

EPSON®  
*Perfection*™  
600

**EPSON Perfection™ 600  
Driver  
User's Guide**

For Microsoft® Windows® 95, Windows NT,  
and Apple® Macintosh®

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# *Introduction*

Congratulations on the purchase of your new EPSON Perfection™ 600 scanner. This guide explains how to use the EPSON Perfection scanner driver software with your scanner.

## **About TWAIN Drivers and Your EPSON Scanner**

When working with graphics, a software interface is needed to transfer images from a device, such as a scanner, into a format that a graphics software application can use. This interface is called a *driver*.

Your EPSON Perfection 600 software follows an image transfer standard known as TWAIN. This software lets you use your EPSON scanner with any



## Introduction



### Note:

The scanner driver operates as a plug-in for Apple® Macintosh® or Power Macintosh™ computers.

host application that also supports the TWAIN standard, such as Visioneer PaperPort LE® and Adobe® PhotoDeluxe™

However, EPSON Perfection 600 does more than simply transfer images from the scanner—it also lets you:

- ▶ Preview the image before saving it
- ▶ Adjust the orientation of the image (such as flip it horizontally or vertically or rotate it)
- ▶ Make corrections to the image (such as adjust brightness, contrast, tone quality)
- ▶ Crop a limited area for scanning
- ▶ Scan multiple frames at one time
- ▶ Scan different types of originals (color, grayscale, or black and white) at the same time

# How To Use This Guide

The information you need to use your EPSON Perfection 600 driver can be found in the following sections of this guide:

## [The EPSON Perfection 600 Main Window](#)

This section gives you an overview of the EPSON Perfection 600 main window and instructions on how to access it.

## [Basic Scanning](#)

This section provides information about the basic steps needed to scan an image.

## [Advanced Scanning](#)

This section presents more advanced scanning techniques, such as how to adjust an image's color or contrast.

## **Keyboard Shortcuts**

This section lists keyboard shortcuts you can use with your EPSON Perfection 600 software.

## **Glossary**

Terms you may not be familiar with are defined in the glossary.

## **Using the Online Cross-references**

Blue text that is also underlined indicates that the text is a cross-reference to other parts of this guide. Click on the text with the mouse pointer to view the referenced information. For example, [click here](#) to view the introduction to your EPSON Perfection 600 software.

## **Cautions, Notes, and Tips**

You'll find this information throughout your guide:



Cautions must be observed to avoid loss of data or damage to your equipment.



Notes contain important information about your scanner software.



Tips contain additional hints for improved scanning.

## Where To Get Help

EPSON provides customer support through the following services:

### *Electronic Support Services*

<b>Service</b>	<b>Access</b>
World Wide Web	From the Internet, you can reach EPSON's Home Page at <b><a href="http://www.epson.com">http://www.epson.com</a></b> .
EPSON Internet FTP Site	If you have Internet FTP capability, use your web browser (or other software for FTP downloading) to log onto <b>ftp.epson.com</b> with the user name <b>anonymous</b> and your e-mail address as the password.
EPSON Download Service	You can call the EPSON Download Service at <b>(800) 442-2007</b> . Set your communications software to 8 data bits, 1 stop bit, no parity. Modem speed can be up to 28.8 Kbps.
EPSON Forum on CompuServe®	Members of CompuServe can type <b>GO EPSON</b> at the menu prompt to reach the Epson America Forum. For a free introductory CompuServe membership, call (800) 848-8199 and ask for representative #529.

## *Automated Telephone Services*

<b>Service</b>	<b>Access</b>
EPSON SoundAdvice™	For pre-recorded answers to commonly asked questions about EPSON products 24 hours a day, seven days a week, call <b>(800) 442-2110</b> .
EPSON FaxAdvice™	Access EPSON's technical information library by calling <b>(800) 442-2110</b> . You must provide a return fax number to use this service.
EPSON Referral Service	For the location of your nearest Authorized EPSON Reseller or Customer Care Center, call <b>(800) 442-2110</b> .



**Note:**

If you need help using third-party software that came with an EPSON product, see the documentation for that program for technical support information.

## ***Telephone Support***

EPSON also provides technical support and information on the installation, configuration, and operation of EPSON products. Dial (800) 922-8911, (310) 782-2600 (U.S.), or (905) 709-9475 (Canada), 6 A.M. to 6 P.M., Pacific Time, Monday through Friday.

Before you call, please have the following information ready:

- ▶ Product name
- ▶ Product serial number
- ▶ Computer configuration
- ▶ Description of the problem

You can purchase manuals, accessories, and parts for your scanner, and ink cartridges and paper for other EPSON products from EPSON Accessories. In the U.S., please call (800) 873-7766.

In Canada, please call (800) 873-7766 for dealer referral.

# *The EPSON Perfection 600 Main Window*

You can perform all scanning activities from within the EPSON Perfection 600 main window.

The following topics are presented in this section:

- ▶ [Accessing the EPSON Perfection 600 Main Window](#)
- ▶ [About the EPSON Perfection 600 Main Window](#)



# Accessing the EPSON Perfection 600 Main Window



**Note:**

The scanner driver operates as a plug-in for Apple Macintosh or Power Macintosh computers.

The EPSON Perfection 600 software is compatible with any TWAIN-compliant program, such as Visioneer PaperPort or Adobe PhotoDeluxe.

To access the scanner software, first open the host application into which you plan to import the scanned image or document. Then select EPSON Perfection 600 as your TWAIN source.

## Windows 95 or NT

To access the main EPSON scanner software window using Windows 95 or Windows NT, follow these basic steps:

1. Start the application into which your scanned image will be imported.



**Note:**

You usually need to select the scanner only once, the first time you use the scanner with your software. The procedures may vary depending on your host application; see your application user's guide for details.

2. Choose your EPSON scanner as the image source.

For example, in PaperPort choose Select Source from the File menu. Highlight Perfection 600 (32 Bit) from the Select Source list, then click Select.

3. Open the scanner software.

For example, from PaperPort choose Acquire from the File menu or click the scanner icon on the tool bar. The EPSON Perfection 600 main window appears.

You're now ready to scan.

## **Macintosh**

To access the main EPSON scanner software window, first copy the Perfection 600 plug-in module from the EPSON Perfection 600 folder on your hard drive to the plug-ins folder for your application.

Once that is done, follow these basic steps:



**Note:**

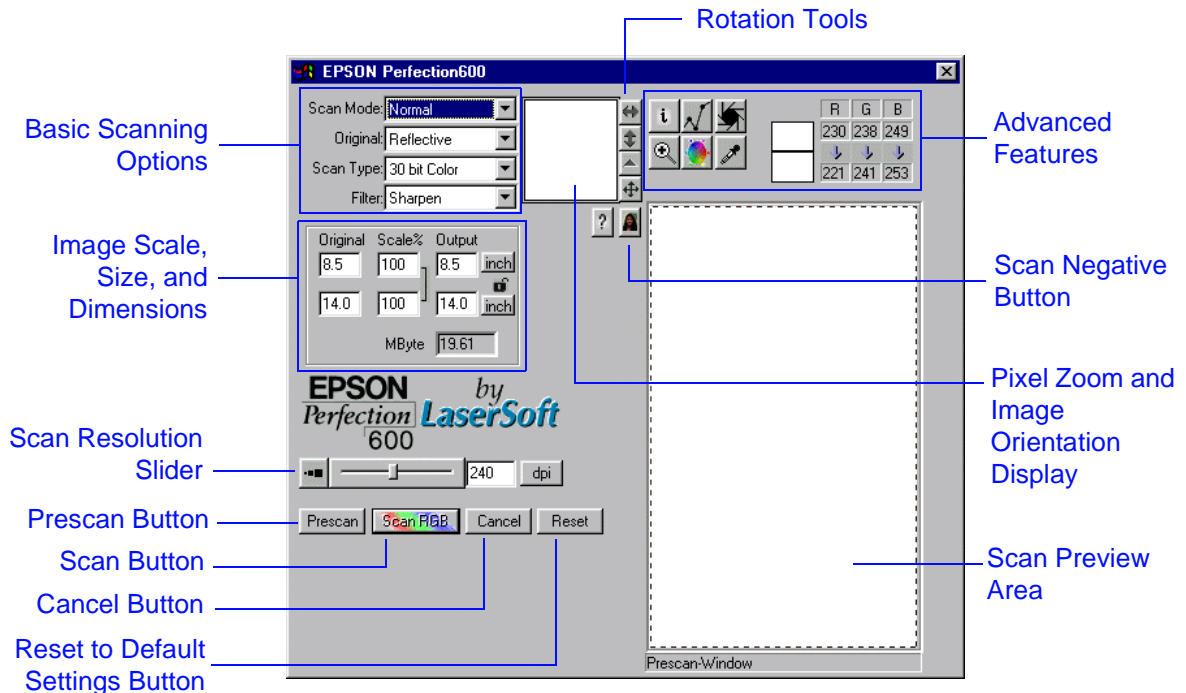
You usually need to select the scanner only once, the first time you use the scanner with your software. The procedures may vary depending on your host application; see your application user's guide for details.

1. Start the application into which your scanned image will be imported.
2. Choose your EPSON scanner as the image source.  
For example, from PaperPort choose Select Source from the File menu. Highlight Perfection 600 from the Select Source list and click Select.
3. Open the scanner software.  
For example, from PaperPort choose Acquire from the File menu or click the scanner icon on the tool bar. The main window appears.

You're now ready to scan.

# About the EPSON Perfection 600 Main Window

When you access the EPSON Perfection 600 software, the main window appears:



The features in the EPSON Perfection 600 main window are basically the same for both the Mac and PC platforms. Any differences in the two platforms are identified in this guide, where appropriate.

Keystroke commands for each platform are listed in [Keyboard Shortcuts](#).

# *Basic Scanning*

## **Overview**

The EPSON Perfection 600 scanner software must be accessed from the host application into which you plan to import the scanned image.

Once you have accessed the EPSON Perfection 600 software, you can preview and manipulate images prior to scanning them into your application.

