EPSON

EPSON Scanner Utility Program

EPSON *Scan! II* & EPSON TWAIN

USER'S GUIDE

English

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EPSON® Scan! II &

EPSON® TWAIN

Scanner Utility Program

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User's Guide

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Introduction

Features

The EPSON scanner software suite, EPSON Scan! II and EPSON TWAIN, is the perfect companion for your EPSON scanner. Using your scanner and scanning software, you can scan images in color, grayscale, or black-and-white and save the scanned images to disk as files.

- The software supports the following EPSON scanners: EPSON GT-9500, GT-8500, GT-5500, GT-5000, ES-1000C, Action Scanner II, and Expression 636.
- EPSON TWAIN directly controls all of the features of your EPSON scanner. This program is the core of EPSON Scan! II and the standard cross-platform interface for other application programs.
- EPSON Scan! II allows you to access all of the advanced features of EPSON TWAIN, to scan images, to save scanned images, and to export them into other applications.
- You can also convert the files to various formats, such as JPEG and TIFF, for use with your favorite desktop publishing or image processing software.
- EPSON calibration utilities allow you to calibrate your scanner and output devices (printers and display monitors) to reproduce images identical to the originals.

About This Guide

The information in this guide is divided into six chapters, also a glossary and index are provided for your reference.

- ❑ Chapter 1 contains information on installing the software. Be sure to read this chapter first.
- ❑ Chapter 2 shows you the basics of scanning.
- ❑ Chapters 3 and 4 provide you with a complete description of EPSON Scan! II and EPSON TWAIN features. Refer to Chapter 4 when making settings while scanning.
- ❑ Chapter 5 explains how to calibrate your monitor and printer with your EPSON scanner. If you notice that colors on your screen or in your printout do not match the original image, see this chapter.
- ❑ Chapter 6 contains troubleshooting information. If this software does not operate properly or scanned images are not what you expect, see this chapter.

Notes *contain important information and useful tips on operating your scanner or software.*

To set up and use the scanner itself, see your scanner's *User's Guide*. Online help can also provide you with information about settings in EPSON TWAIN.

Chapter 1

Installing the Software

1

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System Requirements

Before installing the scanner software, make sure that your system meets the following requirements.

Compatible scanners:	EPSON GT-9500, GT-8500, GT-5500, GT-5000, ES-1000C, Action Scanner II, and Expression 636

For Windows Users

System:	Microsoft® Windows® 95, Windows 3.1x, Windows for Workgroups 3.1x, Windows NT® 3.5x, or Windows NT 4.0
Interface:	EPSON bidirectional parallel interface or Adaptec® SCSI adapter

Note:

- ❑ *The interface may vary depending on the scanner model, see your scanner manual for connection instructions.*
- ❑ *If you are using Windows NT, you cannot use a bidirectional parallel interface; you need to use the Adaptec SCSI adapter.*
- ❑ *If you use an Adaptec SCSI adapter with Windows 3.1x or Windows for Workgroups, make sure EZ-SCSI (from Adaptec) is installed. EZ-SCSI does not need to be installed if you are running Windows 95 or Windows NT.*
- ❑ *You cannot use a serial interface with this software.*

Display: VGA or higher resolution monitor 640 × 480 screen resolution (800 × 600 or higher recommended), and 256-color (65,000-color or higher recommended)

Note:
Color and tone reproduction are subject to the display capability of your computer system, including the video card, display monitor, and software. See the manuals for those products for details.

For Macintosh Users

System: Apple® Macintosh® computer (except the Plus, SE, Classic, and Power Book 100) running system 7.x, 7.5.x, or 7.6.x

Interface: Macintosh standard (SCSI)

Note:
You cannot use a serial interface.

Display: Color Monitor, 640 x 480 screen resolution (or higher recommended), and 256-color (32,000-color or higher recommended)

Note:
Color and tone reproduction are subject to the display capability of your computer system, including the video card, display monitor, and software. See the manuals for those products for details.

EPSON Scan! II supports the Apple ColorSync™ 2.0 color management system and QuickTime™. The ColorSync and QuickTime extensions are automatically installed during EPSON Scan! II installation.

Installing the Scanner Software for Windows

After connecting the scanner to your computer, install the scanner software (EPSON Scan! II & EPSON TWAIN) from the FD or CD-ROM. The installation steps differ depending on the version of Windows you use. Instructions for Windows 95 and NT 4.0 users are in the next section, and instructions for Windows 3.1x, Windows for Workgroups, and NT 3.5x users begin in “For Windows 3.1x and Windows NT 3.5x users” on page 1-9.

Note:
If you are using the floppy disk version of the software, make a backup copy of the scanner software before you begin installation.

For Windows 95 and Windows NT 4.0 users

1. Make sure that the scanner is turned on.

2. Turn on the computer, and start Windows.

   If you use the parallel interface model of the EPSON Scanner or if you are using Windows NT 4.0, insert the scanner software CD in the CD-ROM drive. (If you are using the floppy disk version, insert it in the FD drive.) Go to step 3.

   If you use Windows 95 with the SCSI interface model of the EPSON Scanner, either of the following dialog boxes may appear.

❑ If the following dialog box appears, insert the scanner software CD (or FD) in the CD-ROM (or FD) drive.

Select Driver from disk provided by hardware manufacturer, then click OK. Click Browse. Select the CD-ROM (or FD) drive, then click OK. Go to step 3.

❑ If the following dialog box appears, insert the scanner software CD (or FD) in the CD-ROM (or FD) drive, then click Next.

If the following dialog box appears, click Finish.

3. Double-click the My Computer icon.

4. Double-click the CD-ROM drive icon. You see the EPSON folder. (For the floppy disk version, double-click the FD drive icon.)

   Note:
   If the folder contains a README file, double-click it and read it. This file contains important information and any updates regarding this software.

5. Double-click the SETUP.EXE icon. Follow the instructions on the screen.

   The setup program first installs EPSON Scan! II, and then it installs EPSON TWAIN.

6. After EPSON Scan! II and EPSON TWAIN are installed, the EPSON TWAIN Setup dialog box appears.

7. **For the parallel interface model**
   Make sure that BiD Parallel is selected in the Interface pop-up list.
   Make sure that the port address setting matches the port address of the interface board as shown below. (Use the port address you wrote down when you installed the parallel interface board.)

Interface board	Port Id setting in the EPSON TWAIN Setup dialog box
LPT1	Port 378
LPT2	Port 278

Note:

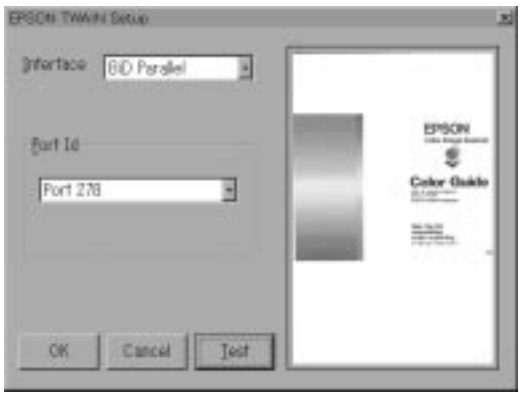
You do not need to change the port address setting if you install the parallel interface board packed with your scanner without changing jumper settings.

For information on I/O port addresses, see the user's guide that came with the parallel interface board.

For the SCSI interface model
Make sure that SCSI is selected in the Interface pop-up list. Make sure your EPSON scanner appears in the Port ID list. If it does not appear, see Chapter 6, “Troubleshooting.”

8. Place a document on the document table of the scanner.

9. Click Test to check the connection. The scanner scans the document and a scanned reproduction appears in the right window of the dialog box if everything is properly installed and connected.



If no image appears, see Chapter 6, “Troubleshooting.”

10. Click OK to close the EPSON TWAIN Setup dialog box.

The EPSON Screen Calibration utility automatically starts. Go to page 1-11.

Note:
It may take some time after clicking OK *to start the EPSON Screen Calibration utility depending on the Windows version.*

For Windows 3.1x and Windows NT 3.5x users

1. Make sure that the scanner is turned on.
2. Turn on the computer and start Windows.
3. Insert the scanner software CD in the CD-ROM drive. (If you are using the floppy disk version, insert it in the FD drive.)
4. Choose Run from the File menu.
5. Click Browse. Then select the CD-ROM (or FD) drive.
6. Choose SETUP.EXE, then click OK. Follow the instructions on the screen.
7. When the following dialog box appears, follow the steps on page 1-7 from step 6.

Installing the Scanner Software for Macintosh

After connecting the scanner to your Macintosh computer, install the scanner software (EPSON Scan! II & EPSON TWAIN) from the FD or CD-ROM. Follow the steps below.

1. Make sure your scanner is on. Then turn on the computer.
2. Insert the CD in the CD-ROM drive. If you are using the floppy disk version, insert it in the FD drive.
3. Double-click the disk icon to open it.
4. Double-click the EPSON Scan! II Installer icon.
5. The installer software shows a dialog box. Click Install in the dialog box that appears, and follow the instructions on the screen.

When you have finished the entire installation, the EPSON Screen Calibration utility automatically starts. Go to the next page.

Calibrating Your Screen

After the scanning software has been installed, the following dialog box appears.

