



# **Color Graphics Scanner User's Guide**

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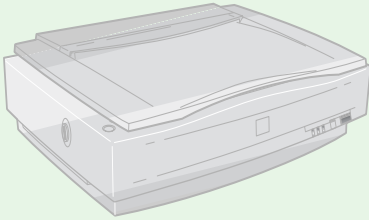
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# Chapter 1

## Welcome



The EPSON® Expression® 1640XL is a 42-bit color, large-format professional scanner designed to meet the needs of graphic arts professionals, and business graphics users. It's ideally suited for small LAN (Local Area Network) users who want to share a scanner within their workgroup. Using EPSON's ColorTrue® II Imaging System, it reproduces images with amazingly accurate detail

and color. Your scanner can achieve up to 1600 × 3200 dpi hardware resolution with EPSON's proprietary Micro Step Drive™ technology, and is one of the fastest scanners in its class.

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## About Your Scanner

Your EPSON Expression 1640XL scanner comes with these features:

- Superior image quality with remarkable 1600 × 3200 dpi hardware resolution
- 42-bit color and 3.6 Dmax optical density
- Start button for easy, automated scanning
- Fully automatic and manual focusing control
- Can be shared by users in a network configuration
- USB and SCSI 2 interfaces standard, and IEEE 1394 OHCI-compliant FireWire® option
- Optional transparency unit, automatic document feeder, and IEEE 1394 FireWire scanner interface card

## About Your Software

The EPSON Expression 1640XL scanner includes these leading-edge applications for professional-quality scans:



### *EPSON TWAIN Pro*

Exclusive professional-quality scanner driver with powerful features for controlling every aspect of your scan. Includes Auto Area Segmentation (AAS) to separate text from background colors, and Text Enhancement Technology (TET) for more accurate OCR scanning.

### *EPSON Scan Server (PC only)*

Enables you to share the Expression 1640XL with other users in a networked workgroup.

### *EPSON TWAIN Pro Network*

This network version of EPSON TWAIN Pro lets client computers use the Expression 1640XL when it's attached to another computer. Includes an Unsharp Mask option to automatically sharpen images and a Descreening option to remove unwanted moiré patterns (EPSON Scan Server must be installed on the computer sharing the scanner.)



### *Adobe® Photoshop® LE*

Edit your photos with this version of the ultimate imaging application. Add special effects, overlay titles and captions, restore old photos, and add many other creative enhancements to your photographs.

### *Adobe Acrobat® Reader*

This software allows you to read the electronic manuals that are included on your CDs as described in the following section.



### *ScanSoft TextBridge® Pro*

Use the premiere OCR (Optical Character Recognition) software to turn your paper documents into electronic text without retyping.



### *NewSoft™ Presto!™ PageManager for EPSON*

After you've scanned your paper documents, use this leading document management software to organize, file, edit, copy, fax, and e-mail them from one convenient screen.



### *MonacoEZcolor™*


Simplify the process of color management by creating customized color profiles for your scanner, monitor, and printer with this easy-to-use ICC profiling tool.

## Getting More Information

There are several ways to learn more about your EPSON Expression 1640XL. In addition to the printed materials, help utilities and electronic manuals are available on your computer and CD-ROMs. Here's where to look for help:

- **Checklist**  
Read the checklist for your scanner model to make sure you have everything. If anything is missing, call EPSON at (562) 276-4382 (United States) or (905) 709-3839 (Canada).
- **EPSON Expression 1640XL Online Reference Guide**  
Provides detailed information about EPSON TWAIN Pro, including troubleshooting tips. You must have a web browser (Netscape Navigator® or Microsoft® Internet Explorer, versions 3.0 or later) on your computer to read this guide. See page 5 for instructions on viewing your *Reference Guide*.

- **On-Screen Help**

Most of the applications that come with your scanner include on-screen help. For EPSON TWAIN Pro, just click the  button or select **Help** from the menu.

- **Electronic Documents**

Several of the applications that came with your scanner include electronic manuals in the Adobe Acrobat® PDF format. You'll find electronic user's guides in the **Manuals** folder on the EPSON Expression 1640XL Scanning Tools CD-ROM, as well as in the product folders. See page 7 for instructions on locating and viewing your Acrobat manuals.

If none of these sources answers your questions, please see “Where To Get Help” on page 144.

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

Please follow these guidelines as you read your documentation:



Warnings must be followed carefully to avoid bodily injury.



Cautions must be observed to avoid damage to your equipment.



Notes contain important information about your scanner.



Tips contain additional hints for great scanning.

## Reading Your Reference Guide

Your electronic *EPSON Expression 1640XL Online Reference Guide* is on your EPSON Expression 1640XL Scanning Tools CD-ROM. You can view it from the CD-ROM or copy it to your hard drive and view it from there. You must have a web browser (Netscape Navigator or Internet Explorer, versions 3.0 or later).

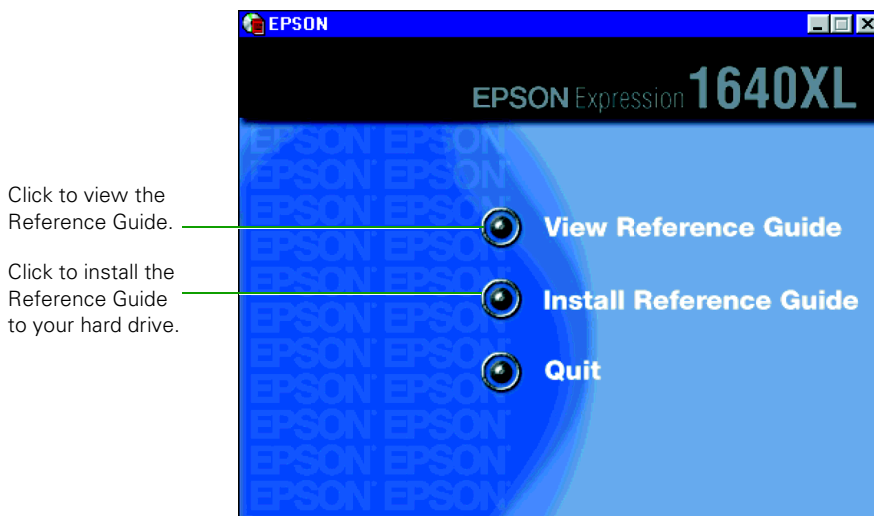


If you install the manual to your hard drive, you can read it anytime. For Windows, just click Start, Programs, EPSON, and select Exp1640XL Guide. For Macintosh, double-click the View Reference Guide icon in the Expression 1640XL folder on your hard drive.

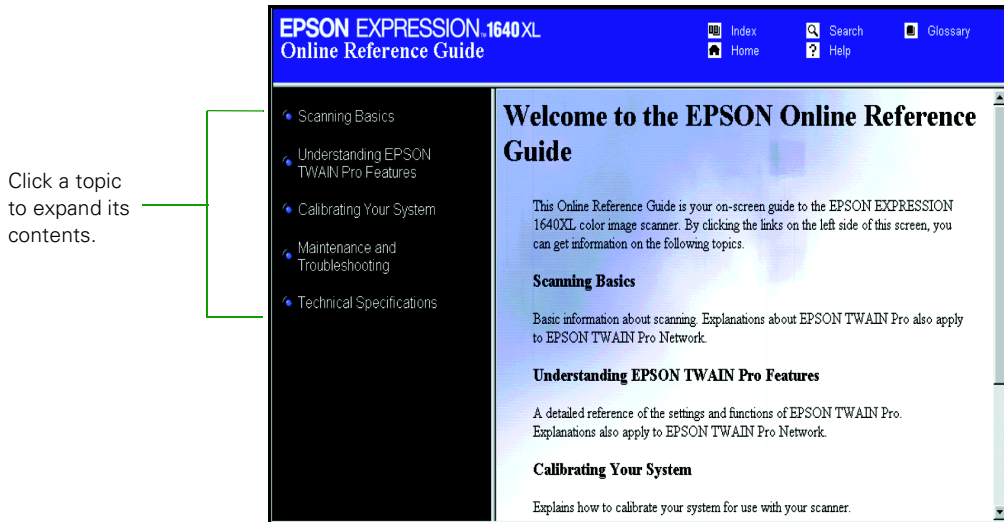
Follow these steps to view the manual:

1. Insert your EPSON Expression 1640XL Scanning Tools CD-ROM.
  - If you're running Windows, when you see the Software Setup window, click **Browse this CD**, and double-click the **Manuals** folder. Then double-click the **XP1640XL.exe** icon.
  - If you have a Macintosh, double-click the **Manuals** folder, and then double-click the **EPSON Expression 1640XL** icon.

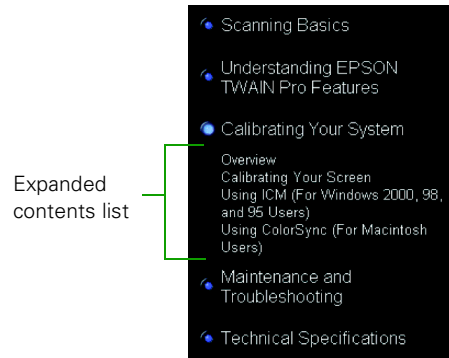
The Reference Guide window opens:



2. Click View Reference Guide. Your browser opens and you see this window:



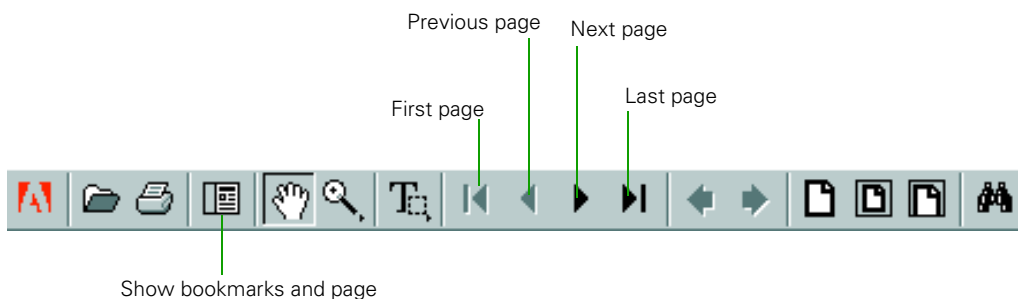
3. Click topics on the left to expand the contents. Then click the subtopic you want to view.



## Viewing Your Other Electronic Manuals

To view your electronic manual for Presto! PageManager for EPSON, ScanSoft TextBridge Pro, or any other PDF manuals, you'll use Adobe Acrobat Reader. If Acrobat Reader is not already installed on your computer, you can install it with the other scanner software. See the software installation instructions for your system in Chapter 2.

When you open an electronic manual, you'll see this toolbar:



This is the toolbar for Acrobat Reader 4.05. The toolbar for Acrobat Reader 3.0 looks slightly different.

With Acrobat Reader, you have several ways to navigate through text:

- Use the bookmark section on the left side of the screen to move quickly to the topic of your choice. Click the **Show Bookmarks** icon on the toolbar to see the bookmark section, if the manual has bookmarks. Some manuals only have a table of contents, but you can also use this to navigate the manual if the topics are hot.
- Use the arrow buttons in the toolbar or the vertical scroll bar on the right side of the document to move through the manual. (The box to the left of the scroll bar displays the current page number.)
- Click on hot topics, which are usually underlined or displayed in a different color. To find out if a topic is hot, move your cursor over it. If the cursor turns into a pointing hand, the topic is hot—you can jump to it by clicking once.

For more information, see your Acrobat Reader online guide.

Locate your PDF manuals as follows:

- **EPSON Expression 1640XL User's Guide**—You can find a PDF version of this user's guide in the **Manuals** folder on your Expression 1640XL Scanning Tools CD-ROM.

- **Acrobat Reader**—For Windows, select **Reader Guide** from the Acrobat Reader Help menu.

For Macintosh, select **Reader Guide** from the Acrobat Reader Help menu. Then browse to **Help\Enu\Reader.pdf**.

- **Presto! PageManager**—For Windows, click **Start, Programs, Presto! PageManager for EPSON, PageManager User's Manual**.

For Macintosh, double-click the **User's Guide.pdf** icon in the **Presto! PageManager for EPSON** folder on your hard drive.

- **ScanSoft TextBridge Pro**—For Windows, click **Start, Programs, TextBridge Pro**, and select **User Guide**.

For Macintosh, insert your Expression 1640XL Scanning Tools CD-ROM, then double-click the **TextBridge Pro** folder. Double-click the **TextBridge Pro Documents** folder, then the **Getting Started** PDF file for the chapter you want to read.

- **Adobe Photoshop LE**—Insert your Adobe Photoshop LE CD-ROM.

For Windows, double-click the **My Computer** icon on your desktop, then double-click the **Photoshop CD-ROM** icon. Finally, double-click the **User Guide** icon.

For Macintosh, double-click the **Adobe Photoshop LE CD-ROM** icon on your desktop, then double-click the **User Guide.pdf** icon.

- **MonacoEZcolor**—For Windows, click **Start, Programs, MonacoEZcolor**, and then select **MonacoEZcolor User Guide**.

For Macintosh, double-click the **MonacoEZcolor** folder on your hard drive, and then double-click the **MonacoEZcolor User Guide.pdf** icon.



## Registering

Please take a minute to complete the electronic registration form. If you are installing software under Windows, the electronic registration form will display at the end of the software installation process (see “Chapter 2, Setting Up Your Scanner”). If you are installing software on a Macintosh, click **Browse this CD** on the Expression 1640XL Scanning Tools CD-ROM, double-click the **E-Reg** folder, and then double-click the **EPSON Registration** icon.

Registering enables you to receive special information on options, new products, and software upgrades. You’ll get immediate attention if you have a problem with your scanner.



# Chapter 2

## Setting Up Your Scanner



Setting up your scanner is easy. For most installations, just follow the steps in this book in the order listed below.

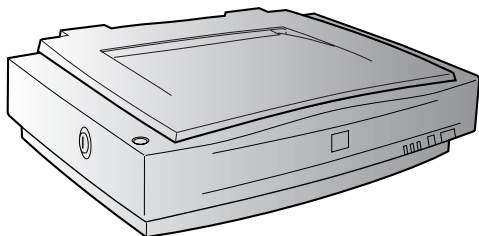
1. Unpack and choose a place for your scanner.
2. Unlock the scanner.
3. Connect the scanner to your computer.
4. Power on your scanner, then power on your computer.
5. Install the scanner software.
6. View your electronic manuals.

If you have a Macintosh, you may prefer to install the scanner software before you connect the scanner to your computer. See “Installing the Macintosh Software” on page 45. If you decide to connect the scanner before you install the software, you’ll see a message that your scanner driver needs to be installed. Just close the message and proceed with the installation instructions.

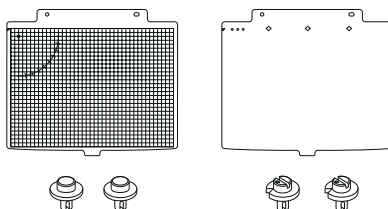
If you’re installing a transparency unit, an automatic document feeder, or an IEEE 1394 FireWire scanner interface card, see Chapter 5, “Using Optional Equipment.”

# Unpacking Your Scanner

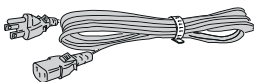
Remove the scanner from the box, then remove the packing material from your scanner. Save the packaging in case you need it later. Your EPSON Expression 1640XL comes with these items:



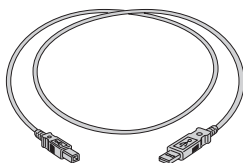
scanner



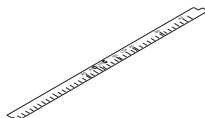
document guide and adjustment pins



power cord



USB cable



document guide strip



EPSON Expression 1640XL Scanning Tools CD-ROM



Adobe Photoshop LE CD-ROM



MonacoEZcolor CD-ROM (located in plastic sleeve attached to the *MonacoEZcolor User Guide*)



*MonacoEZcolor User Guide*

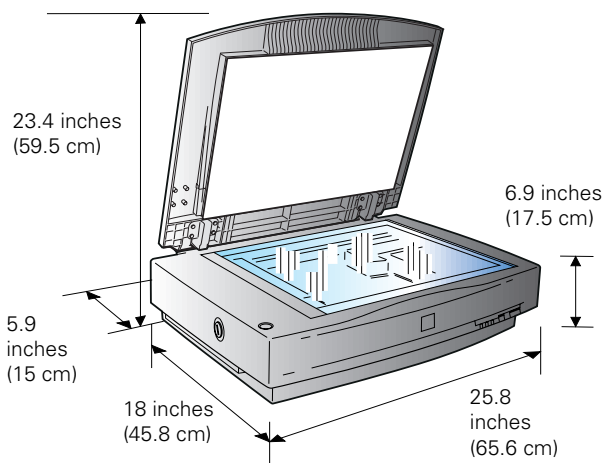


*EPSON Expression 1640XL User's Guide*

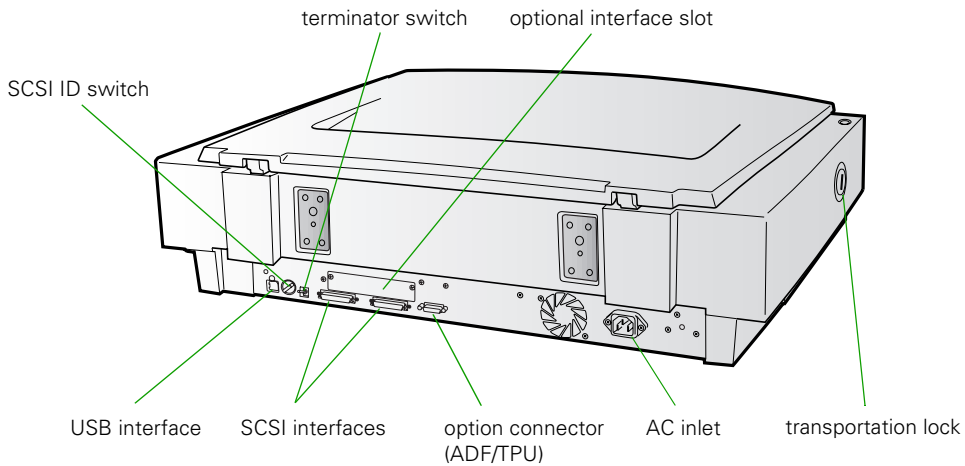
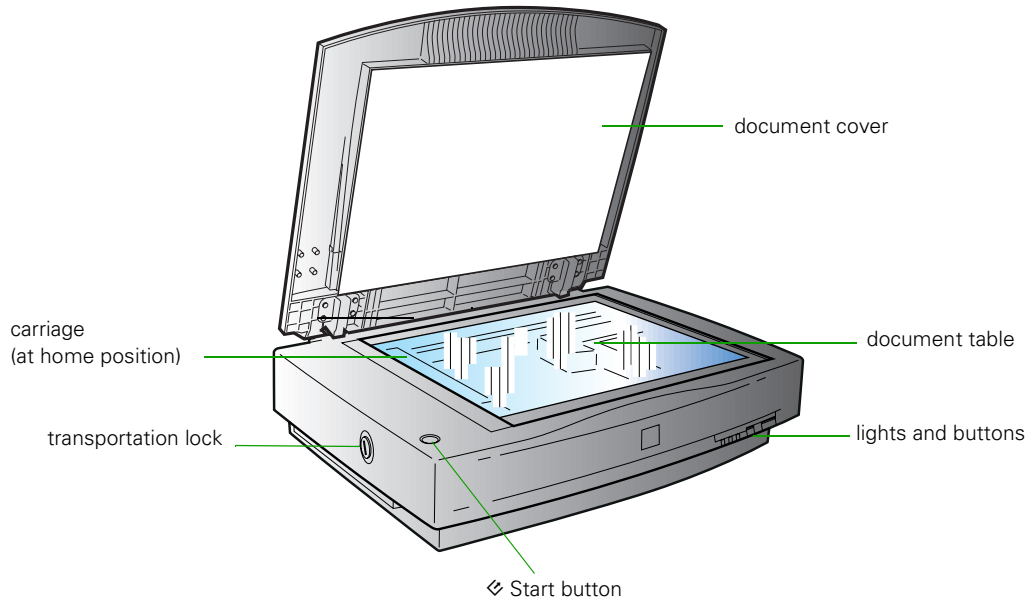
## Choosing a Good Place for Your Scanner

Here are some points to consider:

- Place the scanner on a flat, stable surface. If the scanner is tilted, it can't operate properly.
- Make sure to place the scanner where you can easily unplug the power cord, and where your cable can reach your computer.
- Keep the scanner away from direct sunlight and strong light sources.
- Be sure there's enough room behind the scanner for the cables, and above the scanner so you can fully raise the document cover.
- Avoid places subject to shocks and vibrations, or high or rapidly changing temperatures and humidity.




## Identifying Scanner Parts

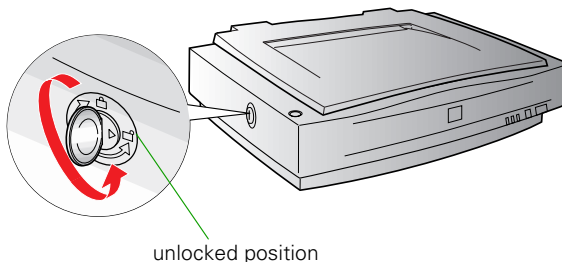


## Unlocking the Scanner

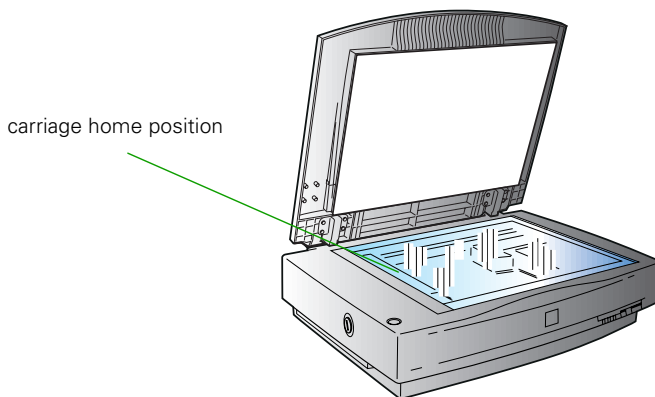
Before connecting the scanner to a power source, you must release the transportation lock, located on the side of the scanner.

To release the transportation lock, turn it counterclockwise to the  icon, as shown.

If you can't turn the transportation lock easily, turn the scanner on; then, after the **ERROR** and **READY** lights start flashing, turn the scanner off and try again.



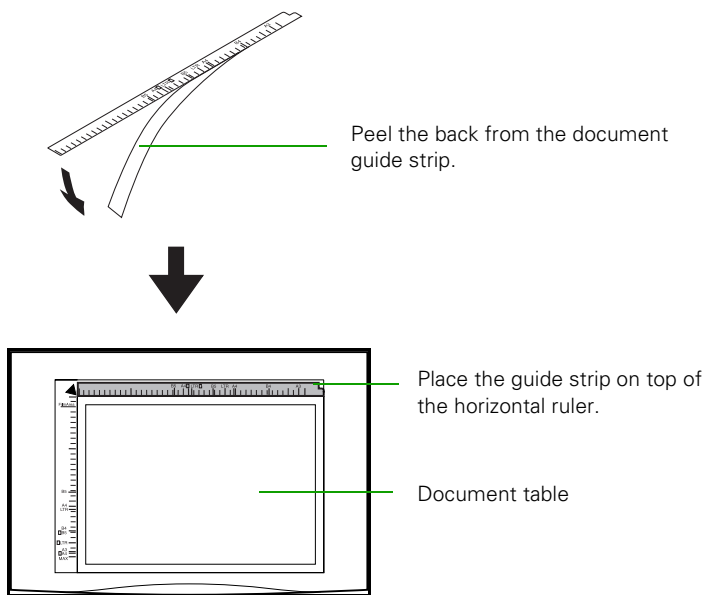
Always lock the transportation lock before moving the scanner. Also, be sure the carriage is in the home position (shown below). See "Transporting the Scanner" on page 125 for more information.



## Attaching the Document Guide Strip

The document guide strip makes it easy to align documents on the scanner's document table. To attach the document guide strip to the scanner:

1. Peel the back from the document guide strip.
2. Place the guide strip on top of the document table's horizontal ruler, as shown in the following illustration:



Be sure to remove the document guide strip from the scanner if you are using the optional Automatic Document Feeder.

If you are still having difficulty aligning documents on the scanner's document table, see "Using the Document Guide" on page 64.




# Testing Your Scanner's Operation

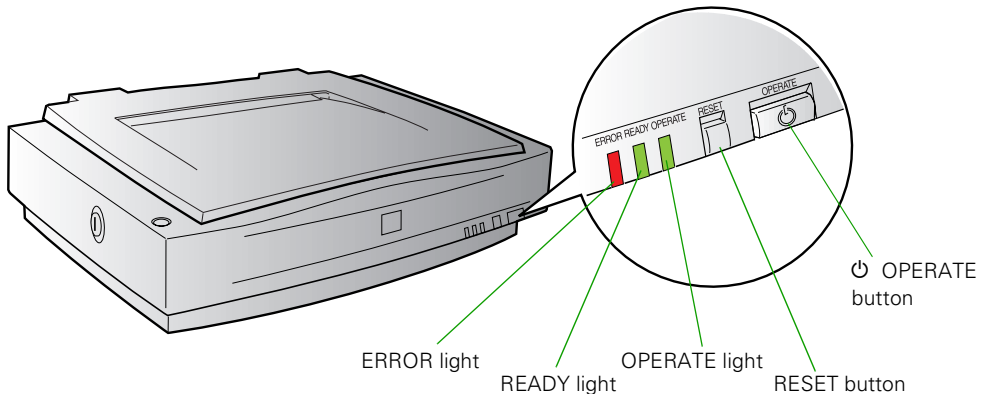
To make sure your scanner is working properly, it's a good idea to turn it on before you connect it to your computer.



The scanner's voltage cannot be changed. If the label on the back of the scanner does not display the correct voltage for your area, contact your dealer. Do not plug in the power cord.

1. Make sure the scanner is plugged in. Then open the scanner's document cover so you can see the operation of the carriage.
2. Press the  **OPERATE** button to turn the scanner on.

The **READY** light on the scanner's front panel flashes, and the scanner's carriage moves forward, then back. The **READY** light stays on when the scanner is ready to scan.



If you turn off the scanner, wait at least 10 seconds before turning it back on. Rapidly turning the scanner on and off can damage the scanner.

# Connecting the Scanner to Your Computer

You can connect the scanner to your computer in any of these ways:

## ■ USB

If you have a Power Macintosh® with built-in USB support or your computer is running Windows 2000 or Windows 98 (factory installed), you can connect the Expression 1640XL with the USB cable that came with the scanner. Windows 2000 or Windows 98 must be preinstalled on your computer; they cannot be upgraded from an earlier version of Windows. There is no USB support for Windows 95 and Windows NT 4.0.

## ■ SCSI

If you have a Power Macintosh with built-in SCSI support or a compatible PCI SCSI/SCSI 2 adapter board, or your Windows computer has an ASPI-compliant SCSI 2 board (Adaptec® boards are recommended), you can connect the scanner with a SCSI 2 cable not more than 19.7 feet long. If you're connecting multiple SCSI devices, the total length of the SCSI bus (cables) should not exceed 9.8 feet. If your computer is running Windows 95 or Windows NT 4.0, you must use a SCSI connection.

## ■ IEEE 1394 (FireWire)

If you have purchased the optional IEEE 1394 FireWire scanner interface card, you can connect the scanner to your Power Macintosh or PC with the IEEE 1394 FireWire cable. Your Power Macintosh must have a built-in IEEE 1394 FireWire port or an IEEE 1394 FireWire PCI card, and must be running Macintosh OS 8.6 or later with FireWire Update 2.1 or later. Your PC must have an OHCI compliant FireWire port or card, and must be running a pre-installed version of Windows 2000.



Adaptec Power Domain® 2940UW and 2940U2W SCSI boards for the Macintosh are designed for hard drives only and are not compatible with scanners.

If you install a USB card in your Macintosh and then upgrade your system to OS 8.6, your USB Manager won't be installed and your scanner may not work. To have USB support, you must perform a full installation of OS 8.6 from a CD-ROM before you install the card.

## Connecting to a USB Interface

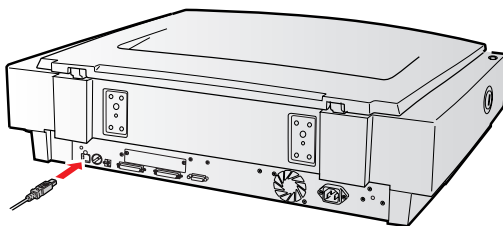
With the USB interface, you can connect or remove your scanner without having to shut down or restart your computer.



Don't disconnect or connect the USB cable when the Expression 1640XL is scanning.

Windows 2000 or Windows 98 must be preinstalled on your computer, not upgraded. There is no USB support for Windows 95 or Windows NT 4.0.

1. Locate the USB cable that came with your scanner.
2. Connect the square end of the USB cable to the scanner's USB port.
3. Connect the flat end of the USB cable to your computer's USB port or USB hub port.



If your scanner and computer are both powered on, you see the Add New Hardware Wizard if you're running Windows 98 (Found New Hardware wizard in Windows 2000) or a message that your scanner driver needs to be installed if you have a Macintosh. Continue with the instructions in "Installing the Windows Software" on page 23 or "Installing the Macintosh Software" on page 45.



If you're using a USB hub, connect the scanner to a first tier hub, which is the hub closest to the computer. If the scanner doesn't work with the hub, connect it directly to a USB port on your computer.