The following topics are presented in this section:

- ▶ [Basic Steps to Scanning](#)
- ▶ [Changing the Default Settings](#)
- ▶ [Zooming](#)



**Note:**  
When you access the main window, the last frame scanned displays. Click the Prescan button to clear the old image and preview a new one.



**Tip**  
Cropping an image makes the image take up less storage space on your hard drive.

## Basic Steps to Scanning

Perform the following steps to scan an image from your EPSON scanner into a host application.

1. Access the EPSON Perfection 600 main window.
2. Place the original to be scanned on the scanner document table.
3. Select the appropriate [Scan Type](#) and [Scanning Filters](#) for the original you are scanning.
4. Preview the image by clicking the Prescan button.


The prescan function displays the image as it will be scanned. The remainder of this guide covers how to make adjustments to an image before scanning, but for now, continue to the next step.

5. Select the portion of the image to be scanned.

If you are going to scan only a part of the original, use the frame to crop (define) the part of the image

to be scanned. The scanner driver scans only the area within the frame.

To scan the entire original (up to 8.5 x 14 inches), click and drag the frame border to each edge of the previewed image.

To automatically adjust the overall brightness and contrast of the selected image, click the [Auto Exposure](#) button .



Note for Macintosh Users:  
The EPSON Perfection 600 main window closes automatically after the image has been scanned.

6. Click the Scan button to scan and import the image to your host application.
7. After the image has been scanned, click Cancel to close the EPSON Perfection 600 main window.

The following is an example of a framed image:







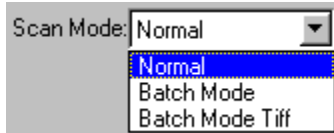
Note:  
You can restore the default scan settings by clicking the Reset button.

## Changing the Default Settings

The prescan feature lets you preview the image to see how it will look when scanned. If any adjustments are needed, change one or more of the following settings to obtain better results.

### Scan Mode

The scan mode indicates how an image should be scanned. Select one of the following:

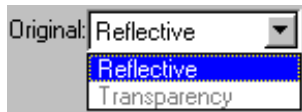


- |                 |  |
|-----------------|--|
| Normal          | Sends a single scanned image to the host application. This is the default mode.  |
| Batch Mode      | Scans several individual images at the same time and sends them all to the host application.   |
| Batch Mode Tiff | Is similar to Batch Mode, except that scanned images are saved directly to a TIFF file instead of imported into your host application. |



Note for Macintosh Users:

The Batch Mode option may appear active, even if the host application doesn't support batch scanning.



The Batch Mode option is available only if your host application can open more than one image at a time. For example, Batch Mode is “grayed out” (not available) when scanning from Adobe PhotoDeluxe, since it cannot open multiple images at one time.

The Batch Mode TIFF option, on the other hand, works with any compatible host application because the scanned images are saved as TIFF files on your hard drive.

### Original Document Type

To get the best results from your EPSON Perfection 600 scanner software, the type of media you are scanning must be identified. Choose one of the following:

Reflective

A reflective original (the default option), means that the image is captured when light reflects off the original back into the scanner. Most originals require reflective scanning.



Note:

The Transparency option is only available if the optional EPSON Transparency Unit (Perfection 600 TPU) is attached to your scanner. This option scans an image up to 8.5 x 11 inches.



## Transparency

When you're scanning transparent originals, such as film negatives, the light must shine through the original instead of reflecting off it.

If your original is a negative, see [Scanning Negatives](#) for more information.

## Scan Type

If you are scanning a black and white or grayscale image, you get improved performance by selecting the corresponding original type.

Specify your type of original before scanning:

30 bit Color

30 bit Color (the default option) saves the scanned object as a color image.

10 bit Grayscale

10 bit Grayscale saves the scanned object as a black and white image with shades of gray.

1 bit Line Art (OCR)

1 bit Line Art (OCR) saves the scanned object as a black and white line art image, with no gray tones.

## Basic Scanning



### Note:

Not all features are available for all scan types. For example, filter options (see [Applying Scanning Filters](#)) are only active when you scan color or grayscale; when you scan line art, this feature is turned off.



### Note:


Zooming only changes the way the image appears in the preview area of the EPSON Perfection 600 main window—it does not change the size of the scanned image.

Saving a scanned image as a color image requires 24 times as many bits (individual cells of computer memory or disk storage) as saving an image as a black and white line art image. For best results, match your selection of scan type with the type of original.

For information on how to scan different types of originals simultaneously, see [Batch Scanning—Working with Multiple Originals](#).

## Zooming

The EPSON Perfection 600 driver lets you enlarge or reduce an image in the preview area for easier viewing. This is called *zooming*. You can zoom in (make the image larger) or zoom out (make the image smaller).

To zoom in on a portion of the image, click the Zoom button . The selected area expands to fill the preview area. To zoom out, click the zoom button a second time.

# *Advanced Scanning*

The EPSON Perfection 600 scanner software provides advanced tools that let you modify an image's contrast, brightness, color, and tone before scanning.

This following topics are described in this section:

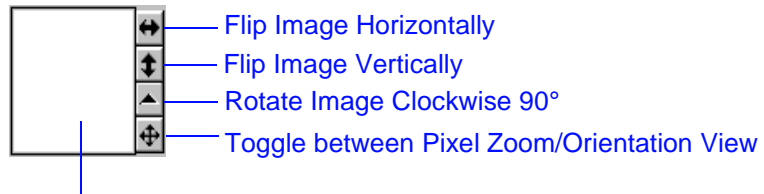
- ▶ [Working with Originals](#)
- ▶ [Sizing the Scanned Image](#)
- ▶ [Adjusting Image Quality](#)

# Working with Originals

## Changing Image Orientation

If you placed an image on the scanner document table incorrectly, you can rotate the image in the EPSON Perfection 600 software rather than moving the original on the scanner.

You can also flip an image to be scanned, either horizontally or vertically.



When Pixel Zoom is selected, this area displays a magnified view of the previewed image wherever the mouse pointer is positioned. The magnification is four times that of the previewed image.

When Orientation View is selected, it shows the orientation of the active frame.



Note:

Changes in image orientation are shown in the orientation display, not in the main window preview area.

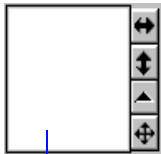



Image Orientation Display



For best results, use originals that are all reflective or all transparent. Do not mix original types when using batch scanning.

To change the image orientation, do the following:

- ▶ Click the toggle button  to display the image orientation.
- ▶ To rotate the image, click the rotate button until the desired rotation is displayed.
- ▶ To flip the image, click the horizontal or vertical buttons.

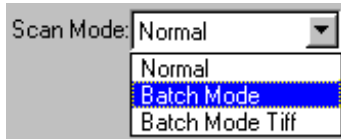
## Batch Scanning—Working with Multiple Originals

Batch scanning enables you to automatically scan multiple originals, using different customized settings for each framed image.

For example, with batch scanning you can scan a color postcard, a black and white photograph (with halftones or shades of gray), and a black and white line art drawing at the same time.

With batch scanning, you can also create multiple frames for a single original so that only the framed areas are scanned.

The EPSON Perfection 600 scanner software offers two batch options:



**Batch Mode** Imports the images scanned into your graphic application.

**Batch Mode Tiff** Saves the images scanned directly to your hard disk in a widely used graphic format known as TIFF (Tagged Image File Format).

## Scanning Multiple Images

To scan multiple images:

1. Place the originals to be scanned on the scanner document table.
2. Select the scan mode: Batch Mode to import images into the host application, or Batch Mode Tiff to scan images directly into files on your hard drive.



**Note:**  
Batch mode can only be used if your host application supports multiple open windows.





**Note:**

You cannot switch between frames if you have zoomed in on a frame. Zoom out from the selected frame before creating or changing frames.

If you select Batch Mode Tiff, you will be prompted to enter the path and the file name to save to. Enter the name and click Save.

3. Click and drag the mouse to create a frame. Repeat this step to create multiple frames.
4. If needed, change the default settings for each of the frames and adjust image quality. The active frame is highlighted by a dotted line.
5. Click the Scan Batch or Scan Tiff button to scan all of the framed images.

If you selected Batch Mode as the scan mode, each frame will automatically be scanned into the host application and assigned a temporary window name (sequentially numbered).

If you selected Batch Mode Tiff as the scan mode, each frame will automatically be scanned into a temporary file on your hard disk. (The file names are sequentially numbered based on the name you entered in step 2.)

## Deleting a Frame from a Batch

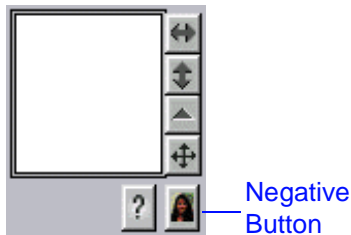
To delete a frame, click on the frame to select it, then press the Delete key.

## Stopping a Batch Scan

To stop a batch scan in progress, click Cancel.

## Scanning Negatives

If you have installed an optional transparency unit on your scanner, perform the following steps to scan a negative and turn it into a positive image:



1. Return all settings to their defaults by clicking the Reset button, then click the Prescan button.
2. Frame the negative to be scanned, then click the Negative button. The image will display as a positive image.
3. Click the Scan button to scan the positive image.

## Sizing the Scanned Image

How much computer memory or disk space will be required to store an image depends on several factors. This section describes these factors, the relationship between physical size of an image and the image's storage requirements, and how to adjust both of these values.

### Factors that Affect Image Storage Requirements

There are several factors that affect how much computer memory or disk space will be required to store a scanned image:

- Type of Original    The size of a scanned image depends on the type of original.  
Color images require 24 bits of computer memory or disk space for *each* pixel or dot in the image.  
In comparison, grayscale images require only 8 bits per pixel, and

black and white line art requires only 1 bit per pixel.

Scanning an original as a color image requires three times the storage as scanning it as a grayscale image, and 24 times the storage requirement of a black and white line art image.

Size

What are the dimensions of the original? Scanning a 2" x 2" original creates a smaller file than scanning an 8" x 10" original.