You must calibrate your screen and scanner to reproduce images identical to the originals. Follow the steps below.

1. Click Next.

2. In the following window, move the slider to the right or left until the shades of gray of the two sets of horizontal stripes match.

Note:
View the screen from a slight distance. The gray stripes will not perfectly blend together; the object is to make the different tones match as much as possible.

3. Click OK to register the calibration setting.

4. The message, “Setup is complete” appears. Click OK.

You will not need to change the screen calibration again so long as you continue to use the same display.

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Starting the Software

After installing the scanner software, the EPSON Scan! II icon appears in your Windows' EPSON Scanner group (folder), or the EPSON Scan! II folder appears in your Macintosh HDD. If it does not appear, install the software as described on page 1-4 (Windows) or 1-10 (Macintosh).

There are two ways to scan, with EPSON Scan! II or with an application that supports TWAIN.

If you ..

- ❑ want to use the EPSON Scan! II features to improve the scanned output,
  - ▶ Open EPSON Scan! II (see "Starting EPSON TWAIN through EPSON Scan! II" on page 2-3)

- ❑ do not have scanning software or your software does not support EPSON TWAIN,
  - ▶ Open EPSON Scan! II (see "Starting EPSON TWAIN through EPSON Scan! II" on page 2-3)

- ❑ use an application that supports EPSON TWAIN to scan,
  - ▶ Open your application (see "Starting EPSON TWAIN through your application software" on page 2-5)

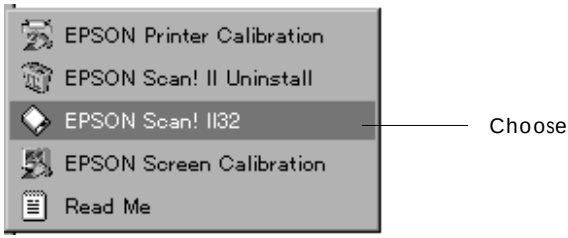
Note:
Even if your application supports TWAIN, some features of EPSON TWAIN may not be available depending on the application software.

Starting EPSON TWAIN through EPSON Scan! II

Before you start EPSON Scan! II, turn on the scanner and place a document on the document table of your scanner. For instructions about placing a document, see your scanner manual.

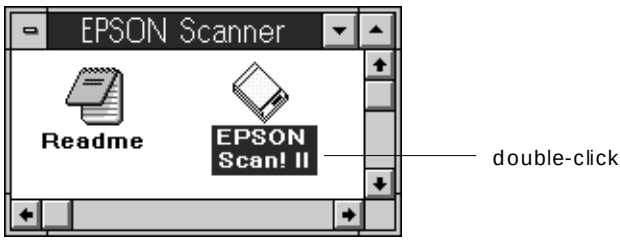
Note:
If you start EPSON Scan! II before turning on your scanner, you may not be able to scan properly.

1. **For Windows 95 and NT 4.0 users:**
   Click Start, Program, EPSON Scanner, then choose EPSON Scan! II32, which is the 32-bit version of the scanning software.

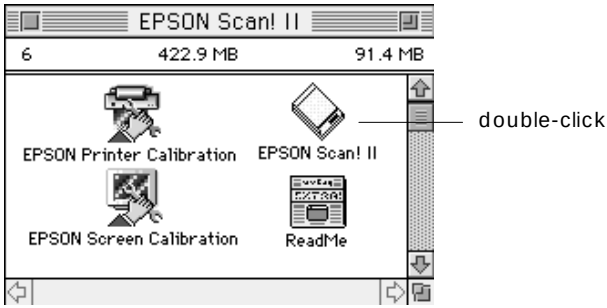


For Windows 3.1x, NT 3.5x, and Macintosh users:
Open the EPSON Scanner group (folder). Then double-click the EPSON Scan! II icon.

For Windows 3.1x and NT 3.5x



For Macintosh



2. Choose Select Source from the File menu. Make sure that EPSON TWAIN is selected in the Data Source list box, then click Select. If you use the 32-bit version of TWAIN, EPSON TWAIN (32-bit) is selected instead.

   Note:
   You usually need to perform this step only the first time you use the scanner with EPSON Scan! II.

3. Choose Aquire from the File menu to open EPSON TWAIN.

To scan the image placed on the document table of your scanner, go to “Scanning an Image” on page 2-6.

Starting EPSON TWAIN through your application software

Application programs that support TWAIN allow you to scan the image while the application is running. TWAIN is an interface standard for scanning applications. To verify whether your application is compatible with TWAIN, see your application manual.

How you should open EPSON TWAIN and scan varies depending on the application. Read the following to get a general idea of how to access EPSON TWAIN.

1. Start your application.

2. Select your scanner in the application; for example, choose Select TWAIN Source from the File menu, and then select EPSON TWAIN.

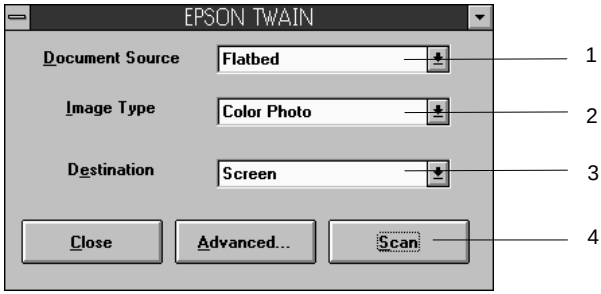
   Note:
   You usually need to perform this step only the first time you use the scanner with your application.

3. Choose Twain Acquire from the File menu to open EPSON TWAIN.

   To scan, see the next section.

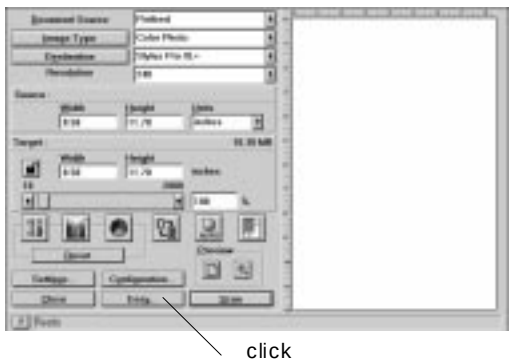
Scanning an Image

When you open EPSON TWAIN, the following window appears (Easy menu). This section shows you the easiest way to scan using the Easy menu. For detailed information about the settings on the Easy and Advanced menus, see Chapter 4.



Note for Macintosh users:
Most illustrations shown in this chapter are for Windows, so they may vary from the actual dialog boxes that appear on your screen. Since all of the settings and their functions are the same for both Macintosh and Windows environments, please use the dialog boxes here for reference.

Note:
If the following menu appears, click Easy *to see the Easy menu. This menu is the Advanced menu of EPSON TWAIN. For details, see Chapter 4.*



Follow these steps to scan an image:

1. Select the **Document Source**.
   You can select Flatbed, and Auto Document Feeder (the optional document feeder) or Transparency Unit (the optional transparency unit) depending on whether you have installed options. For complete descriptions of Document Source settings, see "Document Source" in Chapter 4.

2. Select the **Image Type**.
   You can select the type of image you will scan from: Color Photo, 256 Colors, Black & White Photo, Color Halftone, Color Drawing, Black & White Halftone, Line Art, OCR, and Copy/Fax. For complete descriptions of Image Type settings, see "Image Type" in Chapter 4.

3. Select the **Destination**.
   You can select an output device for image reproduction from: Screen, Impact Dot Printer, Thermal Printer, Inkjet Printer, Laser Printer, Laser 600 dpi, FAX, OCR, General, and certain EPSON printers.

4. Click Scan.
   The scanned image is displayed on the screen.

The scanner scans your image according to the Image Type and Destination settings you select. If you want more control over the settings, use the Advanced menu. See Chapter 4 or online help for complete descriptions of the settings.

To exit from the EPSON TWAIN window, click Close. (Click the left corner of the dialog box for Macintosh.)

Saving the Scanned Image

❑ To save a scanned image in your application

▶ Choose Save or Save As from the File menu. For details, see your application manual.

❑ To save a scanned image in EPSON Scan! II

▶ Follow the steps below:

Note:
Parenthesized words in the following steps apply to Macintosh users.

1. Choose Save As from the File menu. The following dialog box appears on the screen.

2. Select the directory (or folder) where the image will be saved.

3. Type a filename for your image in the File Name (Save Image as) field.

4. Click OK (Save).

The image is saved in EPSON's original file format. You can open this saved file in EPSON Scan! II and export it in a different format.

Note:
EPSON Scan! II can only save and open images in EPSON's original file format; however, you can export the image to another application in a different file format, as described in the next section.

Exporting a Scanned Image From EPSON Scan! II

After scanning an image in EPSON Scan! II, you need to export the image to use or edit it.