## Connecting to a SCSI Interface

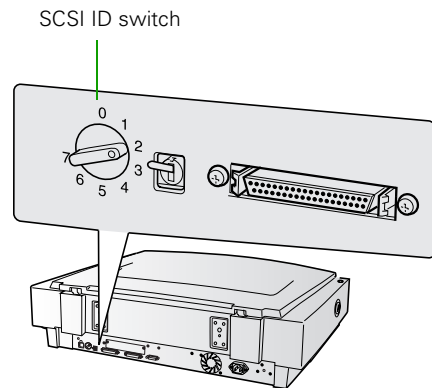
Before you connect the scanner, you must have an ASPI-compliant SCSI 2 interface board installed in your computer (Adaptec SCSI 2 interface boards are recommended). Some computers come with a SCSI 2 board preinstalled; check your computer documentation.



Adaptec Power Domain 2940UW and 2940U2W SCSI boards for the Macintosh are designed for hard drives and are not compatible with scanners.

If you purchased a SCSI board as an option, follow the manufacturer's instructions to install both the board and its driver.

You may also need to change the scanner's SCSI ID setting before you connect it to your computer. If you have another SCSI device that uses SCSI ID 2, turn the scanner off and turn the SCSI ID switch on the back of the scanner to a new number.



Choose a number that doesn't conflict with the ID number of other SCSI devices. Don't use SCSI ID 0, 1, or 7. If your Macintosh has a built-in CD-ROM, don't use SCSI ID 3.

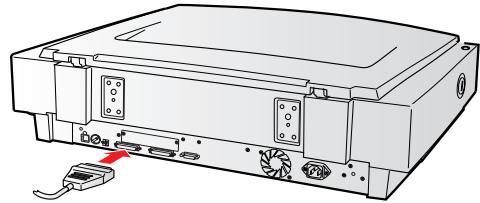
Follow these steps to connect the scanner to a SCSI interface:

1. Make sure the scanner and computer are turned off. (The scanner is off when the **⏻ OPERATE** button is out and the **ERROR** and **READY** lights are off.)



Do not connect the scanner to the computer while it is turned on, or the scanner could be damaged.

2. Squeeze the lock releases on the lock connector end of your SCSI cable, and then plug the cable into either SCSI connector on the back of the scanner. The cable is secure when both connector locks snap in.



3. Connect the pin end of the SCSI cable to the SCSI port on your computer, or to another SCSI device in the chain. Tighten the screws to secure the cable.



If you're connecting multiple SCSI devices, the total length of the SCSI bus (cables) should not exceed 9.8 feet (three meters); otherwise the system may not work properly. If you are connecting the scanner directly to your computer, use a cable no more than 19.7 feet (six meters) long.

Don't use an external terminator.

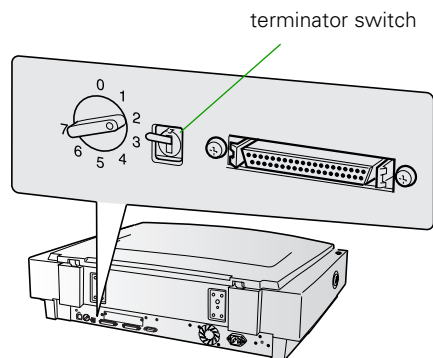
4. Locate the SCSI terminator switch at the rear of the scanner.

If the scanner is your only SCSI device, or if it's the last device in a SCSI chain, leave the terminator switch turned **ON**.

If you've connected your scanner in the middle of a SCSI chain, turn the terminator switch **OFF**.

5. Plug in the power cables for your computer, scanner, and other external SCSI devices.

Continue with the instructions in "Installing the Windows Software" on page 23 or "Installing the Macintosh Software" on page 45.



## Connecting to an IEEE 1394 FireWire Interface

If you have purchased the optional IEEE 1394 FireWire scanner interface card, you can connect the scanner to your Power Macintosh or PC using an IEEE 1394 FireWire interface. Your Power Macintosh must have a built-in IEEE 1394 FireWire port or an IEEE 1394 FireWire PCI card, and must be running Macintosh OS 8.6 or later with FireWire Update 2.1 or later. Your PC must have an OHCI compliant FireWire port or card, and must be running a pre-installed version of Windows 2000.



See “IEEE 1394 FireWire Scanner Interface Card” on page 122 for information about system requirements and instructions on installing the card. See page 103 for information about ordering the card.

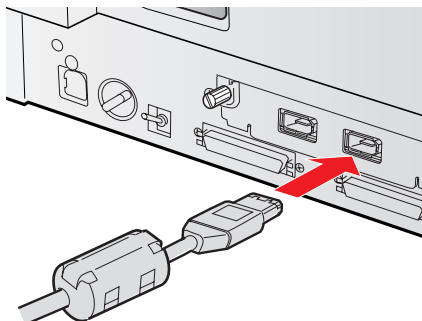
The IEEE 1394 FireWire scanner interface card has two cable connectors. You can use either one to connect the scanner directly to your computer. At the same time, you can use the second connector to connect other IEEE 1394 FireWire devices in a daisy chain or tree configuration. You can also connect the scanner to another IEEE 1394 FireWire device so that it's the last IEEE 1394 FireWire device in a chain connected to your computer.

Neither your scanner nor your computer has to be off when you connect the cable. However, be careful not to connect or disconnect the cable when the scanner is in use.

Follow these steps to connect the scanner:

1. Connect one end of the cable to the IEEE 1394 FireWire port on the card.
2. Connect the other end of the cable to the IEEE 1394 FireWire port on your computer or on another IEEE 1394 FireWire device.

Continue with “Installing the Macintosh Software” on page 45.



## Installing the Windows Software

Before you begin installing software, make sure you recalibrate your monitor to factory specifications. Then follow the instructions for your operating system:

- If you're running Windows 2000, continue with the next section, "Installing the Windows 2000 Software."
- If you're running Windows 98, go to "Installing the Windows 98 Software" on page 30.
- If you're running Windows 95, go to "Installing the Windows 95 Software" on page 35.
- If you're running Windows NT 4.0, go to "Installing the Windows NT 4.0 Software" on page 40.



For instructions on installing software for a network scanner, go to Chapter 4, "Network Scanning."

When you've finished installing the software on your EPSON Expression 1640XL Scanning Tools CD-ROM, continue with "Installing Additional Windows Software" on page 43 if you want to install Adobe Photoshop LE, ScanSoft TextBridge Pro, or MonacoEZcolor.

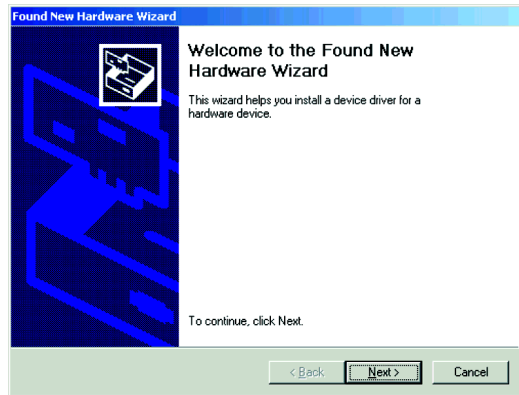
## Installing the Windows 2000 Software

Before you begin, make sure the Expression 1640XL is connected to your computer. Also, make sure you've recalibrated your monitor to factory specifications.

This procedure automatically installs your EPSON TWAIN Pro driver and any software you need for a USB connection. If you're using a SCSI connection and are configuring your SCSI interface card for the first time, you'll be asked to install your SCSI driver at the beginning of installation. Follow the instructions on the screen to install your SCSI driver, or see the documentation that came with your SCSI card.

You may be asked to insert your Windows CD-ROM during this procedure. Make sure you have your Windows CD-ROM available, or know where to find the Windows source files on your hard drive. If you need help locating your source files, contact your computer manufacturer.

1. Turn on your scanner first, then turn on your computer.
2. When you see the window on the right, insert the EPSON Expression 1640XL Scanning Tools CD-ROM in your drive and click Next.



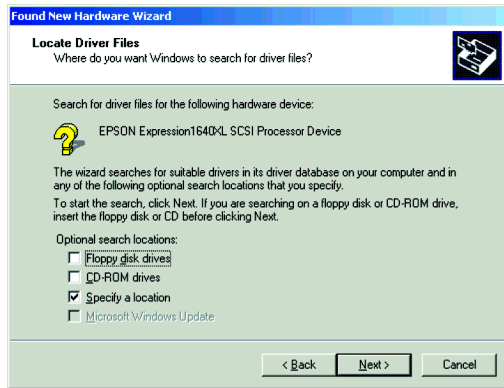
3. Select Search for a suitable driver for my device, and then click Next.



The Found New Hardware Wizard screen above displays with a SCSI connection and may look slightly different for USB and FireWire connections.



4. Select **Specify a location**, if necessary, and click **Next**.



5. Browse to **EPSON\Win2000** on your CD-ROM drive. (The example to the right uses “F” as the CD-ROM drive letter. Your CD-ROM drive letter may be different.) Click **OK** to close the Browse window, and then click **Next**.



6. Follow the instructions on the screen.

If you see a message asking for your Windows 2000 CD-ROM, insert it and click **OK** (or click **Browse** and locate the Windows 2000 source files on your hard drive; then click **OK**).

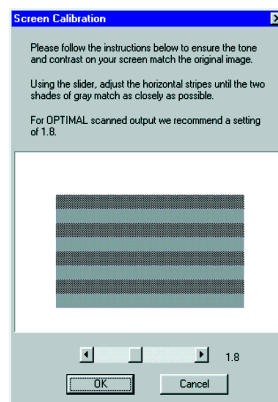
7. When you see the Digital Signature Not Found screen, click **Yes**.

If prompted for the **EPSON Scanners Driver Disk 1**, reinsert your **EPSON Expression 1640XL Scanning Tools CD-ROM**.



8. When you see the EPSON Screen Calibration Utility, move the slider right or left until the stripes match as closely as possible. Then click **OK**.
9. Click **Finish** when you see a message that installation is complete.

Continue with the instructions in the next section, “Installing Other Software on Your Scanning Tools CD-ROM.”



The EPSON Screen Calibration Utility calibrates the preview image you see in your EPSON TWAIN Pro driver to match your monitor settings.

You won't need to change the screen calibration as long as you continue to use the same display. If you need to recalibrate your screen at a later time, double-click the Scanners and Cameras icon in your Windows Control Panel to open the Scanners and Cameras Properties window. On the Devices tab, select EPSON Expression 1640XL and click the Properties button to display the EPSON Expression 1640XL Properties window. Click the Utility tab, and then click the Screen Calibration Utility button.

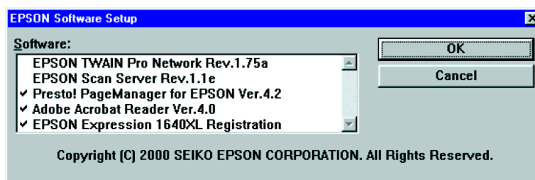
## Installing Other Software on Your Scanning Tools CD-ROM

Follow these steps to install Presto! PageManager and Adobe Acrobat, and complete the 1640XL electronic registration form:

1. If the Software Setup window doesn't appear, double-click the My Computer icon on your Windows desktop, then double-click the Epson CD-ROM icon.



2. Click the Add Software button to display the software selection window. A check mark appears beside applications selected for installation. If you want to deselect either Presto! PageManager or Acrobat Reader, click the application to clear the check mark. Then click OK.



Don't select either of the two network applications, EPSON TWAIN Pro Network or EPSON Scan Server. The EPSON TWAIN Pro driver, which is already installed on your computer, lets you scan to an Expression 1640XL connected to your computer. If you want to install software for a network scanner, go to Chapter 4, "Network Scanning."

3. Follow the instructions on the screen to install the software.

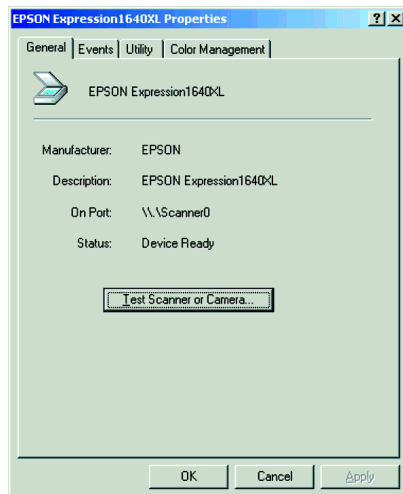
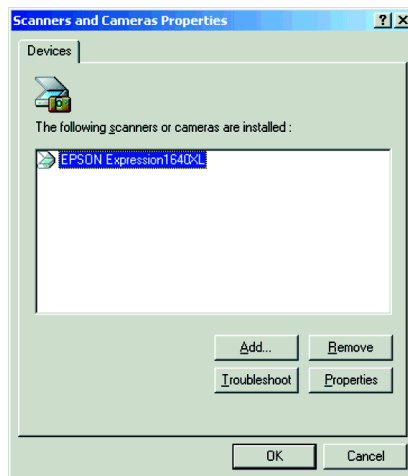
If you're done installing software, remove the EPSON Expression 1640XL Scanning Tools CD-ROM and restart your computer. Then follow the instructions in the next section to make sure your scanner is operating properly.

If you want to install ScanSoft TextBridge Pro, MonacoEZcolor, or Adobe Photoshop LE, continue with the instructions under "Installing Additional Windows Software" on page 43.

## ***Testing the Scanner's Operation (Windows 2000)***

Follow these steps to test scanner operation:

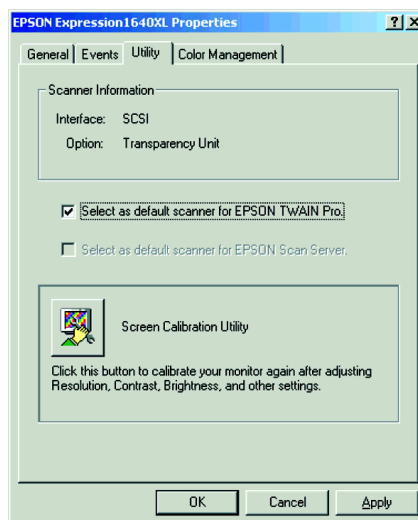
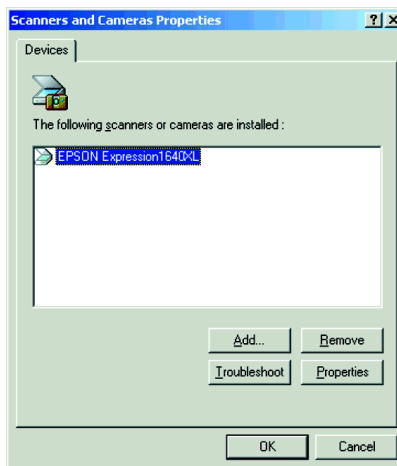
1. Double-click the **Scanners and Cameras** icon in the Windows Control Panel to open the Scanners and Cameras Properties window.
2. Make sure **EPSON Expression1640XL** is selected, and then click the **Properties** button.
3. Click the **Test Scanner or Camera** button. If the scanner is operating properly, **Device Ready** appears next to **Status**.



## Selecting the Expression 1640XL as Your Default Scanner (Windows 2000)

If you have more than one scanner connected to your computer, you can set up the Expression 1640XL as the default scanner.

1. Double-click the **Scanners and Cameras** icon in your Windows Control Panel to open the Scanners and Cameras Properties window.
2. Make sure **EPSON Expression 1640XL** is selected, and click the **Properties** button. You see the EPSON Expression 1640XL Properties window.
3. Click the **Utility** tab. Make sure **Select as default scanner for EPSON TWAIN Pro** is checked, and then click **OK**.



## Installing the Windows 98 Software

Before you begin, make sure the Expression 1640XL is connected to your computer. Also, make sure you've recalibrated your monitor to factory specifications.

This procedure automatically installs your EPSON TWAIN Pro driver and any software you need for a USB connection. If you're using a SCSI connection and are configuring your SCSI interface card for the first time, you'll be asked to install your SCSI driver at the beginning of installation. Follow the instructions on the screen to install your SCSI driver, or see the documentation that came with your SCSI card.

You may be asked to insert your Windows CD-ROM during this procedure. Make sure you have your Windows CD-ROM available, or know where to find the Windows source files on your hard drive. If you need help locating your source files, contact your computer manufacturer.

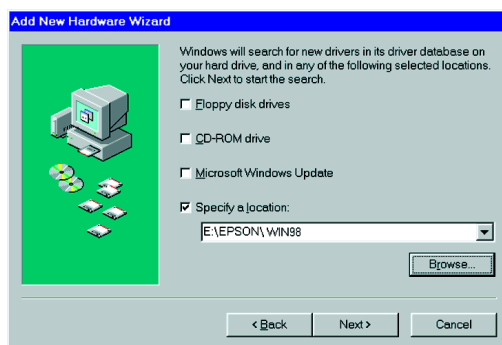
1. Turn on your scanner first, then turn on your computer.
2. When you see the window on the right, insert the EPSON Expression 1640XL Scanning Tools CD-ROM in your drive and click **Next**.



3. Select **Search for the best driver** for your device, and then click **Next**.

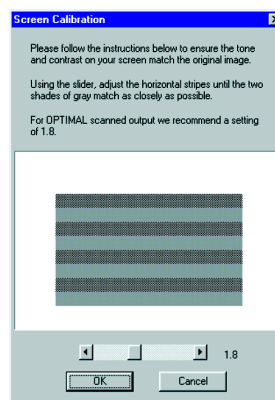


4. Select **Specify a location**, if necessary, and click **Browse**.
5. Browse to **EPSON\ Win98** on your CD-ROM drive. (The example to the right uses “E” as the CD-ROM drive letter. Your CD-ROM drive letter may be different.) Click **OK** to close the Browse window, and then click **Next**.



6. Follow the instructions on the screen.
7. When you see the EPSON Screen Calibration Utility, move the slider right or left until the stripes match as closely as possible. Then click **OK**.
8. Click **Finish** when you see a message that installation is complete.

Continue with the instructions in the next section, “Installing Other Software on Your Scanning Tools CD-ROM.”



The EPSON Screen Calibration Utility calibrates the preview image you see in your EPSON TWAIN Pro driver to match your monitor settings.

You won’t need to change the screen calibration as long as you continue to use the same display. If you need to recalibrate your screen at a later time, double-click the Scanners and Cameras icon in your Windows Control Panel to open the Scanners and Cameras Properties window. On the Devices tab, select EPSON Expression 1640XL and click the Properties button to display the EPSON Expression 1640XL Properties window. Click the Utility tab, and then click the Screen Calibration Utility button.

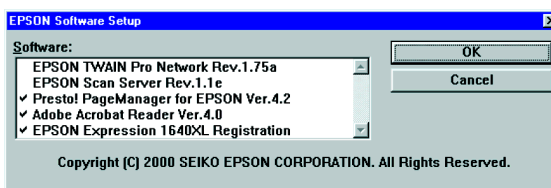
## Installing Other Software on Your Scanning Tools CD-ROM

Follow these steps to install Presto! PageManager and Adobe Acrobat, and complete the 1640XL electronic registration form:

1. If the Software Setup window doesn't appear, double-click the My Computer icon on your Windows desktop, then double-click the Epson CD-ROM icon.



2. Click the Add Software button to display the software selection window. A check mark appears beside applications selected for installation. If you want to deselect either Presto! PageManager or Acrobat Reader, click the application to clear the check mark. Then click OK.



Don't select either of the two network applications, EPSON TWAIN Pro Network or EPSON Scan Server. The EPSON TWAIN Pro driver, which is already installed on your computer, lets you scan to an Expression 1640XL connected to your computer. If you want to install software for a network scanner, go to Chapter 4, "Network Scanning."

3. Follow the instructions on the screen to install the software.

If you're done installing software, remove the EPSON Expression 1640XL Scanning Tools CD-ROM and restart your computer. Then follow the instructions in the next section to make sure your scanner is operating properly.

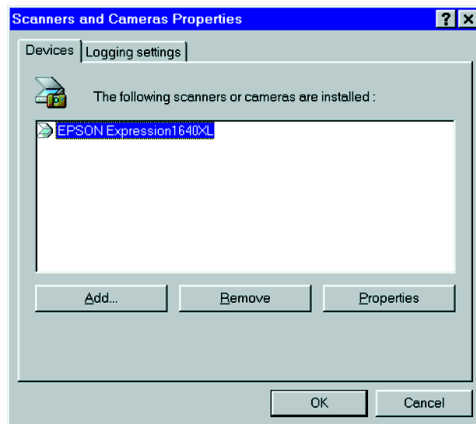
If you want to install ScanSoft TextBridge Pro, Adobe Photoshop LE, or MonacoEZcolor, continue with the instructions under "Installing Additional Windows Software" on page 43.



## Testing the Scanner's Operation (Windows 98)

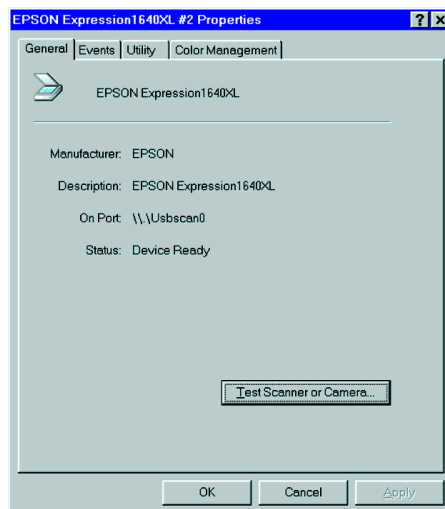
Follow these steps to test scanner operation:

1. Double-click the **Scanners and Cameras** icon in the Windows Control Panel to open the Scanners and Cameras Properties window.



The Scanners and Cameras Properties screen above displays with a SCSI connection and may look slightly different for USB and FireWire connections.

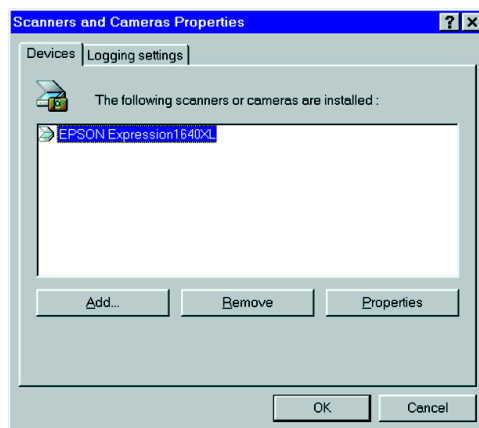
2. Make sure **EPSON Expression1640XL** is selected, and then click the **Properties** button.
3. Click the **Test Scanner or Camera** button. If the scanner is operating properly, a confirmation message appears. Click **OK** to close the message. **Device Ready** appears next to **Status**.



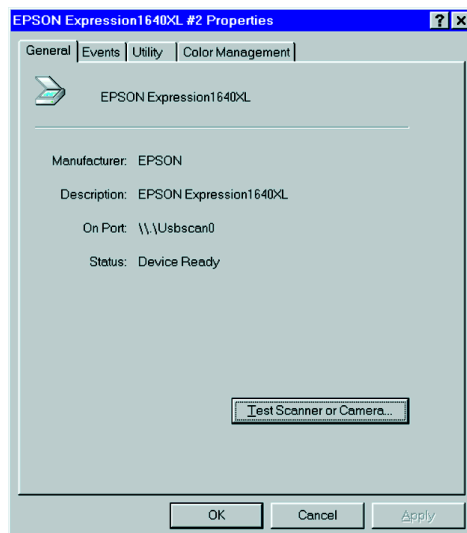
## ***Selecting the Expression 1640XL as Your Default Scanner (Windows 98)***

If you have more than one scanner connected to your computer, you can set up the Expression 1640XL as the default scanner.

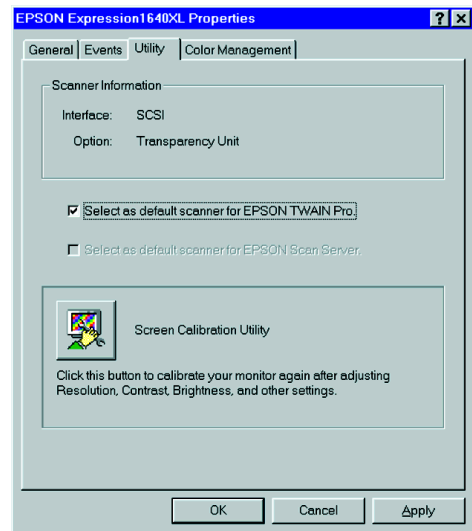
1. Double-click the **Scanners and Cameras** icon in your Windows Control Panel to open the Scanners and Cameras Properties window.



2. Make sure **EPSON Expression 1640XL** is selected, and click the **Properties** button. You see the EPSON Expression 1640XL Properties window.



3. Click the Utility tab. Make sure **Select as default scanner for EPSON TWAIN Pro** is checked, and then click OK.



## ***Installing the Windows 95 Software***

Before you begin, make sure the Expression 1640XL is connected to your computer. Also, make sure you've recalibrated your monitor to factory specifications.

If you're configuring your SCSI interface card for the first time, you'll be asked to install your SCSI driver at the beginning of installation. Make sure you have your Windows CD-ROM available, or know where to find the Windows source files on your hard drive. Then follow the instructions on the screen, or see the documentation that came with your SCSI card for more information.



If you need help locating your source files, contact your computer manufacturer.

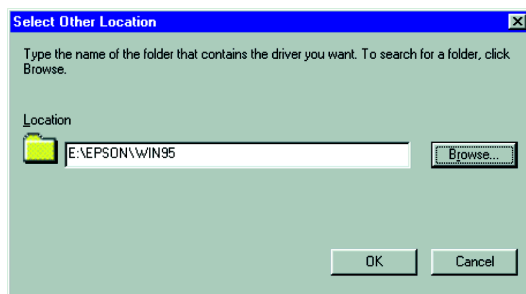
1. Turn on your scanner first; then turn on your computer. When you see the window on the right, click **Next**.



2. Insert your Expression 1640XL Scanning Tools CD-ROM in your drive. Then click **Other Locations**.



3. Browse to the following location on your CD-ROM drive: **EPSON\Win95**. (The example on the right uses "E" as the CD-ROM drive letter. Your CD-ROM drive may have a different letter.) Click **OK**.



4. When you see this window, click **Finish**.

Continue with the instructions in the next section to install EPSON TWAIN Pro and other software on your Expression 1640XL Scanning Tools CD-ROM.



## ***Installing Other Software on Your Scanning Tools CD-ROM***

Follow these steps to install EPSON TWAIN Pro, Presto! PageManager, Acrobat Reader, and complete the 1640XL electronic registration form:

1. Double-click the **My Computer** icon on your Windows desktop, then double-click the **Epson CD-ROM** icon. You see the window on the right.

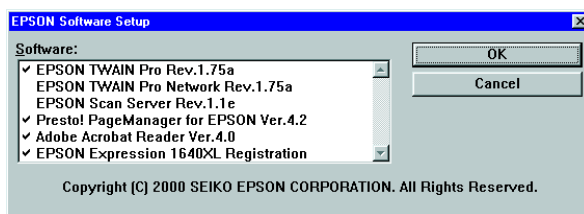


2. Click **Add Software**.

You see the software selection window.

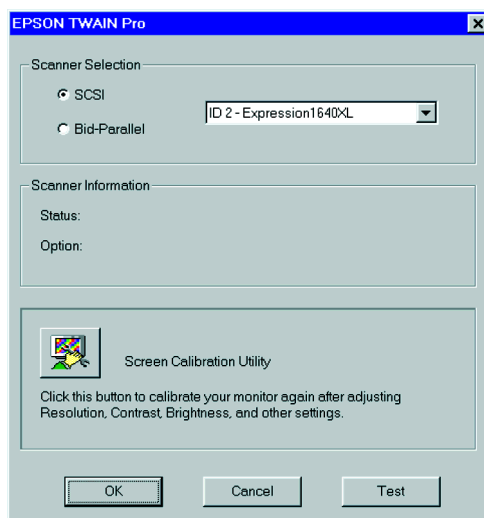
A check mark appears beside applications selected for installation.

If you want to deselect either Presto! PageManager or Acrobat Reader, click the application to clear the check mark. Then click **OK**.



Don't select either of the two network applications, EPSON TWAIN Pro Network or EPSON Scan Server. If you want to install software for a network scanner, go to Chapter 4, "Network Scanning."

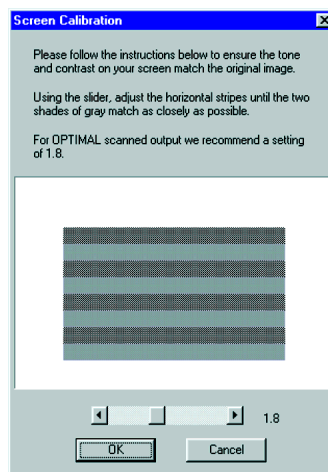
3. Follow the instructions on the screen to install EPSON TWAIN Pro. When installation is complete, you see the window on the right. Make sure **SCSI** is selected and **Expression 1640XL** appears in the Scanner Selection box.
4. Click **Test** to check the connection. If the scanner software is installed correctly, you see **Status: Device Ready** under **Scanner Information**. Click **OK** to close the window.



5. When you see the EPSON Screen Calibration Utility, move the slider right or left until the stripes match as closely as possible. Then click **OK**.
6. Follow the instructions on the screen to install Presto! PageManager, Acrobat Reader, and complete the 1640XL electronic registration form.

If you're done installing software, remove the EPSON Expression 1640XL Scanning Tools CD-ROM and restart your computer.

If you want to install ScanSoft TextBridge Pro, Adobe Photoshop LE, or MonacoEZcolor, continue with the instructions under "Installing Additional Windows Software" on page 43.