Scaling

Scaling (enlarging or reducing) an image changes the file size accordingly. For example, scanning an image you scaled to 150% of its original size requires 50% more storage than if you had scanned it at 100% (no scaling).

Resolution

Resolution is the amount of detail that shows in an image, measured by the number of dots per inch (dpi).

Keep the above in mind when resizing or scaling an image if the file size of the scanned image is a concern.

## Changing the Size of the Scanned Image

When you scan an image using the default settings, the output image is scanned at the same size and proportion as the original image.

However, the Perfection 600 software lets you change the size of the output image, either by changing the scale (magnification) of the original or by setting the size of the final image.

The relationship between the size of the framed original, the scale, and the output size is:

$$\text{Frame Size} \times \text{Scale} = \text{Output Size}$$

For example, if you frame a photograph that is 2 x 3 inches, and enter a scale of 200%, the output size of the scanned image would be 4 x 6 inches.



Note:

Scaling changes the actual output size.  
Zooming changes only the view on your screen.



Note:

You can scan originals up to 8.5 x 14 inches.

The Output box in the main window displays the size of the framed original (input size), the scale percentage, and size of the scanned image (output size):

The width and height of the framed original, and the width and height of the output image. The Scale % field shows the relationship between the two.

The image file size

Original	Scale%	Output
8.5	100	8.5
14.0	100	14.0
		MByte
		7.87

Click this button to switch units of measurement between inches and centimeters.

The Output Size Lock locks the final output size.

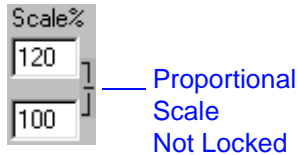
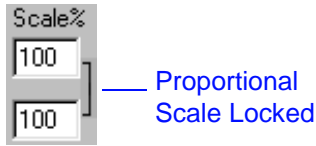
The Proportional Scaling Lock locks the width-to-height ratio.

## Maintaining Size Ratio (Proportional Scaling)



Note:  
Proportional scaling applies to changes made to either the input frame size or the output size.

If you were to scale the width on an image differently from the height, the scanned image would look stretched or distorted. *Proportional scaling* keeps the proportions of an image (width and height) the same when enlarging or shrinking the image.

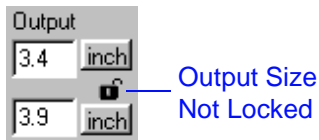
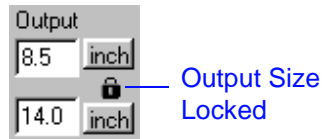


When proportional scaling is used and you change the width or height of an image, the Perfection 600 software automatically adjusts the other dimension to maintain the same width-to-height ratio.

For example, if the original image frame size is 3 inches wide and 4 inches high, and you increase the output width to 4.5 inches (increase it by half), the height is automatically increased by half to 6 inches.

Proportional scaling is locked as the default setting. To unlock it, click on the proportional scaling icon.

## Maintaining Output Size



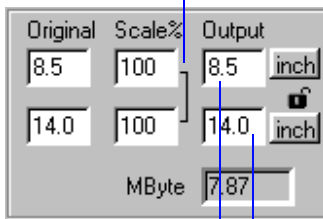
When you need to scan an image to fit in a certain size, you can lock the output size so no matter how you adjust the input frame size or scaling, the output size stays the same.

For example, if you need to scan a photograph so that it fits a 2 x 3 inch space in a newsletter, enter an output size of 2 x 3 inches then lock the output size. If you



To scan an image to a specific size, enter and lock the output size, then use the mouse to frame the subject. The Perfection 600 software will adjust the scale percentage to maintain the output size.

Proportional  
Scaling Locked



Width Height

resize the frame in the preview area, the Perfection 600 software will automatically adjust the scale percentage to maintain the output size.

## Resize an Image with the Mouse

To resize using the mouse:

1. Click on a frame if there's more than one displayed.
2. Click and drag the edge of the frame until the output size is the desired size.

## Resize an Image by Manually Entering Output Dimensions

To resize an image by typing in the dimension values:

1. Click on a frame if there's more than one displayed.
2. Make sure that the proportional scaling icon is locked to automatically maintain the image's width-to-height ratio. (If it's not, click on it to lock it.)



3. Type new height and/or width measurements in the main window Output box.

## Resize an Image by Manually Entering Scale Percentage

To resize an image by typing in a scale (magnification) percentage:

Scale  
Percentage

Original	Scale%	Output
8.5	100	8.5 inch
14.0	100	14.0 inch

MByte 7.87

1. Click on a frame if there's more than one displayed.
2. Make sure that the proportional scaling icon is locked to automatically maintain the image's height-to-width ratio. (If it's not, click on it to lock it.)
3. Type a new height and/or width scale factor.

A number greater than 100% increases the image output from the original. A number less than 100% decreases the image output from the original.

# Adjusting Image Quality

The EPSON Perfection 600 software provides advanced tools that let you modify an image's contrast, brightness, color, and tone prior to scanning:



## [AutoExposure](#)

Automatically adjusts the image for the best contrast possible between highlights and shadows by accurately setting the white, black, and middle gray values.



## [Manual Contrast Control](#)

Allows the manual selection of the white and black values in an image.



## [Tone Curves](#)

Changes an image's brightness, contrast, and midtones (those shades or tones between the highlights and shadows).



## [Color Balance](#)

Adjusts the overall color balance on a color image.

Other advanced scanning features include:


[Scanning Filters](#) Automatically adjusts image quality based on the type of original scanned.

[Resolution](#) Changing resolution can also affect the clarity of an image.

## **Using AutoExposure**

The AutoExposure tool checks the scan image for the brightest and darkest points, and sets the highlight and shadow points according to a preset formula. It also adjusts the midtones (tones between extreme bright and dark) to align with the extreme points for an overall brighter image.

AutoExposure can be used for color or grayscale images. It is not needed for line art (1-bit scan mode).

To activate AutoExposure, click the AutoExposure button .


To reset the AutoExposure feature to its default values:

- ▶ On a PC, press the Alt key and click the AutoExposure button.
- ▶ On a Mac, press the Option key and click the AutoExposure button.

## Applying AutoExposure Without Removing an Image's Color Cast

Sometimes an image has a distinctive overall color, or *color cast*. AutoExposure automatically looks for and balances any color cast in the image.

Although you will usually want to remove a color cast from your scanned images, sometimes a color cast may be desirable. For example, a photograph of a sunset might have red color cast. In this case, you probably would not want to remove the color cast.

To activate AutoExposure *without* correcting an image's color cast, hold down the Shift key and click the AutoExposure button .



The AutoExposure adjustments are only made to the part of an image inside the crop frame. Try adjusting the frame size before applying the AutoExposure feature to create various effects.



Note:

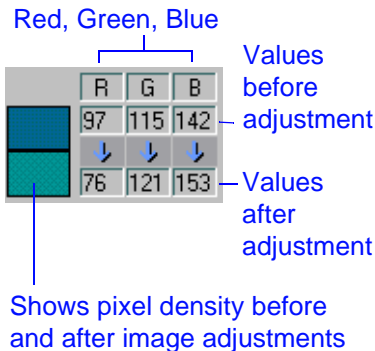
The densitometer window is informational only. Values cannot be changed from the densitometer.

## Using the Densitometer Monitor

The EPSON Perfection 600 densitometer displays the density of an image—how many pixels are in a given area.

Densitometer readings are useful when you:

- ▶ [Adjust contrast](#)
- ▶ [Change the tone curve](#)
- ▶ [Balance color](#)
- ▶ [Change resolution](#)



The top row of the densitometer shows the red, green, and blue values of the original image. The values in the lower row show the values that result from changes you make.


The pixel display area reflects pixel density (and color saturation) at the exact point where the mouse pointer is positioned on the prescan image area. As you move the pointer to different positions on the image, you'll see the values shift.

## Setting the Densitometer Measuring Point

In addition to having the densitometer display values based on the mouse position, you can also fix the measurement point to a specific location on an image. This is useful when you want to set a value for a specific area on an image, such as adjusting the highlights in an image.

To set the densitometer measuring point:

1. Move the mouse pointer to the point on the image where you want to measure image density.
2. Press the Shift key while clicking the image.

A red cross  appears at the reading point on the image. This point remains the stable reading point until you again press the Shift key while clicking the image.





Note:  
Before using the densitometer, make sure you are in pixel view.

## Manually Adjusting Image Contrast

The EPSON Perfection 600 [AutoExposure feature](#) automatically adjusts the contrast of the selected image. However, if you are not satisfied with the result, you can manually adjust the image's contrast.

To manually adjust contrast:

1. Click the Contrast button . The mouse pointer displays as a white triangle in the preview area.
2. Click in the lightest area of the image. The EPSON Perfection 600 software will adjust the image highlights by making your selection white and correcting darker tones accordingly.
3. Click the Contrast button  again, then while holding down the Alt key (on a PC) or the Option key (on a Macintosh), click the darkest area of the image.



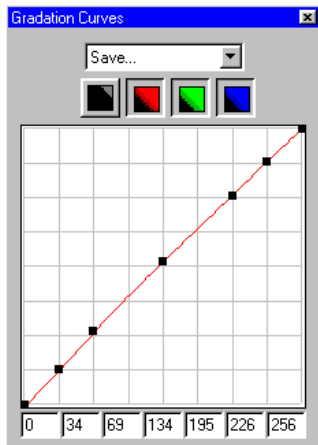
**Note:**

You can compare the original contrast values with the new values you set at any time by viewing the densitometer

(The mouse pointer displays as a black triangle when the Alt or Option key is pressed.) The software makes your selection black and adjusts all lighter tones accordingly.

## Adjusting Image Appearance Using Tone Curves

When an image needs adjustment, it is usually because the image is too dark or too light. However, it's not unusual that only parts of an image need adjustment. In such cases, you can use a tone curve to adjust only those tones in an image that are too dark or too light.




A tone curve displays the richness of the various tones in an image, from light tones to darker tones. These tones refer to shades of gray between black and white, or the saturation (intensity) of a color. You can adjust the gray (or color) tones in the middle range (midtone) as well as the highlights and shadows, by changing the shape of the curve.