Note:

- ❑ *The images saved in the EPSON Scan! II original file format cannot be opened or imported in other application software.*
- ❑ *For information on the file formats your software can open, see your software manual.*
- ❑ *EPSON Scan! II cannot open an exported image file. Always save an image in the EPSON original format before exporting.*

Follow these steps to export the scanned image from EPSON Scan! II:

1. Choose Export from the File menu. The following dialog box appears on the screen.

2. Select the directory (folder) where the image will be saved.

3. Type a filename for your image in the File Name (Export Image as) field.

4. Select the format in the File Format (Export File Format) menu. Click the arrow to see a list of available formats.

   Note:

   - *Formats available*

     Windows: *TIFF 5.0, EPS, DIB, PCX, TIFF 6.0 (includes JPEG compression), and JPEG.*

     Macintosh: *PICT, TIFF 5.0, EPS, TIFF 6.0 (includes JPEG compression), and JPEG.*

   - *For more information on file formats and other features in this dialog box, see "Export" on pages 3-3–6.*

5. Click OK (Export).

The image is saved in the selected file format. For information on importing the image into your application software, see your software manual.

Getting Information Through Online Help

For Windows Users:

If you use EPSON Scan! II, choose Help from the menu bar. The status bar (at the bottom of the window) also gives you information on the features of EPSON Scan! II and EPSON TWAIN when you move the mouse over a button or menu item.

For Macintosh Users:

If you use EPSON Scan! II, choose Help from the Apple menu. Balloon Help also gives you information on the features of EPSON Scan! II and EPSON TWAIN.

Chapter 3

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3

EPSON Scan! II is software that allows you to access EPSON TWAIN to scan images. You can then save the scanned images and export them into other application programs.

The following sections describe when to use the advanced features in EPSON Scan! II.

Note:
Parenthesized words in the following apply to Macintosh users.

File Menu

This section describes the commands located on the File menu and the functions those commands perform. To access these commands, open EPSON Scan! II and click File.

For detailed information about the settings in the EPSON TWAIN window, see Chapter 4.

Select Source

Before using the scanner, choose Select Source and select EPSON TWAIN from the Data Source name box. This procedure only needs to be performed the first time you start scanning.

Acquire

To scan an image, choose Acquire. EPSON TWAIN opens and one of the following dialog boxes appears.

Click Scan, and a scanned image of the document on the document table will appear on your screen. Be aware that it may appear behind the dialog box.

Save As

To save the scanned image in the EPSON Scan! II original file format, choose Save As. Type a name for the file in the File Name (Save image as) field, and then click OK (Save).

To save the scanned image in a file format that other applications can open, see the section below.

Export

The files saved in the EPSON Scan! II original format (*.org) cannot be opened in other application software. To use the scanned image in your application software, you must save it in an appropriate file format by exporting it. Follow the steps below.

Note:
EPSON Scan! II can only open files saved in the EPSON original file format. Therefore, it is recommended that you first save your image in the EPSON format in case there is a problem opening the image in your application.

1. Choose Export. The following dialog box appears.

2. Select the directory (folder) where the file is to be saved.

3. Type a name for the file in the File Name (Export image as) field.

4. Select the desired file format from the File Format (Export File Format) menu and then click OK (Export).

The following file formats are available:

TIFF 5.0: Standard Tagged Image File Format version 5.0. Black-and-white images can be exported with G3 compression.

EPS: Encapsulated PostScript file format

TIFF 6.0(JPEG): Tagged Image File Format version 6.0 with JPEG compression

Note:
TIFF 6.0 (JPEG) can only be selected for 16-million color or 256-gray-level images.

JPEG: Joint Photographic Experts Group format for data compression

Note:
JPEG can only be selected for 16-million color or 256-gray-level images.

DIB:
(Only for Windows) Device-Independent Bitmap format for Windows version 3.0 or later. 4-bit / pixel images can be exported with RLE4 compression and 8-bit / pixel images can be exported with RLE8 compression. RLE stands for run-length encoding.

PCX:
(Only for Windows) PC Paintbrush file format

Note:
PCX cannot be selected for 16-million color images.

PICT:
(Only for Macintosh) Standard QuickDraw™ picture format for Macintosh. Black & white images can be exported with G3 compression and 16-million color or 256-gray-level images can be exported with JPEG compression.

Note:
If QuickTime™ has not been installed, the Compression setting is dimmed and cannot be selected.

Your software probably supports many of these formats. For information on supported formats, see your software manual.

The DIB (256 color, 256 gray, 8 color, 16 gray) and TIFF 5.0 (Black & White) formats allow you to compress the file to be exported. To compress the file, click the Compression checkbox.

If you select JPEG, TIFF 6.0 (JPEG), or PICT (JPEG compression), you can adjust the image quality level from 1 (poorest) to 5 (highest) by moving the Quality slide bar at the bottom of the dialog box.

Acquire and Export

To scan and save the image directly in a file format that your application can open, choose Acquire and Export. Because the scanned image does not appear on the screen, you can carry out scanning operations more quickly using this method.

1. Choose Acquire and Export, EPSON TWAIN opens.

2. Click Scan to open the Export dialog box.

   Note:
   If you have selected Auto Document Feeder *as the Document Source in EPSON TWAIN, a dialog box appears that prompts you to select the number of pages to be scanned. Click* OK *with* All Pages *selected to scan all pages loaded in the ADF. Select* Single Page *for scanning one page at a time.*

3. Select the directory (destination folder) where you want to save the file.

4. Type a file name and set other options if desired. Click OK to start scanning and save the image in the selected file format.

   Note:
   If you have selected Auto Document Feeder *as the Document Source in EPSON TWAIN and type a file name with more than 6 letters in the file name box, the last 2 letters may be changed into a number that indicates the page order to be scanned.*

Close

Choose Close to close an image window.

Open

To open files that have been saved in the EPSON Scan! II original format (*.org), choose Open.

Note:
EPSON Scan! II can only open files saved in the EPSON original file format. Therefore, it is recommended that you first save your image in the EPSON format in case there is a problem opening the image in your application.

Exit

Choose EXIT (Quit) to close EPSON Scan! II.

Edit Menu

This section describes the commands located on the Edit menu and the functions those commands perform. To access these commands, open EPSON Scan! II and click Edit.

Copy (and Select All)

You can copy and paste the scanned image into other software.

1. Select the area of the scanned image to be copied by clicking and dragging the mouse over that area, or click Select All on the Edit menu to copy the entire image.

2. Click Copy on the Edit menu. The selected image will be copied to the Clipboard.

3. In your application, choose Paste (or a similar command).

View Menu

This section describes the commands located on the View menu and the functions those commands perform. To access these commands, open EPSON Scan! II and click View.

All Dots 1:1

Shows a scanned image with each pixel, or picture element, corresponding to one display dot in the active window. The higher the image resolution, the larger the display image.

Fit in Window

Modifies the size of the scanned image to match the current size of the active window. The smaller the active window size, the smaller the display image. This will center an image if the window is larger than the image.

Window Menu

Lists all the images that have been scanned and opened.

To see all the names of the images that are currently open, click Window. Choosing a window name makes that window active and brings it to the front of the screen.

Chapter 4

Understanding EPSON TWAIN Features

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4

When you start EPSON TWAIN through EPSON Scan! II or a compatible application, one of the following windows appears on the screen:

Note for Macintosh users:
Most illustrations shown in this chapter are for Windows, so they may vary from the actual dialog boxes that appear on your screen. Since all of the settings and their functions are the same for both Macintosh and Windows environments, please use the dialog boxes here for reference.

Easy menu

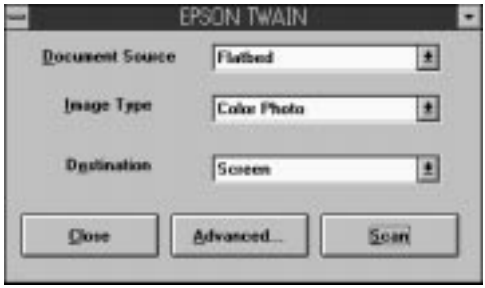
Advanced menu

The following sections describe all of the features of EPSON TWAIN.

Note:
Some settings may be dimmed and cannot be selected because of incompatibility with your scanner or your choice of settings.

Scanning From the Easy Menu

Easy menu



The Easy menu displays only the minimum required settings, allowing you to scan easily and quickly. Just select the relevant Document Source, Image Type, and Destination settings, then click Scan.

EPSON TWAIN automatically locates the target image on the scanner, adjusts the exposure, and starts scanning. See page 4-8 through 4-16 for details about Document Source, Image Type, and Destination settings.

Note:

- ❑ *You cannot scan an image that exceeds available memory or disk space. If you attempt to scan an image that is too large, an alert appears on the screen.*

- ❑ *Before you begin scanning, you should calibrate your screen and printer. For details, see Chapter 5, "Calibrating Your System."*

- ❑ *After an image is scanned, be sure to save or export it. See pages 2-8 and 2-9 for details.*

If you want to make more settings on your own, click Advanced to open the Advanced menu.

Scanning From the Advanced Menu

Advanced menu

The Advanced menu allows you to make detailed settings. You can set parameters for a setting or select special functions provided with EPSON TWAIN to make the highest quality scanned images.

Note:

- ❑ *Online help also provides you with information about settings. See "Getting Information Through Online Help" in Chapter 2 for information about using online help.*

- ❑ *You cannot scan an image that exceeds available memory or disk space. If you attempt to scan an image that is too large, an alert appears on the screen.*

- ❑ *Before you begin scanning, you should calibrate your screen and printer. For details, see Chapter 5, "Calibrating Your System."*

- ❑ *After an image is scanned, be sure to save or export it. See pages 2-8 and 2-9 for details.*

Previewing images

Before you scan and save an image, you can preview it in the preview window located on the right of the Advanced menu. Use the preview feature to check the image to be scanned. You can also see the results of your settings in the preview window.