The EPSON Screen Calibration Utility calibrates the preview image you see in your EPSON TWAIN Pro driver to match your monitor settings.

You won't need to change the screen calibration as long as you continue to use the same display. If you need to recalibrate your screen at a later time, open the EPSON TWAIN Pro window by double-clicking the EPSON TWAIN Pro icon in the Windows Control Panel. Then start the EPSON Screen Calibration Utility by clicking the Screen Calibration button at the bottom of the window.

Verify that the scanner is listed in the Windows Device Manager. (Click **Start**, **Settings**, **Control Panel**, then double-click the **System** icon. Select the Device Manager tab and double-click **EPSON Scanners**. EPSON Expression1640XL should appear in the list.)

## ***Installing the Windows NT 4.0 Software***

This procedure installs EPSON TWAIN Pro, Presto! PageManager, and Acrobat Reader. Before you begin, make sure the scanner is attached to your computer, and that you've recalibrated your screen to factory specifications.

If you're configuring your SCSI interface card for the first time, you'll be asked to install your SCSI driver at the beginning of installation. Make sure you have your Windows CD-ROM available, or know where to find the Windows source files on your hard drive. Then follow the instructions on the screen, or see the documentation that came with your SCSI card for more information.



If you need help locating your source files, contact your computer manufacturer.

1. Turn on your scanner first; then turn on your computer.
2. Log onto Windows NT. Then insert the EPSON Expression 1640XL Scanning Tools CD-ROM.
3. If the Software Setup window doesn't appear, double-click the My Computer icon on your Windows desktop, then double-click the Epson CD-ROM icon.



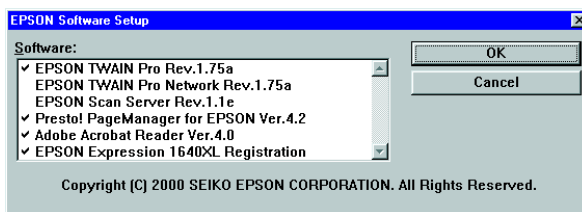


4. Click **Add Software**.

You see the software selection window.

A check mark appears beside applications selected for installation.

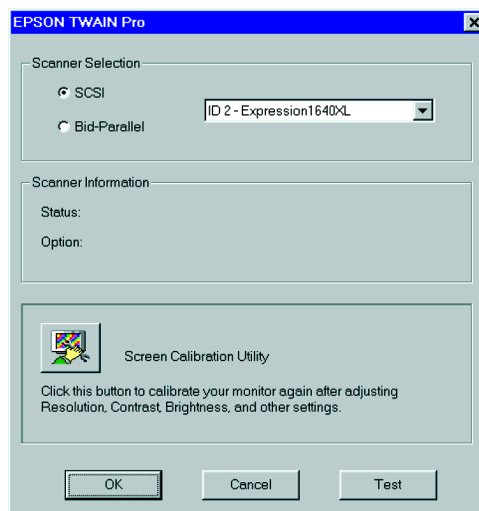
If you want to deselect either Presto! PageManager or Acrobat Reader, click the application to clear the check mark. Then click **OK**.



Don't select either of the two network applications, EPSON TWAIN Pro Network or EPSON Scan Server. If you want to install software for a network scanner, go to Chapter 4, "Network Scanning."

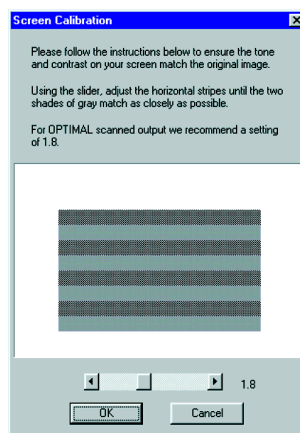
5. Follow the instructions on the screen to install EPSON TWAIN Pro. When installation is complete, you see the window on the right. Make sure **SCSI** is selected and **Expression1640XL** appears in the **Scanner Selection** box.

6. Click **Test** to check the connection. If the scanner software is installed correctly, you see **Status: Device Ready** under **Scanner Information**. Click **OK** to close the window.



7. When you see the EPSON Screen Calibration Utility, move the slider right or left until the stripes match as closely as possible. Then click **OK**.
8. Follow the instructions on the screen to install Presto! PageManager for EPSON and Acrobat Reader, and complete the 1640XL electronic registration form.

If you're done installing software, remove the EPSON Expression 1640XL Scanning Tools CD-ROM and restart your computer.



If you want to install ScanSoft TextBridge Pro, Adobe Photoshop LE, or MonacoEZcolor, continue with the instructions under “Installing Additional Windows Software” on page 43.



The EPSON Screen Calibration Utility calibrates the preview image you see in your EPSON TWAIN Pro driver to match your monitor settings.

You won't need to change the screen calibration as long as you continue to use the same display. If you need to recalibrate your screen at a later time, open the EPSON TWAIN Pro window by double-clicking the EPSON TWAIN Pro icon in the Windows Control Panel. Then click the Screen Calibration button at the bottom of the window to start the utility.


To verify that the scanner software was installed correctly, click **Start**, **Settings**, **Control Panel**, and then double-click **SCSI Adapters**. Click the **Devices** tab, if necessary. Then click the + next to the listing for your SCSI card manufacturer; EPSON Expression1640XL should be listed beneath it.

## Installing Additional Windows Software

Follow the instructions in this section to install Adobe Photoshop LE, MonacoEZcolor, and ScanSoft TextBridge Pro.

### *Installing Adobe Photoshop LE*

To find out how to upgrade to the full version of Adobe Photoshop, see the Acrobat file titled **Upgrade.pdf** on the Adobe Photoshop LE CD-ROM (you must have Acrobat Reader installed to view this file).


1. Insert the Adobe Photoshop LE CD-ROM in your drive.
2. Double-click the **My Computer** icon on your Windows desktop, then double-click the **Photoshop CD-ROM** icon.
3. Double-click the **Photosle** folder, then double-click the  **setup** icon.
4. Follow the instructions on the screen. When you see the User Information dialog box, enter your name and company, and then enter the serial number (including the hyphen) of your software exactly as it appears on the CD-ROM sleeve. Then click **Next**.
5. Follow the instructions on the screen to complete installation and create a Photoshop Limited Edition program folder in your Adobe program group.
6. Remove the Adobe Photoshop LE CD-ROM.

If you're done installing software, restart your computer.

### *Installing MonacoEZcolor*

1. Insert the MonacoEZcolor CD-ROM in your drive.
2. Double-click the **My Computer** icon on your Windows desktop, then double-click the **MonacoEZcolor CD-ROM** icon.
3. Double-click the **Setup.exe** icon and follow the instructions on the screen. When you're done installing the software, click **Finish** and restart your computer.

## ***Installing ScanSoft TextBridge Pro***

1. If necessary, insert the EPSON Expression 1640XL Scanning Tools CD-ROM in your drive.
2. If the Software Setup window doesn't appear, double-click the My Computer icon on your Windows desktop, then double-click the Epson CD-ROM icon.
3. Click **Browse This CD**.
4. Double-click the TBPro folder on the CD-ROM, then double-click the  **Setup** installer icon.



If you're running Windows NT, you must have Service Pack 3 installed. Otherwise, you may see an error message indicating that your path to Setup.exe is invalid.

5. Follow the instructions on the screen to install ScanSoft TextBridge Pro. When installation is complete, remove the EPSON Expression 1640XL Scanning Tools CD-ROM. If you're done installing software, restart your computer.

## Installing the Macintosh Software

Although you can connect the scanner either before or after installing the scanner software, you'll see a message that your scanner driver needs to be installed if you connect it before installing. Close the message and continue with the installation instructions in the next section. For instructions on installing software for a network scanner, go to Chapter 4, "Network Scanning."

You can connect the scanner using either a SCSI or USB interface. If you have installed the optional IEEE 1394 FireWire scanner interface card, you can also connect the scanner using the IEEE 1394 FireWire interface. See "Connecting the Scanner to Your Computer" on page 18 for instructions on connecting the scanner, and "IEEE 1394 FireWire Scanner Interface Card" on page 122 for instructions on installing the IEEE scanner FireWire interface card.



If you've used an EPSON scanner on your Macintosh and have installed an older version of EPSON TWAIN software, open the Extensions Manager before you begin installation. Clear the checkboxes next to EPSON Scanner Monitor Extension or EPSON Scanner Monitor USB Extension and restart your computer. Then continue with the instructions below.

## Starting the Macintosh Software Installation

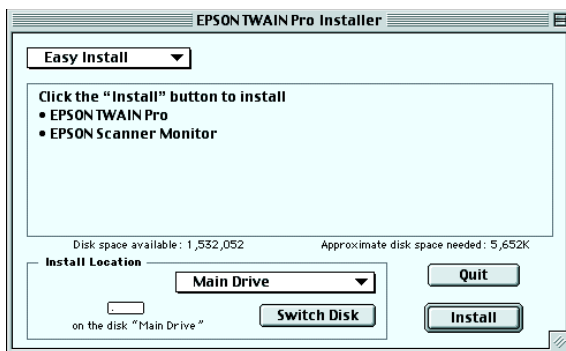
Before you begin, make sure you've recalibrated your monitor to factory specifications. You can use tools such as ColorSync 2.5 or above, the Adobe Gamma utility included with Adobe Photoshop 5.0 and above, and MonacoEZcolor.



If you don't calibrate your monitor, you may get inconsistent scanning results.

1. Turn on your Macintosh and turn off any virus protection programs you're using.
2. Insert the EPSON Expression 1640XL Scanning Tools CD-ROM in your drive.
3. Double-click the **EPSON TWAIN Pro** folder.
4. Double-click the **EPSON TWAIN Pro Installer** icon.

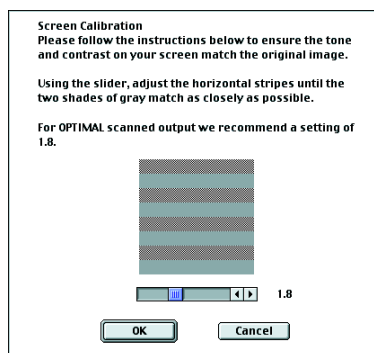
5. Click **Install**, and then follow the instructions on the screen to install EPSON TWAIN Pro and EPSON Scanner Monitor.
6. When installation finishes, click **Restart**.



The EPSON Screen Calibration Utility starts. (If you've previously installed another EPSON scanner on your computer, the EPSON Screen Calibration Utility may not start if it's already installed on your computer.)

7. Move the slider left or right until the stripes match as closely as possible. Then click **OK**.

Your computer restarts.



The EPSON Screen Calibration Utility calibrates the preview image you see in your EPSON TWAIN Pro driver to match your monitor settings. If you need to recalibrate your screen at a later time, double-click the EPSON Screen Calibration icon in the EPSON Scanner folder on your hard drive.

## ***Installing Other Software on Your Scanning Tools CD-ROM***

Follow these steps to finish installing the software on your Expression 1640XL Scanning Tools CD-ROM:

1. Double-click the **Presto! PageManager** folder. (If necessary, double-click the **EPSON CD-ROM** icon to open the CD-ROM window.)
2. Double-click the **Presto! PageManager Disk 1** folder. Double-click the **PageManager Installer #1** icon and follow the instructions on the screen to install Presto! PageManager.
3. If you want to install Acrobat Reader 4.0, double-click the **Acrobat Reader** folder.
4. Double-click the **Reader Installer** icon and follow the instructions on the screen to install Acrobat Reader.
5. When you're done installing Acrobat Reader, double-click the **TextBridge Pro** folder.
6. Double-click the **TextBridge Pro Installer** folder.
7. Double-click the **TextBridge Pro Installer** icon, and then follow the instructions on the screen to install TextBridge Pro.
8. If you've finished installing software, remove the Expression 1640XL Scanning Tools CD-ROM and restart your computer. If you want to install other software, continue with the instructions below.

## ***Installing Adobe Photoshop LE***

To find out how to upgrade to the full version of Adobe Photoshop, see the Acrobat file titled **Upgrade.pdf** on the Adobe Photoshop LE CD-ROM (you must have Acrobat Reader installed to view this file).

1. Insert the Adobe Photoshop LE CD-ROM in your drive.
2. Double-click the **Adobe Photoshop LE** CD-ROM icon, then double-click the **Adobe Photoshop LE** folder.
3. Double-click the **Install Photoshop® LE** icon. You see the Adobe Photoshop Installer banner. Click **Continue**.
4. At the next window, choose the country you're in and click **OK**. You see the License Agreement.
5. Read the agreement and click **Accept**.
6. Follow the instructions on the screen until you see the registration screen. Enter your name and company, and then enter the serial number of your software (including the hyphen) exactly as it appears on the CD-ROM case. Click **Next**.
7. Follow the instructions on the screen to install the software and create an **Adobe Photoshop LE** folder on your hard drive.
8. If you've finished installing software, restart your computer. If you want to install other software, continue with the instructions in the following sections.

## ***Installing MonacoEZcolor***

1. Insert the MonacoEZcolor CD-ROM in your drive.
2. Double-click the **MonacoEZcolor** CD-ROM icon on your desktop.
3. Double-click the **MonacoEZcolor** folder, and then double-click the **MonacoEZcolor Installer** icon.
4. When you see the installer window, click **Continue** and follow the instructions on the screen.
5. Click **Quit** when installation is complete. Then restart your computer.

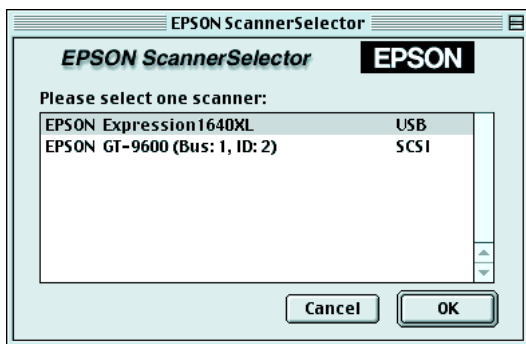


## ***Selecting the Expression 1640XL as Your Default Scanner***

To verify that the scanner is properly connected or if you have more than one EPSON scanner connected to your computer, you can choose which scanner you want to use.

Follow these steps to choose the Expression 1640XL as your default scanner:

1. From the Apple menu, click **Control Panels, EPSON Scanner Selector**. You see the following window:



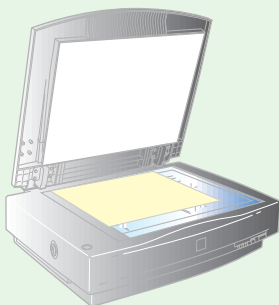
2. Select **EPSON Expression1640XL** in the scanner list and click **OK**.

Your selection remains in effect until you change it.



# Chapter 3

## How To Scan



This section gives you an overview of the scanning process and some tips for getting the best scan. It also includes step-by-step scanning instructions.

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### Scanning Tips

Getting the best scan possible depends on several factors, including the quality of your original and the resolution you select. The better your original is, the better your scan will be. While you can make some color corrections in your scanning software, you'll need to do major color photo retouching in a program such as Adobe Photoshop. To get the best possible scan, keep the document table clean, and make sure the document is flat against the glass surface.

### *Selecting Resolution*

Resolution refers to how many dots per inch (dpi) or dots per centimeter (dpcm) your image contains. The best resolution for a scanned image depends on the type of image you're scanning and your final output device.

As a rule of thumb for most images except line art, use a scanning resolution that is approximately one third of your output resolution. For example, use a scanning resolution up to 100 dpi with a 300 dpi laser printer, and up to 200 dpi with a 600 dpi laser printer. For 1440 dpi ink jet printers, such as the EPSON Stylus® COLOR series, use a scanning resolution of up to 300 dpi. Try a scanning resolution of 240 dpi for 720 dpi printing.

Keep the following in mind when you choose a resolution:

- The higher the resolution you select, the larger the resulting image file will be. For example, an 8.5 × 11-inch original scanned at 300 dpi can produce a 24MB file. The same original scanned at 72 dpi creates only a 1.3MB 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 your file size manageable, select the lowest possible resolution that gives acceptable quality. (If your final output is for on-screen viewing, you can scan at 72 dpi and reduce your file size.)
- If you need to scan at a higher resolution, you can reduce the size of the resulting image file by scanning only part of the image. For information about selecting part of an image, see “Making and modifying marquees” in your electronic *EPSON Expression 1640XL Online Reference Guide*.

## **Scaling (Resizing) Images**

If you plan to enlarge your image, it's better to enlarge it by scanning at a higher resolution rather than adjusting resolution in your application. Each time you modify an image, you lose some image quality.

Keep in mind when you enlarge a small photo, such as 35 mm slides or wallet-size photos, you'll need to scan at a high enough resolution to retain your image quality, but not so high that your file size is too large to be efficient.

## **Scanning Color Images**

If the colors in your scanned image don't match those in your original document, try experimenting with the **Unsharp Mask** setting. Click the **Destination** button in the EPSON TWAIN Pro main window to display the Destination window, and then select or deselect **Unsharp Mask**.

## ***Batch Scanning***

You can use batch scanning to save time. Batch scanning allows you to scan several images at once, or the same image with several different settings.

For more information, see “Making and modifying marquees” in your electronic *EPSON Expression 1640XL Online Reference Guide*.

## ***Document Guide***

You can use the document guide to make incremental changes to the angle of a document to correct for any slight shifts during scanning.

For more information, see “Using the Document Guide” on page 64.



Do not leave photographs on the document table for extended periods or they may stick to the glass. Also, do not place heavy objects on top of the scanner.

## Recommended Settings

Here are some recommended settings for different types of scans.

Image type	Recommended application	Recommended TWAIN Pro* settings	Scanning resolution for printing**
Photograph	Photoshop LE	Image Type: 42-bit Color (HiFi)***, 24-bit Color (Std), 14-bit Gray (HiFi)***, or 8-bit Gray (Std)	300 dpi**
Magazine	Photoshop LE	Image Type: 24-bit Color De-screening	300 dpi
Newspaper (text only)	TextBridge Pro or PageManager	Image Type: OCR****	300 or 400 dpi*****
Text for OCR	TextBridge Pro or PageManager	Image Type: OCR****	300 or 400 dpi*****
Text with images	TextBridge Pro or PageManager	Image Type: Line art B/W option: Auto Area Segmentation	300 or 400 dpi *****
Line art	Photoshop LE	Image Type: Line Art	300 to 3200 dpi
Negative transparency (35 mm film)	Photoshop LE	Document Source: TPU for Neg. Film	300 to 3200 dpi
Positive transparency (35 mm slides)	Photoshop LE	Document Source: TPU for Pos. Film	300 to 3200 dpi

\* Recommendations for EPSON TWAIN Pro also apply to EPSON TWAIN Pro Network.

\*\* If your output is for on-screen viewing (for example, on a web page), select a resolution of 72 dpi.

\*\*\* This Image Type is available only in certain applications, such as Photoshop.

\*\*\*\* Automatically selects Text Enhancement Technology (TET) as your B/W option.

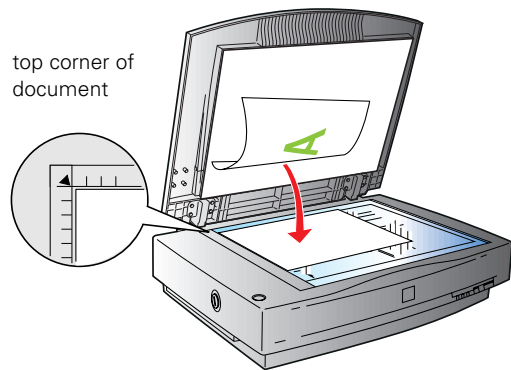
\*\*\*\*\* If you are enlarging your image, you must manually change the resolution (dpi).

# Step-by-Step Scanning Instructions

This section contains step-by-step instructions for scanning an image. Although the Windows interface is shown, Macintosh steps are the same.

## *Placing Your Original Document*

1. Raise the scanner cover and place your document face down on the document table. If you're scanning a transparency, the optional transparency unit should be installed. (See "Installing the Transparency Unit" on page 105.)
2. Position the document so the horizontal and vertical edges are carefully aligned with the scales along the sides of the document table.
3. Close the document cover slowly. Be careful not to move the document.



You can remove the document cover if you need to scan a thick item—such as a photo in an album—that doesn't fit under the cover. Simply lift the back of the cover straight up. When you reattach the cover, line the rods up with the positioning holes and lower the cover into place.

## Scanning with EPSON TWAIN Pro

1. Start your host application (for example, Adobe Photoshop LE).
2. Select your scanner driver. (Unless you change your source, you only need to do this step once.)

For example, if you're running Windows and using Adobe Photoshop LE as your host application, click **File, Import, Select TWAIN\_32 Source**. In the Select Source dialog box, select **EPSON TWAIN Pro(32-bit)**. Then click **Select**.

If you have a Macintosh, click **File, Import, Twain Select**. In the Select a source dialog box, choose **EPSON TWAIN Pro** and click **OK**.



The command you choose from the File menu differs from one host application to another. With other host applications, you might choose **Acquire** or **Select Source** instead of **Import**.

3. Open the scanner software.

For example, choose **Import** from Photoshop's File menu.

In Windows, select **TWAIN\_32**.

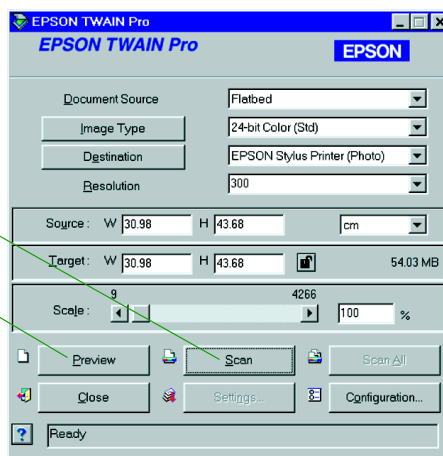
On a Macintosh, select **TWAIN\_Acquire**.

The EPSON TWAIN Pro main window appears.

4. Choose the **Document Source**, **Image Type**, and **Destination**.

Click to start scanning.

Click to display a preview of the image.





For example, if you're scanning a photograph, select **Flatbed** as your **Document Source**, **24-bit Color (Std)** as your **Image Type**, and **EPSON Stylus Printer (Photo)** as the **Destination**, if you're sending the scanned image to an EPSON inkjet printer. If you're using the optional transparency unit, select **TPU for Neg. Film** or **TPU for Pos. Film** as your **Document Source**. If you're using the optional automatic document feeder, select **Auto Document Feeder** as your **Document Source**.



5. Click the **Preview** button.

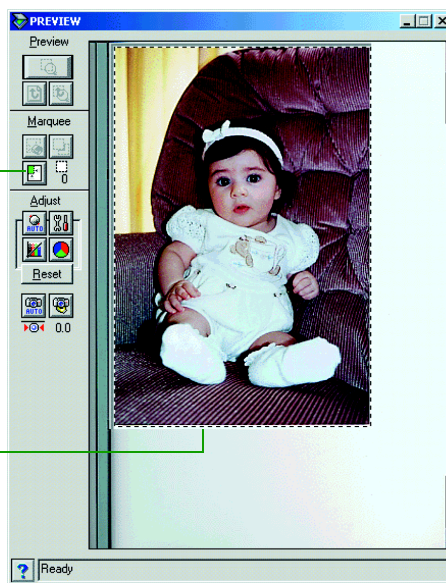
You see a preview of your scan in the window that opens.

6. Click the  **Auto Locate** button to automatically define the scan area around the edges of your image. Or adjust the scan area by positioning the mouse pointer over any of the eight boxes around the marquee's edge and dragging the box to resize the marquee.

Click the  **Auto Exposure** button to automatically set the highlight, midtones, and shadow exposure.

Click to define the scan area automatically.

A dotted marquee frames the area to be scanned.



Generally it's a good idea to use the Auto Exposure button to obtain the best settings for your scan. If you're not satisfied with the results, see your electronic *EPSON Expression 1640XL Online Reference Guide* for information about adjusting settings.

If you need to remove color cast from your image, use the Gray Balance Intensity feature.

7. When you've finished making adjustments, click the **Scan** button.

The **READY** light on the front of the scanner flashes while it's scanning. In a few moments, a scanned image is imported into your host application's window.

(If the **READY** light continues to blink, it may indicate an error condition. See Chapter 7, "Solving Problems," for more information.)

8. Click **Close** to close the EPSON TWAIN Pro window and return to your application.
9. If you want, save your image using the **Save** or **Save As** options from the File menu of your host application.

## Using the ↗ Start Button

You can load a document in the scanner, press the ↗ Start button, and watch while Presto! PageManager starts and then scans, copies, faxes, or e-mails your document.

This section includes the following:

- How to set up the ↗ Start button to launch other applications
- How to set up Presto! PageManager for one-touch scanning.



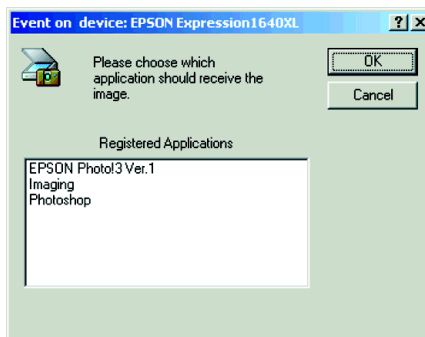
To use the ↗ Start button with a network scanner, the client computer must start both the host application and EPSON TWAIN Pro Network. Pressing the ↗ Start button sends the scanned image to the client computer currently connected to the scanner server, but does not automatically launch any applications.

When EPSON Scan Server is running, the Expression 1640XL connected to the scanner server becomes a network scanner available only to remote users. The scanner server cannot use the ↗ Start button features described in this chapter, which are only available to a local scanner.

## Setting Up the ↗ Start Button

If you didn't install Presto! PageManager, you need to assign an application to the ↗ Start button before you use it the first time.

If you're running Windows 2000 or Windows 98, whenever you press the ↗ Start button you'll see a window asking you to choose which application to launch. To avoid this window, make sure that only one application is assigned to the ↗ Start button. Continue with the next section, "Windows 2000 and Windows 98."

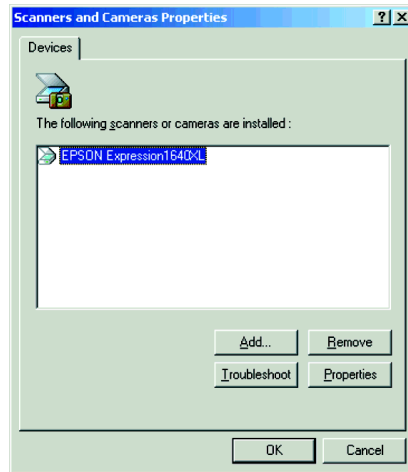


If you're running Windows 95 or Windows NT 4.0, go to "Windows 95 and Windows NT" on page 60. If you have a Macintosh, go to "Macintosh" on page 61.

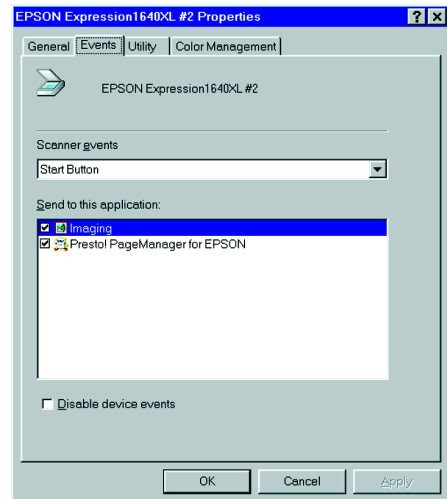
## Windows 2000 and Windows 98

Follow these steps to assign an application to the ⇧ Start button:


1. Double-click the **Scanners and Cameras** icon in the Windows Control Panel.
2. Select **EPSON Expression1640XL** and click the **Properties** button.



3. Click the **Events** tab. You see the window to the right.
4. Make sure **Start Button** appears in the **Scanner events** box, then deselect any applications you don't want to use in the **Send to this application** list. When you finish, a check should appear only beside the application that you want to assign to the ⇧ Start button.
5. Click **Apply**, then click **OK** to close the EPSON Expression 1640XL Properties window, then click **OK** again to close the Scanners and Cameras Properties window.







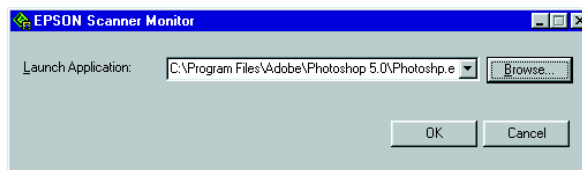
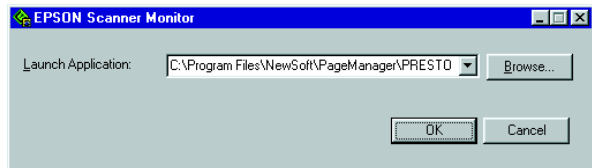
You can disable the  Start button by clicking the Disable device events checkbox on the Events tab.

Whenever you press the scanner's  Start button, the application you assigned launches. If you assigned Presto! PageManager, it automatically starts EPSON TWAIN Pro. If you assigned another application, you must start EPSON TWAIN Pro manually.

## **Windows 95 and Windows NT**

You don't need to assign an application to the  Start button if you want it to automatically launch Presto! PageManager. If you want it to launch a different application, follow these steps:


1. Click the  Scanner Monitor icon located on your Windows taskbar.
2. Select **Preferences**. You see the EPSON Scanner Monitor window.
3. Do one of the following:
  - Choose an application in the **Launch Application** list.
  - Browse to another application on your hard drive. Select the application and click **Open** to close the Browse window. Your application's path appears in the **Launch Application** box.