**Caution:**  
Changes made to a tone curve affect the image, so use caution when adjusting tone curves.

While the contrast control affects the extreme ends of the curve, the Gradation Curve dialog box provides an assortment of tools to control the entire range of tones.

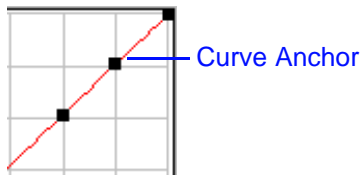
To display an image's tone curves, click the tone curve button . The Gradation Curves dialog box appears.

## How To Use the Tone Curve

There are several ways to change the shape of a tone curve:

### Click & Drag

As you move a curve anchor with your mouse, the curve follows the movement of the anchor.



To change a single anchor in the curve without affecting the adjacent anchors on the curve, “deactivate” the adjacent anchors.

To deactivate an anchor, press and hold the Alt key (on a PC) or the Option key (on a Macintosh), then click on the anchor.

The anchor turns white, retaining its current setting. Click it again to reactivate it (it will turn to black).

**Numeric Values** Type a numeric value (+ or –) to adjust the curve. Each field adjusts an anchor point on the curve.

**Sliders** Adjust the sliding controls below the curve. See [How To Use the Tone Curve Sliders](#) for information on adjusting the image with these sliders.

## Apply Tone Curves To Individual Colors

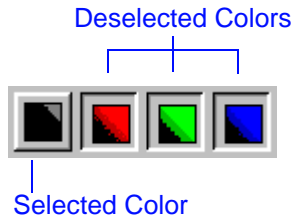
With color images, there are four basic color channels that make up the full spectrum of color: red, green, blue, and black. All gradation tone curve adjustments can be made to the overall image, or to individual color channels.



**Note:**

Only the black curve can be adjusted for grayscale images.

When you first access the Gradation Curves dialog box for a color image, all of the color channels are active.



To modify a color channel:

1. Select the color channel to modify by clicking on it.
2. Make your modifications.

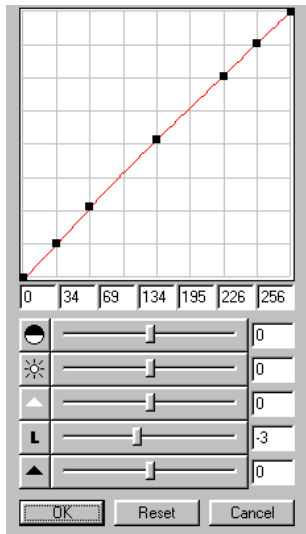
## How To Use the Tone Curve Sliders

The sliders at the bottom of the dialog box provide an easy way to adjust the tone curve.

Each slider has a value of 0 at the middle setting. Moving to the right increases the value positively; moving to the left gives a minus value (-1, -2, etc.).

You can also adjust the value by typing in a number or negative number in the numeric value field next to each slider.

Adjust one or more of the following sliders until the desired result is achieved:





Contrast

Controls the extreme ranges of the gradation curve without affecting the middle tones.



Brightness

Adjusts the overall lightness or darkness of the image.

Move the slider bar to the right to increase brightness (raise every point along the gradation curve). Move the slider bar to the left to decrease brightness (lower every point along the gradation curve).



Highlights

Controls only the points to the far right on the gradation curve. Adjust these anchors with the slider when you want to adjust white areas without affecting shadows.



Midtones

Adjusts the three anchor points in the middle of the curve without affecting the values of the highlight or shadow points. When the midtone slider is used, all three of these points are adjusted in relation to each other.

There are two ways you can use this tool:

N (Linear) moves all three points in a literal relationship.

L (Logarithmic) moves the points based on a preset mathematical formula for a more gentle and subtle curve.

You can toggle between these modes by clicking on the icon to the left of the slider.



Shadows

Controls only the point to the far left on the gradation curve. This can be used when you want to adjust the shadows without affecting the highlights.

It may take some practice to find the best ways of applying these tools to your images for optimum results. For example, suppose you want to scan a group photo where everyone in the group is well-lit except one person in the foreground who was too close to the flash and looks washed out. Since the

other subjects in the photo look fine (they are in the midtone ranges), you can adjust the washed-out area (the highlight range) by decreasing the highlight value of the image.

As another example, suppose you have a photo where some objects are too dark and others are too light (which can happen easily when shooting outside on a bright, sunny day). Darkening the highlights and lightening the shadows helps to balance the curve.

### **Saving and Loading Tone Curve Settings**

When you develop a group of settings that are especially useful for a specific type of scan, you have the option of saving them so you can apply them later to other images.

*To save a setting:*

1. Click the Gradation Curves drop-down list.
2. Select Save.

3. When prompted, enter a file name for the saved settings.

*To load a previously saved setting:*

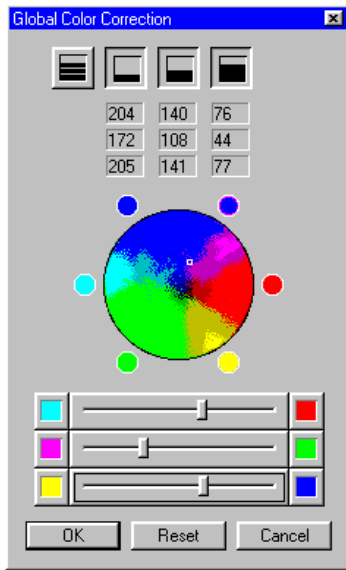
1. Click the Gradation Curves drop-down list.
2. Select the name of the setting you want to apply to the image.

*To delete a previously saved setting:*

1. Click the Gradation Curves drop-down list.
2. Press the Shift key (on a PC) or the Option key (on a Mac) while clicking the name of the setting you want to delete. The file will be deleted.

## **Adjusting Color Balance**

The Global Color Correction tool enables you to adjust the colors in an image's midtones either generally or selectively.

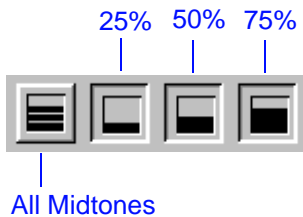


To access the Global Color Correction dialog box, click the color balance button .

A range of colors can be represented in a color wheel. The color wheel in this dialog box is composed of the three primary colors, red, green, and blue (RGB), and their complementary colors, cyan, magenta, and yellow (CMY).

To adjust a color, increase or decrease the amount of its complementary color. For example, if you have an image with too much green, you can reduce the green by increasing its complementary color, magenta. (Magenta is opposite green on the color wheel and color sliders.)

## Select Tone Ranges

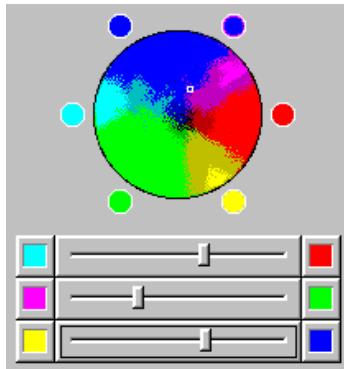


Across the top of this dialog box is a series of buttons that enable you to specify the midtone range you want to edit on your image.

You can select all ranges, or you can choose one or more midtone ranges.



## Modify Color Values



There are two ways to adjust color values in this dialog box:

**Color wheel**      Click and drag to move the white point to a different color orientation on the wheel. The image's color balance will shift accordingly.

**Color slider**      Slide the color sliders back and forth between the complementary colors.

With either of these methods, you can see the numerical values above the color wheel shift as you make the changes. Only active color ranges will be affected by these changes.

## Applying Scanning Filters

Your EPSON Perfection 600 software can automatically adjust an image based on the type of original scanned. These automatic adjustments are called *filters*.

## Advanced Scanning



### Note:

Filters are only available when you select a color or grayscale scan type.



### Note:

Scanning runs slower when the Descreen filter is used because of the intensive computations required to process the image.

From the Filter drop-down list, choose one of the following:

### Sharpen

The scanner software has a sophisticated sharpening feature that automatically sharpens an image (makes it less blurry) by increasing the contrast (distinction between dark and light tones) between adjacent pixels.

This is the default filter and is useful primarily on photographs and grayscale images.

### Descreen

When photographs and illustrations are printed in newspapers or magazines, they are “screened”—a process that turns images into tiny dots. (If you look at a photograph in a newspaper with a magnifying glass, you’ll see that the image is actually composed of many small dots.)

If you are scanning an image that has been previously screened, you can sometimes get undesirable results,

such as losing resolution or sharpness. To counter the effect of the screen process and turn the dots back into a smoother image, set the filter option to Descreen.

If you use the descreening filter, don't enlarge the image as this could cause a moiré effect—strange patterns that appear in an image due to the spacing between bands of dots in the image.

You may need to sharpen the image after descreening, but you will need to do so in your graphics application.

None

Select this option if you don't want to use any filter.

## **Changing Image Resolution**

*Resolution* refers to how many dots per inch (dpi) or dots per centimeter (dpcm) a device can print or scan.

The best resolution for a scanned image depends on the type of image you are scanning and your final output device. The following table shows the best scanning resolutions for the most common applications:



Note:  
Resolution in professional printing is measured in lines per inch (lpi), rather than dots per inch (dpi).

<b>Output device</b>	<b>Recommended Resolution</b>
Inkjet printer	240 dpi
Monochrome laser printer	150 dpi
Computer screen	72 dpi
Four-color printing press with 150 lpi	250 dpi
Four-color printing press with 175 lpi	300 dpi
B&W printing press with 85 lpi	150 dpi
B&W printing press with 100 lpi	170 dpi
B&W printing press with 133 lpi	225 dpi
Line art logo	600 dpi
Optical Character Recognition (OCR)	300 dpi

The higher a resolution you select, the larger the resulting image file. For example, an 8.5 x 11 inch original scanned at 300 dpi can produce a 24 MB file.

The same original scanned at 72 dpi creates only a 1.3 MB file.

Large files take longer to process and print, so consider the practical limitations of your computer system and hard disk drive when selecting a resolution. To keep file size manageable, select the lowest possible resolution that gives acceptable quality.