- ❑ To preview the entire image,
  - ▶ click the preview button.

- ❑ To preview a part of the image that is already in the preview window,
  - ▶ Click and drag the mouse over the area you want to see in detail, and click the zoom preview button.

Note:

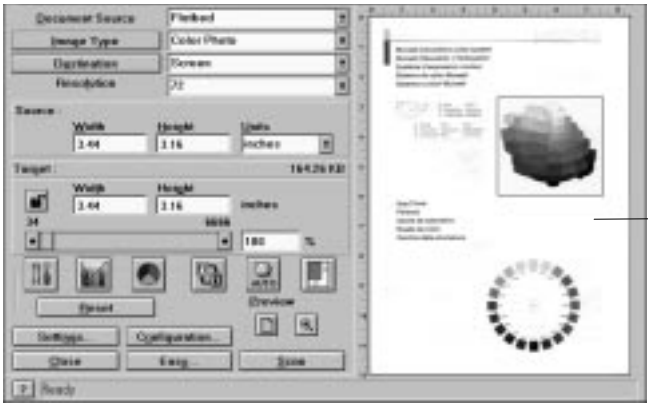
- ❑ *You cannot preview an image that exceeds available memory or disk space. If you attempt to preview an image that is too large, an alert appears on the screen.*

- ❑ *When the mouse pointer is placed within the marquee, (the frame of the selected image area), the mouse pointer changes to a hand icon. You can click and drag the marquee anywhere in the preview window.*

- ❑ *When the mouse pointer is placed on the edge of the marquee, it changes to an arrow allowing you to resize the marquee.*

- ❑ *To remove or delete a marquee, double-click the preview image.*

Modifying the preview image



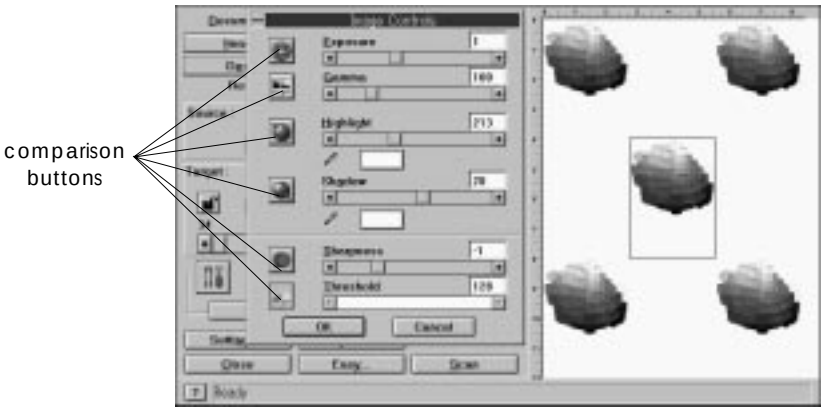
You can see the effects of the following settings in the preview image.

- ❑ Pixel Depth, Halftone, and Dropout in the Image Type dialog box
- ❑ Exposure, Gamma, Highlight, Shadow, Sharpness, and Threshold in the Image Controls dialog box
- ❑ Tone Correction in the Tone Correction dialog box
- ❑ Gray Balance Intensity, Saturation, and Color Filter in the Color Adjustment dialog box
- ❑ Invert
- ❑ Auto Exposure

Note:
Although the image in the preview window changes as you make settings, the settings do not affect the actual image until you scan, or rescan, the image.

Comparing the setting effects:

If you click a comparison button in the Image Controls or Color Adjustment dialog box, three (or five) image samples appear in the preview window. You can use these samples to compare various setting effects with the original image, which appears in the center.



Clicking one of the image samples causes that image to move to the center, and a different set of image variations appears based on the sample image you selected. You can repeat this step until you obtain the desired image effect. Make sure the image variation you wish to scan is the center sample, then double-click that image to make it a full preview image in the preview window.

For information on image settings, see the sections on Image Controls and Color Adjustment. To change the number of comparison samples, see “Configuration” on page 4-28.

Document Source

Generally, leave the Document Source set to Flatbed. You can select from Flatbed, and Auto Document Feeder (the optional document feeder) or Transparency Unit (the optional transparency unit) depending on whether you have installed an option.

Note:
Uninstalled options are dimmed and cannot be selected.

Flatbed:
Select this setting to use the document table of the scanner.

Auto Document Feeder:
Select this setting to use the optional auto document feeder.

Transparency Unit:
Select this setting to use the optional transparency unit. If your scanner can scan negative film, the Transparency Unit setting is replaced with TPU for Neg. Film and TPU for Pos. Film settings.

Image Type

You always need to select the type of image to be scanned with the Image Type list or button.

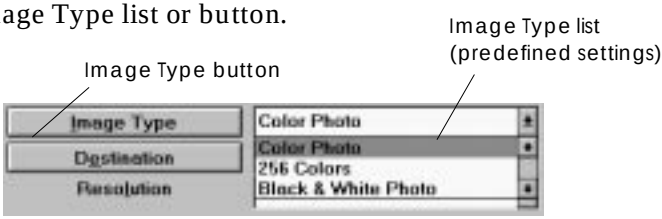


Image Type list

The Image Type list provides the following predefined settings for your convenience. EPSON recommends you use the predefined settings first, and if the scanned image is unsatisfactory, manually make the detailed settings described in the next pages. Click the arrows on the right to view all of the available settings.

Color Photo:
16-million colors, best quality, and 1-pass scanning sequence

256 Colors:
256 colors and best quality

Black & White Photo:
256 grays and best quality

Color Halftone:
8 colors, hard halftone, and draft quality

Color Drawing:
8 colors and draft quality

Black & White Halftone:
Black-and-white, hard halftone, and draft quality

Line Art:
Black-and-white and draft quality

OCR:
Black-and-white, best quality, and Text Enhancement Technology

Copy/Fax:
Black-and-white, hard halftone, draft quality, and Auto Area Segmentation

Image Type button

The Image Type button allows you to customize the Image Type settings. If you want to make the most detailed settings available, use this feature.

Click the Image Type button, and the following dialog box appears.

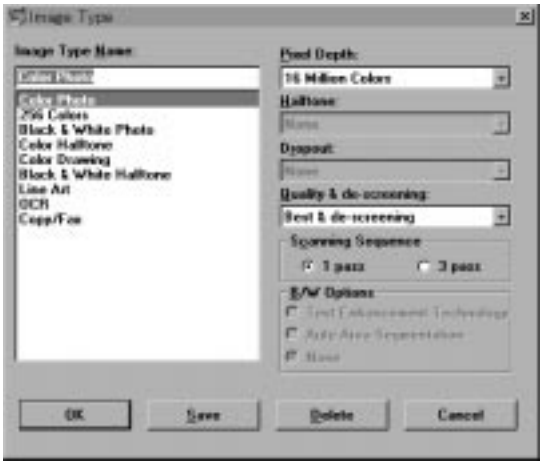


Image Type Name:

Names of predefined settings and custom settings you have saved appear in the Image Type Name list.

Pixel Depth:

Select scanning colors from:
16 Million Colors, 256 Color, 8 Color, 256 Gray, 16 Gray, and Black & White.

Halftone:

Select a halftone or dither setting to reproduce images using special dot patterns:
Mode A (Hard Tone), Mode B (Soft Tone), Mode C (Net Screen), Dither A (4 x 4 Bayer), Dither B (4 x 4 Spiral), Dither C (4 x 4 Net Screen), and None.

Note:

Halftone is available only when Pixel Depth is set to Black & White *or* 8 Color.

Dropout:

Select a color to subtract that color from the scanned image. Available Dropout options are:
None, Red, Green, and Blue.

Note:

Dropout is available only when Pixel Depth is set to Gray *or* Black & White.

Quality & de-screening:

Select a scanning quality:
Draft & Fast or Best & de-screening.

Note:

When the Best & de-screening *option is selected, unwanted moiré patterns are automatically removed from scanned images.*

Scanning Sequence:

Select a scanning sequence between 1 pass (for line sequence) and 3 pass (for page sequence).

Note:

The 3 pass scanning sequence is available only when 16 Million Colors *is selected as the Pixel Depth setting. If 3 pass is selected, Calibration, Color Filter, and Saturation are ignored. See also the sections on Destination and Color Adjustment.*

B/W Options:

The B/W Options setting is available only when Black & White is selected as the Pixel Depth setting.

Text Enhancement Technology

To raise the recognition accuracy during OCR (Optical Character Recognition) scanning, check this radio button. This function eliminates the document's background.

Auto Area Segmentation

To make grayscale images clearer and text recognition more accurate, check this radio button. This function separates text from graphics.

Note:

Auto Area Segmentation is available on the GT-5500, GT-9500, and Expression 636 scanners.

To apply the settings you made, click OK. The Preview window displays the effects of the current settings except for TET (Text Enhance Technology) and AAS (Auto Area Segmentation) settings.

To cancel the settings, click Cancel.