4. Click **OK** to close the EPSON Scanner Monitor window and save your setting.

Whenever you press the scanner's  Start button, the application you assigned launches. You can then start EPSON TWAIN Pro.

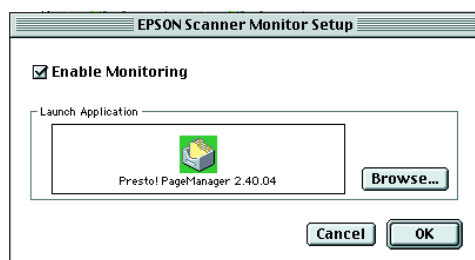


Only Presto! PageManager automatically starts EPSON TWAIN Pro. If you assign another application to the  Start button, you must start your scanner driver manually.

## Macintosh


You don't need to assign an application to the  Start button if you want it to automatically launch Presto! PageManager. If you want it to launch a different application, follow these steps:

1. Select **EPSON Scanner Monitor Setup** in the Apple menu. You see the window to the right.
2. Browse to the application you want to use and open it. When your application's icon appears in the Launch Application box, click **OK**.




Whenever you press the scanner's  Start button, the application you assigned launches. You can then start EPSON TWAIN Pro.



Only Presto! PageManager automatically starts EPSON TWAIN Pro. If you assign another application to the  Start button, you must start your scanner driver manually.

## Setting Up Presto! PageManager for One-Touch Scanning

You can set up Presto! PageManager to send your image directly to another application or utility, or to a peripheral device such as a printer. You can suppress the EPSON TWAIN Pro user interface so the scanner uses the settings assigned in this procedure. If you use this shortcut, faxing or printing an image could be as easy as pressing the scanner's  Start button.

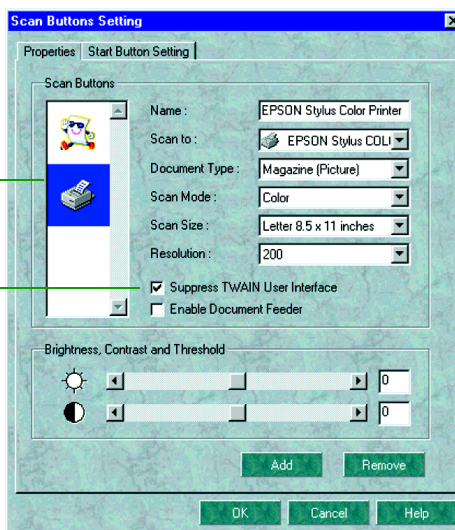
Follow these steps:

1. Start Presto! PageManager and select **Scan Buttons Setting** from the File menu. The Scan Buttons window opens.


2. You see an icon for your default printer, fax program, e-mail program, and other applications in the **Scan Buttons** box. Click the icon you want to highlight to see its settings.


Select the icon for the application or peripheral you want to use.

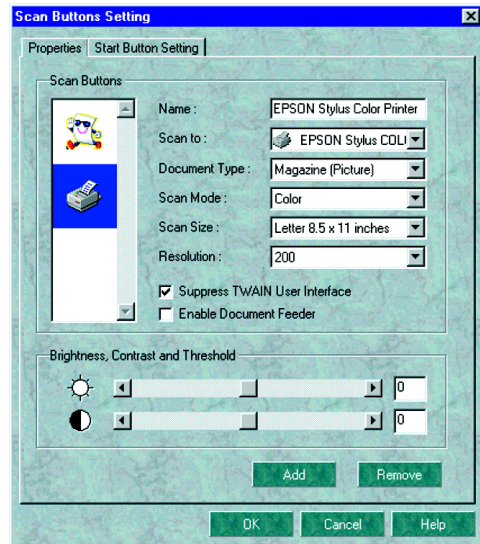
Click to suppress the EPSON TWAIN Pro user interface.





3. Click the **Suppress TWAIN** user interface checkbox to select it. The settings for your scan become active.
4. Choose the **Scan Mode**, **Scan Size**, and **Resolution**. If you plan to use the automatic document feeder, select **Enable Document Feeder**. Make any other settings you want.

These are the default settings that will be used whenever you press the scanner's  Start button. Choose settings that you can use for most of the scans you initiate with one-touch scanning.

5. Click the **Start Button Setting** tab.
6. Scroll the **Select target application** box until you see the icon for your printer or program. (Programs or printers you added appear to the right.) Select the icon and click **OK** to assign it to the  Start button.



A  Start button icon appears next to the selected icon in Presto! PageManager's Scan Buttons Palette. Now you can copy, fax, e-mail, print, or scan by simply pressing the  Start button.



Start button icon



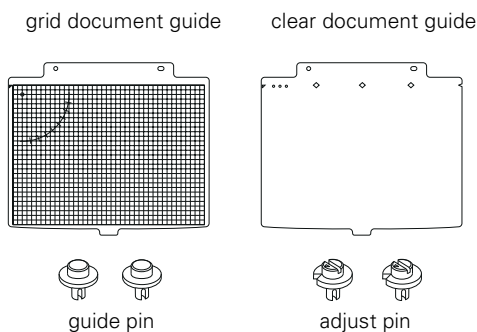
You can only assign one function at a time to the  Start button.

## Using the Document Guide

Most scanners scan at a slight angle due to the movement of the carriage. If you find that your scanned images are being scanned at an angle, use the document guide to adjust the angle of scanning. This section includes instructions for:

- Installing the Document Guide
- Scanning with the Document Guide
- Calculating the Adjustment Angle
- Scanning Your Aligned Document

Before you install the document guide, locate the following parts, included in your scanner box.

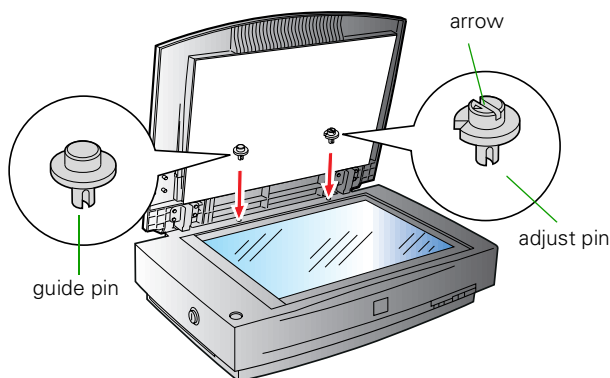


Be sure to remove the protective film from both the grid document guide and clear document guide before using them.

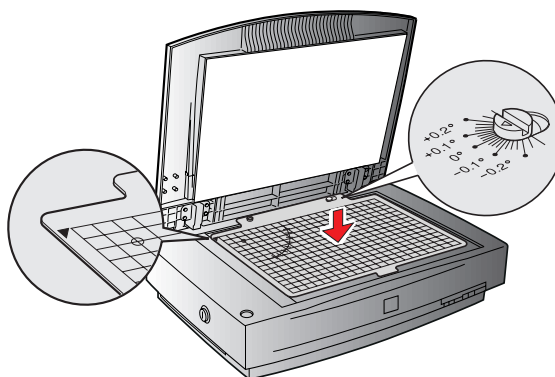


## Installing the Document Guide

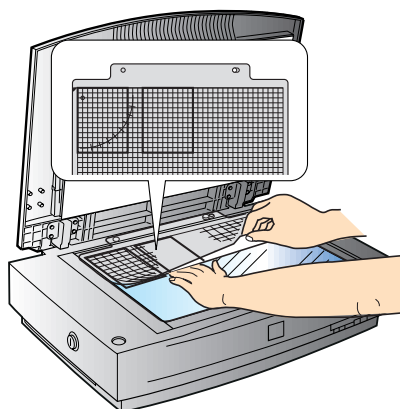
1. Insert the guide pin in the left hole above the scanner's document table and the adjust pin in the right hole; push them in securely. Turn the adjust pin so its arrow faces the guide pin.



2. Lay the grid document guide on the document table with the document guide holes over the scanner screw holes. Make sure the larger document guide hole is on the right.



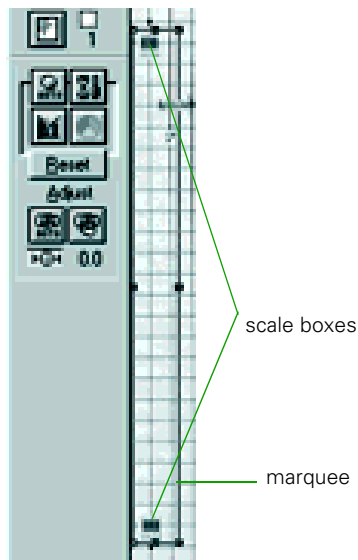
3. Lift up the document guide and insert your document, image or picture under the guide. Align your document with the guide's grid lines. Repeat this step for every document you want to scan, placing one document next to another (without overlapping them).



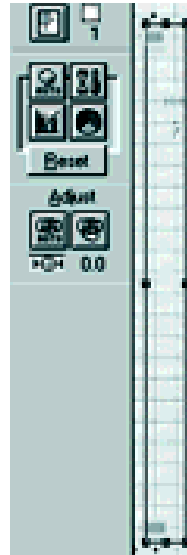
4. Close the document cover.

## Scanning with the Document Guide

1. Open an application and access EPSON TWAIN Pro. Select the following settings:
  - Document Source: Flatbed
  - Image Type: 8-bit Gray
  - Destination: LineWork Scan
  - Resolution: 800 dpi
2. Click **Preview**. You see a preview of the document guide in the preview area.
3. Make a marquee around the scale boxes on the document guide as shown.

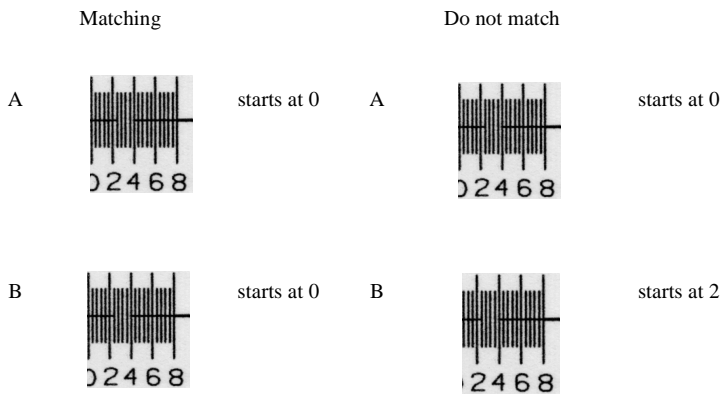


4. Use the Zoom tool to view the enlarged scale. Move the marquee to align its left edge with the left edges of the scale as shown.
5. Click **Scan**.



align the left edge of the marquee with the left edge of the scale

6. Compare the left edges of the scales with the scanned image. The starting points of the scales should match exactly.



7. Check the left edges of the scales of the scanned image and calculate the adjustment angle, as described in the next section.

## Calculating the Adjustment Angle

If you need to adjust the document guide angle, you first need to determine which way to adjust it and by how much. For example, in the example shown above:

The adjusting angle = (scale A - scale B) / 4

*For example:*

If scale A starts at line 0, then  $0 \times 0.4 = 0$ ; the value for scale A = 0

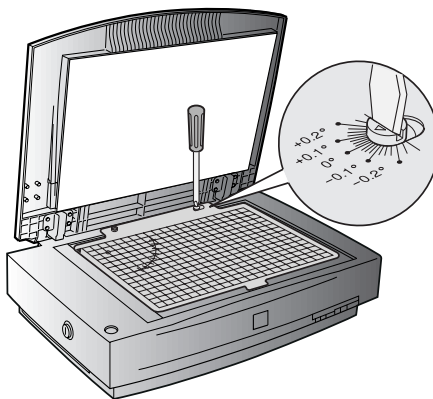
If scale B starts at line 2, then  $2 \times 0.4 = 0.8$ ; the value for scale B = 0.8

$(0 - 0.8)/4 = -0.2$

In this example, the angle you need to adjust the adjust pin is -0.2

To adjust the angle:

1. Use a screwdriver to turn the adjust pin to the number you calculated (-0.2 in the previous example).
2. To confirm the angle, repeat the steps under "Scanning with the Document Guide." Once you've confirmed the angle, it's a good idea to write it down for future reference.

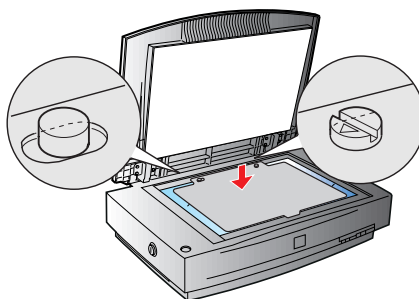


## Scanning Your Aligned Document

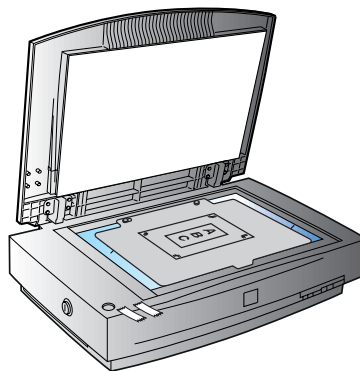


Be sure to remove the protective film from both the grid document guide and clear document guide before using them.

1. Lay the clear document guide on the scanner document table with the document guide holes over the scanner screw holes. Make sure the larger document guide hole is on the left side.

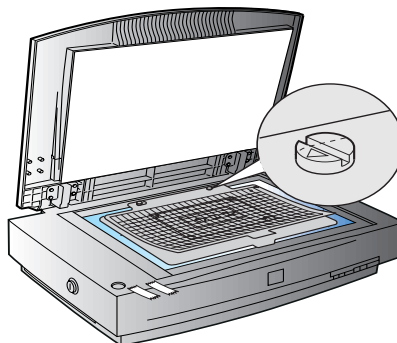


2. Place your document face up on the clear document guide.

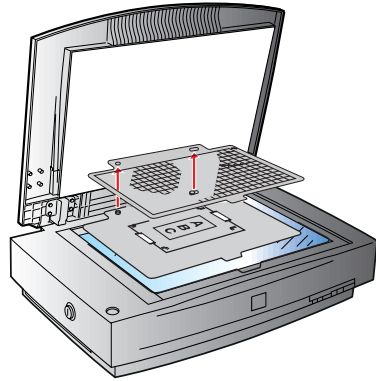


3. Place the grid document guide on top of your document, aligning the document guide holes over the scanner screw holes. Make sure the larger document guide hole is on the left.

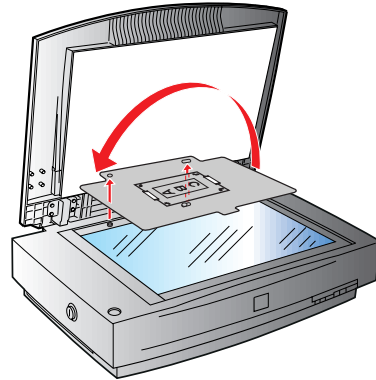
4. Make sure your document is aligned with the grid document guide. After aligning the document to the proper position, use tape to secure it in place. Repeat this step for every document you want to scan, placing one document next to another (do not overlap them).



5. Remove the grid document guide.



6. Turn the clear document guide over and lay it on the document table with the document guide holes over the scanner screw holes. Make sure the larger document guide hole is on the right and your document faces down.
7. Close the document cover and scan the document.

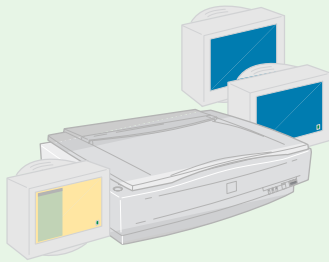


## ***Using the Clear Document Guide***

The clear document guide can also be used to hold light originals against the document table; this will prevent the original from being pushed out of alignment by air currents as the document cover is closed.

# Chapter 4

## Network Scanning



You can use EPSON Scan Server and EPSON TWAIN Pro Network, two applications on your EPSON Expression 1640XL Scanning Tools CD-ROM, to share your scanner with other users in a small workgroup.

Your network must have a scanner server (the Windows computer connected to the scanner) and one or more client computers. Only one client computer at a time can connect to the scanner server and access the scanner. However, you can have more than one scanner and scanner server on a network, so clients can choose which scanner to use.

Here are some other requirements for sharing a scanner:

- The scanner server must be an IBM pentium compatible PC computer running Windows 2000, Windows 98, Windows 95, or Windows NT 4.0 with Service Pack 3 or higher.
- Client computers can be running Windows 2000, Windows 98, Windows 95, Windows NT 4.0, or Macintosh System 8.0 or later.
- Both the client computers and the scanner server must have a network interface card installed, and must be running the TCP/IP protocol (see Appendix B for instructions on installing the TCP/IP protocol).
- EPSON Scan Server must be installed on the scanner server, and EPSON TWAIN Pro Network must be installed on client computers.

This chapter includes the following:

- How to install, set up and start EPSON Scan Server on the scanner server
- How to install and start EPSON TWAIN Pro Network on client computers
- How to begin a scan from the client computer, the scanner server, or the scanner's ⚡ Start button
- How to stop a scan in progress.

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## Setting Up the Scanner Server

You can set up any Windows 95, Windows 98, Windows 2000, or Windows NT 4.0 computer as a scanner server, as long as it has a network interface card installed and is running the TCP/IP protocol.

Before you begin, make sure to unlock the scanner and connect it to the scanner server (see Chapter 2, “Setting Up Your Scanner,” for details). If you don’t have the TCP/IP protocol installed on the scanner server, see Appendix B, “Installing the TCP/IP Protocol.”

Follow the instructions for your operating system:

- If you’re running Windows 2000, continue with the next section, “Installing the Scanner Server Software on Windows 2000.”
- If you’re running Windows 98, go to “Installing the Scanner Server Software on Windows 98” on page 78.
- If you’re running Windows 95 or Windows NT, go to “Installing the Scanner Server Software on Windows 95 and Windows NT 4.0” on page 84.



## Installing the Scanner Server Software on Windows 2000

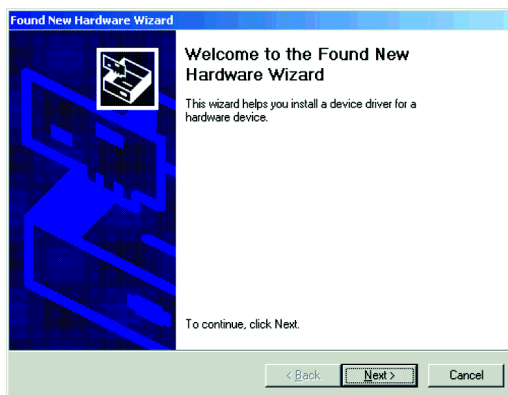
Before you begin, make sure the Expression 1640XL is connected to your computer. Also, make sure you've recalibrated your monitor to factory specifications.

Depending on how your computer system was originally set up, you may be asked to insert your Windows 2000 CD-ROM during driver installation. Make sure you have it available, or know where to find the Windows source files on your hard disk (for example, in the Windows folder). If you need help, contact your computer manufacturer.

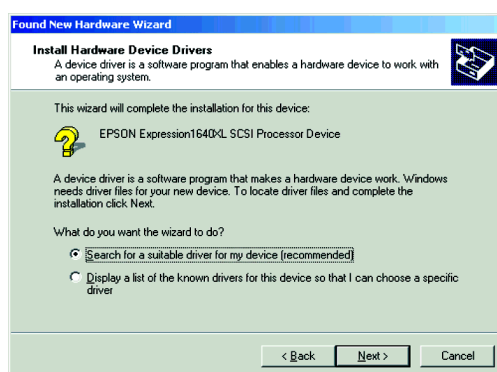


If you've just installed a SCSI interface card, you may be asked to install a SCSI driver at the beginning of installation. Follow the instructions on the screen to install the best driver, then continue with the scanner server installation.

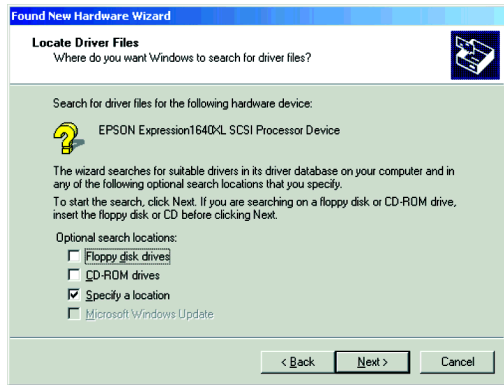
1. Turn on your scanner first, then turn on your computer.
2. When you see the window on the right, insert the EPSON Expression 1640XL Scanning Tools CD-ROM in your drive and click Next.



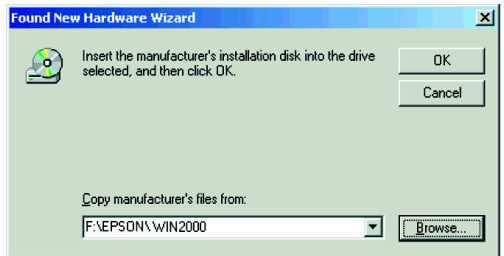
3. Select Search for a suitable driver for my device, and then click Next.



4. Select **Specify a location**, if necessary, and click **Next**.



5. Browse to **EPSON\Win2000** on your CD-ROM drive. (The example to the right uses "F" as the CD-ROM drive letter. Your CD-ROM drive letter may be different.) Click **OK** to close the Browse window, and then click **Next**.



6. Follow the instructions on the screen to complete the driver installation.

If you see a message asking for your Windows 2000 CD-ROM, insert it and click **OK** (or click **Browse** and locate the Windows 2000 source files on your hard drive; then click **OK**).

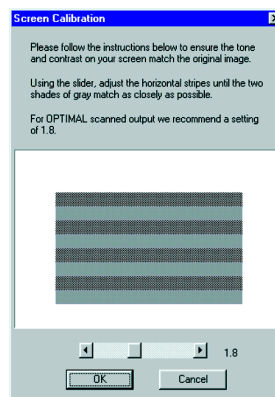
7. When you see the window to the right, click **Yes**.

If prompted for the **EPSON Scanners Driver Disk 1**, reinsert your **EPSON Expression 1640XL Scanning Tools CD-ROM**.



8. When you see the EPSON Screen Calibration Utility, move the slider right or left until the stripes match as closely as possible. Then click **OK**.
9. Click **Finish** when you see a message that installation is complete.

Continue with the instructions in the next section.



The EPSON Screen Calibration Utility calibrates the preview image you see in your EPSON TWAIN Pro driver to match your monitor settings.

You won't need to change the screen calibration as long as you continue to use the same display. If you need to recalibrate your screen at a later time, double-click the Scanners and Cameras icon in your Windows Control Panel to open the Scanners and Cameras Properties window. On the Devices tab, select EPSON Expression 1640XL and click the Properties button to display the EPSON Expression 1640XL Properties window. Click the Utility tab, and then click the Screen Calibration Utility button.

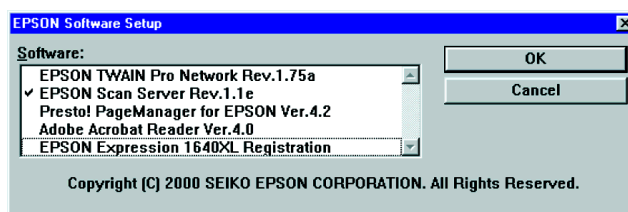
## ***Finishing the Scanner Server Installation on Windows 2000***

Before your computer can share its scanner, you must install EPSON Scan Server. At the same time, you can install other software that came with your scanner. Your scanner comes with a multi-user license (6) for Presto! PageManager, an unlimited license for EPSON TWAIN Pro Network and TWAIN Pro, and a single-user license for ScanSoft TextBridge Pro, Adobe Photoshop LE, and MonacoEZcolor. If you want to install these applications on additional computers, please contact the software manufacturer to purchase additional licenses. This information serves to modify the software End User License Agreement contained on the CD-ROM.

1. If the Software Setup window doesn't appear, double-click the My Computer icon on your Windows desktop, then double-click the Epson CD-ROM icon.
2. Click the Add Software button to display the software selection window.



3. Select EPSON Scan Server. A check mark appears beside applications selected for installation. If you want to deselect either Presto! PageManager or Acrobat Reader, click the application to clear the check mark. Then click OK.



You don't need to install EPSON TWAIN Pro Network to use the scanner connected to your computer— use EPSON TWAIN Pro instead. EPSON TWAIN Pro is automatically installed when you install the scanner server software. Only install EPSON TWAIN Pro Network if you want to use an Expression 1640XL attached to another computer.

4. Follow the instructions on the screen to install EPSON Scan Server and any other software you selected in the software selection window.



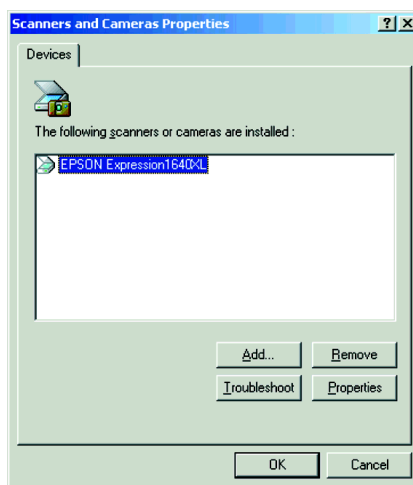
If you're installing EPSON TWAIN Pro Network in order to use a scanner attached to another computer, you'll see a window that asks for the Network Scanner Address (the scanner server's IP address). Enter the IP address for the computer you want to connect to (see page 93 for instructions).

5. Follow the instructions in “Installing Additional Windows Software” on page 43 if you want to install ScanSoft TextBridge Pro, Adobe Photoshop LE, or MonacoEZcolor.
6. When you’re done installing software, restart your computer.

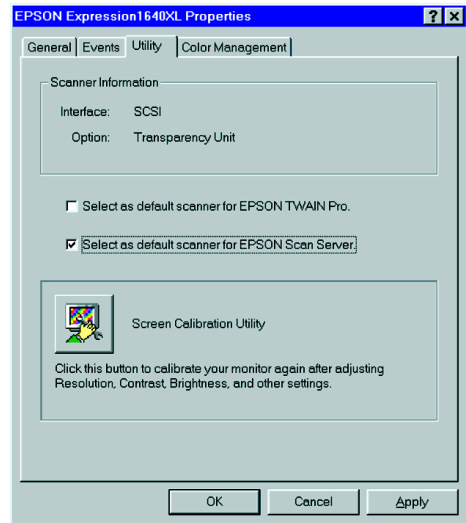
## ***Setting Up the Default Scanner on Windows 2000***

If you have more than one scanner connected to your computer, you can set up the Expression 1640XL as the default scanner.

1. Double-click the **Scanners and Cameras** icon in your Windows Control Panel to open the Scanners and Cameras Properties window.
2. Make sure **EPSON Expression 1640XL** is selected, and click the **Properties** button. You see the EPSON Expression 1640XL Properties window.



3. Click the Utility tab. Make sure Select as default scanner for EPSON Scan Server is checked, and then click OK.



## ***Installing the Scanner Server Software on Windows 98***

Before you begin, make sure the Expression 1640XL is connected to your computer. Also, make sure you've recalibrated your monitor to factory specifications.

You may be asked to insert your Windows CD-ROM during this procedure. Make sure you have your Windows CD-ROM available, or know where to find the Windows source files on your hard drive. If you need help locating your source files, contact your computer manufacturer.

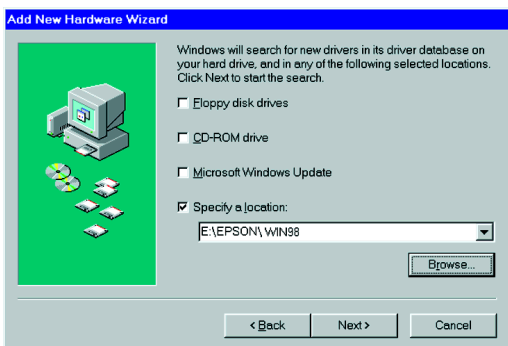
1. Turn on your scanner first, then turn on your computer.
2. When you see the window on the right, insert the EPSON Expression 1640XL Scanning Tools CD-ROM in your drive and click **Next**.



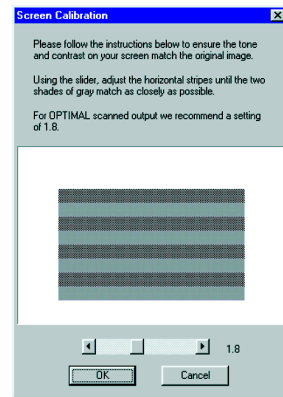
3. Select **Search for the best driver** for your device, and then click **Next**.



4. Select **Specify a location**, if necessary, and click **Browse**.
5. Browse to **EPSON\ Win98** on your CD-ROM drive. (The example to the right uses “E” as the CD-ROM drive letter. Your CD-ROM drive letter may be different.) Click **OK** to close the Browse window, and then click **Next**.
6. Follow the instructions on the screen.



7. When you see the EPSON Screen Calibration Utility, move the slider right or left until the stripes match as closely as possible. Then click **OK**.
8. Click **Finish** when you see a message that installation is complete.



The EPSON Screen Calibration Utility calibrates the preview image you see in your EPSON TWAIN Pro driver to match your monitor settings.

You won't need to change the screen calibration as long as you continue to use the same display. If you need to recalibrate your screen at a later time, double-click the Scanners and Cameras icon in your Windows Control Panel to open the Scanners and Cameras Properties window. On the Devices tab, select EPSON Expression 1640XL and click the Properties button to display the EPSON Expression 1640XL Properties window. Click the Utility tab, and then click the Screen Calibration Utility button.