### **For Home or Office Output**

As a rule of thumb for any image except line art, use scanning resolutions that are approximately one third of your output resolution.

For example, use a scanning resolution of up to 110 dpi with a 300 dpi laser printer, and up to 170 dpi with a 600 dpi laser printer.

For inkjet printers, such as for a 1440 dpi EPSON Stylus® COLOR series printer, use a scanning resolution of up to 240 dpi.

## For Professional Output

For commercial printer output, multiply the lines per inch (lpi) that the press prints (your printer can provide you with this information) by 2 to determine your scanning resolution.

For example, if the lpi is 150, try scanning at 300 dpi. (If the resulting file size is too large, multiply the lpi by 1.5 x instead of 2 and try again.)



Note:  
Your Perfection 600 scanner software supports up to 2400 dpi scanning resolution, although you probably won't need resolution that high.

## How To Change Image Resolution

To change the image resolution, move the resolution slider to the left to decrease resolution or right to increase resolution.



Click to switch between dpi and dpcm

The dpi display shifts as you do so.



# *Keyboard Shortcuts*

## **Windows 95 and Windows NT**

### **Dialog Windows**

<b>Function</b>	<b>Shortcut</b>
Activate zoom	Ctrl + Alt + 2
Access Global Color Correction dialog box	Ctrl + Alt + 3
Access Gradation Tones dialog box	Ctrl + Alt + 5
Use AutoExposure	Ctrl + Alt + 7
Highlight tool	Ctrl + Alt + 8
Leave dialog	Esc
Start scan	Enter key
Undo/redo last operation	Ctrl + z
Show scan resolution	Ctrl

## Highlight/Shadow Tools

Function	Shortcut
Set highlight	 + mouse click
Set shadow	 + Alt + mouse click
Display brightest point	Ctrl + Shift
Display darkest point	Ctrl

## PreScan/Scan

Function	Shortcut
stop prescan	Ctrl + . (period)
stop scan	Ctrl + . (period)

## Frames

Function	Shortcut
Numbers Numbers visible	Right mouse button
Duplicate frame	Alt + click frame
Delete frame	Delete key





## Macintosh OS

### Dialog Windows

<b>Function</b>	<b>Shortcut</b>
Activate zoom	⌘ + 2
Access Global Color Correction dialog box	⌘ + 3
Access Gradation Tones dialog box	⌘ + 5
Use AutoExposure	⌘ + 7
Use Highlight/shadow (Contrast) tool	⌘ + 8
Leave dialog	Esc
Start scan	Return key
Undo/redo last operation	⌘ + z
Show scan resolution	Control

## Highlight/Shadow Tools

Function	Shortcut
Set highlight	 + click pixel
Set shadow	 + OPTION + click pixel
Display brightest point	⌘ + SHIFT
Display darkest point	⌘ + CONTROL

## Prescan / Scan

Function	Shortcut
Stop prescan	⌘ + . (period)
Stop scan	⌘ + . (period)

## Frames

Function	Shortcut
Frame numbers visible	CONTROL
Duplicate frame	OPTION + click frame
Delete frame (extended keyboard)	Remove key
Delete frame (normal keyboard)	OPTION + DELETE

# Glossary

- Brightness** The overall range, from light to dark, of an image. The brighter an image, the lighter it appears. *See also* Contrast.
- Contrast** The difference between the dark and light tones in an image. The higher the contrast, the darker the darks and the lighter the lights. The lower the contrast, the closer in tones between darks and lights.
- dpi (dpcm)** **Dots per inch** (or **dots per centimeter**) refers to how many dots per square inch (or square centimeter) a printer can print or a monitor can display. This is the primary factor controlling resolution.
- Document Table** The area of the scanner on which an item to be scanned is placed.
- Frame** The dotted line that surrounds a selected area on the prescan area.

**Grayscale** An image composed of varying shades of gray. The EPSON scanner driver supports 256 shades of gray.

**lpi** Lines **per inch** is a measure of resolution used by service bureaus and professional printers.

**Midtones** The middle range of tones in an image, lighter than the shadows and darker than the highlights.

**Pixel** A small point of light (on a monitor) or ink (on a printed image) that makes up the basic unit of the image.

**Prescan Area** The area in the EPSON Perfection 600 main window where the item to be scanned can be previewed.

**Resolution** The amount of detail in an image, as measured in dots per inch (dpi) or dots per centimeter (dpcm)

**RGB** Refers to **red**, **green**, and **blue**, the basic colors used to create all other colors on a monitor.

**Saturation** The strength or intensity of a color based on the degree to which it lacks its complementary color. For example, a strongly saturated blue would have little or no yellow (its complementary color). A red with little saturation would have a lot of cyan (its complementary color) mixed in, and as a result, would look muddy or dark.

**Sharpening** Removes the blurred edges of an image by increasing the contrast (distinction between dark and light tones) between adjacent pixels.

**TWAIN** An industry standard for transferring information from an image capture device (such as a scanner) to your computer.

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*Driver*  
*User's Guide*

For Microsoft® Windows® 3.1

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# *Introduction*

Congratulations on the purchase of your new EPSON Perfection 600 scanner. This guide explains how to use the EPSON Perfection scanner driver software with your scanner.

## **About TWAIN Software Drivers and Your EPSON Scanner**

When working with graphics, a software interface is needed to transfer images from a device, such as a scanner, into a format that a graphics software application can use. This interface is called a *driver*.

Your EPSON Perfection 600 scanner driver software follows an image transfer standard known as TWAIN. This software lets you use your EPSON scanner with any



host application that also supports the TWAIN standard, such as Visioneer PaperPort<sup>®</sup> and Adobe PhotoDeluxe<sup>™</sup>

However, EPSON scanner software does more than simply transfer images from the scanner—it also lets you:

- ▶ Preview the image before saving it
- ▶ Make corrections to the image (such as adjust brightness, contrast, and tone quality)
- ▶ Crop a limited area for scanning

# How To Use This Guide

The information you need to use your EPSON Perfection 600 driver can be found in the following sections of this guide:

## [The EPSON Perfection 600 Main Window](#)

This section gives you an overview of the EPSON Perfection 600 main window and instructions on how to access it.

## [Basic Scanning](#)

This section provides information about the basic steps needed to scan an image.

## [Advanced Scanning](#)

This section presents more advanced techniques, such as how to adjust an image's color or contrast.

## **Glossary**

Terms you may not be familiar with are listed in the glossary.

## **Using the Online Cross-References**

Blue text that is also underlined indicates that the text is a cross-reference to other parts of this guide. Click on the text with the mouse pointer to view the referenced information. For example, [click here](#) to view the introduction to your EPSON Perfection 600 software.

## **Cautions, Notes, and Tips**

You'll find this information throughout your guide:



Cautions must be observed to avoid loss of data or damage to your equipment.



Notes contain important information about your scanner software.



Tips contain additional hints for improved scanning.

## Where To Get Help

EPSON provides customer support through the following services:

### *Electronic Support Services*

<b>Service</b>	<b>Access</b>
World Wide Web	From the Internet, you can reach EPSON's Home Page at <b><a href="http://www.epson.com">http://www.epson.com</a></b> .
EPSON Internet FTP Site	If you have Internet FTP capability, use your Web browser (or other software for FTP downloading) to log onto <b>ftp.epson.com</b> with the user name <b>anonymous</b> and your e-mail address as the password.
EPSON Download Service	You can call the EPSON Download Service at <b>(800) 442-2007</b> . Set your communications software to 8 data bits, 1 stop bit, no parity. Modem speed can be up to 28.8 Kbps.
EPSON Forum on CompuServe®	Members of CompuServe can type <b>GO EPSON</b> at the menu prompt to reach the Epson America Forum. For a free introductory CompuServe membership, call (800) 848-8199 and ask for representative #529.

## *Automated Telephone Services*

<b>Service</b>	<b>Access</b>
EPSON SoundAdvice™	For prerecorded answers to commonly asked questions about EPSON products 24 hours a day, seven days a week, call <b>(800) 442-2110</b> .
EPSON FaxAdvice™	Access EPSON's technical information library by calling <b>(800) 442-2110</b> . You must provide a return fax number to use this service.
EPSON Referral Service	For the location of your nearest Authorized EPSON Reseller or Customer Care Center, call <b>(800) 442-2110</b> .



**Note:**

If you need help using third-party software that came with an EPSON product, see the documentation for that program for technical support information.

## *Telephone Support*

EPSON also provides technical support and information on the installation, configuration, and operation of EPSON products. Dial (800) 922-8911, (310) 782-2600 (U.S.), or (905) 709-9475 (Canada), 6A.M. to 6P.M., Pacific Time, Monday through Friday.

Before you call, please have the following information ready:

- ▶ Product name
- ▶ Product serial number
- ▶ Computer configuration
- ▶ Description of the problem

You can purchase manuals, accessories, and parts for your scanner, and ink cartridges and paper for other EPSON products, from EPSON Accessories. In the U.S., call (800) 873-7766. In Canada, please call (800) 873-7766 for dealer referral.

# *The EPSON Perfection 600 Main Window*

You can perform all scanning activities from within the EPSON Perfection 600 main window.

The following topics are presented in this section:

- ▶ [Accessing the EPSON Perfection 600 Main Window](#)
- ▶ [About the EPSON Perfection 600 Main Window](#)



# Accessing the EPSON Perfection 600 Main Window

The EPSON Perfection 600 driver is compatible with any TWAIN-compliant program, such as Visioneer PaperPort or Adobe PhotoDeluxe. To access the scanner software, first open the host application into which you plan to import the scanned image or document. Then select EPSON Perfection 600 as your TWAIN source.



**Note:**

You usually need to select the TWAIN source only once, when you use the scanner with your host application for the first time. The procedures to select a TWAIN source vary from host application to host application; see your application user's guide for details.

To access the EPSON Perfection 600 main window:

1. Launch the application into which your scanned image will be imported. (See your application user documentation for instructions.)
2. Select the EPSON Perfection 600 driver for your EPSON scanner.

Although the steps vary from program to program, most applications have an option on the File menu that lets you select the TWAIN source.