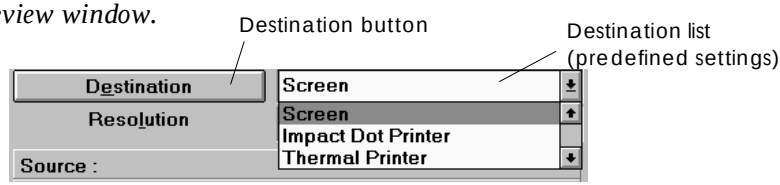
To save the settings you made as a group of custom settings, type a new name in the Image Type Name box, then click Save.

To delete an Image Type setting, select the setting name to be deleted in the Image Type Name menu, then click Delete.

Destination

Select the destination, or output device, where the scanned image is to be printed or displayed with the Destination list or button.

Note:
The effects of the Destination settings cannot be viewed in the preview window.



Destination list

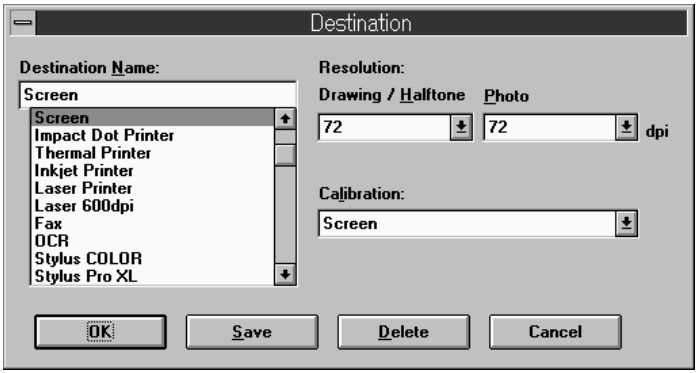
The Destination list provides the following predefined settings and any custom settings you have saved in the Destination dialog box. Click the arrows on the right to view all the available settings.

Destination name	Resolution for		Calibration
	Line drawings and halftone images	Photos	
Screen	72 dpi	72 dpi	Screen (display monitor)
Impact Dot Printer	360 dpi	120 dpi	Impact Dot Printer
Thermal Printer	360 dpi	120 dpi	Thermal Printer
Inkjet Printer	360 dpi	120 dpi	Inkjet Printer
Laser Printer	300 dpi	100 dpi	Laser Printer
Laser 600 dpi	600 dpi	200 dpi	Laser Printer 600
FAX	200 dpi	200 dpi	Inkjet Printer
OCR	300 dpi	300 dpi	General
General	300 dpi	72 dpi	General
EPSON Printer model name	800 dpi	240 dpi	EPSON Stylus*

*For Stylus COLOR users, select Stylus COLOR, and for Laser 600dpi users, select Laser Printer 600.

Destination button

The Destination button allows you to customize the Destination settings. To make your own settings, such as scanning resolution, click the Destination button. The following dialog box appears.



Destination Name:

Names of the predefined and custom settings appear in the Destination menu.

Resolution:

Select a scanning resolution for "line drawings and halftone images" or "photos."

Note:

- *When the Pixel Depth setting in the Image Type dialog box is set to* 8 Color *or* Black & White*, the Drawing/Halftone setting takes effect and the Photo setting becomes irrelevant. For other Pixel Depth settings, the Photo setting takes effect and the Drawing/Halftone setting becomes irrelevant.*

- *To print your scanned document when Resolution is set to* Drawing/Halftone, *select the same resolution setting from the list as you select in the printer driver. To print your scanned document when Resolution is set to* Photo, *select the resolution setting that is approximately 1/3 of the resolution you select in the printer driver; otherwise the* Photo *setting requires longer to print, but does not improve the output quality.*

- *The Resolution setting is closely related to the Image Size and Scale settings. If you change them arbitrarily, the resulting image may not be what you expected.*

- *The availability of the resolution value depends on your scanner.*

Calibration:

The Calibration menu lists the predefined settings and custom profiles that you have created with the EPSON Printer Calibration utility. Select the predefined setting or custom calibration profile that matches your output device, such as printer or display monitor.

Note:

- *If* Windows ICM *or* Apple ColorSync *has been selected in the Configuration dialog box, the Calibration menu is dimmed and cannot be selected.*

- *The Calibration setting takes effect only when the Scanning Sequence is set to* 1 pass *in the Image Type dialog box. If* 3 pass *is selected, the Calibration setting is ignored.*

- *To enable the Calibration setting when using a Macintosh, you must set the Screen Calibration option in the Configuration dialog box to* EPSON Calibration.

If you have created your own calibration profiles for your printer using the EPSON Printer Calibration utility, you can select a relevant custom calibration profile from the Calibration menu. For more information, see “Calibrating Your Printer” in Chapter 5.

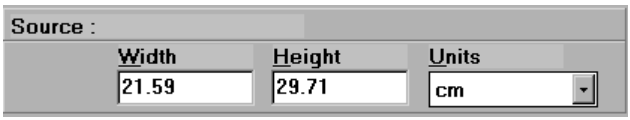
To apply the settings you made, click OK. To cancel the settings, click Cancel.

To save the settings you made, type a new name in the Destination Name box, and then click Save.

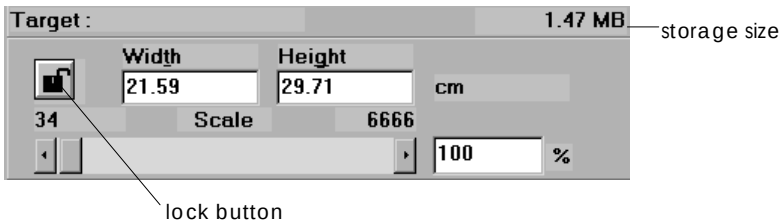
To delete a Destination setting, select the target setting name to be deleted in the Destination Name menu, then click Delete.

Source and Target image sizes

The Source fields indicate the size of the image that is displayed or selected in the preview window.



The Target fields indicate what size the image will be when it is output.



Note:

- *The image size values are ignored when you scan from the Easy menu, meaning they are automatically optimized for your image.*
- *The image size setting is closely related to the Resolution. If you change them arbitrarily, the resulting image may not be what you expected.*

Width and Height menu:

The width and height of an image are indicated in the selected unit of measure. You can type new values directly in the indicator fields, or you can change the image area in the preview window by creating a marquee, or frame. You can create a marquee by dragging the mouse over a certain area. See the notes on page 4-5 for more information on marquees.

Units menu:

Select a unit of measurement. You can select from pixels, inches, and cm. As you change the unit, the vertical and horizontal rulers in the preview window change.

Storage size indicator:

The storage size of an image is indicated in KB or MB. As you change the image area in the preview window, the value changes. Use this indicator for your reference.

Lock button:

The current ratio of width-to-height of the target image can be locked. If locked, the ratio of width-to-height of the Source image changes according to the scale value, or the scale value changes according to the ratio of width-to-height of the Source image. This is especially useful in cases where the size of an image does not fit the paper size you want to print the image on, but you want to keep the image's original proportions. Enter the size of the paper in the Width and Height fields of the Target box and then click the lock button. The scale value is automatically changed, maintaining the current ratio of width-to-height to fit the paper.

Scale bar:

An image can be reduced or enlarged by moving the Scale slider. You can also click the left or right arrow to change the image size in 1% increments.

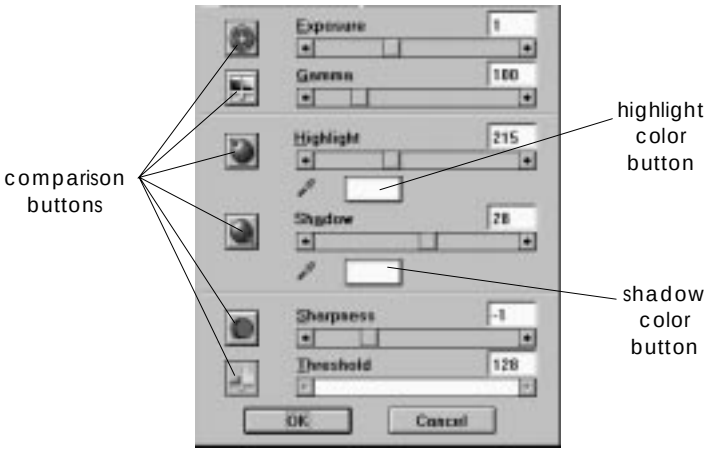
The range of the possible reduction or enlargement varies depending on the current resolution setting.

Scale indicator:

The percentage of enlargement or reduction is shown in the Scale indicator field. You can type a new value directly in this field. When you move the Scale slider, the value changes in this field.

Image Controls

Click the Image Controls button on the Advanced menu to view the following dialog box.



Note:

- ❑ *The Image Controls button is dimmed and not available when* TET *(Text Enhancement Technology) is selected in the Image Type dialog box.*

- ❑ *The Image Controls settings are ignored when you scan from the Easy menu, meaning they are automatically optimized for your image.*

- ❑ *If Pixel Depth is set to* Black & White *and Halftone is set to* None *in the Image Type dialog box, all the settings except Threshold are dimmed and cannot be selected.*

- ❑ *You can see the effects of the Image Controls settings in the preview window.*

Exposure:

The Exposure setting lightens or darkens an image. You can select from -10 (darkest) to 20 (brightest) by moving (click and drag) the slider.