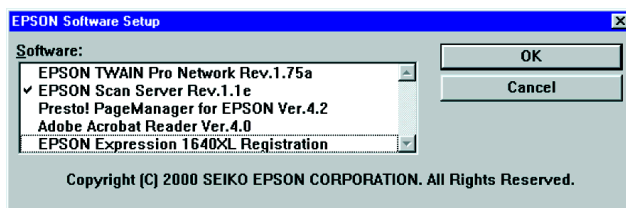
## ***Finishing the Scanner Server Installation on Windows 98***

Before your computer can share its scanner, you must install EPSON Scan Server. At the same time, you can install other software that came with your scanner. Your scanner comes with a multi-user license (6) for Presto! PageManager, an unlimited license for EPSON TWAIN Pro Network and TWAIN Pro, and a single-user license for ScanSoft TextBridge Pro, Adobe Photoshop LE, and MonacoEZcolor. If you want to install these applications on additional computers, please contact the software manufacturer to purchase additional licenses. This information serves to modify the software End User License Agreement contained on the CD-ROM.

1. If the Software Setup window doesn't appear, double-click the My Computer icon on your Windows desktop, then double-click the Epson CD-ROM icon.
2. Click the **Add Software** button to display the software selection window.



3. Select **EPSON Scan Server**. A check mark appears beside applications selected for installation. If you want to deselect either Presto! PageManager or Acrobat Reader, click the application to clear the check mark. Then click **OK**.





You don't need to install EPSON TWAIN Pro Network to use the scanner connected to your computer— use EPSON TWAIN Pro instead. EPSON TWAIN Pro is automatically installed when you install the scanner server software. Only install EPSON TWAIN Pro Network if you want to use an Expression 1640XL attached to another computer.

4. Follow the instructions on the screen to install EPSON Scan Server and any other software you selected in the software selection window.



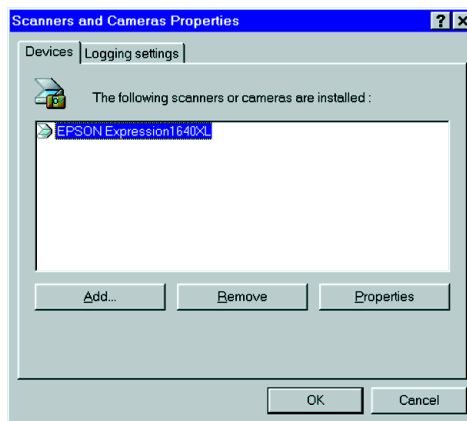
If you're installing EPSON TWAIN Pro Network in order to use a scanner attached to another computer, you'll see a window that asks for the Network Scanner Address (the scanner server's IP address). Enter the IP address for the computer you want to connect to (see page 93 for instructions).

5. Follow the instructions in “Installing Additional Windows Software” on page 43 if you want to install ScanSoft TextBridge Pro, Adobe Photoshop LE, or MonacoEZcolor.
6. When you're done installing software, restart your computer. Then follow the instructions in “Testing the Scanner's Operation (Windows 98)” on page 33 to make sure the scanner is operating properly.

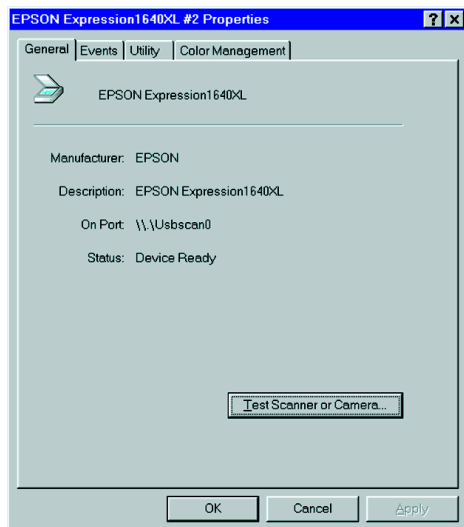
## Setting Up the Default Scanner on Windows 98

If you have more than one scanner connected to your computer, you can set up the Expression 1640XL as the default scanner.

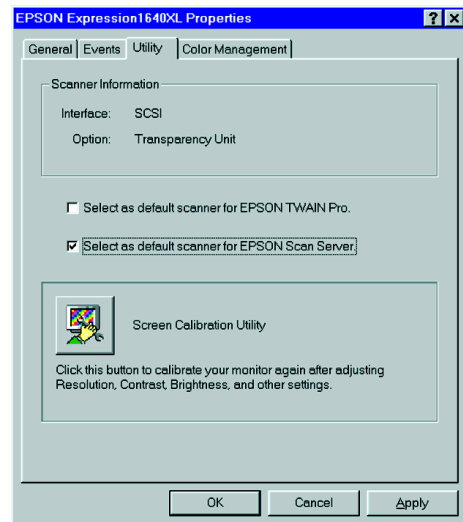
1. Double-click the **Scanners and Cameras** icon in your Windows Control Panel to open the Scanners and Cameras Properties window.



2. Make sure **EPSON Expression 1640XL** is selected, and click the **Properties** button. You see the EPSON Expression 1640XL Properties window.



3. Click the Utility tab. Make sure **Select as default scanner for EPSON Scan Server** is checked, and then click OK.



## ***Installing the Scanner Server Software on Windows 95 and Windows NT 4.0***

Make sure the Expression 1640XL is connected to your computer. Also, make sure you've recalibrated your monitor to factory specifications.

If you're configuring your SCSI interface card for the first time, you'll be asked to install your SCSI driver at the beginning of installation. Make sure you have your Windows CD-ROM available, or know where to find the Windows source files on your hard drive. Then follow the instructions on the screen, or see the documentation that came with your SCSI card for more information.



If you need help locating your source files, contact your computer manufacturer.

If you're running Windows 95, continue with the instructions in the next section. If you're running Windows NT 4.0, go to "Starting the Scanner Server Installation on Windows NT 4.0" on page 86.

## Starting the Scanner Server Installation on Windows 95

Follow these steps to install the scanner driver and begin software installation:

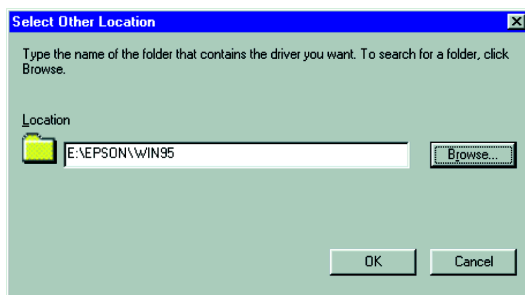
1. Turn on your scanner first, then turn on your computer. When you see the window on the right, click **Next**.



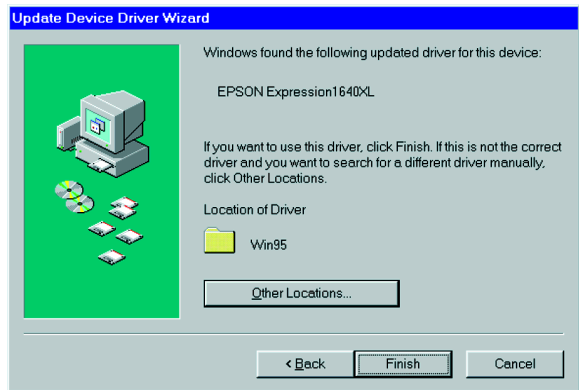
2. Insert your EPSON Expression 1640XL Scanning Tools CD-ROM in your drive and click **Other Locations**.



3. Browse to the following location on your CD-ROM drive: **EPSON\Win95**. (The example on the right uses "E" as the CD-ROM drive letter. Your CD-ROM drive may have a different letter.) Click **OK** to close the Browse window, then click **OK** again.



4. When you see this window, click **Finish**.



5. Double-click the **My Computer** icon on your Windows desktop, then double-click the **Epson CD-ROM** icon. You see the window on the right.

6. Click the **Add Software**.

Continue with the instructions in “Finishing the Scanner Server Installation (Windows 95 and Windows NT 4.0)” on page 87.



## ***Starting the Scanner Server Installation on Windows NT 4.0***

Follow these steps to begin the scanner server installation:

1. Turn on your scanner first; then turn on your computer.
2. Log onto Windows NT. Then insert the EPSON Expression 1640XL Scanning Tools CD-ROM.

3. If the Software Setup window doesn't appear, double-click the My Computer icon on your Windows desktop, then double-click the Epson CD-ROM icon.
4. Click the Add Software button to display the software selection window.

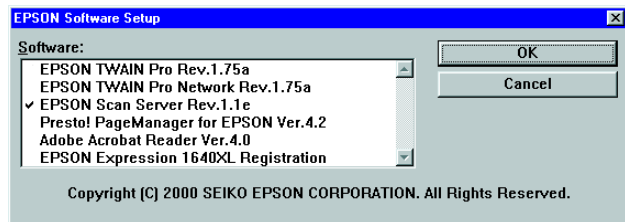
Continue with the instructions in the next section to finish installing the scanner server software.



## ***Finishing the Scanner Server Installation (Windows 95 and Windows NT 4.0)***

Before your computer can share its scanner, you must install EPSON Scan Server. At the same time, you can install other software that came with your scanner. Your scanner comes with a multi-user license (6) for Presto! PageManager, an unlimited license for EPSON TWAIN Pro Network and TWAIN Pro, and a single-user license for ScanSoft TextBridge Pro, Adobe Photoshop LE, and MonacoEZcolor. If you want to install these applications on additional computers, please contact the software manufacturer to purchase additional licenses. This information serves to modify the software End User License Agreement contained on the CD-ROM.

1. Select **EPSON Scan Server**. A check mark appears beside applications selected for installation. Click to select other software you want to install, or deselect software you don't want. Then click **OK**.



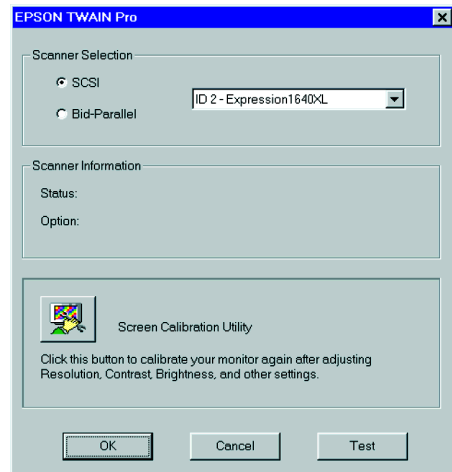


Use EPSON TWAIN Pro to scan from the Expression 1640XL connected to your computer. Only install EPSON TWAIN Pro Network if you want to use an Expression 1640XL attached to another computer.

2. If you're not installing EPSON TWAIN Pro, go to step 5.

If you are installing EPSON TWAIN Pro, follow the instructions on the screen.

When you see the window on the right, make sure **SCSI** and **Expression1640XL** are selected under **Scanner Selection**.

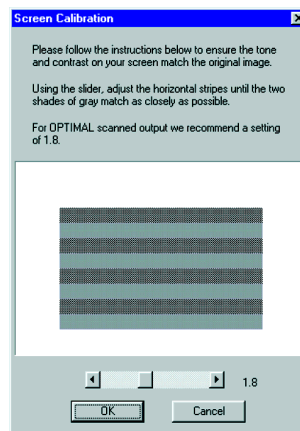


If you're installing EPSON TWAIN Pro Network in order to use a scanner attached to another computer, you'll see a window that asks for the Network Scanner Address (the scanner server's IP address). Enter the IP address for the scanner server you want to connect to. See page 93 for instructions. Then continue with step 3 below.

3. Click **Test** to check scanner operation. If the scanner is communicating with your computer, you see **Status: Device Ready** under **Scanner Information**. Click **OK** to close the window.



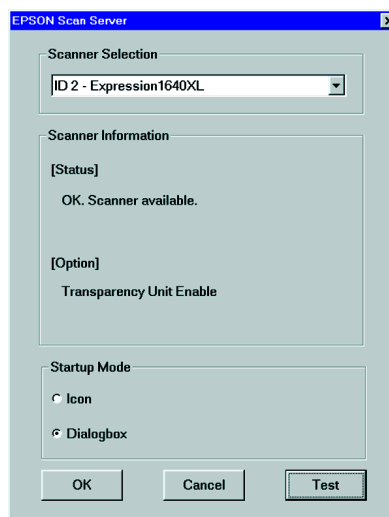
4. When you see the EPSON Screen Calibration Utility, move the slider right or left until the stripes match as closely as possible. Then click OK.



The EPSON Screen Calibration Utility calibrates the preview image you see in your EPSON TWAIN Pro driver to match your monitor settings.

You won't need to change the screen calibration as long as you continue to use the same display. If you need to recalibrate your screen at a later time, open the EPSON TWAIN Pro window by double-clicking the EPSON TWAIN Pro icon in the Windows Control Panel. Then click the Screen Calibration button at the bottom of the window to start the utility.

5. Follow the instructions on the screen to install EPSON Scan Server. When you see the window on the right, make sure Expression1640XL is selected under Scanner Selection. Select either Icon or Dialogbox as the scanner server Startup Mode. (See "Changing the Scan Server Start Up Mode" on page 91 for details.)
6. Click Test to test scanner operation. OK. Scanner Available appears under Scanner Information if the scanner is communicating with the scanner server. Click OK to close the window.





If you want to share a different network scanner with client computers, you can access the EPSON Scan Server window at any time by double-clicking the EPSON Scan Server icon in the Windows Control Panel. Then select the scanner you want in the Scanner Selection list.

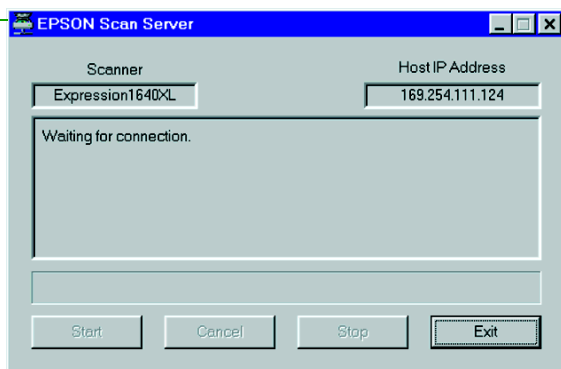
7. Follow the instructions on the screen to complete installation of any other software you've selected in the software selection window.
8. Follow the instructions in "Installing Additional Windows Software" on page 43 if you want to install ScanSoft TextBridge Pro, Adobe Photoshop LE, or MonacoEZcolor.
9. When you're done installing software, restart your computer.


## Changing the Scan Server Start Up Mode

When you installed the software, you set up the Scan Server to start in either Dialog Box mode or Icon mode.

In Dialog Box mode, the following dialog box appears whenever you start EPSON Scan Server. (The message **Waiting for connection** in the status area indicates that the scanner is waiting for a connection to a client computer.)

Click here and select Taskbar Icon to switch to Icon mode.



In Icon mode, the EPSON Scan Server icon  appears on the Windows taskbar when you start EPSON Scan Server.

- To change from Dialog Box mode to Icon mode, click the scanner icon in the upper left corner of the dialog box and select **Taskbar Icon** from the list.
- To change from Icon mode to Dialog Box mode, right-click the EPSON Scan Server icon on the taskbar and click **Taskbar Icon** to deselect it.

Your setting takes effect when you exit and restart EPSON Scan Server. See “Starting EPSON Scan Server” on page 99 for instructions on starting EPSON Scan Server.



Make sure no client computer is connected to the scanner server when you exit EPSON Scan Server.

## Setting Up Client Computers

To set up a client computer, you'll need to know the IP address or host name of the scanner server. Also, make sure the TCP/IP protocol is installed (see Appendix B, "Installing the TCP/IP Protocol," for instructions).



The TCP/IP protocol is preinstalled on newer Macintosh systems. If you have a Macintosh, just make sure that TCP/IP is enabled in your Extensions Manager.

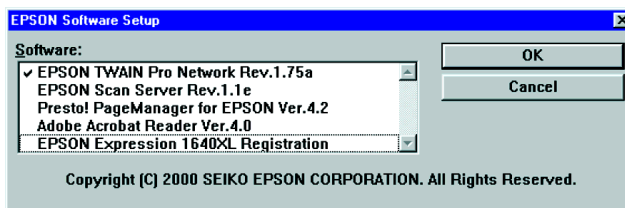
## Installing EPSON TWAIN Pro Network on Windows

You must install EPSON TWAIN Pro Network on the client computer before the client can use the network scanner. At the same time, you can install other software that came with your scanner. Your scanner comes with a multi-user license (6) for Presto! PageManager, an unlimited license for EPSON TWAIN Pro Network and TWAIN Pro, and a single-user license for ScanSoft TextBridge Pro, Adobe Photoshop LE, and MonacoEZcolor. If you want to install these applications on additional computers, please contact the software manufacturer to purchase additional licenses. This information serves to modify the software End User License Agreement contained on the CD-ROM.

1. Insert the EPSON Expression 1640XL Scanning Tools CD-ROM in the CD-ROM drive. If the Software Setup window doesn't appear, double-click the **My Computer** icon on your desktop, and then double-click the **Epson CD-ROM** icon.
2. Click **Add Software**. You see the software selection window.



3. Make sure EPSON TWAIN Pro Network is selected. If you want to install them, select Presto! PageManager for EPSON and Acrobat Reader.



(A check mark appears beside selected applications.) Then click OK.

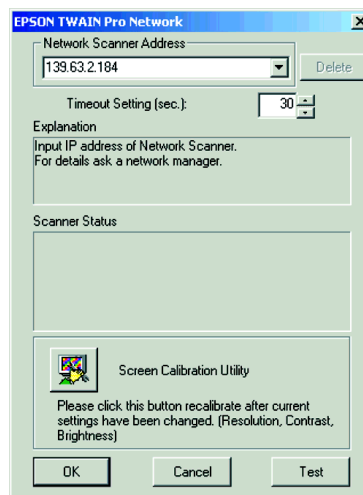


Your license allows you to install Presto! PageManager on six computers in your network. Contact the manufacturer if you want to purchase additional licenses.

4. Follow the instructions on the screen to continue the installation. When you see the window to the right, enter the IP address or host name of the scanner server in the **Network Scanner Address** box.

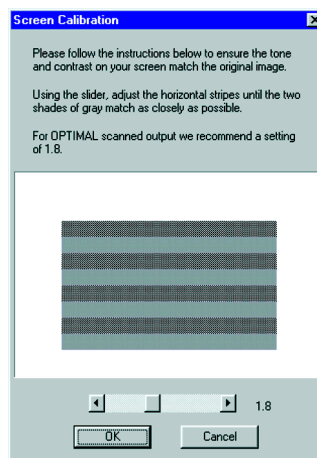
You can only use host names if you have a WINS or DNS server on your network.

5. Click **Test** to test the connection. If your computer is communicating with the scanner server and the scanner is on, you see a message that the scanner is available. Click **OK** to save your settings.



If you need to connect to a different network scanner or change the timeout setting, you can open the EPSON TWAIN Pro Network window anytime by double-clicking the EPSON TWAIN Pro Network icon in the Control Panel. You can enter up to five IP addresses or host names in the Network Scanner Address box.

6. Follow the instructions on the screen. When you see the EPSON Screen Calibration Utility, move the slider right or left until the stripes match as closely as possible. Then click OK.
7. Follow the instructions on the screen to complete installation of any other software you've selected.
8. Follow the instructions in "Installing Additional Windows Software" on page 43 if you want to install ScanSoft TextBridge Pro, Adobe Photoshop LE, or MonacoEZcolor.
9. When you're done installing software, restart your computer.



The EPSON Screen Calibration Utility calibrates the preview image you see in your EPSON TWAIN Pro driver to match your monitor settings.

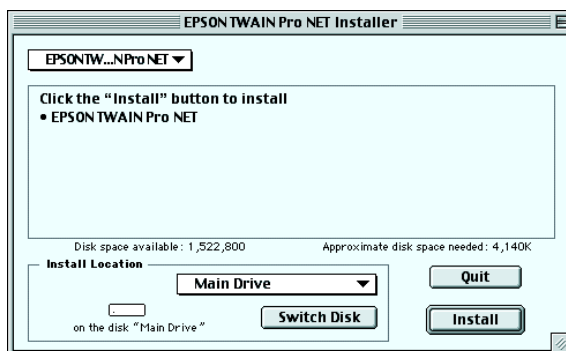
You won't need to change the screen calibration as long as you continue to use the same display. If you need to recalibrate your screen at a later time, open the EPSON Pro Network window by double-clicking the EPSON TWAIN Pro Network icon in the Control Panel. Then click the Screen Calibration button at the bottom of the window to start the utility.

## Installing EPSON TWAIN Pro Network on a Macintosh

You can install EPSON TWAIN Pro Network on all of the computers in your workgroup. Your scanner comes with a multi-user license (6) for Presto!

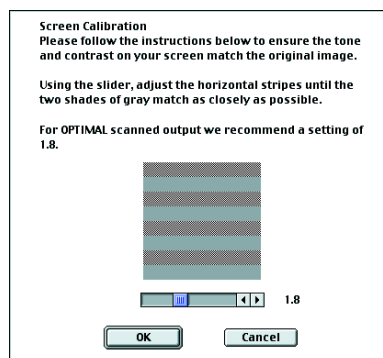
PageManager, an unlimited license for EPSON TWAIN Pro Network and TWAIN Pro, and a single-user license for ScanSoft TextBridge Pro, Adobe Photoshop LE, and MonacoEZcolor. If you want to install these applications on additional computers, please contact the software manufacturer to purchase additional licenses. This information serves to modify the software End User License Agreement contained on the CD-ROM.

1. Insert the EPSON Expression 1640XL Scanning Tools CD-ROM in your drive.
2. Double-click the EPSON TWAIN Pro Network folder.
3. Double-click the EPSON TWAIN Pro NET Installer icon. You see the screen to the right.
4. Click **Install** and follow the instructions on the screen. When you see a message that software was successfully installed, click **Quit**.



You see the EPSON Screen Calibration Utility.

5. Move the slider right or left until the stripes match as closely as possible. Then click **OK**.



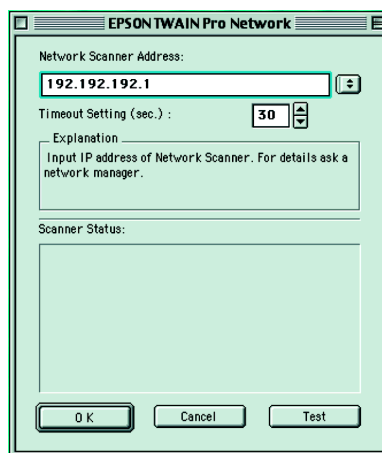


The EPSON Screen Calibration Utility calibrates the preview image you see in your EPSON TWAIN Pro driver to match your monitor settings.

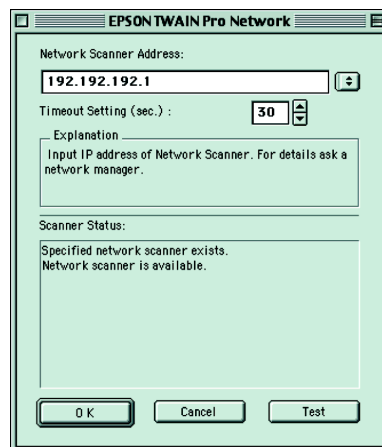
You won't need to change the screen calibration as long as you continue to use the same display. If you need to recalibrate your screen at a later time, double-click the EPSON Network Scanner folder on your hard drive, then double-click the EPSON Screen Calibration icon.

- When you see the screen on the right, enter the IP address or host name of the scanner server in the **Network Scanner Address** box.

(You can only use a host name if you have a DNS server on your network.)



- Click **Test** to test the connection. You see a message that the scanner is available in the **Scanner Status** section of the window. Click **OK** to save your settings.
- Follow the instructions in “Installing Other Software on Your Scanning Tools CD-ROM” on page 47 to install these applications.







9. Follow the instructions in “Installing Additional Windows Software” on page 43 if you want to install ScanSoft TextBridge Pro, Adobe Photoshop LE, or MonacoEZcolor.
10. When you’re done installing software, restart your computer.





If you need to connect to a different network scanner or change the timeout setting, you can open the EPSON TWAIN Pro Network window anytime by selecting Control Panels from the Apple menu, then selecting EPSON TWAIN Pro Net. You can enter up to five IP addresses or host names in the Network Scanner Address box.

## Using a Network Scanner


Network scanning involves the following steps:

- The scanner server must be turned on and running EPSON Scan Server.
- From the client computer, start EPSON TWAIN Pro Network to establish a connection to the scanner server. Only one client computer at a time can connect to the scanner server. (See “Starting EPSON TWAIN Pro Network” on page 100 for instructions.)
- Choose the **Image Type**, **Resolution**, and other settings you want for your scan. (See Chapter 3, “How To Scan,” for more information about choosing settings.)
- Place your first image on the document table (or in the optional automatic document feeder or one of the optional transparency unit’s film guides).
- Start the scan. Although this can be done from EPSON TWAIN Pro Network on the client computer, it may be more convenient to press the scanner’s  Start button or to start the scan from the scanner server. Then you can scan several images with a single trip to the scanner.
- If you want to scan more than one image, place your second image on the document table and press the scanner’s  Start button again. Repeat this step for every image you want to scan. (The settings you chose for the first image apply to these images too.)
- When you return to the client computer, your scanned images appear in the host application’s window. Close EPSON TWAIN Pro Network to end your connection to the scanner server and allow other client computers to use the scanner.

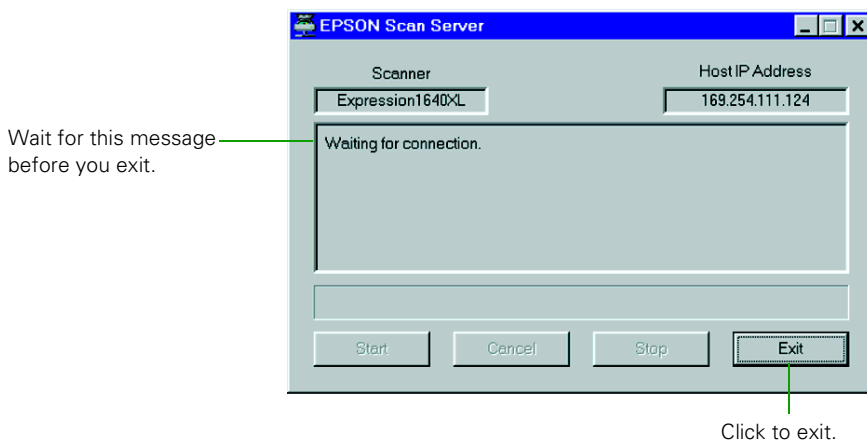


Some applications, such as Adobe Photoshop LE, automatically close the client computer’s connection to the scanner server when you press the  Start button. You can’t use the  Start button to scan multiple images if you’re using these applications.

## Starting EPSON Scan Server

EPSON Scan Server starts automatically whenever the scanner server is turned on. When EPSON Scan Server is running, you'll see either the EPSON Scan Server dialog box, or the EPSON Scan Server icon  on the Windows taskbar. If you need to start EPSON Scan Server manually, click **Start, Programs, EPSON Scan Server**, and then select **EPSON Scan Server**.

You can quit EPSON Scan Server at any time. Just click the **Exit** button on the EPSON Scan Server dialog box.



Before you quit, make sure no client computers are trying to use the scanner. Don't exit if the status area of the EPSON Scan Server dialog box indicates that you are connecting to a client. Wait until you see the message **Waiting for connection**.

If you installed EPSON TWAIN Pro on the scanner server so that you could make a direct connection to the scanner, remember that you must exit EPSON Scan Server to use EPSON TWAIN Pro. EPSON Scan Server disables EPSON TWAIN Pro.

## Starting EPSON TWAIN Pro Network

You connect to the scanner server by starting EPSON TWAIN Pro Network from the client computer. Follow these steps:

1. Start your host application.
2. Select EPSON TWAIN Pro Network as your source, or scanner driver. (You only need to do this step once.)

For example, if you're running Windows and using Presto! PageManager for EPSON as your host application, choose **Select Source** from the File menu. In the Select Source window, choose **EPSON TWAIN Pro Network** and click **Select**.

If you have a Macintosh and are using Presto! PageManager for EPSON, click **File, Select Source**, then **Select TWAIN Source**. In the Select a source window, select the **EPSON TWAIN Pro Network** icon and click **OK**.



The command you choose from the File menu differs from one host application to another. With other host applications, you might choose **Import** or **Select TWAIN\_32 Source**, for example.


3. Start EPSON TWAIN Pro Network.

If your host application is Presto! PageManager for EPSON, choose **Acquire** from the File menu. When EPSON TWAIN Pro Network starts, the EPSON TWAIN Pro Network main menu appears and you connect to the scanner server.

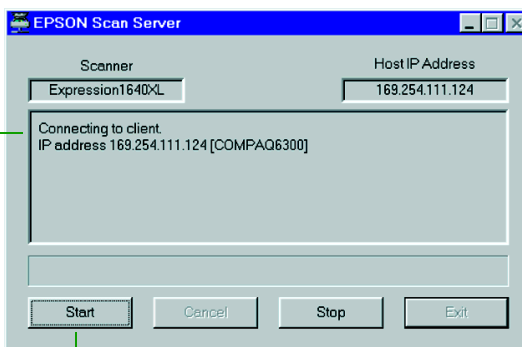
Since the settings and controls for EPSON TWAIN Pro Network are the same as those for EPSON TWAIN Pro, see "Scanning with EPSON TWAIN Pro" on page 56 for general scanning instructions. For more detailed information about settings, see the *EPSON Expression 1640XL Online Reference Guide* on your EPSON Expression 1640XL Scanning Tools CD-ROM.

## Starting a Scan

You can start a scan on your network scanner in several ways:

- You can start EPSON TWAIN Pro Network on the client computer, make your scan settings, and click the **Scan** button on the EPSON TWAIN Pro Network main window. The scanned image is imported into your host application's window.
- You can press the  Start button on the scanner to send the scanned image to the client computer that is currently connected to the scanner server.
- You can click the **Start** button on the EPSON Scan Server dialog box to send the scanned image to the client computer currently connected to the scanner server.

