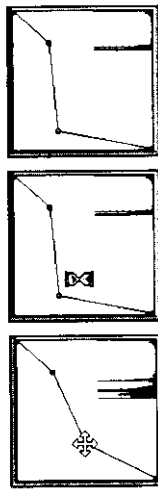
2. Move the cursor onto the graph. The cursor changes to cross hairs.



3. Click anywhere on the graph to set a control point. The line moves to include that point in the gamma correction. You can set a total of 10 points on the line.



4. Once you have set a control point, you can drag the point to adjust it. Move the cursor onto any control point so that the cursor changes from cross hairs to cross-arrows. Drag it in any direction to modify the line. The preview image will change immediately to reflect the adjustment.



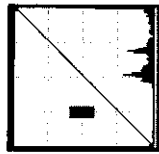
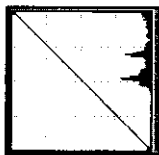
5. To remove a control point from the gamma line, move the cursor onto that control point, and drag it out of the gamma graph. Once the control point is removed, the gamma line refits itself onto the rest of the points to form a new line, and the preview image will change immediately to reflect the adjustment.

Setting Freehand Gamma

You can adjust the gamma with freehand gamma controls. The freehand gamma controls let you draw any shape of gamma.

To use the freehand gamma controls:

1. Click on the freehand gamma radio button.
2. Move the cursor onto the graph. The cursor changes to a drawing pen.



3. Drag the pen anywhere on the graph to draw the gamma. The preview image changes immediately to reflect the adjustment.



Setting Highlight and Shadow Points

Use highlight and shadow points to override ScanAce's calibration and to set certain color values in the image to white and black. You can set these points on any preview or zoom display.

To set a highlight (white) point:

1. Click on the **Highlight Point** button. The cursor changes to highlight eye-dropper.



2. Move the highlight eye-dropper to the spot on your image, either inside or outside the scanning area that you want to set white point.
3. Click to set white point. The preview image changes immediately to reflect the adjustment.

Setting a white (highlight) point lightens the image. The pixel where the point is set becomes white (color values 255). All pixels with a color value equal to or higher than the original value under the white point are mapped to white. The other pixels are re-mapped to corresponding lighter values. Setting your white point on too dark a color can cause loss of detail in the highlight areas of an image.

To set a shadow (black) point:

1. Click on the **Shadow Point** button. The cursor changes to shadow eye-dropper.



2. Move the shadow eye-dropper to the spot on your image, either inside or outside the scanning area that you want to set black point.

3. Click to set black point. The preview image changes immediately to reflect setting black point.

Setting a black (shadow) point darkens the image. The pixel where the point is set becomes black (color value 0). All pixels with a color value equal to or lower than the original color under the black points are mapped to black. The other pixels are re-mapped to corresponding darker values. Setting your black point on too light a color can cause loss of detail in shadow areas of an image.

TIP Use the color values box next to the preview window to check the value of the pixel under the cursor before setting a white (highlight) or black (shadow) point.

Setting Auto Contrast

If you are not sure where to set your highlight and shadow points, the CyberView can help you set the highlight and shadow points automatically with the auto contrast button.

To set the highlight and shadow points by the auto contrast:

1. Click on the Auto Contrast button. The preview image changes immediately to reflect the adjustment.



The CyberView performs auto contrasting by analyzing the histogram and sets the highlight and shadow points so that there is slight saturation (<1%) at both highlight and shadow areas.

Undo Button

During the gamma adjustments, Undo button lets you go back to the previous adjustment.

To go back to the previous gamma adjustment:

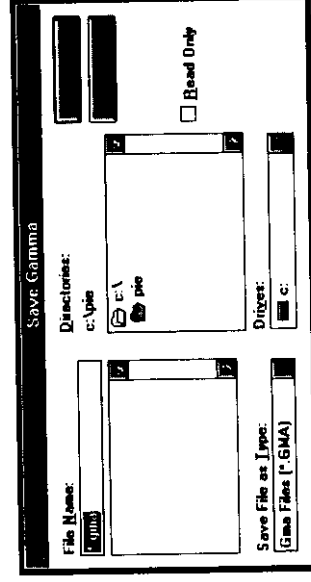
1. Click on the Undo button. The preview image will change immediately to reflect the previous adjustment.



Save Gamma Button

To preserve your gamma correction:

1. Click on the Save Gamma button. The save gamma dialog box appears.



CHAPTER 3

Copying with the CyberView

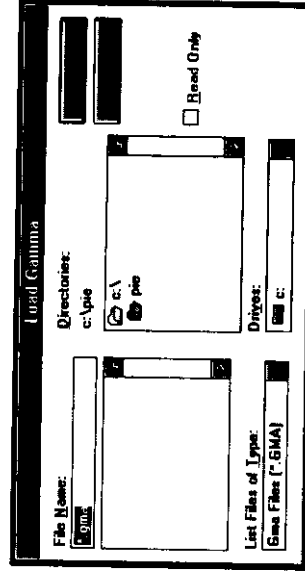
2. Select a directory from the Directories box you want to save.
3. Type or select a file name from the File Name list box, and choose OK.