Gamma:

Gamma is the contrast between the light tones and the dark tones in an image. You can select from 50 (lowest) to 300 (highest) by moving the slider.

Highlight:

You can select from 60 (darkest) to 480 (lightest) by moving the slider.

If you click the highlight color button beneath the slider, the mouse pointer changes to an eyedropper icon. Move the eyedropper over the preview image, and click a bright area. The eyedropper "picks up" the color from that area, and uses it as the highlight for the entire image. This effect shows up immediately in the preview image. Click Cancel to restore the original image.

Shadow:

You can select from 0 (lightest) to 50 (darkest) by moving the slider.

If you click the shadow color button beneath the slider, the mouse pointer changes to an eyedropper icon. Move the eyedropper over the preview image, and click a dark area. The eyedropper "picks up" the color from that area, and uses it as the shadow for the entire image. This effect shows up immediately in the preview image. Click Cancel to restore the original image.

Sharpness:

You can select from -2 (most defocused) to 2 (sharpest) by moving the slider.

Threshold:

Available only when Pixel Depth is set to Black & White and Halftone is set to None in the Image Type dialog box. The scanner scans gray shades as either black or white using this threshold setting.

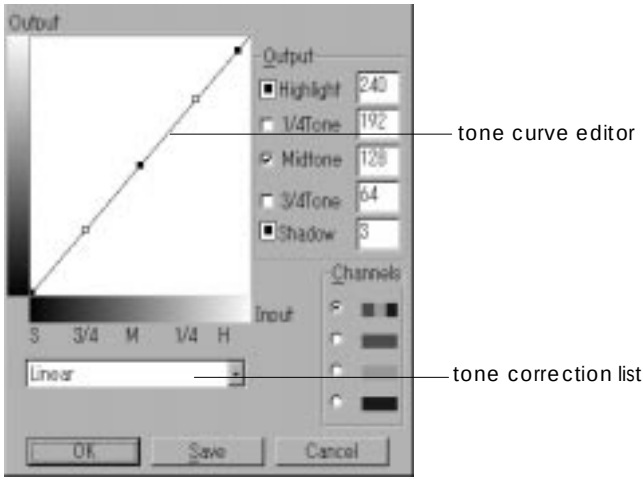
You can select from 0 (lightest) to 255 (darkest) by moving the slider.

Comparison buttons:

If you click a comparison button (to the left of the settings), you can see several slightly varying image samples in the preview window. For information on using the comparison buttons and images, see page 4-7.

Tone Correction

Click the Tone Correction button on the Advanced menu to view the following dialog box.



Note:

- ❑ *The Tone Correction settings are ignored when you scan from the Easy menu.*
- ❑ *The Tone Correction button is dimmed and not available when Pixel Depth is set to* Black & White*, Halftone is set to* None*, and* TET *(Text Enhancement Technology) is selected in the Image Type dialog box.*
- ❑ *You can see the effects of the Tone Correction settings in the preview window.*

The tone value represents the contrast in the tonal relationship between an original image and its reproduction on display monitors or printers.

Tone Curve editor:

Drag points on the tone curve to adjust the tone value. You can edit up to five points. The editor allows you to customize the tone correction.

Output options:

If you click the check box for a specific point, such as 1/4 Tone or Midtone, you can move that point and it will remain in place; it will not be affected by the movement of other points on the curve. If this box is not checked, the point will be affected by the movement of other points.

Channels options:

You can select the Master (RGB), red, green, or blue channel to modify all colors or just one.

Note:
If Pixel Depth is set to Black & White, 16 Gray, *or* 256 Gray *in the Image Type dialog box, you can select* Master *only.*

Tone correction list:

Select a tone correction setting from this list. The custom settings you have saved appear in this list.

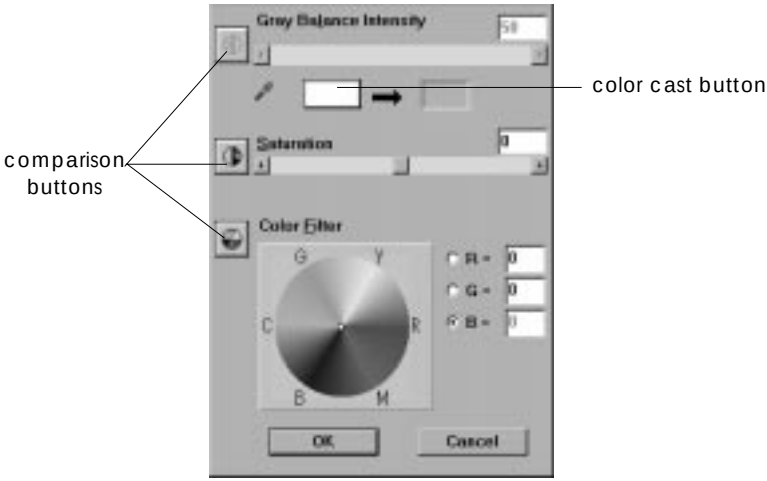
Save button:

After you correct the tone, click Save and a dialog box appears. Type a name for your custom settings in the Tone Correction Name field and click Save.

To delete a setting, select the name you want to delete in the dialog box and click Delete. To cancel the operation, click Cancel.

Color Adjustment

Click the Color Adjustment button on the Advanced menu to view the following dialog box.



Note:

- ❑ *The Color Adjustment settings are ignored when you scan from the Easy menu.*
- ❑ *If Image Type has been set for grayscale or black-and-white images, the Color Adjustment button is dimmed and these settings cannot be selected.*
- ❑ *If the* 3 pass *scanning sequence is selected in the Image Type dialog box, the Saturation and Color Filter settings are irrelevant.*
- ❑ *You can see the effects of the Color Adjustment settings in the preview window.*

Gray Balance Intensity:

Adjust the gray balance of a color combination that appears neutral gray by removing color casts from the selected color.

If you click the color cast button beneath the slider, the mouse pointer changes to an eyedropper icon. Click the color you want to modify. The eyedropper "picks up" the color, then you can correct the cast level for that color from 0 to 100 by moving the slider. The corrected color appears in the box beside the color cast button. This effect shows up immediately in the preview image. Click Cancel to restore the original image.

Saturation:

Select the saturation level for colors from -100 (less color) to 100 (more color) by moving the slider. Saturation is the property that defines a color as pale or rich.

The scanner scans the strength of colors using this saturation setting.

Color Filter:

Select a color in the color wheel to increase the saturation of that color throughout the entire image.

Comparison buttons:

If you click a comparison button (to the left of the settings), you can see several slightly varying image samples in the preview window. For information on using the comparison buttons and images, see page 4-7.

Invert

Click the Invert button on the Advanced menu to invert the colors in the preview image and final image.

Note:
The Invert button is dimmed and not available when TET *(Text Enhancement Technology) is selected in the Image Type dialog box, or* TPU for Neg. film *and* TPU for Pos. film *is selected as the Document Source.*

Auto Exposure

Click the Auto Exposure button on the Advanced menu to automatically optimize the exposure for an image. The Highlight and Shadow settings in the Image Controls dialog box are automatically set.

Note:

- *The Auto Exposure button is dimmed and not available when* TET *is selected in the Image Type dialog box.*
- *The Auto Exposure feature is automatically activated when scanning from the Easy menu.*

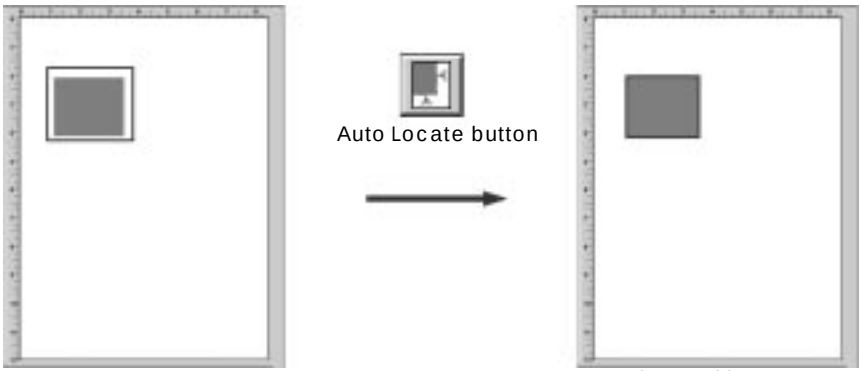
Auto Locate

Click the Auto Locate button on the Advanced menu to cause the scanner to automatically locate and select the target image, then the image appears without white borders in the preview window.