IP address of the client computer connected to the scanner server



Click to start a scan from the scanner server.

No matter how you start the scan, the client computer must be running EPSON TWAIN Pro Network to connect to the scanner server.

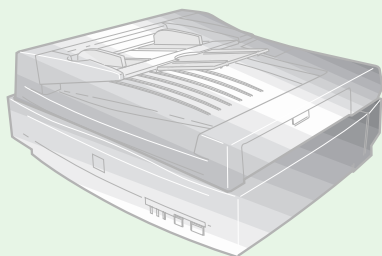
## ***Stopping a Scan in Progress***

You can stop a scan in progress from either the client computer or the scanner server.

- To cancel a scan from the client computer, click the **Cancel** button on the Progress bar.
- To cancel from the scanner server, click the **Cancel** button at the bottom of the EPSON Scan Server dialog box.
- To break the connection between the client computer and the scanner server, click the **Stop** button on the EPSON Scan Server dialog box. This closes EPSON TWAIN Pro Network on the client computer and allows other client computers to connect to the scanner server.

# Chapter 5

## Using Optional Equipment



There are three options available for the EPSON Expression 1640XL color scanner: the transparency unit (B813202) the automatic document feeder (B813212), and the IEEE 1394 FireWire scanner interface card (B808342).

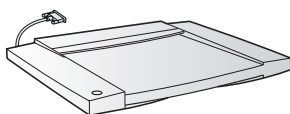
You can purchase these options from your reseller or from the EPSON Store™ at (800) 873-7766 (U.S. sales only). In Canada, please call (800) 873-7766 for dealer referral. Or visit the EPSON Store at [www.epson.com](http://www.epson.com) (U.S. sales only).

### Transparency Unit

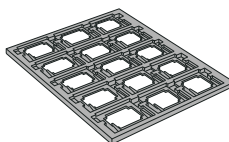
The transparency unit (B813202) allows you to scan transparent materials—35 mm slides, 4 × 5 inch film, and 120/220 film. To switch between scanning transparent materials and normal reflective (paper) documents, simply insert or remove the reflective document mat that came with the unit. For instructions on using the reflective document mat, see “Scanning Reflective Documents” on page 112.

## ***Unpacking the Transparency Unit***

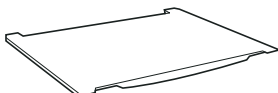
Make sure that all of the following items are included in the transparency unit box. If any items are missing or damaged, contact your EPSON dealer, or contact EPSON at (562) 276-4382 (in the United States) or (905) 709-3839 (in Canada). Keep all the packing materials so you can use them for storage when you are not scanning transparencies.



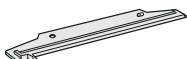
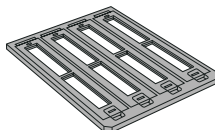
transparency unit



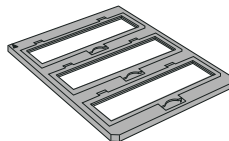
film holders



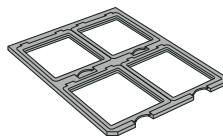
reflective document mat



transparency guide



guide pins and adjust pins

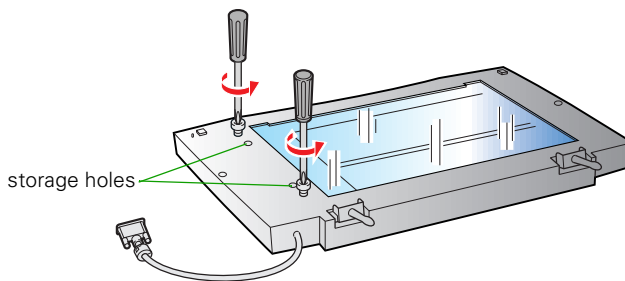





## Removing the Shipping Screw

To prevent damage during shipping, two shipping screws are attached to the transparency unit to secure its lamp assembly. You must remove these screws before using the transparency unit.

1. Turn the transparency unit so the glass side faces up.
2. Use a Phillips head (cross head) screwdriver to remove the shipping screws, as shown at right.
3. Install the screws in the storage holes.



If either screw is left in a shipping hole (the outer holes) while using the transparency unit, the unit may be damaged.

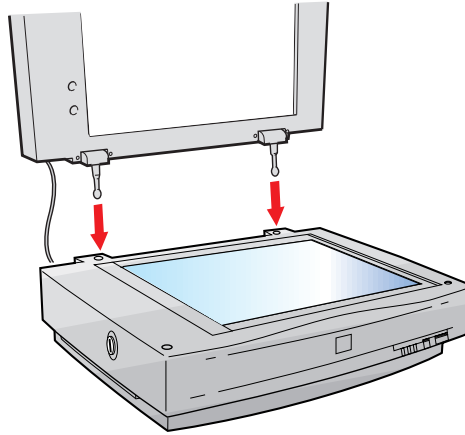
Before transporting the scanner, remove the transparency unit, reinstall the shipping screws, and turn the transportation lock on the right side of the scanner to the  icon. See “Transporting the Scanner” on page 125 for instructions.

## Installing the Transparency Unit

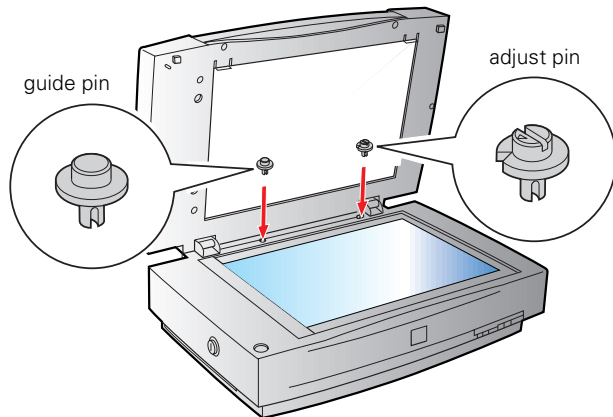
Follow these steps to install the transparency unit on the scanner.

1. Make sure the scanner is turned off. Then unplug the power cable from the scanner.
2. Remove the document cover by grasping the back of the document cover and easing the cover up.
3. Make sure the document table is clean and dust free.

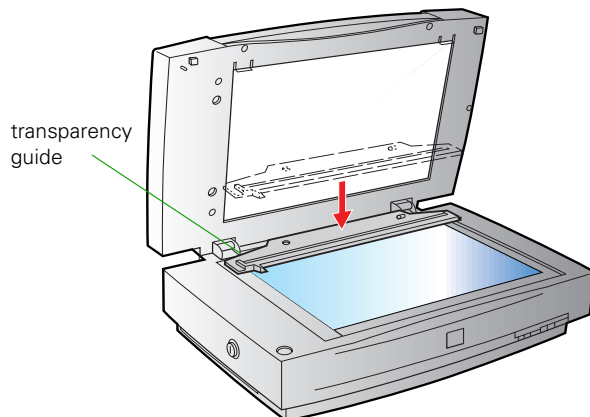
4. Align the transparency unit's pins with the holes in the scanner and lower the unit until it rests securely.



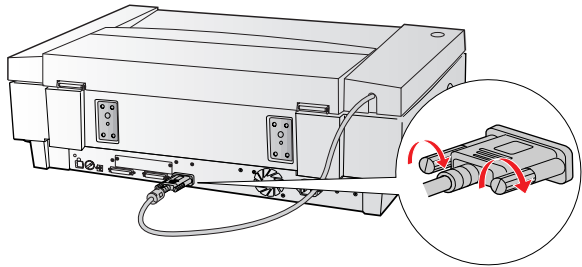
5. Insert the guide pin and adjust pin that came with the transparency unit into the screw holes. Make sure the adjust pin's arrow faces directly towards the center of the guide pin.



6. Place the transparency guide on the scanner's document table.



7. Gently close the transparency unit.
8. Connect the transparency unit's connector to the option (ADF/TPU) connector at the back of the scanner. Tighten the attached screws to secure the connector.



If you haven't connected the scanner to your computer, continue with "Connecting the Scanner to Your Computer" on page 18. Then plug the scanner in and turn it on.

See "Step-by-Step Scanning Instructions" on page 55 for scanning instructions. For more detail on scanning with EPSON TWAIN Pro, see your electronic *EPSON Expression 1640XL Online Reference Guide*.

## Using the Film Guides

You can use the four film guides that came with the scanner to scan 35 mm slides, strips of 35 mm negative or positive film, 120-size or 220-size format film, and 4 × 5-inch film.



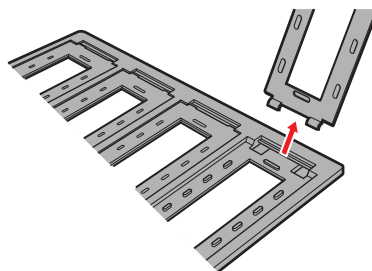
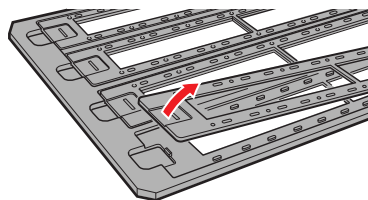
When using the film guides, be sure the transparency unit is completely closed or an error will occur and you will be unable to scan.

Store the reflective document mat in the transparency unit pocket when not in use.

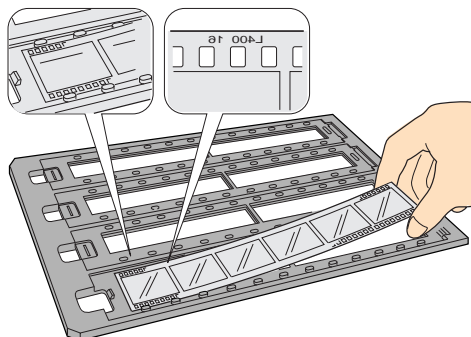
## ***Loading 35 mm film***

Follow these steps to load 35 mm positive or negative film:

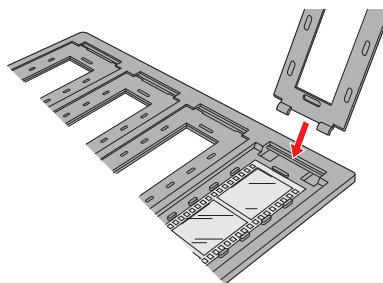
1. Place the 35 mm filmstrip guide on a flat surface and remove the cover from one of the strip holders.



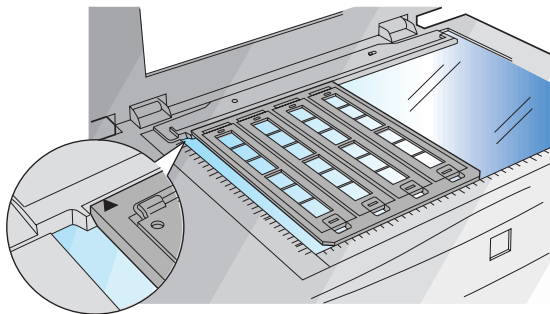
2. Insert a filmstrip in the holder face down.



3. Replace the strip holder you removed in step 1.
4. Repeat steps 1 through 3 for all the film strips you scan.



5. Place the 35 mm filmstrip guide on the document table, and align it with the notch on the transparency guide as shown.
6. Close the TPU and begin scanning.



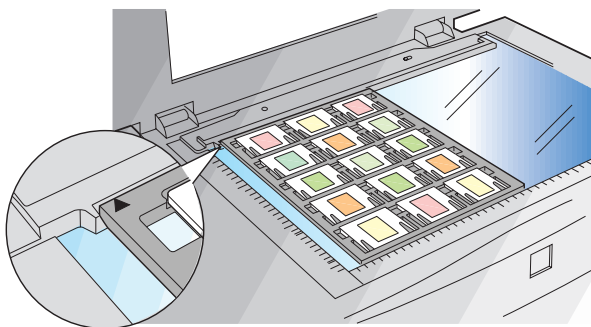
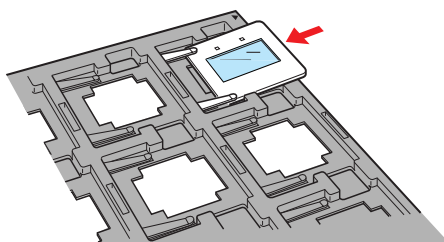
Make sure to select TPU for Neg. Film or TPU for Pos. Film as your Document Source in EPSON TWAIN Pro.

If a color stripe appears when scanning film (known as “Newton’s ring”), try scanning the film upside down.

## **Loading 35 mm slides**

Follow these steps to load 35 mm slides:

1. Load slides in the 35 mm slide holder as shown. Make sure the glossy side of each slide faces down, and the film emulsion layer faces up.
2. Position the slide holder on the document table. Align the slide holder with the notch on the transparency guide as shown.
3. Close the TPU and begin your scan.

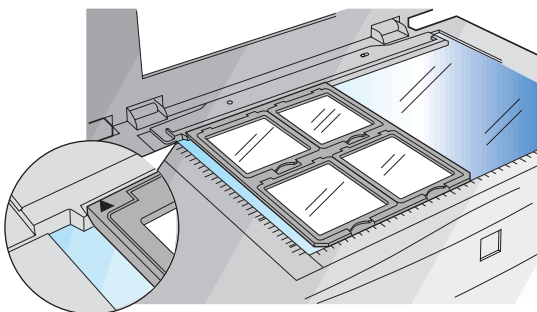
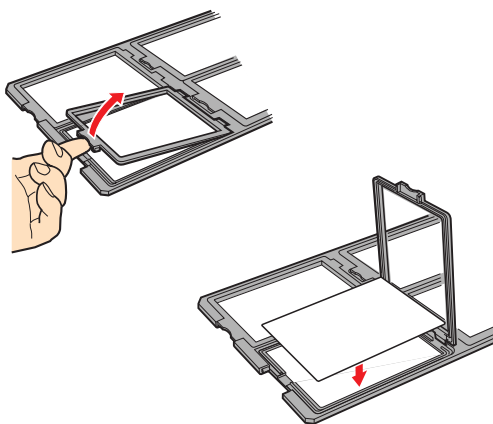


If you’re using EPSON TWAIN Pro to scan, make sure to select TPU Pos as your document source.

## Loading 4 × 5-inch film

Follow these steps to load 4 × 5-inch film:

1. Place the 4 × 5-inch film guide on a flat surface and remove the cover from one of the film holders.
2. Insert the film in the film holder, making sure the glossy (smooth) side of the film faces down and the film emulsion layer faces up. Then close the cover.
3. Repeat steps 1 and 2 for all the film you scan.
4. Place the 4 × 5-inch film guide on the document table. Align it with the notch on the transparency guide as shown.
5. Close the TPU and begin your scan.

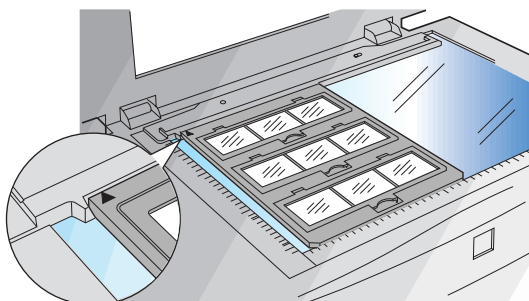
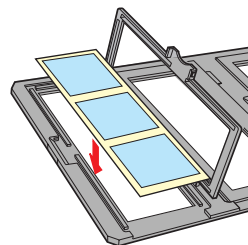
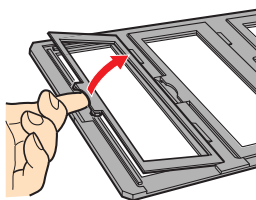


If you're using EPSON TWAIN Pro to scan, make sure to select TPU Neg or TPU Pos as your document source.

## Loading 120-size or 220-size (medium format) film

Follow these steps to load 120-size or 220-size format film:

1. Place the 120/220-size film guide on a flat surface and open the cover for one of the film holders.
2. Insert the film in the film holder, making sure the glossy (smooth) side of the film faces down, and the film emulsion layer faces up. Then close the cover.
3. Repeat steps 1 and 2 for all the film you scan.
4. Place the film guide on the document table. Align it with the notch on the transparency guide as shown.
5. Close the TPU and begin your scan.



If you're using EPSON TWAIN Pro to scan, make sure to select TPU Neg or TPU Pos as your document source.

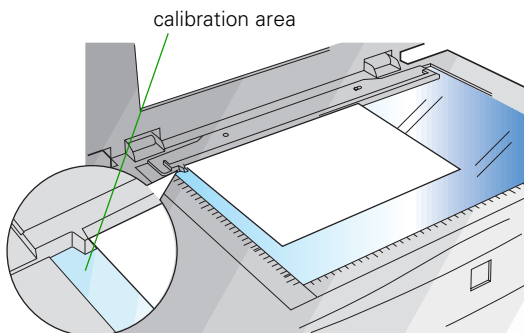
## Loading non-standard sized film

Follow these steps to load non-standard sized film:

1. Place the film directly on the document table making sure the glossy (smooth) side of the film faces down.

If the reflective document mat is installed in the transparency unit, remove it.

2. Close the TPU and begin your scan.



If you're using EPSON TWAIN Pro to scan, set the focus position to 0.0.

An area  $2 \pm 1.5$  mm from the horizontal and vertical edges of the document table glass will not be scanned.

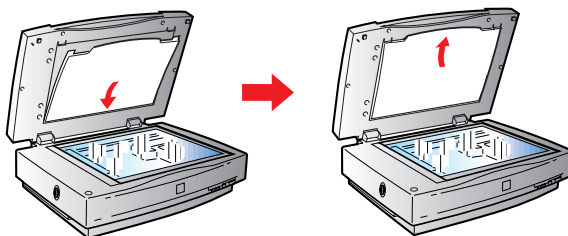


The scanner will generate an error message if the calibration area is blocked. Also, dirt or dust on the calibration area can result in vertical lines being added to the image. Keep the calibration area clear and clean.

## Scanning Reflective Documents

To scan reflective documents with the transparency unit installed, insert the reflective document mat included with the transparency unit.

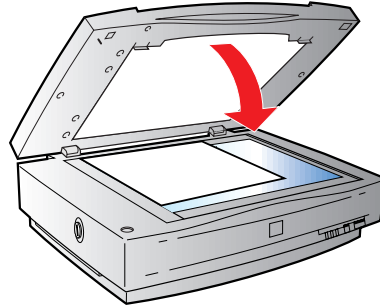
1. Open the transparency unit. If there's a film guide or transparency unit on the document table, remove it.
2. Slide the mat into place and insert the tabs into the slots on the transparency unit.





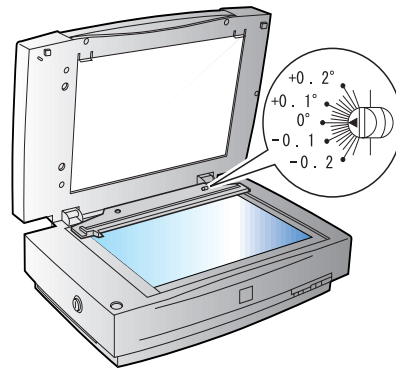
3. Place your document face down on the document table and close the transparency unit.
4. Scan your document.

To remove the reflective document mat, slide it up and out of the slots on the transparency unit.



## ***Adjusting the Transparency Guide Scanning Angle***

If your scanned image's edges are at a slight angle, adjust the scanning angle by turning the adjust pin. The direction and degree you adjust the angle depends on your individual scanner and the placement of the document to be scanned. You may want to experiment with this feature to determine the best angle. If you are still unsatisfied, see "Using the Document Guide" on page 64 for information on how to find the angle you need.

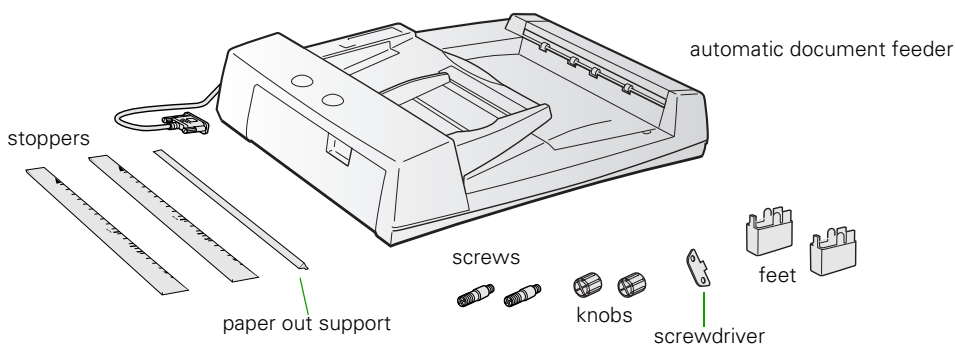


## Automatic Document Feeder

The automatic document feeder (B813212) allows you to automatically load multi-page documents into your scanner. This document feeder is particularly useful for OCR (optical character recognition) scanning, or for creating an image database.

### *Unpacking the Automatic Document Feeder*

When you unpack your automatic document feeder, make sure you have the parts shown below. If any items are missing or damaged, contact your EPSON dealer, or call EPSON at (562) 276-4382 (in the United States) or (905) 709-3839 (in Canada).



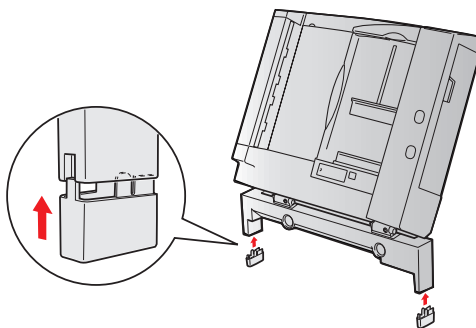
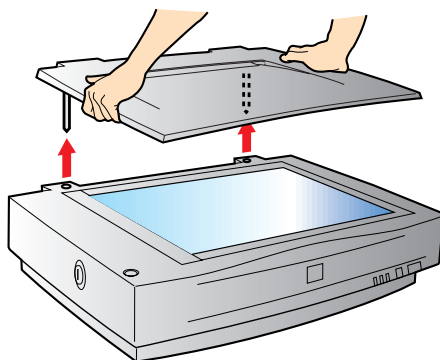
## Installing the Automatic Document Feeder



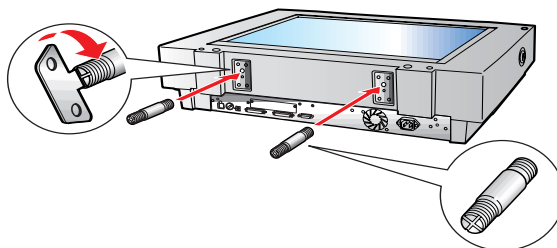
Because the automatic document feeder is heavy, you may want to have someone help you with this procedure. Also, the document feeder is large, so be sure to have adequate space around the scanner.

Follow the steps below to install the automatic document feeder on your scanner:

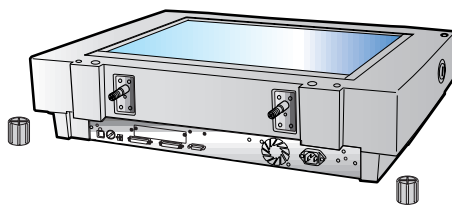
1. Make sure your scanner is turned off and unplug the cables.
2. Remove your scanner's document cover by grasping the back of the cover as shown and easing the cover up.
3. Remove the document guide strip from the document table.
4. Attach the two feet as shown.



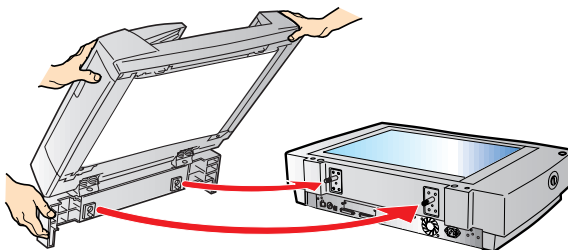
5. Insert the installation screws that came with the ADF into the holes in the back of the scanner and secure them with the enclosed screwdriver tool, as shown.



6. Place the two knobs included with the ADF beside the scanner.

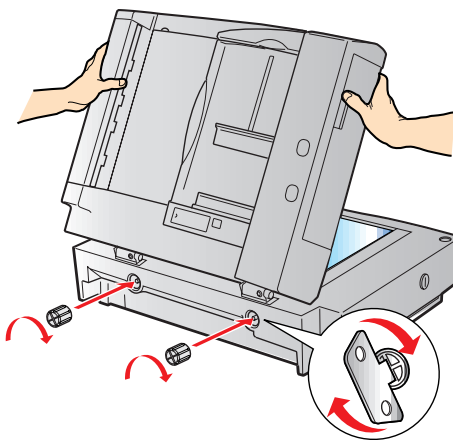


7. Align the installation screws with the holes in the ADF and slide together as shown.

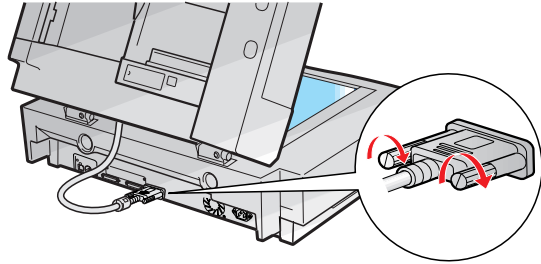


The ADF is heavy. Ask for assistance when lifting it.

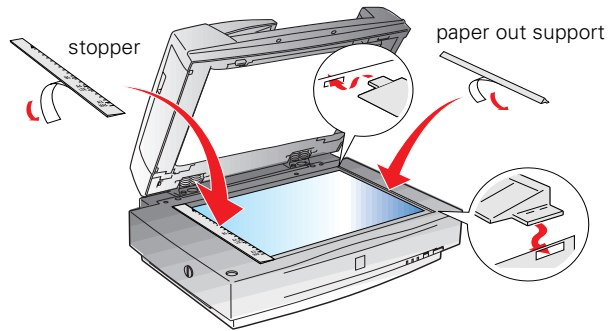
8. Twist the knobs onto the ends of the screws and tighten them using the enclosed screwdriver tool.



9. Attach the ADF's connector to the scanner's option (ADF/TPU) interface. Secure the connection by tightening the connector screws.



10. Peel the backing from the stopper and from the paper out support provided with the ADF. Then attach the stopper and paper out support to the scanner as shown. Insert the tabs on the paper out support into the slots at the right end of the document table.



There are two stoppers included with the ADF, a light gray one and a dark gray one. Use the light gray stopper, not the dark gray stopper.

11. Close the ADF.

If you haven't connected the scanner to your computer, continue with "Connecting the Scanner to Your Computer" on page 18.

## ***Loading Paper in the Automatic Document Feeder***

The ADF can hold up to 100 sheets of the following paper sizes, based on a paper weight of 17 pounds (64 g/m<sup>2</sup>) and a thickness of 0.2 inch (6.0 mm) or less:

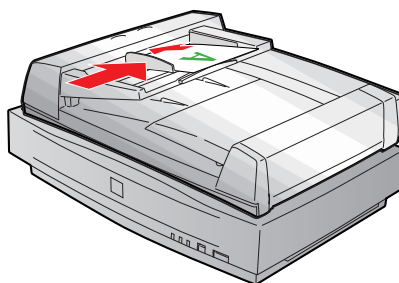
<b>Paper size</b>	<b>Direction</b>
A3, Ledger, B4, Legal, A4, Letter, B5, A5, 5.5 × 5.8-inch (140 × 148 mm)	Portrait
A4, Letter, B5, A5	Landscape

Before loading the ADF, make sure the document:

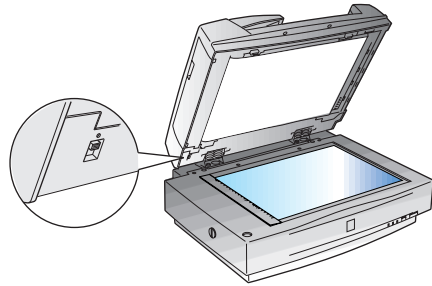
- Has no wet ink on it.
- Has no holes.
- Is not ripped or wrinkled.
- Has no staples or other objects attached that may damage the feeder.
- Has no folds.
- Is not a multipart form.
- Is not bound.
- Has no carbon coating.
- Has no cut-out areas.

Follow these steps to load paper:

1. Slide the right edge guides all the way to the right.

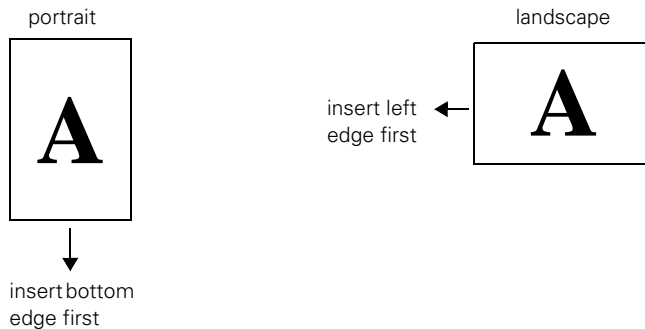


2. Make sure that the switch on the lower left corner of the ADF is set with the switch towards the circular mark as shown.
3. Arrange your stack of originals face up. Follow these guidelines when inserting paper:



- Portrait orientation (top and bottom edges are shorter than the side edges)—insert your document bottom edge first.
- Landscape orientation (top and bottom edges are longer than the side edges)—insert your document left edge first.

Insert the document until it meets resistance.



If your document is large, slide out the paper support.

4. Slide the edge guides to the edges of your paper.
5. Scan your document.



If you load multiple pages, they will be fed from the top and ejected face-down.

To automatically scan both sides of a document, select the Double-Side setting in EPSON TWAIN Pro.