For example, in PaperPort, choose Select Source from the File menu. Highlight EPSON Perfection 600 from the Select Source list, and click Select.

3. Open the scanner software.

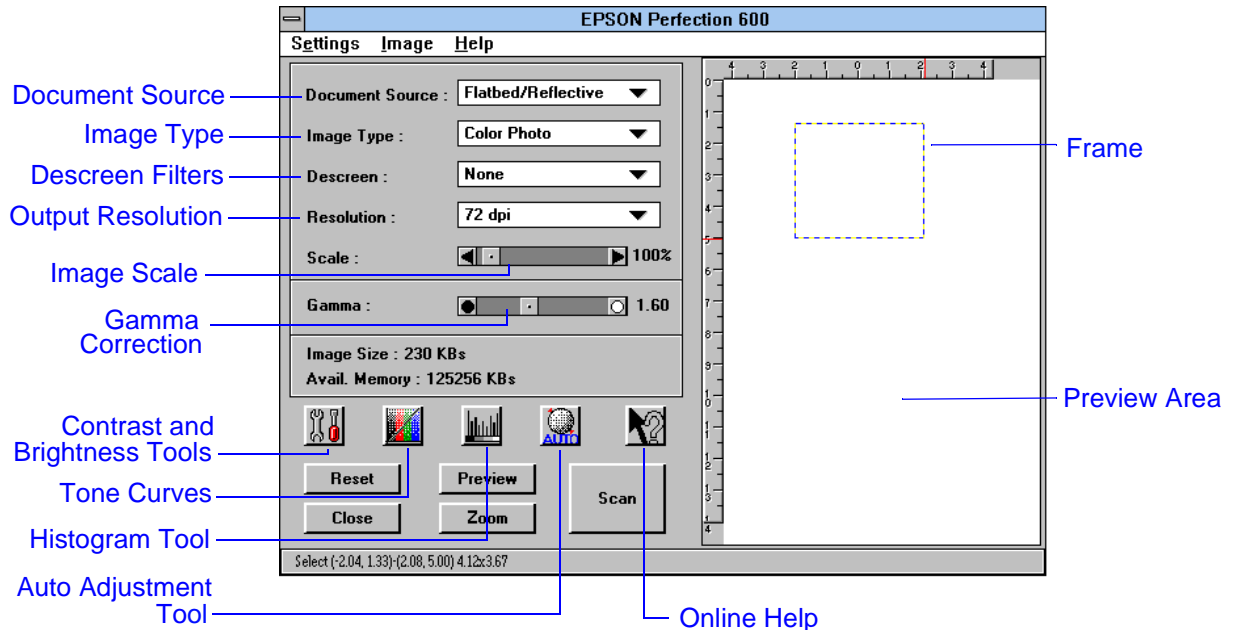
Most applications have an option on the File menu that launches the TWAIN interface.

For example, in PaperPort, choose Acquire from the File menu, or click the scanner icon on the PaperPort tool bar. You see the EPSON Perfection 600 main window.


Procedures for launching the scan interface may vary, depending on the host application. See your application user's guide for specific instructions.

# About the EPSON Perfection 600 Main Window

When you access the EPSON Perfection 600 scanner driver, the main window appears.



See [Basic Steps to Scanning](#) for information on how to use the EPSON Perfection 600 main window to acquire images from your scanner.

For information on a specific field or button in the EPSON Perfection 600 main window, click on the online help icon , then click on the feature.

# *Basic Scanning*

Once you've launched the EPSON Perfection 600 main window from the host application into which you plan to import the scanned image, you can perform a scan.

The following topics are presented in this section:

- ▶ [Basic Steps to Scanning](#)
- ▶ [Changing the Default Settings](#)
- ▶ [Zooming](#)
- ▶ [Sizing the Scanned Image](#)

# Basic Steps to Scanning

Perform the following steps to scan an image from your EPSON scanner into a host application.

1. Access the EPSON Perfection 600 main window.
2. Place the original to be scanned on the scanner document table.
3. Preview the image by clicking the Preview button.

The Preview function displays the image as it will be scanned. The remainder of this guide covers how to make adjustments to an image before scanning, but for now, continue to the next step.

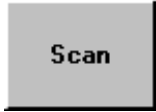


**Note:**

When you first access the EPSON Perfection 600 main window, the last frame scanned displays. Click the Preview button to clear the old image and preview a new one.

4. Select the portion of the image to be scanned.

If you are going to scan only a part of the original, use the frame to crop (define) the part of the image to be scanned. The scanner driver scans only the area within the frame.



To scan the entire area (8.5 x 14 inches), click and drag the frame border to each edge of the prescan area.

5. Click the Scan button to scan and import the image to your host application.
6. Close the EPSON Perfection 600 main window.

## Changing the Default Settings

You can change scanning settings before or after you prescan the image. (This is also true for all advanced scanning tools and procedures.)

You can change the following settings:

### Document Source

To get the best results from your EPSON scanner, you must specify the type of media you're scanning.



**Note:**

You can restore the default scan settings at any time by clicking the Reset button.



### Note:

The Transparency option is only available if an optional EPSON Transparency Unit is attached to your scanner. This option scans an image up to 8.5 x 11 inches.

From the EPSON Perfection 600 main window, select one of the following Document Source options:

- ▶ Reflective—When you scan a reflective original, the image is captured when light reflects off the original on the scanner flatbed. Because most originals require reflective scanning, this is the default option.
- ▶ Transparency—When you scan a transparent original, the image is captured when light shines through the original instead of reflecting off it. Select Transparency when scanning a transparency.

## Image Type

You will get the best quality and image file size by matching the type of original to be scanned with the corresponding scanning method.



- ▶ From the following options, select the Image Type that best matches the original being scanned:
- ▶ Color Photo—This option saves the scanned object as a 24-bit color image, which enables the computer to save up to 16 million colors. While this



gives the best image quality, it also takes up the most storage space when the image is finally saved to disk.

- ▶ **256 Colors** —Saves the scanned object as an 8-bit color image. Although an image scanned with this option requires only a quarter of the file size it would if it were scanned with the Color Photo option, only 256 colors can be represented. This option is best for a color image that doesn't have as many tones as a color photograph would, such as a color drawing.
- ▶ **Black & White Photo** —Saves the scanned original as an 8-bit grayscale image (256 shades).
- ▶ **Black & White Halftone** —Saves the scanned object as a 1-bit halftone image.

A *halftone* image is composed of small black and white dots that give the image the appearance of having shades of gray. Most black and white images in a newspaper or magazine are printed as halftones.



Since a line art or halftone image requires only 1 bit of computer memory for each pixel (dot), using either the Line Art or Black & White Halftone option will produce an image that takes up the least amount of space when saved to disk.

- ▶ **Line Art**—Similar to Black & White Halftone, this option saves the image in black and white. Line Art, however, does not use shades of gray. Choose this option if you are scanning a black and white drawing or illustration.
- ▶ **OCR**—Use this option when you are scanning text to be used with an Optical Character Recognition (OCR) program.
- ▶ **Copy/FAX**—Use this option to scan an image that has been faxed or photocopied.

## Resolution

In scanning, the term *resolution* refers to how detailed an image is, usually expressed in dots per inch (dpi). When you scan an image, you can adjust the resolution to improve the image, based on how you plan to output the image.

The best resolution setting for your image depends on the type of image you're scanning and your final output device.

## *Basic Scanning*

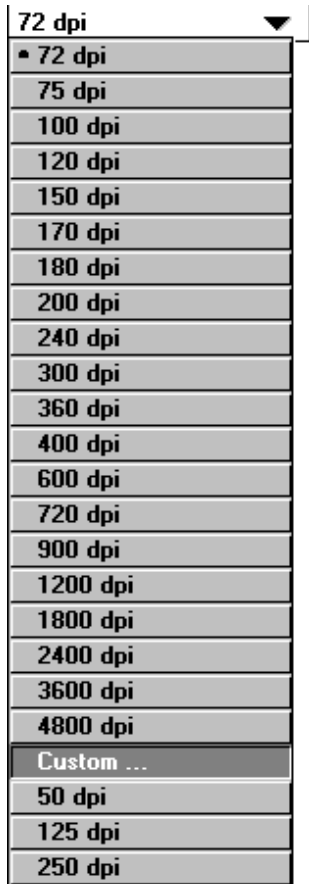


### **Note:**

A resolution of 240 to 360 dpi is an optimum range when scanning color images for printing on a color printer.

For example, if you're scanning an image to go on a web site, a resolution of 72 dpi is usually sufficient since this is the resolution of most computer monitors, and anything more detailed generally won't show on the screen.

However, an EPSON Stylus Color 600 printer can print up to 1440 dpi, so if you are scanning an image to be printed, you should scan the image at a higher resolution, such as 240 dpi.

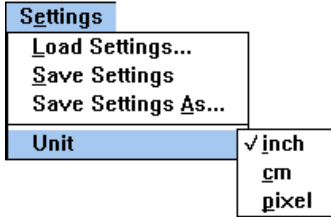


The following table shows the best scanning resolutions for most needs:

<b>Output Device</b>	<b>Recommended resolution</b>
Inkjet printer	240 dpi
Monochrome laser printer	150 dpi
Computer screen	72 dpi
Four-color printing press with 150 lpi *	250 dpi
Four-color printing press with 175 lpi	300 dpi
B&W printing press with 85 lpi	150 dpi
B&W printing press with 100 lpi	170 dpi
B&W printing press with 133 lpi	225 dpi
Line art logo	600 dpi
OCR	300 dpi

\* Resolution is measured on professional quality printing presses in lpi, or lines per inch.

From the main window, select a resolution option that best matches how you'll be using the scanned image. If you need a resolution that is not on the list, select Custom, then enter a custom resolution value. You can enter and save up to three custom resolution values.



Note:  
Clicking on the Reset  
button does not reset the  
unit of measurement to  
the default (inches).

## Units of Measurement

The default unit of measurement for the preview area and other dialog boxes is inches.