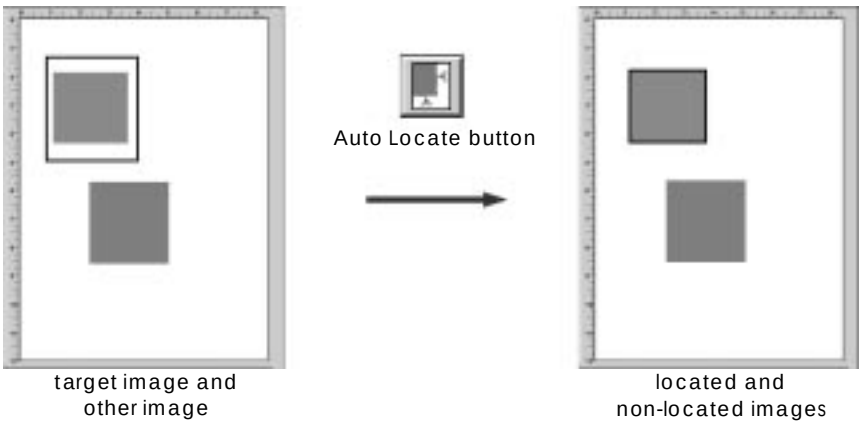
Note:

- ❑ *The Auto Locate button is dimmed and not available when* TET *(Text Enhancement Technology) is selected in the Image Type dialog box.*

- ❑ *The Auto Locate feature is automatically activated when scanning from the Easy menu.*

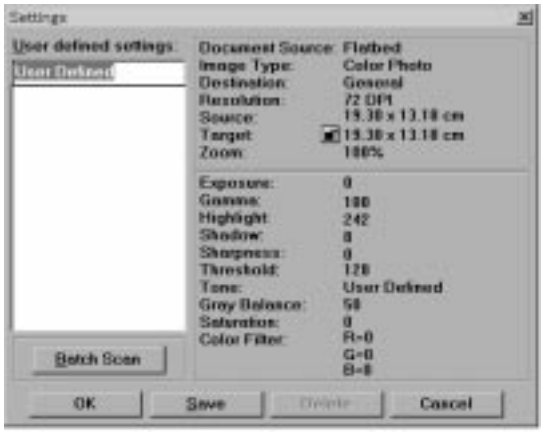


If a document contains more than one image, select a target image by roughly dragging the mouse pointer over the image and clicking the Auto Locate button. The selected target image automatically is located.



Settings

Click the Settings button on the Advanced menu to view the following dialog box. You can view all of the settings for the current preview image in this dialog box. Also, you can apply any custom settings you have saved from here.



To save the currently selected settings, type a new name in the User defined settings field, then click Save.

To apply saved settings, select a setting name from the list, then click OK. The preview image will reflect the settings you saved.

To restore the prior settings, click Cancel.

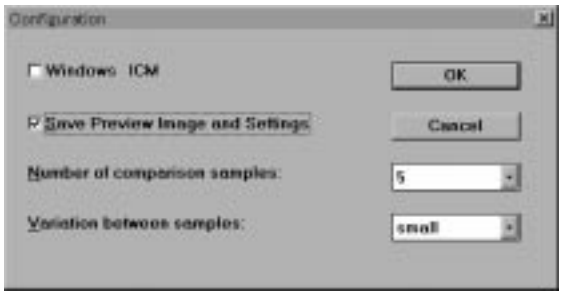
To delete a setting, select the setting name in the list, then click Delete.

To scan a single image using several variations of settings, make and save each group of settings as described above. Then hold down the Shift key while clicking the custom settings you want to select in the User defined settings list. After selecting all of the settings you want to use when scanning, click Batch Scan. The scanner scans the image once for each group of settings you have selected.

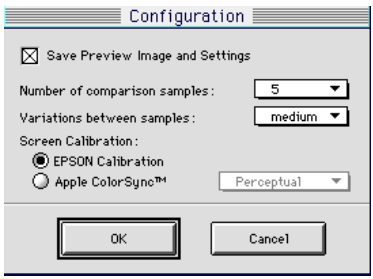
Configuration

Click the Configuration button on the Advanced menu to view the following dialog box. You can adjust the comparison feature and screen calibration from here.

Windows



Macintosh



Save Preview Image and Settings:

Check this setting to automatically save the preview image and all the image settings when you exit EPSON TWAIN (quit scanning). When you restart EPSON TWAIN, the latest preview image and its settings appear.

Number of comparison samples:

Select the number of comparison samples that appear in the preview window when you click a comparison button in the Image Controls and Color Adjustment dialog box. Your choices are 3 or 5 samples.

Variation between samples:

Select the amount of variation for comparison samples that appear in the preview window when you click a comparison button in the Image Controls and Color Adjustment dialog box. Your choices are large, medium, and small.

Windows ICM (for Windows)
Depending on the Windows version, this setting is not available (dimmed).

Check this setting to reproduce the colors in your image using Windows ICM color management system.

Note:
If your output devices (printer and monitor) do not support Windows ICM, leave this setting unchecked.

Screen Calibration (for Macintosh)
Select Apple ColorSync as the Screen Calibration setting in the Configuration dialog box to use the ColorSync color management system.

Note:
If your output devices (printer and monitor) do not support ColorSync, leave EPSON Calibration *selected in the Configuration dialog box.*

Chapter 5

Calibrating Your System

5

Calibrating Your Screen 5-2

Calibrating Your Printer 5-3

Using Windows ICM (For Windows 95 Users) 5-5

Using ColorSync (For Macintosh Users) 5-6

When you install EPSON Scan! II & EPSON TWAIN, two kinds of color calibration utilities are automatically installed.

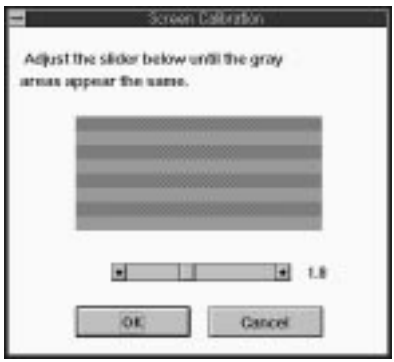
- **EPSON Screen Calibration**
  Calibrate your monitor to ensure the tone and contrast on your screen closely match those of the original image. This utility automatically starts after installing EPSON Scan! II & EPSON TWAIN. Be sure to calibrate your screen before starting to use your scanner.

- **EPSON Printer Calibration**
  Calibrate your printer to ensure the colors on your printout closely match those of the original image.

For information regarding color and output device calibration, see the *Color Guide.*

Calibrating Your Screen

You only need to calibrate your screen when you first install the scanner software, and anytime you switch to a different monitor. Click the EPSON Screen Calibration icon in the EPSON scanner window (EPSON Scan! II folder) to view the following dialog box.



Note:
View the screen from a slight distance. The gray stripes will not perfectly blend together; the object is to make the different tones match as much as possible.

1. Look at the screen from a distance and move the slider right or left until the rows most closely match.

2. Click OK to finish calibrating your scanner and monitor.

The setting is automatically saved as the "Screen" profile in the Calibration list in EPSON TWAIN's Destination dialog box. Screen profile contains calibration information for the preview image as well as the scanned image.

Calibrating Your Printer

You only need to calibrate your printer if the printout from the predefined settings in the Destination list provide you with unsatisfactory print quality. Click the EPSON Printer Calibration icon in the EPSON Scanner window (EPSON Scan! II folder) to view the following dialog box.

1 Select the printer you want to calibrate from the drop-down menu. (If you are running this utility from a Macintosh, you cannot change the selected printer with this menu. Exit the utility and select the printer using the Chooser.)

Note:
You need to generate a specific profile for each of your printer's settings. For example, the profiles for your printer's coated paper setting and for its plain paper setting may not be the same. To change the printer settings, click Setup *before printing the calibration chart.*

2. Click Print. Your printer prints the calibration chart.

Note:
If you have printed the calibration chart before with the same printer, click Skip.

3. Place the calibration chart on your EPSON scanner as shown in the illustration on the screen.

Note:
Align the guide mark on the upper left corner of the chart with the triangular origin mark on your scanner's document table.

4. If you want to change the default file name (and profile description for Windows), type your changes in the File Name (and Description) fields.

5. Click Scan. The scanner scans the chart.

Note:
When calibration is finished, "Calibration profile completed" appears on the screen.

6. Click OK to exit the calibration utility.

The calibration utility compares the data from the original scanned image with the printout of your printer, then saves the "printer" profile with the file name you specified in step 4. It is added to the Calibration list in EPSON TWAIN's Destination dialog box and ensures the accuracy and consistency of colors between your scanner and your printer.

Using Windows ICM (For Windows 95 Users)

If you use Windows 95 and your output devices (printer and monitor) support the Windows ICM color management system, you can use the Windows ICM calibration method. If you checked Windows ICM in the Configuration dialog box, the Calibration setting in the Destination list will be dimmed, meaning it is not available.

Note:
If your output devices do not support Windows ICM, use the EPSON Calibration utilities with Windows ICM *unchecked.*

Follow the steps below:

1. Run EPSON Scan! II and select Acquire or Acquire & Export to start EPSON TWAIN.

2. Click Configuration. Check Windows ICM in the Configuration dialog box.

3. Make any other settings you desire.

4. Click Scan. The scanner scans an image using the Windows ICM profile.

Using ColorSync (For Macintosh Users)

If your output devices (printer and monitor) support the Apple ColorSync color management system, you can use the ColorSync calibration method. If you checked Apple ColorSync in the Configuration dialog box, the Calibration setting in the Destination list will be dimmed, meaning it is not available.

Note:
If your output devices do not support ColorSync, leave EPSON Calibration *checked in the Configuration dialog box.*

Follow the basic steps below:

1. Run EPSON Scan! II and select Acquire or Acquire & Export to start EPSON TWAIN.

2. Click Configuration. Check Apple ColorSync in the Configuration dialog box, then select Perceptual, Colorimetric, or Saturation from the drop-down list.