You can still load documents manually, if you want. Just lift the automatic document feeder and place the first sheet of your document face down on the document table. Always close the automatic document feeder before scanning, and do not open it during scanning or an error will result.

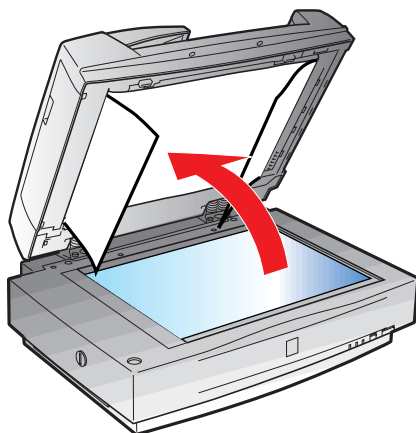
Make sure to select Auto Document Feeder as your Document Source in EPSON TWAIN Pro.

If you want to scan only part of the document area, load the first page of the document in the automatic document feeder. When you start EPSON TWAIN Pro and click the Preview button, the first page is ejected. You can adjust the marquee in the Preview area, and then load up to 100 pages of the document in the automatic document feeder. The Expression 1640XL scans the area defined by the marquee on each page.

## ***Fixing Paper Jams***

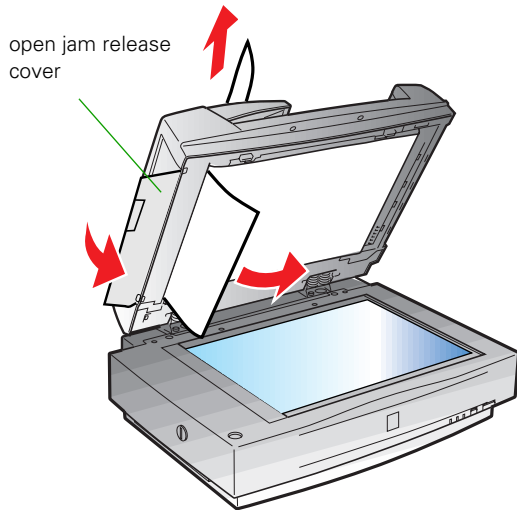
If a paper jam occurs, follow these steps to clear it:

1. Open the ADF cover to determine where the paper jam occurred.

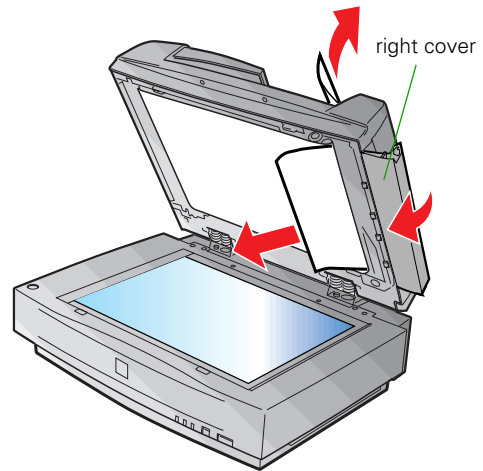




2. If paper is jammed in the feeder, open the cover on the left and slowly pull out the jammed paper as shown. (Be careful not to pull too hard or the paper may tear, making it more difficult to remove.)

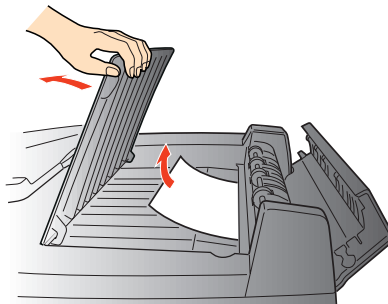


3. If paper jams in the paper eject position, open the cover on the right and slowly pull out the jammed paper as shown.



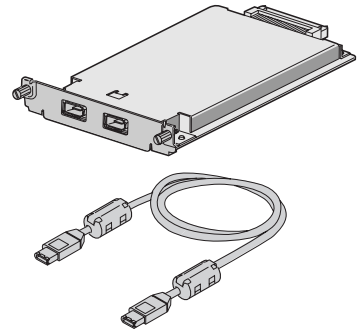
Be careful not to pull too hard or the paper may tear, making it more difficult to remove.

4. After removing the jammed paper, close the ADF cover.



# IEEE 1394 FireWire Scanner Interface Card

To use the IEEE 1394 FireWire scanner interface card (B808342), your Power Macintosh must be running Macintosh OS 8.6 or later with FireWire Update 2.1 or later. Your PC must have an OHCI compliant FireWall port or card, and must be running a pre-installed version of Windows 2000.



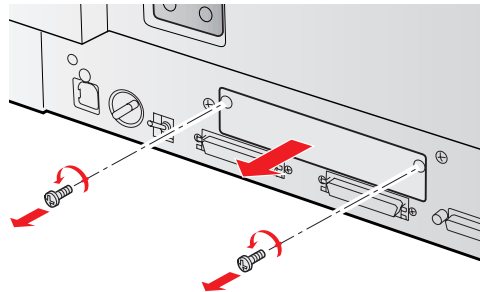
When you install the scanner software, FireWire Update 2.1 will automatically be installed or updated, if it's not already on your Macintosh or if you have an older version.

This section explains how to install the IEEE 1394 FireWire scanner interface card in your scanner, and how to connect the scanner to your computer.

## Installing the Card in Your Scanner

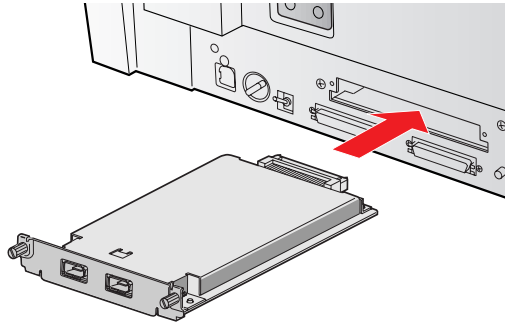
Before you begin, turn off the scanner and disconnect the power cord and any cables.

1. Remove the two screws securing the shield plate to the scanner's optional interface slot, and then remove the plate. Put the screws in a safe place in case you want to reinstall the shield plate later.



Static electricity can damage electronic components like the IEEE 1394 FireWire scanner interface card. To discharge static electricity, touch the scanner's metal frame before handling the card.

2. Turn the card over so that the component side is facing down, and insert it in the optional interface slot. Push gently until the card is firmly seated in the expansion slot inside the optional interface slot.
3. Tighten the retaining screws and reconnect the scanner's cables.

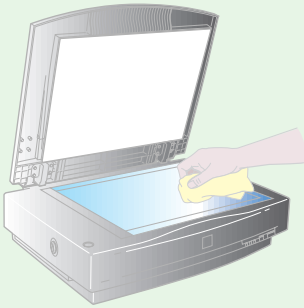


Now you're ready to connect the scanner to your computer. Continue with "Connecting to an IEEE 1394 FireWire Interface" on page 22.



# Chapter 6


## Scanner Maintenance

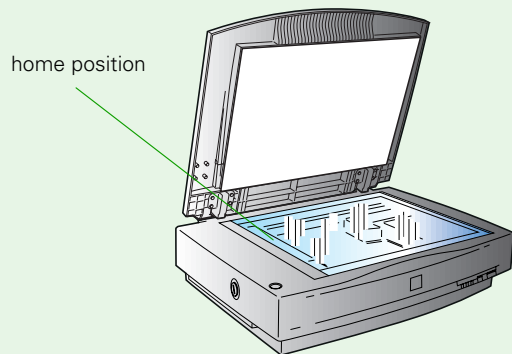



This section gives you basic maintenance instructions and tells you how to transport your scanner safely.


### Transporting the Scanner

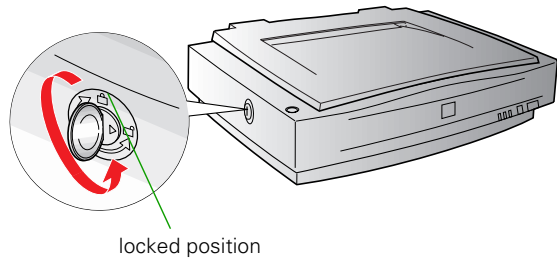
When you transport the scanner a long distance or store it for an extended time, follow the steps below to secure the carriage.

1. Make sure the transportation lock on the back of the scanner is in the  position.
2. If you're using a transparency unit or automatic document feeder, remove it and replace the scanner cover.
3. Turn on the scanner and wait until the carriage moves to the home position as shown. Then turn off the scanner.



- Slide the transportation lock at the back of the scanner to the  position.

If the carriage does not automatically return to the home position, slowly raise the front of the scanner and hold it up until the carriage comes to rest in the home position. Then turn the transportation lock counterclockwise to the  position.

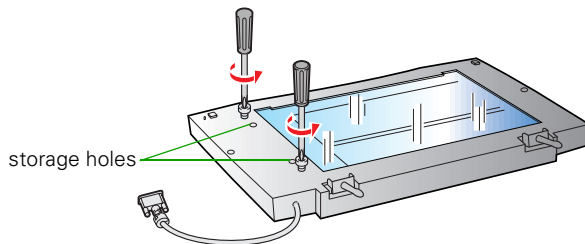


If you are using a transparency unit and it is switched on, the scanner carriage will not move to the home position. Remove the transparency unit first, then perform the steps above. See the next section for instructions.

## Transporting the Transparency Unit

After you've removed the transparency unit from the scanner, prepare it for shipping as follows:

- Turn the transparency unit so the glass side faces up.
- Use a Phillips head (cross head) screwdriver to remove the shipping screws from the storage holes.
- Install the screws into the shipping holes (the outer holes).



## Cleaning the Scanner

To keep your scanner operating at its best, you should clean it periodically. Before cleaning, unplug the power cord.

Use a soft cloth to clean the outer case with mild detergent dissolved in water.

If the document table glass gets dirty, clean it with a soft, dry cloth. If the glass is stained with grease or other hard-to-remove material, use a small amount of glass cleaner on a soft cloth to remove it. Wipe off any remaining liquid with a dry cloth.

Be sure there's no dust on your document table. Dust can cause white spots to appear in your scanned image.



Always unplug the scanner before cleaning.

Never use a harsh or abrasive brush or cleaning product to clean the document table. A damaged glass surface can decrease the scanning quality.

Never use alcohol, thinner, or corrosive solvent to clean the scanner. These chemicals can damage the scanner components as well as the case.

Be careful not to spill liquid into the scanner mechanism or electronic components. This could permanently damage them.

Don't spray lubricants inside the scanner.

Never open the scanner case. If you think repairs or adjustments are necessary, consult your dealer or contact EPSON.

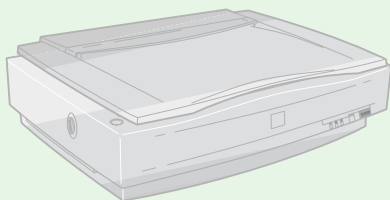
Unplug the scanner and refer servicing to qualified service personnel if the power cord or plug is damaged, if liquid has entered the scanner, if the scanner has been dropped or the case damaged, or if the scanner does not operate normally or exhibits a distinct change in performance.





# Chapter 7

## Solving Problems



This chapter explains how to interpret the signals from your scanner indicator lights, and gives you the basics for diagnosing and solving scanner problems. It also provides instructions on how to uninstall your software and tells you how to contact EPSON and other software manufacturers.

For additional troubleshooting tips, see your electronic *EPSON Expression 1640XL Online Reference Guide*.

## Lights and Buttons

The scanner has three indicator lights and three buttons:

### *Scanner indicator lights*

Light	Light status	Color	Scanner status
OPERATE	○	Green	Scanner is on
READY	○	Green	Ready to scan images
	◐ (flashing)	Green	Scanning is in progress
ERROR	○	Red	An error occurred; see the following table for more information
	◐ (rapidly flashing) ●		





○ = on, ● = off, ◐ = flashing

## Error conditions

ERROR light	READY light	Error type
○	○	Command error: The scanner has received incorrect commands from your scanning software. Try rescanning the document.
◐	●	Interface error: Check that your scanner is securely connected to your computer, and then turn the scanner off and back on again.
◐	◐	Fatal error: Check that the transportation lock is released, and then turn the scanner off and on again. If this doesn't solve the problem, call your EPSON dealer.
●	●	Option error: There's a problem with an installed option. Check to make sure the transparency unit or automatic document feeder is flat against the document table. Check that your option is securely connected to the option (ADF/TPU) connector at the back of the scanner. Finally, check that the automatic document feeder isn't out of paper and doesn't have a paper jam. If these suggestions don't solve the problem, call your EPSON dealer.

○ = on, ● = off, ◐ = flashing

## Scanner buttons

Button	Function
 Operate Reset	<p>Turns the scanner on and off.</p> <p>Resets the scanner to its default settings after an error. Pressing this button while scanning a document stops the scanner and may cause an error.</p>
 Start	<p>Automatically launches a  Start button-compatible application. You must set up your scanner software and a compatible application to use this button.</p> <p>If you installed Presto! PageManager, it's automatically assigned to the  Start button. You can set up Presto! PageManager to scan your image automatically and send it directly to another application or a peripheral device, such as a printer.</p>

## Problems and Solutions

If you're having problems, this section answers some of the most common questions. For additional software troubleshooting tips, see your electronic *EPSON Expression 1640XL Online Reference Guide*.

### Setup Problems

#### Your system doesn't recognize the scanner . . .

- Check your cable connections. If your cable is securely connected to both the scanner and computer, try another cable. If you have a USB connection, use an EPSON USB cable. If you have a SCSI connection, try using a high quality, shielded SCSI cable, and be sure to restart your computer after you change the cable.
- The USB connection only supports a Macintosh, Windows 98 or Windows 2000 system. Windows 2000 or Windows 98 must be preinstalled on your system, not upgraded. There is no USB support for Windows 95 or Windows NT.
- Make sure your scanner is on. If you opened your host application before you turned on the scanner, close your application and reopen it. If that doesn't work, restart your system.
- If your scanner is connected to a USB hub, try connecting it directly to the computer's USB port.
- Check the Plug and Play option for your computer; it should be active (Windows 95, 98 and 2000 only).
- If you have a SCSI connection, turn off both your scanner and computer. Then turn on your scanner before you turn on the computer.
- If you have a SCSI connection, make sure your SCSI board is installed correctly.
- If the SCSI board is found, but not the scanner, check the SCSI terminator and ID. Make sure the SCSI ID doesn't conflict with another SCSI device.
- If you've replaced your SCSI board or changed the SCSI ID, you may need to uninstall and reinstall your scanner software. See the instructions beginning on page 141.

- Check for IRQ conflicts with built-in options.
- Windows users: check the System Device Manager in the Windows Control Panel. If there is an Unknown Device icon, select it and click Remove.
- Macintosh only: if you have an IEEE 1394 FireWire interface connection, make sure the following Extensions are selected in the Extensions Manager: EPSON FW Scanner Enabler, EPSON FW Scanner Expert, and EPSON FW ScannerLib.
- Macintosh only: if you have an IEEE 1394 FireWire interface connection, make sure the IEEE 1394 FireWire scanner interface card is installed correctly in the scanner. (See “Installing the Card in Your Scanner” on page 122.)
- If all else fails, uninstall and reinstall your software. See the instructions for uninstalling software beginning on page 141.

**EPSON TWAIN Pro (or EPSON TWAIN Pro Network) doesn't appear in the list where you select your scanner . . .**

See the solutions under “Your system doesn't recognize the scanner...”.

**If you are unable to connect to the scanner when you click the Test button . . .**

- Check to make sure your cable is securely connected to both the scanner and computer.
- Try a different cable. If you have a USB connection, be sure to use the USB cable that came with your scanner. If you have a SCSI connection, try using a high quality, shielded SCSI cable, and be sure to restart your computer after you change the cable.
- Turn off both the scanner and your computer. Then turn on your scanner before you turn on the computer.
- If you're connected to a USB hub, try connecting the cable to the computer's USB port.
- If you have a SCSI connection, make sure your system is correctly terminated and there are no conflicting SCSI IDs.
- If you're using a network scanner, check with your network administrator to see whether your computer is on a different router than the scanner server. If it is, make sure the router for the scanner server is configured to allow traffic from your network.

- Uninstall and reinstall your software. See the instructions for uninstalling software beginning on page 141.

## ***Scanner Problems***

### **The READY light doesn't come on, or flashes . . .**

- Check the scanner power cord. Make sure the power cord is securely plugged into the scanner and the power outlet, and that the scanner is turned on.
- Check that the power outlet is working and provides sufficient power for the scanner.
- If you're using a transparency unit or automatic document feeder and both the **READY** and **ERROR** lights are off, make sure your installed option is closed (lying flat against the document table). Also, make sure that the shipping screws on the TPU have been removed and that the automatic document feeder doesn't have a paper jam and isn't out of paper.

### **The scanner doesn't scan your image . . .**

- Make sure the scanner is ready to scan. Wait until the **READY** light stops flashing and remains on.

- Check your image source setting. Make sure you selected EPSON TWAIN Pro (or EPSON TWAIN Pro Network).
- Run the scanner test to make sure the scanner is communicating with your computer. For Windows 2000 or Windows 98, see "Testing Your Scanner's Operation" on page 17. For Windows 95 or NT and Macintosh, open the EPSON TWAIN Pro window (or EPSON TWAIN Pro Network window) and click the **Test** button.
- Make sure you have enough memory to scan your image. If you're scanning a large image or scanning at a high resolution, try closing other programs before you scan. If you have a Macintosh, try increasing the memory of the host application. If your computer still doesn't have enough memory to process the image, try scanning at a lower resolution, or select part of the image to scan. If you still cannot scan, you may need to upgrade your RAM.
- If you're using a network scanner, the scanner may have timed out. Check the time out setting on the EPSON TWAIN Pro Network window and increase the value, if necessary.

### **If you installed a ZIP drive . . .**

Your ZIP drive may be interfering with your scanner. Disconnect your ZIP drive, then try using the scanner.

### **If you're using a transparency unit or automatic document feeder . . .**

- Make sure the unit is correctly installed and connected to the scanner's option (ADF/TPU) interface.
- Make sure you selected the correct **Document Source** setting for your image.
- Make sure your transparency unit or automatic document feeder is closed (lying flat against the document table).
- If paper is jammed in your automatic document feeder, see "Fixing Paper Jams" on page 120.

## **Software Problems**

### **You can't start EPSON TWAIN Pro . . .**

- Make sure the scanner's **READY** light is on.
- Check to make sure your cable is securely connected to both the scanner and computer.

- Try a different cable. If you have a USB connection, be sure to use an EPSON USB cable. If you have a SCSI connection, try using a high quality, shielded SCSI cable, and be sure to restart your computer after you change the cable.
- If you have a SCSI connection, you can't turn the scanner off and on again while you're using your computer. Turn both the scanner and computer off, then turn on the scanner before you turn on the computer.
- If you have a SCSI connection, make sure the SCSI interface board is installed correctly in your computer.
- For SCSI connections, check that your system recognizes your scanner and SCSI board (Windows only). Check the System Device Manager in the Windows Control Panel. For Windows NT, check the SCSI Adapters dialog in the Windows Control Panel.
- For SCSI connections, check for conflicts in your SCSI ID setting, I/O address, the interrupt setting for your SCSI board, and other settings. For information about the SCSI ID setting, see "Connecting to a SCSI Interface" on page 20. For information about choosing other settings, see your computer manual.

- If you have more than one scanner connected to your computer, make sure the Expression 1640XL is selected as your default scanner. For Macintosh, check the EPSON Scanner Selector. For Windows 2000 or Windows 98, check the Utility tab on the Expression 1640XL Properties window. For Windows 95 or NT, check the EPSON TWAIN Pro window.
- Make sure you selected EPSON TWAIN Pro as your TWAIN source.
- If you have an older EPSON scanner and have a previous version of EPSON TWAIN installed, uninstall the older version (Windows) or close any extensions like EPSON Scanner Monitor, EPSON Scanner Monitor USB, or EPSON Monitor 3 (Macintosh).
- If none of these solutions help, uninstall your software, then reinstall it. See the instructions for uninstalling software beginning on page 141.

### **You can't start EPSON TWAIN Pro Network from a client computer . . .**

- Make sure the scanner and the scanner server are both powered on, and that the Scan Server is running on the server.

- Make sure the cables connecting the scanner, the scanner server, and the client computer meet system requirements and are properly connected.
- Make sure the correct IP address for the scanner server is entered in the EPSON TWAIN Pro Network setup window for the client computer.
- Make sure the network interface card is installed correctly in both the scanner server and the client computer.
- Make sure both the scanner server and client computer are running the TCP/IP protocol.
- If more than one scanner is connected to the scanner server, make sure the Expression 1640XL is selected as the default scanner.

### **The scanner software doesn't work properly . . .**

- Make sure the system requirements (for example, the operating system version) are correct for your software. See "System Requirements" on page 161.

- Check your computer's memory. If you're running other software at the same time, using RAM resident programs, or have many device drivers, the computer may not have enough memory. (See your software and computer manuals.) If you're scanning a large image or scanning at a high resolution, your computer may not have enough memory to process the image.
- Check your software installation. Make sure that your software is correctly installed and set up. If all else fails, uninstall your software, then reinstall it.

**You can't select any of the following as your Document Source: Auto Document Feeder, TPU for Neg. Film, TPU for Pos. Film . . .**

- Make sure your option is installed correctly, and that it's securely connected to the option (ADF/TPU) connector. If you need to reinstall the option or connect it to the option (ADF/TPU) connector, restart your computer.

## ***Scanning Problems***



**The file size is too big . . .**

Adjust your scan settings. Try setting at a lower resolution (dpi), or scan only part of the image.





### Your scanned image is faint or has gaps . . .

- Check the brightness. Decrease the software or driver's brightness setting.
- Try adjusting the **Gamma** and **Exposure** settings in the Image Controls window.
- Check the condition of your original. If the document is damaged, dirty, or wrinkled, these imperfections will show up in your scan.
- Make sure the document is placed flat against the document table.



### Your scanned image is blurred or distorted . . .

- Check the position and condition of your document. Make sure the document is placed flat against the scanner's document table glass. If only part of the image is blurred, part of your document may be wrinkled or warped.
- Make sure the document table glass is clean.
- Make sure the scanner is on a flat, stable surface.



### **The edges of the document aren't scanned . . .**

- Check the position of your document. Adjust it so that the image is within the glass area of the document table.
- If colors are patchy or distorted at the edges of the image, the document may be too thick, or there may be outside light interfering with the scan.



### **Your image scans at an angle . . .**

Check the position of your document. It may be placed at an angle on the document table. Align it so the horizontal and vertical edges are carefully aligned with the scales on the top and side of the document table. Use the document guide to correct alignment problems. For instructions, see “Using the Document Guide” on page 64.

### **Straight lines in the image come out jagged . . .**

Make sure the document is aligned with the scales on the top and side of the document table. Use the document

guide to correct alignment problems. For instructions, see “Using the Document Guide” on page 64.

### **A line of dots is missing from the image . . .**

- When a line of dots is missing from the scanned image on your screen, the scanner sensor has malfunctioned. Contact your EPSON dealer.
- When a line of dots is missing from your printouts, your printer has malfunctioned. See your printer manual.

### **The colors in your scanned image look different than the colors in the original document . . .**

- Run the EPSON Screen Calibration Utility.
- Experiment with the Unsharp Mask setting. Click the Destination button in the EPSON TWAIN Pro main window to display the Destination window, then select or deselect Unsharp Mask.
- Make sure the Image Type and Destination settings are correct.
- Try different combinations of gamma and color settings in your scanner software.

- If you’re using a transparency unit or automatic document feeder, make sure they’re closed when scanning.

### **Moiré (cross-hatch) patterns appear in the image when you perform halftone scanning . . .**

- Make the image size slightly smaller.
- Use a transparent sheet between the document and the image table to defocus the image.
- Reposition the document on the document table. Try positioning the document at a slight angle.
- Make sure Unsharp Mask is deselected in the Destination window.
- Select 24-bit Color De-screening as your Image Type, or select On for De-screening in the Image Type window.

### **The printed image is larger or smaller than the original . . .**

You can’t judge the size of the printed image by what you see on your screen. The image size settings in your scanner software determine the size of the printed image.

**You can't print scanned images, or the printed image looks garbled . . .**

- Make sure your printer is securely connected to your computer and that you're using the correct cable.
- Make sure the correct printer is selected in your printer software.

**OCR scanning produces poor character recognition . . .**

- Select OCR as both the Image Type and Destination.
- Select Text Enhancement Technology for the Black and White Option in the Image Type window.
- Adjust the Threshold setting in the Image Controls window.

**The image doesn't scan, or you can only scan a few dots . . .**

- Make sure the document is face down on the document table.
- If you're using an automatic document feeder, make sure the original document is inserted face up.
- If you've selected OCR as your Image Type, select None for the Black and White Option in the Image Type window. Then adjust the Threshold setting in the Image Controls window.

Or try changing the Image Type from OCR to Line Art, then adjust the Threshold setting.

**You're using a transparency unit, and the colors of your negative film preview look strange . . .**

- Make sure you've selected TPU for Neg. Film as your Document Source.
- The scanner perceives the film guide's frame as white, which alters the exposure of the scanning area and makes the preview appear darker. To see the correct colors, do a zoom preview on an area toward the center of an image.
- If you see light vertical lines on the scanned image, the TPU calibration area may contain dirt or dust. Clean the calibration area with a lint free cloth.

# Uninstalling the Expression 1640XL Software

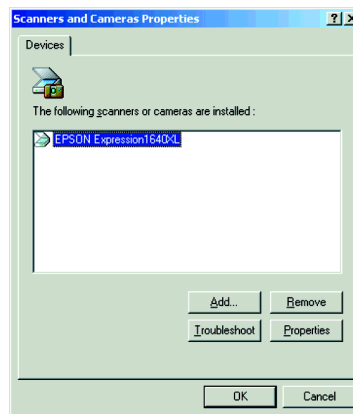
If you've tried every other solution and your system still doesn't recognize your scanner, try uninstalling and reinstalling the scanner driver software.

## *Uninstalling EPSON TWAIN Pro*

Follow the procedure for uninstalling EPSON TWAIN Pro on your system.

### *Windows 2000 and Windows 98*

1. Double-click the **Scanners and Cameras** icon in the Windows Control Panel.
2. On the **Devices** tab, select **EPSON Expression1640XL**.
3. Click the **Remove** button. Then click **OK** to close the window.
4. Restart your computer.



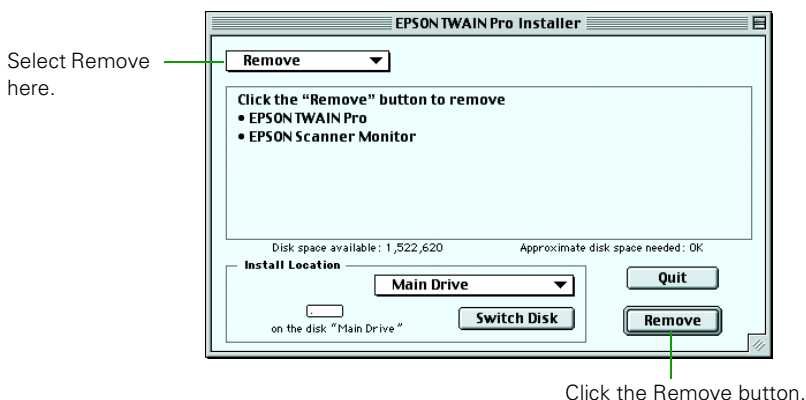
### *Windows 95 and Windows NT*

1. On the Start menu, click **Programs**, **EPSON Scanner**, **EPSON TWAIN Pro Uninstall**.
2. When you're finished, restart your computer.

## *Macintosh*

1. Insert the EPSON Expression 1640XL Scanning Tools CD-ROM in your drive.
2. Double-click the **EPSON TWAIN Pro** folder.

3. Double-click the EPSON TWAIN Pro Installer icon.
4. At the Installer window, select **Remove** at the top of the window, then click the **Remove** button.



5. When you're finished, restart your computer.

## ***Uninstalling EPSON TWAIN Pro Network***

Follow the procedure for uninstalling EPSON TWAIN Pro Network on your system.

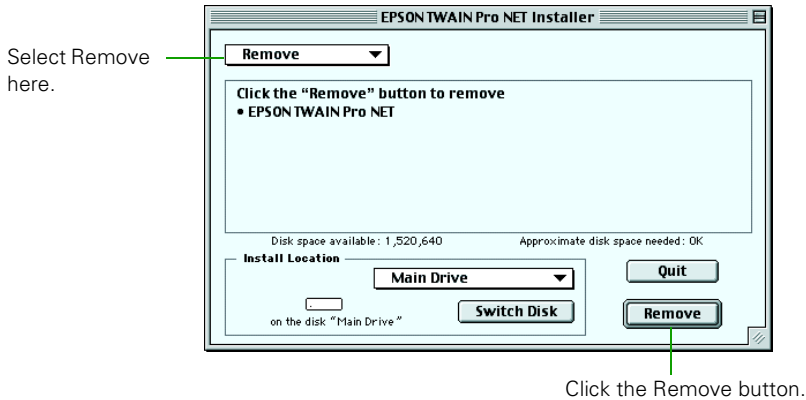
### ***Windows 95, Windows 98, Windows 2000 and Windows NT***

1. On the Start menu, click Programs, EPSON Network Scanner, EPSON TWAIN Pro Network Uninstall.
2. When you're finished, restart your computer.

### ***Macintosh***

1. Insert the EPSON Expression 1640XL Scanning Tools CD-ROM in your drive.
2. Double-click the EPSON TWAIN Pro Network folder.
3. Double-click the EPSON TWAIN Pro NET Installer icon.