To change the unit of measurement, select Unit from the Settings menu and then choose one of the following:

- ▶ inch
- ▶ cm (centimeters)
- ▶ pixel

## Zooming

The EPSON Perfection 600 driver lets you enlarge or reduce an image in the preview area for easier viewing. This is called *zooming*. You can zoom in (make the image larger) or zoom out (make the image smaller).

## Basic Scanning



### Note:

Zooming only changes the way the image appears in the preview area of the main window—it does not change the size of the scanned image.

For information about how to resize an image, see [Sizing the Scanned Image](#).



### Caution:

Do not click Reset to cancel a zoom. Clicking Reset cancels all pending changes to the image.

Perform the following steps to zoom in or out of an image:

1. Click the Zoom button. The mouse cursor will turn into a magnifying glass with a plus (+) symbol.
2. To zoom in, click on an area of the image with the left mouse button. That area is enlarged.
3. To zoom out, either hold down the Shift key and click on the area, or click on the image with the right mouse button. (The magnifying glass mouse cursor displays a minus (–) symbol when the Shift key is pressed, indicating zooming out is activated.)
4. To turn off the zoom feature, click the Zoom button again.

To reset the image to its normal size, zoom out (or in) until the image displays as normal.



**Note:**

Do not use the zoom feature to resize an image. The zoom feature only affects the way the previewed image is displayed in the main window.

## Sizing the Scanned Image

Your scanner can scan images up to 8.5 x 14 inches. When you scan an image without scaling it (changing its size or dimensions), the image is scanned at the same size and proportions as the original.

However, you can change the size of the scanned image by setting the size of the final image as a percentage of the original (for example, reducing the image by 50 percent), or by entering the desired size of the final image.

There are two ways to change the output size:

- ▶ [Changing the Image Scale](#)
- ▶ [Changing the Image Dimensions](#)

## Changing the Image Scale

The scale bar on the EPSON Perfection 600 main window enables you to set the size of an image as a percentage of the original image:



To change the scale of the scanned image, click on the Scale bar and drag the slider to the new value. An image can be scaled between 50 percent and 1000 percent. However, be aware that the file size of an image (in bytes) changes based on the scale factor used.

For example, the file size of an image scaled to 200 percent will be larger than file size of the same image scaled at 100 percent (the default scale percentage).

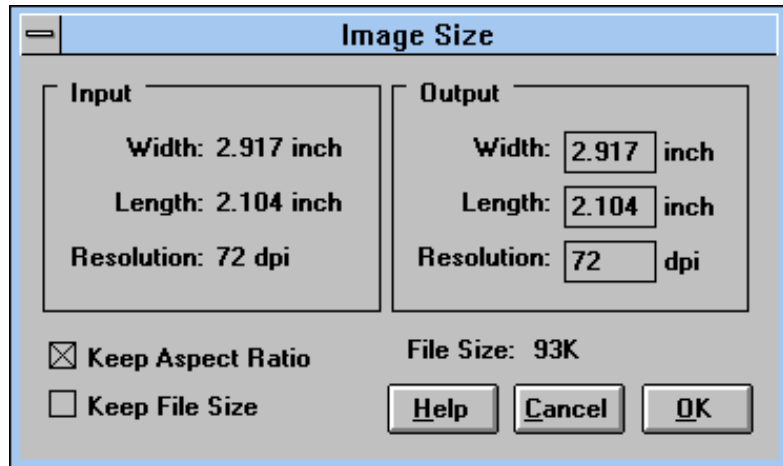
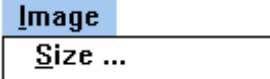


## Changing the Image Dimensions

In addition to scaling an image as a percentage of the original, you can specify the exact size you want.

To specify output dimensions, perform the following steps:

1. Select Size from the Image menu. The following dialog box appears:



2. Specify whether to maintain the aspect ratio of the original image.

When specifying a size for the scanned image, you'll probably want the final image to have the same width-to-length (height) proportion (the *aspect ratio*) of the original image.



When Keep Aspect Ratio is checked, the EPSON Perfection 600 software automatically adjusts the other value when you change the height or width so the scanned image has the same proportions as the original.

For example, if the original image is 2 inches high and 3 inches wide (a 2 x 3 aspect ratio) and you change the height to 4 inches, the scanner software automatically changes the width to 6 inches to maintain the 2 x 3 aspect ratio.

3. Specify whether to maintain the file size of the scanned image.



**Caution:**  
Changing the size of the scanned image without keeping the aspect ratio can distort or stretch the image or produce other unexpected results.



Specifying the exact size of the scanned image is useful when you are scanning an image that needs to fit into defined dimensions, such as a column width in a newsletter.

If you need to change the size of the scanned image without changing the image file size, check the Keep File Size option. When you change the size of the scanned image, the software automatically adjusts the resolution of the image to maintain the current file size.

4. Enter a new value for the image width, length (height), or both (if you are not keeping the aspect ratio).
5. Change the image resolution, if needed.

The file size of the scanned image is displayed in kilobytes, or KB (one kilobyte = 1024 bytes), for the current settings, and is updated when you change the size of the scanned image. If the file is too large with the dimensions you've set, you can reduce the image file size by reducing the image resolution.

Conversely, if you reduce the image size, you may want to take advantage of the lower storage requirements by increasing image resolution.

For more information about image resolution, see the [Resolution](#) section in [Changing the Default Settings](#).

# *Advanced Scanning*

The EPSON Perfection 600 scanner driver provides advanced tools that let you modify an image's contrast, brightness, color, and tone before scanning.

This section describes the following:

- ▶ [Automatic Image Correction](#)
- ▶ [Manual Image Correction](#)
- ▶ [Saving and Re-using Scanning Settings](#)

# Automatic Image Correction

Your software has several automatic image adjustment options:

- ▶ [Auto Adjustment Tool](#)
- ▶ [Descreen Filters](#)

A third option for automatically adjusting scanned images based on shadow, midtone, and highlight tone distribution is found in the dialog box for the [Histogram Tool](#) and is described later in this chapter.

## Auto Adjustment Tool

To automatically adjust the image for optimal contrast and color balance, click the Auto Adjustment Tool icon



on the EPSON Perfection 600 main window.

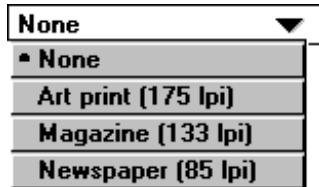
Corrections are automatically applied to the previewed image.

## Descreen Filters

Your EPSON Perfection 600 software uses filters to automatically adjust an image as it's scanned to compensate for limitations in the original image.

For example, when a photograph is printed in a newspaper or magazine, a process called *screening* is used to convert the image into a series of tiny dots.

While screening an image may make the image look good on paper, scanning a screened image may produce very undesirable results.



**Note:**  
Resolution in professional printing is measured in lines per inch (lpi) rather than dots per inch (dpi).

Your EPSON scanner software provides several descreening filters that undo the effects of the screening process.

From the Descreen drop-down list, choose the descreening filter that best matches the type of image being scanned:

- |           |   |
|-----------|---|
| None      | Does not apply a descreening filter to the image.                             |
| Art Print | Smooths the fine dot pattern found in high quality art prints (175 lpi).      |
| Magazine  | Smooths the fine dot pattern found in glossy magazines (133 lpi).             |
| Newspaper | Smooths the coarse grain pattern commonly found in newspaper images (85 lpi). |



# Manual Image Correction

You can use the [Auto Adjustment Tool](#) to automatically adjust the quality of an image. However, if you're not fully satisfied with the result, you can adjust the image manually.


Use one or more of the following scanning software tools to manually adjust image quality:

- ▶ [Contrast and Brightness Tools](#)
- ▶ [Gamma Tool](#)
- ▶ [Histogram Tool](#)
- ▶ [Tone Curves Tool](#)

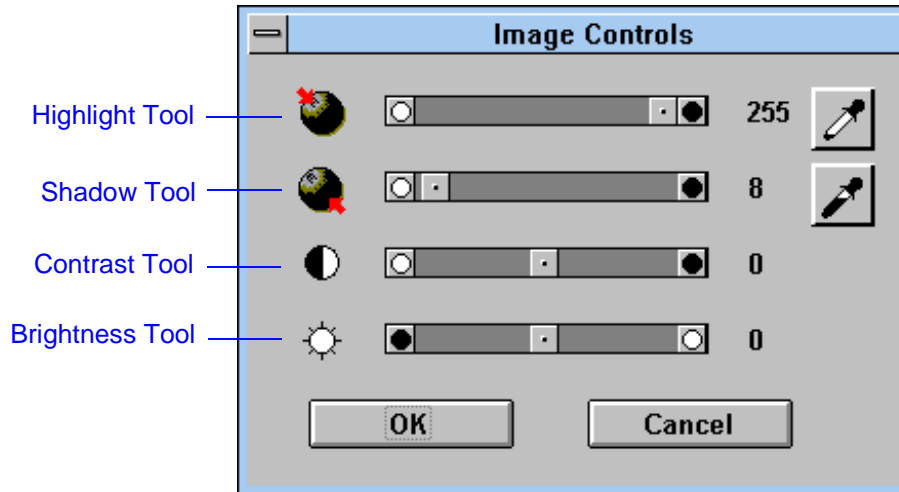
Use the following table to decide which tool to use to correct a scanned image:

<b>Use the...</b>	<b>When...</b>
Contrast and Brightness Tool	The overall image is too dark or too light (too many highlights or too many shadows).
Gamma Tool	The image has good highlights and shadows, but all the midtones run together (little contrast between midtones).
Tone Curve Tool	There is too much red, green, or blue in the image.
Histogram Tool	There is too much red, green, or blue in the image.

## Contrast and Brightness Tools

When the overall image is too dark or too light (too many highlights or too many shadows), select the Contrast and Brightness tool icon  on the EPSON Perfection 600 main window.

The following dialog box appears:



Adjust one or more of the following:

- ▶ [Highlights and Shadows](#)
- ▶ [Contrast](#)
- ▶ [Brightness](#)

## Highlights and Shadows

If an image is mostly dark (shadows) or mostly light (highlights), you can use the highlight and shadow tools to give the image better contrast.