   Note:
   Select Perceptual *for photographs,* Colorimetric *for spot color, and* Saturation *for color charts or graphs.*

3. Make any other settings you desire.

4. Click Scan. The scanner scans an image using the ColorSync profile.

When the scanned image is printed or displayed with the output device calibrated for the scanner, the image reproduced is identical to the original.

Chapter 6

Troubleshooting

Problems and Solutions 6-2

6

Problems and Solutions

Most problems you encounter while operating your scanner and software have simple solutions. This section divides the problems into three categories:

Setup problems 6-3
Software operation problems 6-5
Scanning problems 6-6

Read the appropriate section to find your problem; then follow the recommended steps.

Note:
If some settings are dimmed in EPSON TWAIN, they cannot be selected because of the capability of your scanner or your choice of other settings.

If you cannot solve a problem after reading and following the information in this chapter, contact your dealer or a qualified customer support person for assistance.

Setup Problems

EPSON Scan! II & EPSON TWAIN software cannot be installed.

Confirm that your computer type and operating system match the requirements of your scanner. For system requirements, see your scanner manual and page 1-2 in this guide.

Your scanner does not appear in the Port list of the EPSON TWAIN Setup dialog box when you connect the SCSI model to your PC.

Turn off the scanner and computer, then make sure the interface cable is firmly connected between the scanner and computer.

Change the SCSI ID number to an unused number. See your scanner manual.

Check the connection sequence and reset the termination function if necessary. See your scanner manual.

No image appears after you click Test in the EPSON TWAIN Setup dialog box when using a PC.

Turn on the scanner and place a document on the document table of the scanner.

Turn off the scanner and your computer, then make sure the interface cable is firmly connected between the scanner and computer.

Make sure the interface cable meets the requirements for the interface connection. See the interface board manual.

Make sure that the interface board is installed correctly and securely.

For parallel interface users:

Make sure that the interface board is compatible with your scanner.

Change the I/O port address to an unused value. See your computer and parallel interface manual. Write down the I/O port address, and specify it when making the port setting in the EPSON TWAIN Setup dialog box.

Note:
Windows NT does not support bidirectional parallel interfaces.

For SCSI interface users:

Turn off the scanner and your computer. Turn on the scanner; then turn on your computer. See "Power-on Sequence" in your EPSON scanner manual.

Make sure the SCSI driver is properly installed.

Change the SCSI ID number to an unused number. See your scanner manual.

Check the connection sequence and set the termination properly. See your scanner manual.

Software Operation Problems

EPSON TWAIN does not start.

Make sure the scanner is turned on.

Note:
If you use a SCSI interface, be sure to turn on the scanner before you turn on your computer.

Turn off the scanner and your computer. Make sure the interface cable is securely connected between the scanner and computer. Turn on the scanner; then turn on your computer. See “Power-on Sequence” in your EPSON scanner manual.

Make sure the interface cable meets the requirements for the interface connection. See the interface board manual.

Make sure that EPSON TWAIN is selected properly in your application software. See “Starting EPSON TWAIN through your application software”on page 2-5.

Make sure the interface board is properly installed. See your interface board manual.

Optional equipment (Auto Document Feeder or Transparency Unit) cannot be selected.

Make sure that your optional equipment is correctly installed. For instructions on installing the Auto Document Feeder and Transparency Unit, see your scanner manual.

Image is dark, and there is little or no detail in the image.

Calibrate the screen. See “Calibrating Your Screen” on page 5-2.

Make sure that Screen is selected as the Destination setting in EPSON TWAIN to optimize the screen display.

Note:
If you have selected a printer for your output device, the colors displayed on your screen may not match the actual photo colors; however colors will reproduce correctly when the image is printed. Set the Destination setting to match the target device.

Images cannot be scanned at all or only a few dots appear in the scanned image.

Make sure that you have placed a document on the document table of the scanner.

When you have selected OCR as the Image Type setting, try changing Threshold in the Image Controls dialog box. See "Image Control" in Chapter 4.

Moiré (cross hatch) patterns appear in the scanned image.

This problem occurs when images that include halftone screens are scanned. To minimize moiré patterns, try any of the following solutions:

Place a transparent sheet between the document and the document table to slightly defocus the image.

Move or angle the document slightly.

Select Best & de-screening in the Image Type settings.

Change Sharpness to the defocus level.

Change the Target image size slightly.

The image appears too large on the screen.

Select Screen as the Destination setting to match the resolution of your screen and scanner.

Note:
Computer-screen resolution is generally between 70 and 90 dpi, while the resolution of a scanned image may be much higher. Some applications will enlarge the image so that all of its pixels appear on the screen with higher resolutions, producing a greater degree of enlargement.

If you select a printer as the Destination setting, the printed image will appear in the correct size even if some applications enlarge the image on the screen.

Colors in the image are strange or different from the original.

Make sure that the Image Type and Destination settings in EPSON TWAIN are correctly made.

Character recognition accuracy is very poor when OCR scanning.

Select OCR as the Image Type and Destination settings in EPSON TWAIN.

Try changing the Threshold value in the Image Controls dialog box. See “Image Controls” in Chapter 4.

If your document paper is not white or includes background noise, select Text Enhancement Technology as the Image Type setting.

The image does not print out correctly.

Try calibrating your printer. See Chapter 5 for information about printer calibration.

Printed colors will not exactly match the colors on your monitor, since printers and monitors use different color systems: monitors use RGB (red, green, and blue), while printers typically use CMYK (cyan, magenta, yellow, and black).

Glossary

additive primary colors

Primary colors which produce white when mixed in a certain proportion. These are red, green, and blue—the colors of the scanner lamps and color monitor displays.

bi-level data

Image data that is composed of 1 bit / pixel. A pixel is represented by a single bit of digital data that can express only 1 (light) or 0 (dark). See *bit/pixel*.

bit

Short for binary digit. The smallest unit of data in computer processing. A bit can represent two values, on and off, or 1 and 0.

bit/pixel

The unit that indicates the number of bits allocated for a pixel. The larger the value, the more detail a pixel can represent.

byte

A unit of information consisting of eight bits. A byte can represent a control code or character.

carriage

A component of the scanner that contains the optical sensor and light source for scanning.

color correction

A method of adjusting the color image data for a particular type of device so that the reproduction results come close to the original colors.

color separation

A process to convert full-color images into a limited number of primary colors. The additive primary colors (red, green, and blue) are used by the scanner and the subtractive primary colors (cyan, magenta, and yellow) plus black are used for printing press separations.

default

A set of values used when no other selections have been made.

dithering

A process in which software or an output device simulates continuous tones with groups of dots.

document

The physical item, such as a sheet of paper or a book, that you place on the document table for the scanner to read.

dpi

Short for dots per inch. A unit of measurement for resolution. The higher the value, the higher the resolution.

dropout color

A color you set the scanner not to recognize.

ESC/I

Abbreviation for EPSON Standard Code for Image scanners, a system of commands that is used to control image scanners.

ESC/P

Abbreviation for EPSON Standard Code for Printers, a system of commands that is used to control printers.

Exposure

A scanner function that lightens or darkens the scanned image data.

halftoning

Methods of using dot patterns to represent an image.

home position

The position at the back of the scanner where its carriage rests before a scanning operation.

imagesetter

A device that uses computer files to produce high-resolution text and graphics output on film or paper. These are usually found in service bureaus and printing companies.

impact dot printer

A printer that transfers ink onto the paper by striking an ink ribbon with a number of small pins.

ink jet printer

A printer that sprays ink onto paper through a number of small nozzles.

interface

A piece of hardware, a method, or a standard used for connection between or among computer devices and peripherals.

line sequence

A type of color scanning that separates primary colors line by line. The carriage makes only one pass.

marquee

A moveable and adjustable frame that marks the area of an image that will be previewed or scanned.

monochrome

Black and white images, or images represented only by the intensity of luminosity.

page sequence

The type of color scanning in which the entire image is scanned once for each separation color.

pixel

Short for picture element. Every image is composed of a number of pixels. Pixels are also counted in units of dots.

plain bi-level

Bi-level image data without the halftoning process.

port

An interface channel through which data is transmitted between devices.

primary colors

Basic colors. See *additive primary colors* and *subtractive primary colors.*

resolution

Indication of how finely an image is resolved into pixels. Measured in dots per inch (dpi), pixels per inch (ppi), or samples per inch (spi).

scan

An operation performed by the sensor and the carriage. The sensor "reads" the colors in an image, and sends the color information to the computer or an output device as digital data.

scanning area

The physical size of the area that will be scanned by the scanner.

subtractive primary colors

Primary colors that produce black when mixed in certain proportions. These are cyan, magenta, and yellow. In printing, black is often added to give more definition because the mixing of color inks cannot produce pure black.

threshold

A value that is referenced to determine how data is represented; for example the data is represented as 1 (or on) if the value of the data is larger than the threshold value, and the data is represented as 0 (or off) if the value of the data is smaller than the threshold value. Scanners use a number of thresholds to convert an image into digital data.

tone correction

Methods of adjusting the tone curve that make sure the reproduced image is as close to the original as possible. Output devices require different methods.

tone curve

The graph that shows the contrast between the input (original image) and output (image data) in image processing.

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