*The default Save File as Type is *.GMA for Gamma Files. Your gamma correction is saved separately. To save all your settings, including your current gamma correction, use the Save option in the Setup dialog box.*

Load Gamma Button

To restore a gamma correction you have previously saved:

1. Click on the Load Gamma button. The load gamma dialog box appears.



2. Select a directory from the Directories box containing the gamma file you want to load.
3. Select a file name from the File Name list box, and choose OK.

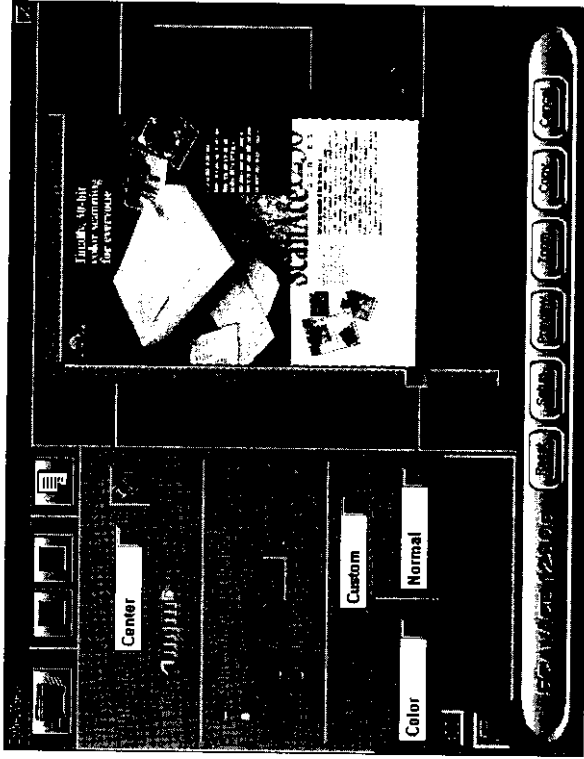
*Note: The default Load File as Type is *.GMA for Gamma Files.*

Through the Copy Configuration, you can make copies in Color, Grayscale, Halftone, LineArt/Text and Mixed Mode. (Refer to Chapter 1 for mixed mode settings). Once you click on the Copy button, the printed copies will print out directly from the printer that is connected to your host computer.



To open the user interface for Copy Configuration:

1. Click on the Scan/Copy Configuration button until the copy icon and the Copy Configuration screen appears as follows:



Choosing a Copy Mode

To select a copy mode:

1. Please refer to the Choosing a Scan Mode section in the chapter, "Using the CyberView".

TIP When you make a copy from a document that contains pictures and text, you can use the Mixed Mode setting. For example, by creating a window around the picture, you can assign Halftone to the picture while the contents outside the window remain as LineArt/Text. For how to set mixed mode, refer to Chapter 1.

Setting up Your Printer Under Windows

To configure your printer under Windows:

1. Double-click on the Print Manager icon in the Main program group.
2. Choose the Printer Setup command from the Options menu.
3. Select an Installed Printer from the list box, or click on Add to add a new Printer-Module.
4. Choose Connect to bring up the Connect dialog box.
5. Select the right printer port as the port you want to assign the printer to.
6. Choose OK.

Choosing a Document Type

The CyberView also allows you to copy reflective documents and transparencies.

If your ScanAce is connected to the optional Auto Document Feeder, you can make multi-page copies.

To select the type of image document that you want to copy:

1. Please refer to the Choosing a Document Type section in the chapter, "Using the CyberView".

Printer Setup



The Printer Setup button provides access to the printer options. If you would like to change any of the printer specifications or options (i.e. printer type, number of copies, print range), select this button.

Setting Page Position

Position allows you to choose where your image is placed on a printout. This function can be useful if you want to print an image on a piece of paper that already has another image on it. For example, if you have two different images from two different files, and you want to print them on the same piece of paper, you can set the Position to fit them both on the same page.

To select image output position:



1. Click on the down arrow button for a drop down list of position options.
2. Click on the option to select it.

Setting Exposure

Exposure is the simplest density control to use when copying transparent documents from Positive Film or Negative Film.

To adjust the Exposure time:

1. Click on the left or right arrow on the level indicator to adjust the exposure time. The left arrow reduces the exposure time while the right arrow increases it.



TIP Because the Exposure value controls the amount of time the target is exposed to light, the higher the Exposure value, the lighter the end result. If your film is dark, you should set a high Exposure.

Copy Area

Once you have selected the scan length, you can either copy the whole document or copy a selected area (frame).

Note: When you choose to copy the whole document, the printable area is predefined by the printer type you connected to the computer.

To copy the whole document within the preset Scan Length:

1. Click on the radio button next to Copy whole document.



To copy a selected area of document within the Scan Length:

1. Click on radio button next to Copy selected area.

Zoom/Fit to Page

Once you have enabled the Copy selected area function, you can proportionately scale the selected area to print as large as possible on the output page by selecting either Zoom or Fit to page.



Note: Zoom/Fit to Page options are available only when you choose the Copy selected area option.

Copy button



To start the copy process:

1. Click on the Copy button. ScanAce scans the document and prints directly to the printer that is connected to your computer.

Image Enhancing Adjustment Controls

Adjusting Brightness

Please refer to the chapter, "Scanning with the CyberView".

Adjusting Contrast

Please refer to the chapter, "Scanning with the CyberView".

Adjusting Color Values

Please refer to the chapter, "Scanning with the CyberView".

Adjusting Gamma

Please refer to the chapter, "Scanning with the CyberView".