Note:

You can also use the sliders to set Highlight and Shadow values.

To use the Highlight and Shadow tools:

1. Click the Highlight dropper icon, then click the brightest point in the image.
2. Click the Shadow dropper icon, then click the darkest point in the image.

The EPSON scanning software adjusts the image by “spreading out” the tones in the image between the two points you selected, producing a more balanced image.

## **Contrast**

Use the Contrast tool to adjust the contrast between dark and light tones in the image.



To increase the contrast in the image, move the Contrast slider to the right.

To decrease the contrast, move the slider to the left.

## Brightness

Use the Brightness tool to adjust the brightness of the tones in the image.



To increase the brightness in the image, move the Contrast slider to the right.

To decrease the brightness, move the slider to the left.

## Gamma Tool

If an image has midtones that run together, use the Gamma tool.



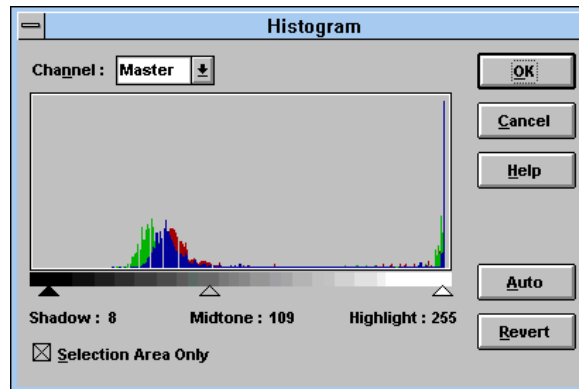
When you decrease the gamma value, you increase contrast, so light colors are lighter and dark colors are darker.

For example, if you're scanning a photograph of a child standing in shadow, decreasing the gamma value would increase the contrast between the child's skin tone and the shaded area, thus making it easier to see the subject.

## Histogram Tool


A *histogram* is a graph that represents values as horizontal or vertical lines.

The histogram tool uses vertical lines to show the intensity of the various tones in an image. The height of a line indicates the intensity of the tone.



## **Adjusting the Histogram Automatically**


Follow these steps to adjust the tones in an image using the Histogram tool:

1. Preview the image.
2. Click on the Histogram tool icon  on the EPSON Perfection 600 main window. The histogram dialog box appears.
3. Check the Selection Area Only box. Any changes you make affect only the selected area.
4. Click Auto, then click OK to close the histogram window.



## Adjusting the Histogram Manually

Follow these steps to make manual adjustments to the tones in an image:

1. Preview the image.
2. Click on the Histogram tool icon  on the EPSON Perfection 600 main window. The histogram dialog box appears.
3. Check the Selection Area Only box. Any changes you make affect only the selected area.
4. Select a color to adjust.

There are three *color channels* that make up the full spectrum of color: red, green, and blue. If there is too much of a particular color in an image, select that color from the Channel drop-down list. Otherwise, leave the Channel set to Master (all).



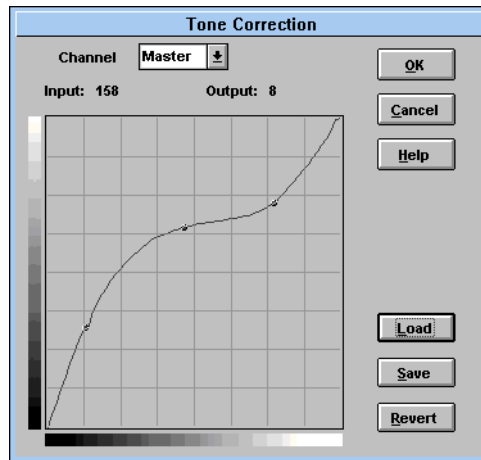
5. Adjust the tones by selecting and dragging the triangles at the bottom of the histogram until the desired effect is achieved.

6. Click OK to accept changes.

To cancel changes to the histogram and revert to the previous histogram setting, click Revert.

## Tone Curves Tool

The Tone Curves tool gives you precise control over the tones in an image. A *tone curve* is a line plotted on a graph that shows the richness of tones in an image.



The height of the curve indicates the intensity of the tone, from darker tones on the left to lighter tones on the right.

You can adjust any shadow, midtone, or highlight in an image by changing the shape of its tone curve.

For example, suppose you want to scan a photograph of a group of people where most of the faces look fine, but one person was too close to the flash and so looks washed out.


Since most of the subjects in the photo look fine (indicating that the midtone ranges are good), you can adjust only the washed-out area (the highlights) by decreasing the highlight value of the curve (the right side).

As another example, suppose you have a photograph where some objects are too dark and others are too light (which can happen easily when shooting outside on a bright, sunny day).

By lightening the shadows and darkening the highlights (raising the left side of the curve and lowering the right) you can balance the tones in the image.

Follow these steps to adjust an image using tone curves:

1. Preview the image.

2. Click the Tone Curve icon  on the EPSON Perfection 600 main window. The Tone Correction dialog box appears.

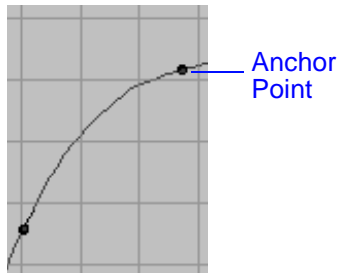
3. Select the color to adjust.

There are three *color channels* that make up the full spectrum of color: red, green, and blue.

If there's too much of a particular color in an image, select that color from the Channel drop-down list.

Otherwise, leave the Channel set to Master (all).

4. Change the curve by clicking the curve, then dragging it to a new position.



Clicking the curve creates an *anchor point*, a point on which the shape of the curve depends. Do one or more of the following until you achieve the desired result:

- ▶ To increase tones, drag the anchor point up.
- ▶ To decrease tones, drag the anchor point down.
- ▶ To shift tones, drag the anchor point to the left or right.
- ▶ To delete an anchor point, drag it off the graph.

5. Click OK to accept the changes and close the dialog box.

To cancel changes made to a tone curve, click Revert.

It may take some practice to find the best ways of applying these tools to your images for optimum results.

## Re-use Tone Curve Settings

If you have developed a curve that you find works well for a particular type of scanned image, you can save the curve and apply it to additional scans.

Do one or more of the following:



**Note:**

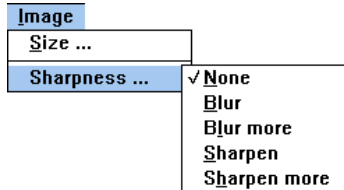
For procedures on saving settings other than tone curve settings, refer to [Saving and Re-using Scanning Settings](#).

- ▶ To save a curve, click the Save button in the custom curves dialog box. When prompted, enter a file name for the saved settings.
- ▶ To use a previously saved curve, select the Load button in the custom curves dialog box and select the name of the curve to apply.
- ▶ To delete a previously saved setting, delete the file name of the saved setting from the Windows File Manager.

## Adjusting Image Sharpness

You can use the EPSON Perfection 600 Sharpness feature to enhance an image or apply special effects.

For example, if you scan an photograph that is out of focus, you can sharpen the image. To give a photograph a “softer” look, you can blur the scanned image.



From the Image menu, click Sharpness, then select one of the following:

- ▶ None
- ▶ Blur
- ▶ Blur more
- ▶ Sharpen
- ▶ Sharpen more

# Saving and Re-using Scanning Settings



**Note:**

This procedure does not save custom tone curve settings. Refer to [Re-use Tone Curve Settings](#) for the procedures on saving tone curve settings.

You can save your scan settings in a special settings file with a .TWN extension. You can either overwrite the existing settings file, or you can save your settings as a new file and keep the existing settings file. When you want to use a particular group of settings again, you can load the appropriate file.

To save a new settings file that overwrites the old settings file, do the following: From the Settings menu, click Save Settings. The new file overwrites the old settings file.

To save a settings file under a new name and keep the old settings file, do the following:

1. From the Settings menu, click Save Settings As. The Save As dialog box appears.
2. Enter a new file name and path.



3. Click OK to save the file and close the Save As dialog box.

To load a previously saved settings file, do the following:

1. From the Settings menu, click Load Settings.
2. Select the file that contains the settings you want.
3. Click OK to load the file and close the dialog box.

# Glossary

- Brightness** The overall range from light to dark of an image. The brighter an image, the lighter it appears. *See also* Contrast.
- Contrast** The difference between the dark and light tones in an image. The higher the contrast, the darker the darks and the lighter the lights. The lower the contrast, the closer in tones between darks and lights. *See also* Brightness.
- dpi (dpcm)** **Dots per inch** (or **dots per centimeter**) refers to how many dots per square inch (or square centimeter) a printer can print or a monitor can display. This is the primary factor controlling resolution.
- Document Table** The area of the scanner on which an item to be scanned is placed.
- Frame** The dotted line that surrounds a selected area on the prescan area.

- Grayscale** An image composed of varying shades of gray. The EPSON scanner driver supports 256 shades of gray.
- Host Application** The application from which you launch the EPSON Perfection 600 software. When you click the Scan button in the EPSON Perfection 600 main window, the image is scanned and imported into the host application.
- Midtones** The middle range of tones in an image, lighter than the shadows and darker than the highlights.
- Pixel** A small point of light (on a monitor) or ink (on a printed image) that makes up the basic unit of the image.
- Prescan Area** The area in the EPSON Perfection 600 main window where the item to be scanned can be previewed.
- Resolution** The amount of detail that can be clearly seen on an image.
- RGB** Refers to **r**ed, **g**reen and **b**lue, the basic colors used to create all other colors on a monitor.

**Saturation** The strength or intensity of a color based on the degree to which it lacks its complementary color. For example, a strongly saturated blue would have little or no yellow (its complementary color) in it. A red with little saturation would have a lot of cyan (its complementary color) mixed in, and as a result, would look muddy or dark.

**Sharpening** To take out the blurred edges on images by increasing the contrast (distinction between dark and light tones) between adjacent pixels.

**TWAIN** An industry standard for transferring information from an image capturing device (such as a scanner) to your computer.

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