4. At the Installer window, select **Remove** at the top of the window, then click the **Remove** button.



5. When you're finished, restart your computer.

## ***Uninstalling EPSON Scan Server***

1. To uninstall EPSON Scan Server on your Windows system, click **Start**, **Programs**, **EPSON Scan Server**, and select **EPSON Scan Server Uninstall**.
2. When you're finished, restart your computer.

# Where To Get Help

## ***EPSON Technical Support***

EPSON provides technical assistance 24 hours a day through the electronic support services and automated telephone services listed in the following table:

Service	Access
World Wide Web	From the Internet, you can reach EPSON Support at <b>http://www.epson.com</b> . At this site, you can download drivers and other files, look at documentation such as product brochures and user manuals, and access troubleshooting information.
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 E-MAIL Technical Support	To receive technical advice through e-mail, go to <b>http://www.epson.com</b> and complete the form under the troubleshooting tab, as requested.
Automated Telephone Services	A variety of automated help services are available 24 hours a day, seven days a week. To use these services, you must have a touch tone telephone and call <b>(800) 922-8911</b> .

To speak to a technical support representative, dial (562) 276-4382 (U.S.) or (905) 709-3839 (Canada), 6 AM to 6 PM, Pacific Time, Monday through Friday. Toll or long distance charges may apply.

Before you call, please have the following information ready:

- Product name (EPSON Expression 1640XL)
- Product serial number (located on the back of scanner)
- Proof of purchase (such as a store receipt) and date of purchase
- Computer configuration
- Description of the problem



You can purchase genuine EPSON supplies and accessories from the EPSON Store™ at (800) 873-7766 (U.S. sales only). In Canada, please call (800) 873-7766 for dealer referral. Or visit the EPSON Store at [www.epson.com](http://www.epson.com) (U.S. sales only).



If you need help using another manufacturer's software with an EPSON product, see the documentation for that software for technical support information.

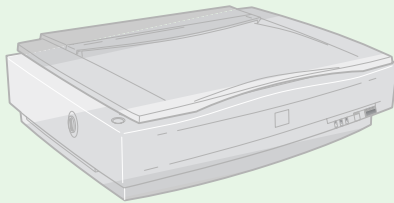
## ***Software Technical Support***

<b>Software</b>	<b>Telephone</b>	<b>Fax</b>	<b>Online and E-mail</b>
EPSON TWAIN Pro	(562) 276-4382 (800) 922-8911	(800) 922-8911 fax-on-demand system	<a href="http://www.epson.com">www.epson.com</a>
ScanSoft TextBridge Pro	(562) 276-4382 (800) 922-8911	(800) 922-8911 fax-on-demand system	<a href="http://www.epson.com">www.epson.com</a>
Adobe Photoshop LE	Macintosh: (900) 555-3300  Windows: (900) 555-2200  \$2.00 per minute		<a href="http://www.adobe.com/">www.adobe.com/</a>  <a href="mailto:techdocs@adobe.com">techdocs@adobe.com</a>
NewSoft Presto! PageManager	(510) 445-8616	(510) 445-8601	<a href="http://www.newsoftinc.com">www.newsoftinc.com</a>
MonacoEZcolor	(978) 749-9944	(978) 749-9977	<a href="http://www.monacosys.com">www.monacosys.com</a>



# Appendix A

## Specifications



This appendix includes general, electrical, environmental, and interface specifications. It also includes specifications for the transparency unit, automatic document feeder, and IEEE 1394 FireWire scanner interface card.

### Scanner

#### General

##### Scanner type

Flatbed, color

##### Photoelectric device

Color MatrixCCD line sensor

##### Effective pixels

19520 × 27520 pixels at 1600 dpi,  
100% scaling

##### Optical density

3.6 Dmax

##### Color depth

42-bit internal/42-bit external

##### Grayscale depth

14-bit internal/14-bit external

##### Maximum document size

12.2 × 17.2 inches (310 × 437 mm)  
A3 or Letter  
(The reading area can be specified from  
your software)

#### Output resolution

50 dpi - 9600 dpi  
50 to 4800 in 1 dpi increments  
7200 and 9600 dpi with zoom

#### Maximum hardware resolution\*

1600 dpi (main scan)  
3200 dpi with Micro Step Drive  
(sub scan)

\*The maximum hardware resolution of  
1600 × 3200 dpi is achieved using  
EPSON's Micro Step Drive technology

#### Maximum interpolated resolution

12800 × 12800 dpi

#### Speed (1600 dpi, draft mode)

Color: 9.2 msec/line (approx.)  
Grayscale: 3.1 msec/line (approx.)  
Line Art: 3.1 msec/line (approx.)

#### Color separation

RGB color filters on CCD

### Reading sequence

Monochrome: One-pass scanning

Color byte sequence: One-pass scanning (R, G, B)

Color line sequence: One-pass scanning (R, G, B)

### Zoom

50 to 200% in 1% increments

### Command level

ESC/I-B8

### Pixel depth

14 bits per pixel (12 bits per pixel input, 1 to 14 bits per pixel output)

### Brightness

7 levels

### Line art settings

Fixed threshold

TET (Text Enhancement Technology, enable/disable selectable)

### Digital halftoning

AAS (Auto Area Segmentation, enable/disable selectable)

3 halftoning modes (A, B, and C)

4 dither patterns (A, B, C, and D) for bi-level and quad-level data (2 downloadable dither patterns)

### Gamma correction

2 types for CRT display

3 types for printer

1 type user-defined

### Color correction

1 type for CRT display

3 types for printer (available in color byte sequence mode and color line sequence mode)

1 type user-defined

### Interfaces

SCSI 2 (micro DB 50-pin connectors)

USB (Type B receptacle connector)

Optional IEEE 1394 (FireWire)

### Light source

Xenon gas cold cathode fluorescent lamp

### Reliability

100,000 cycles of carriage movement (main unit MCBF)

### Dimensions

Width: 25.8 inches (656 mm)

Depth: 18 inches (458 mm)

Height: 6.9 inches (176 mm)

### Weight

Approximately 46.2 lb (21 kg)

### Electrical

#### Input voltage range

100 to 120 VAC: 90 to 132 VAC

220 to 240 VAC: 198 to 264 VAC

#### Rated frequency

50 to 60 Hz

### **Rated current**

100 to 120 VAC    1.2 A  
220 to 240 VAC:    0.7 A

### **Power consumption**

Operating:    Approximately 45 W  
                  Approximately 55 W  
                  with TPU or ADF unit  
Standby:      Approximately 12 W

### **Environmental**

#### **Temperature**

Operating:    41 to 95 °F (5 to  
                  35 °C)  
                  50 to 89 °F when  
                  using ADF (10 to  
                  32 °C)  
Standby:      -13 to 140 °F  
                  (-25 to 60 °C)

#### **Humidity (without condensation)**

Operating:    10 to 80%  
Standby:      10 to 85%

#### **Operating conditions**

Ordinary office or home conditions.  
Avoid dust, direct sunlight, and  
proximity to strong light sources.

### **Safety Approvals**

#### **120 V model**

Safety: UL 1950  
CSA C22.2 No. 950  
EMC FCC part 15 subpart B class B  
CSA C108.8 class B

#### **230 V model**

Safety:        EN 60950  
EMC:         EN 550022  
                  (CISPR Pub 22)  
                  class B  
                  AS/NZS 3548 class B

### **SCSI Interface**

#### **Interface type**

ANSI X3T9.2/375R Revision 10L  
(SCSI 2)

#### **Logic level**

TTL-compatible

#### **ID setting**

Selectable from 0 to 7

#### **Terminator**

Internal terminator (enable/disable  
selectable)

#### **Connector type**

Two micro DB 50-pin connectors

### **USB Interface**

#### **Interface type**

Universal Serial Bus Specification  
Revision 1.0

#### **Electrical standard**

Full speed mode (12Mb) of Universal  
Serial Bus Specification Revision 1.0

#### **Connector type**

One receptacle (Type B)

## Option (ADF/TPU) Interface Connector

### Interface type

For use with the optional automatic document feeder (B813212) and transparency unit (B813202)

### Output voltage

21.6 to 26.4 VDC  
4.75 to 5.25 VDC

### Output current

0.6 A (24 V)  
0.3 A (5 V)

## Initialization Methods

### SCSI interface

Hardware:	Initialized when the scanner is turned on or the scanner receives a SCSI Reset signal from the SCSI interface
Software:	Initialized when the software sends the Esc @ (initialize the scanner command), or the scanner receives a SCSI Bus Device message

### USB interface

Hardware:	Initialized when the scanner is turned on or the USB cable is unplugged from the USB port on the scanner
Software:	Initialized when the software sends the Esc @ command or the scanner receives a Bus Reset from the USB interface

## Transparency Unit (B813202)

### General

#### Reliability

MCBF 100,000 cycles

#### Readable area

11.4 × 16.5 inches (290 × 420 mm)

#### Dimensions

Width:	12.8 inches (324 mm)
Depth:	21.3 inches (540 mm)
Height:	3.6 inches (92 mm)

#### Weight

Approximately 11 lb (6 kg)

### Electrical

#### Input voltage

21.6 to 26.4 VDC  
4.7 to 5.25 VDC

#### Rated current

1.3A  
0.3 A

### Environmental

#### Temperature

Operating:	41 to 95 °F (5 to 35 °C)
Standby:	-14 to 140 °F (-20 to 60 °C)

#### Humidity (without condensation)

Operating:	10 to 80%
Standby:	10 to 85%

## Automatic Document Feeder (B813212)

### General

#### Paper input/output

Load face-up; eject face-down

#### Paper quantity

100 pages (55 g/m<sup>2</sup> paper, maximum total thickness under 0.48 inches [12 mm])

#### Reliability

100,000 sheets (load/eject MCBF)

#### Dimensions

Width: 23.8 inches (606 mm)

Depth: 19.2 inches (488 mm)

Height: 5.3 inches (134 mm)

#### Weight

Approximately 28.7 lb (13kg)

### Electrical

#### Input voltage

22.8 to 25.2 VDC

4.75 to 5.25 VDC

#### Input current

24 V: 1.3 A

5 V: 0.3 A

### Environmental

#### Temperature

Operating: 50 to 89 °F (10 to 32 °C)

Standby: -4 to 140 °F (-20 to 60 °C)

#### Humidity (without condensation)

Operating: 20 to 80%

Standby: 95% or less

## IEEE 1394 FireWire Scanner Interface Card (B808342)

### General

#### Interface type

IEEE 1394-1995 compatible

#### Data transfer method

Half-duplex Data/Strobe differential serial

#### Synchronization method

Clock synchronization with DS-Link

#### Encoding/decoding

DS-Link

#### Logic level

3.3 V

#### Compatible connectors

IEEE 1394-1995 compatible

#### Power class

Power class code 100

No power supply from external sources

Fitted with a repeat function with bus power

### Environmental

#### Temperature

Operating: 41 to 95 °F (5 to 35 °C)

Standby: -13 to 140 °F (-25 to 60 °C)

#### Humidity (without condensation)

Operating: 10 to 80%

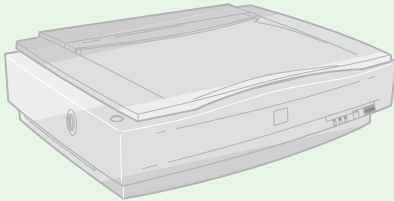
Standby: 10 to 85%





# Appendix B

## Installing the TCP/IP Protocol



To use your EPSON Expression 1640XL as a network scanner, your client computers and scanner server must have a network interface card, a network interface card driver, and the TCP/IP protocol installed. In addition, both the client computers and the scanner server must have an IP address assigned.

If you have a newer Macintosh, the TCP/IP protocol was preinstalled on your computer. Just make sure that TCP/IP is enabled in your Extensions Manager. Your computer has already been assigned an IP address if you are running a DHCP server, so no further setup is necessary. Obtain an IP address from your network administrator if you want to enter an address manually.

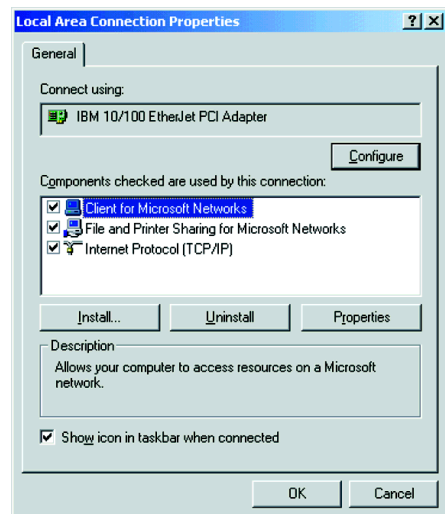
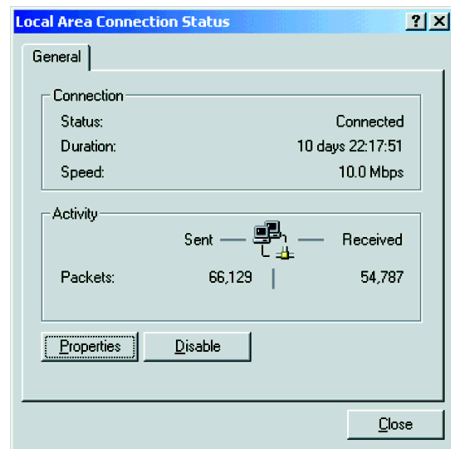


If you're running DHCP and WINS (Macintosh or Windows), or if you have a DNS server (Windows only), you may find it easier to use a host name rather than an IP address to identify the scanner server. To specify a host name, you must enable DNS. See your Windows or Macintosh documentation for instructions.

# Installing the TCP/IP Protocol on Windows 2000

When running Windows 2000, your TCP/IP protocol should automatically be set correctly for the station it is installed if you are not running a DHCP server. To check the protocol, follow these steps.

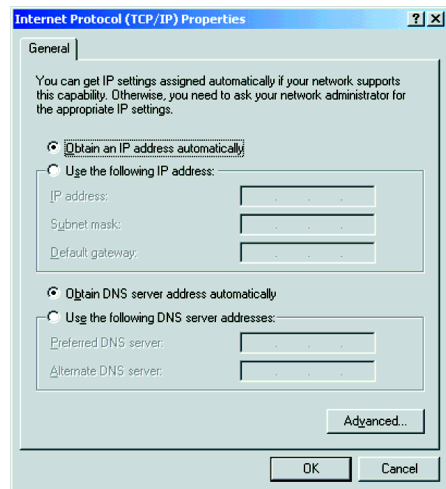
1. Double-click the **Network & Dial Up Connections** icon in the Control Panel. Then, double-click the **Local Area Connection** icon to display the screen to the right.
2. Click the **Properties** button to display the Local Area Properties screen.
3. Double-click **Internet Protocol (TCP/IP)** to display the Internet Protocol Properties screen.



4. Make sure that **Obtain an IP address automatically** is selected and click **OK**.

If you need to manually assign an IP address, contact your Network Administrator.

5. Click **OK** to close the Local Area Connection Properties screen.
6. Click **Close** to close the Local Area Connection screen.

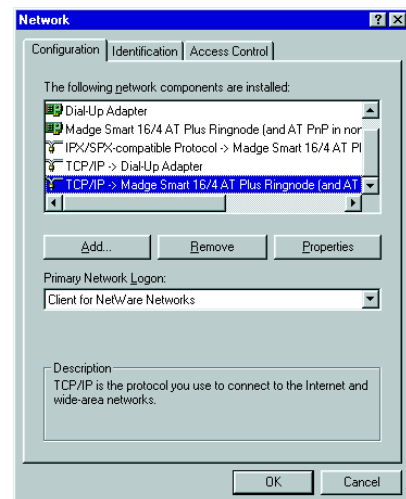


## Installing the TCP/IP Protocol on Windows 95 and Windows 98

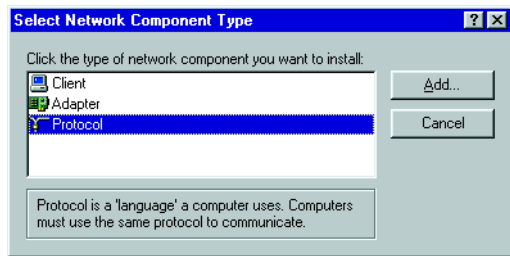
1. Double-click the **Network** icon in the Control Panel. If necessary, click the **Configuration** tab to display the window on the right.
2. Check that **TCP/IP** appears in the list of installed network components.

If it appears in the list, go to “Assigning an IP Address for Windows 95 and Windows 98 (First Release)” on page 156.

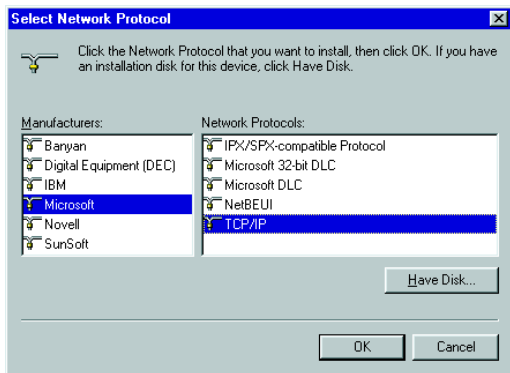
If you don't see **TCP/IP** in the list, continue with the next step.



3. Click the **Add** button. You see the screen to the right.



4. Select **Protocol** from the list and click the **Add** button. The screen to the right appears.
5. Select **Microsoft** from the Manufacturers list, and **TCP/IP** from the Network Protocols list. Then click **OK**.
6. Continue with the instructions below to assign an IP address.



## ***Assigning an IP Address for Windows 95 and Windows 98 (First Release)***

If your network is connected to the Internet, ask your Internet provider or IS department for a formal IP address.

If your network is not connected to the Internet, you can use an IP address in the following ranges: 10.0.0.0 to 10.255.255.255, 172.16.0.0 to 172.31.255.255, or 192.168.0.0 to 192.168.255.255. Use a different IP address for every computer on your network.



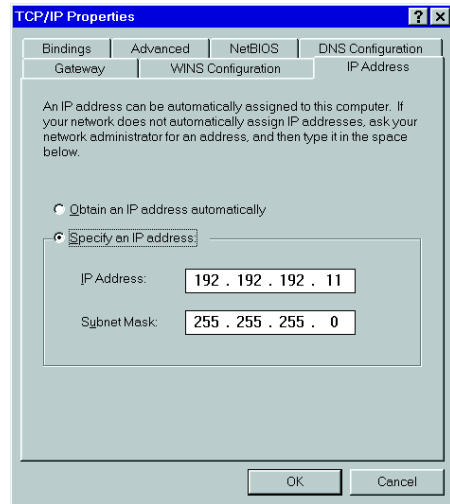
If you use IP addresses in the ranges listed above, you may need to change them before you connect the network to the Internet. Check with your network administrator.

Windows 98 (Second Edition) automatically assigns an IP address to itself (for the station it is installed on) if you are not connected to a DHCP server.

If your network uses a DHCP server, you don't need to obtain an IP address before beginning this procedure—the server finds one for you.

When you have your IP address, follow the steps below to assign it to your computer.

1. Select **TCP/IP** on the list of installed network components on the Configuration tab, and then click the **Properties** button. If necessary, click the **IP Address** tab.
2. Click **Specify an IP address**, and then enter the IP address and subnet mask.



If you're using a DHCP server on your network, you can assign an IP address automatically by selecting **Obtain an IP address automatically** and clicking **OK**.

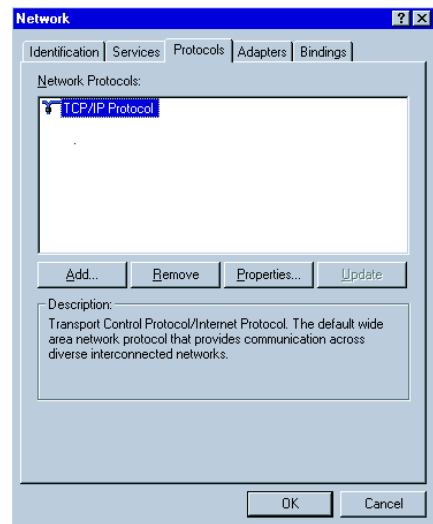
3. Click **OK** to close the TCP/IP Properties window, then click **OK** again to close the Network window and have your IP address assignment take effect. Make sure you share the IP address for the scanner server with client computers.

# Installing the TCP/IP Protocol on Windows NT 4.0

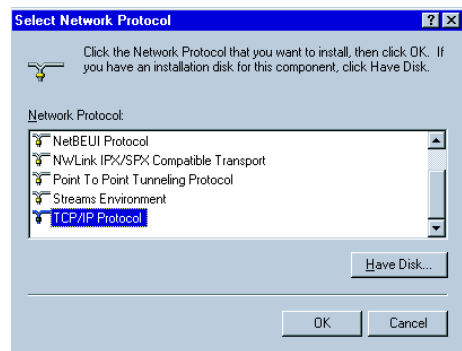
1. Double-click the **Network** icon in the Control Panel. If necessary, click the **Protocols** tab.
2. Check that **TCP/IP Protocol** appears in the list of network protocols.

If it appears in the list, go to “Assigning an IP Address on Windows NT 4.0” on page 159.

If you don’t see **TCP/IP Protocol** in the list, continue with the next step.



3. Click the **Add** button. You see the screen to the right.
4. Select **TCP/IP Protocol** and click **OK**.
5. Continue with the instructions below to assign an IP address.



## Assigning an IP Address on Windows NT 4.0

If your network is connected to the Internet, ask your Internet provider or IS department for a formal IP address.

If your network is not connected to the Internet, you can use an IP address in the following ranges: 10.0.0.0 to 10.255.255.255, 172.16.0.0 to 172.31.255.255, or 192.168.0.0 to 192.168.255.255. Make sure you use a different IP address for every computer on your network. If you are running a mixed Windows 95, Windows 98, and Windows NT environment, you can use an IP address in the range of 169.254.XXX.XXX.



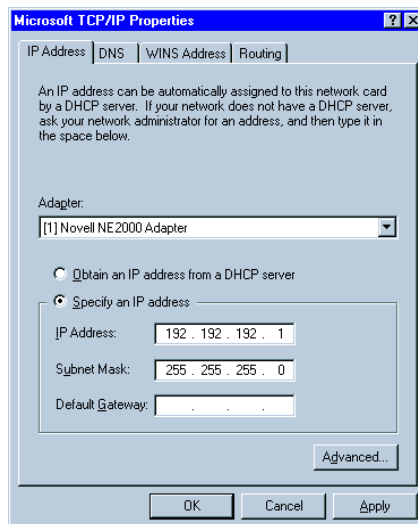
If you use IP addresses in the ranges listed above, you may need to change them before you connect the network to the Internet. Check with your network administrator.

If your network uses a DHCP server, you don't need to obtain an IP address before beginning this procedure—the server finds one for you.

Follow the steps below to assign the IP address to your computer:

1. Select **TCP/IP Protocol** in the Network Protocols list on the Protocols tab, and then click the **Properties** button.
2. Click the **IP Address** tab to display the screen to the right.
3. Click **Specify an IP address**, and then enter your IP address and subnet mask. Click **OK**. (If you're using a DHCP server on your network, you can assign an IP address automatically by selecting **Obtain an IP address from a DHCP server** and clicking **OK**.)
4. Click **OK** again to close the Network window and have your IP address assignment take effect.

Make sure you share the IP address for the scanner server with all client computers on the network.

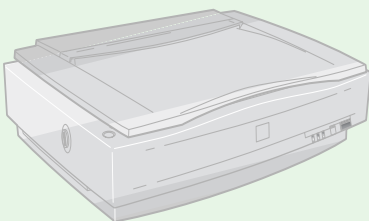






# Appendix C

## Notices



This chapter includes system requirements, safety instructions, your Epson America Limited Warranty, and other important information about your EPSON Expression 1640XL.

## System Requirements

The minimum system requirements for Windows and Macintosh are listed below. For optimum performance, a faster processor and more memory are recommended. If you're scanning high resolution images, you need more than the minimum available hard disk space.



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

## Windows

- An IBM-compatible PC with a Pentium® processor
- Microsoft Windows 95, Windows 98, Windows 2000 or Windows NT 4.0 (Service Pack 3 or higher)
- SCSI or USB (Windows 98 and Windows 2000 only) port
- FireWire IEEE 1394: preinstalled Windows 2000 and an OHCI compatible port or card
- 32MB RAM (64MB RAM recommended for all systems)
- 50MB available hard disk space

- CD-ROM drive
- VGA color monitor with  $640 \times 480$  resolution (a color monitor with a resolution of  $800 \times 600$  or higher recommended)
- 8-bit 256-color display adapter card (24-bit display adapter card with millions of colors recommended)

## Macintosh

- USB: Macintosh OS 8.5 or later



Check the Apple web site for any updates for your operating system.

- SCSI: Macintosh OS 8.0 or later
- FireWire: Macintosh OS 8.6 with FireWire Update 2.1
- An Apple® Power Macintosh® or higher system
- Macintosh standard (built-in) SCSI or compatible PCI SCSI/SCSI 2 card, or USB interface; for IEEE 1394 FireWire connections, either a built-in IEEE 1394 FireWire port or an IEEE 1394 FireWire PCI card
- 32MB RAM (64MB RAM recommended)
- 50MB available hard disk space
- CD-ROM drive
- VGA color monitor with  $640 \times 480$  screen resolution (a color monitor with a resolution of  $800 \times 600$  or higher recommended)
- 8-bit 256-color display adapter card (24-bit display adapter card with millions of colors recommended)

EPSON TWAIN Pro supports the Apple ColorSync™ 2.0 color management system and QuickTime™. These extensions are automatically installed during the EPSON TWAIN Pro installation.

## Important Safety Instructions

Read all of these instructions and save them for later reference. Follow all warnings and instructions marked on the scanner.

- Unplug the scanner before cleaning. Clean with a damp cloth only. Do not spill liquid on the scanner.
- Do not place the scanner on an unstable surface or near a radiator or heat source.
- Do not block or cover the openings in the scanner's cabinet. Do not insert objects through the slots.
- Use only the type of power source indicated on the scanner's label.
- Connect all equipment to properly grounded power outlets. Avoid using outlets on the same circuit as photocopiers or air control systems that regularly switch on and off.
- Do not let the power cord become damaged or frayed.
- If you use an extension cord with the scanner, make sure the total ampere rating of the devices plugged into the extension cord does not exceed the cord's ampere rating. Also, make sure the total ampere rating of all devices plugged into the wall outlet does not exceed the wall outlet's ampere rating.
- Do not attempt to service the scanner yourself.
- Unplug the scanner and refer servicing to qualified service personnel under the following conditions: if the power cord or plug is damaged; if liquid has entered the scanner; if the scanner has been dropped or the cabinet damaged; if the scanner does not operate normally or exhibits a distinct change in performance. Do not adjust controls that are not covered by the operating instructions.

## ENERGY STAR Compliance

As an ENERGY STAR Partner, EPSON has determined that this product meets the ENERGY STAR guidelines for energy efficiency.



The EPA ENERGY STAR Office Equipment Program is a voluntary partnership with the computer and office equipment industry to promote the introduction of energy-efficient personal computers, monitors, printers, fax machines, copiers, and scanners, in an effort to reduce air pollution caused by power generation.

## Declaration of Conformity

According to 47CFR, Part 2 and 15 for Class B Personal Computers and Peripherals; and/or CPU Boards and Power Supplies used with Class B Personal Computers:

We: EPSON AMERICA, INC.

Located at: MS 6-43  
3840 Kilroy Airport Way  
Long Beach, CA 90806-2469  
Telephone: (562) 290-5254

Declare under sole responsibility that the product identified herein, complies with 47CFR Part 2 and 15 of the FCC rules as a Class B digital device. Each product marketed, is identical to the representative unit tested and found to be compliant with the standards. Records maintained continue to reflect the equipment being produced can be expected to be within the variation accepted, due to quantity production and testing on a statistical basis as required by 47CFR §2.909. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Trade Name: EPSON

Type of Product: Image Scanner

Model: G650C

Product: EPSON Expression 1640XL

# FCC Compliance Statement

## *For United States Users*

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

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

## *Warning*

The connection of a non-shielded equipment interface cable to this equipment will invalidate the FCC Certification of this device and may cause interference levels which exceed the limits established by the FCC for this equipment. It is the responsibility of the user to obtain and use a shielded equipment interface cable with this device. If this equipment has more than one interface connector, do not leave cables connected to unused interfaces. Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

## *For Canadian Users*

This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

Cet appareil numérique de la classe B respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

## EPSON AMERICA, INC.

### LIMITED WARRANTY

*What Is Covered:* Epson America, Inc. ("EPSON") warrants to the first end user customer of the EPSON product enclosed with this limited warranty statement, that the product if purchased and used in the United States or Canada, conforms to the manufacturer's specifications and will be free from defects in workmanship and materials for a period of one year from the date of original purchase. EPSON warrants that the EPSON product is manufactured from new components and parts, or in the case of a refurbished unit, may contain refurbished parts that meet the EPSON standard of quality.

*What EPSON Will Do To Correct Problems:* Should your EPSON product prove defective during the warranty period, please bring the product securely packaged in its original container or an equivalent, along with proof of the date of original purchase, to your EPSON Dealer or EPSON Customer Care Center. You are responsible for all costs (shipping, insurance, travel time) in getting the product to the service location. EPSON will, at its option, repair or replace on an exchange basis the defective unit, without charge for parts or labor. The replacement unit may be new or refurbished to the Epson standard of quality, and at Epson's option, the replacement may be another model of like kind and quality. Epson's liability for replacement of the covered product will not exceed the original retail selling price of the covered product. Exchange or replacement products or parts assume the remaining warranty period of the product covered by this limited warranty.

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