

**EPSON**

# **Scanner Utility for Epson TWAIN**

## **User's Guide**

# Scanner Utility for Epson TWAIN

## User's Guide



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## IMPORTANT

- ❑ For SCSI interface users: if you are using other SCSI devices besides the scanner, see page 2-6 and 2-7 in the TWAIN manual and also see the SCSI information in the README file on the disk.
- ❑ The colors in scan previews are not accurate if your computer supports 256 or fewer colors. This does not affect the final scan. For optimum viewing choose True Color as the SCAN MODE on the Scanner Control screen. For the best scanning and viewing, Epson recommends using a True Color (24-bit) video board.
- ❑ Both the horizontal and vertical dimensions of the largest scan possible are reduced by 1/2 inch in the current version of the Epson TWAIN.
- ❑ Picture Publisher must be set up the first time you use it. Use the SETUP command in the FILE pull-down menu. Select ACQUIRE DEVICE and then select EPSON SCANNERS. To scan a document, use the ACQUIRE command also located in the FILE pull-down menu. Do not use the SCAN command in the FILE pull-down menu because it does not use Epson TWAIN and it may lock up your system.
- ❑ The current version of Picture Publisher (version 3.1) produces a reversed or negative image when you use the black & white line art setting within the SCAN MODE. Correct this within Picture Publisher by selecting the INVERT command from within the EFFECTS pull-down menu. This problem will be corrected in later releases of Picture Publisher.
- ❑ The current version of Epson TWAIN does not support all OS/2 version 2.0 applications.

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## **Introduction**

TWAIN is an open industry interface that allows you to acquire image data from a variety of external sources without leaving the application you are currently using. For instance, suppose you are using Picture Published and want to include a scanned photograph. Without leaving Picture Publisher, you can use TWAIN to scan the image and place it in your document.

Epson TWAIN is a set of drivers designed to take advantage of your Epson scanner's advanced features with any software application that supports TWAIN, providing you with a sophisticated, high-speed scanning solution.

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## **What is on Your Epson Scanner Utility Diskette**

Your Epson TWAIN package contains a single diskette, the Epson Scanner Utility Diskette. This diskette provides scanner support, including Epson TWAIN, for devices using either the bi-directional parallel interface or the Adapte<sup>®</sup> AHA- SCSI host adapter, referred to here as the Adaptec SCSI adapter.

This diskette contains the following:

- SETUP program for Microsoft<sup>®</sup> Windows 3.0 or 3.1
- Epson TWAIN
- Epson Scanner DOS Device Driver for MS-DOS<sup>®</sup>
- INSTALL program
- SCANTEST
- README file.



If you are using Windows 3.0 or 3.1 with applications that support TWAIN, the Epson Scanner Utility Setup program for Windows installs everything you need. Just follow the instructions in Chapter 3 for installing Epson TWAIN.

If you do not have Windows, you can still install the Epson Scanner Utility to support the bidirectional parallel or Adaptec SCSI adapters using the INSTALL program from the DOS prompt. Read the README file supplied on the Epson Scanner Utility diskette for more information about installing the Epson Scanner Utility from DOS

### **Note**

If you are using the Adaptec SCSI adapter, you also received an Adaptec ASPI DOS Manager diskette. You will need this diskette to install SCSI support for either Epson TWAIN or the Epson Scanner Utility for DOS.

---

## **What You Need to Use Epson TWAIN**

Epson TWAIN supports any TWAIN-compliant application using Windows 3.0 or higher. Before you can use Epson TWAIN, you'll need the components described here.

### **Computer**

Your computer needs the following configuration to support Epson TWAIN:

- 80286,80386, or 80486 based computer with an IBM® AT (ISA) bus, or an IBM PS/2 or compatible computer
- At least 1MB of RAM
- MS-DOS version 3.3 or higher
- Microsoft Windows version 3.0 or higher

- ❑ At least a 40MB hard disk with 150KB available space, although you'll want as much space as possible to store your scanned images
- ❑ TWAIN-compliant software; check with your software publisher to see if your application supports TWAIN.

## **Scanner**

Epson TWAIN supports the following Epson scanners:

- ❑ ES-800C
- ❑ ES-600C
- ❑ ES-300C.

## **Interface**

Epson TWAIN supports the following interface options:

- ❑ Epson bidirectional parallel interface (B808011) for IBM AT or compatible computers (ISA bus)
- ❑ Adaptec AHA-1510 SCSI host adapter
- ❑ PS/2 built-in bidirectional parallel interface.

---

## How to Use This Manual

This *User's Guide* contains information you need to install and use Epson TWAIN with your Epson scanner and your applications that support the open industry TWAIN interface.

Chapter 1 explains how to install either your bidirectional parallel interface or SCSI adapter card.

Chapter 2 provides procedures for installing Epson TWAIN on your computer and testing the connection between your scanner and computer.

Chapter 3 describes how to use Epson TWAIN.

Chapter 4 contains troubleshooting tips.

At the end of this guide, you'll find a glossary and an index.

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## Warnings, Cautions, and Notes



### **Warnings**

*must be followed carefully to avoid damage to your scanner and computer.*



### **Cautions**

*should be followed carefully to ensure correct operation.*

### Notes

contain important information and useful tips on the operation of your scanner.

---

## **Where to Get Help**

Epson America provides local customer support and service through a nationwide network of authorized Epson dealers and Service Centers.

Epson also provides the following support services through the Epson Consumer Resource Center at (800) 922-8911:

- ❑ Assistance in locating your nearest Authorized Epson Reseller or Service Center
- ❑ Technical assistance with the installation, configuration, and operation of Epson products
- ❑ Epson technical information library fax service-also available by calling the toll number (310) 782-4214 directly
- ❑ Product literature with technical specifications on current and new products
- ❑ Sales of ribbons, supplies, parts, documentation, and accessories for your Epson product
- ❑ Customer Relations
- ❑ User group locations.

## *Chapter 1*

---

# ***Installing the Interface Card***

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You can install one of two different interface cards to connect your Epson scanner to your computer:

- ❑ Epson bidirectional parallel adapter (**B808011**), or
- 3 Adaptec AHA-1510 AT-to-SCSI host adapter.

**Note**

Epson TWAIN supports the built-in bidirectional parallel interface on the IBM PS/2. If you have a PS/2, you don't need to install an additional interface card. Turn to Chapter 2 for instructions on installing Epson TWAIN. You must install either the bidirectional parallel interface or the Adaptec SCSI adapter for all other computers.

Procedures for installing the bidirectional parallel or the Adaptec SCSI adapter cards differ slightly. You may want to refer to your computer's documentation for more complete instructions on installing option cards.

This chapter contains the following sections. The checkmarks indicate which sections apply to installing a bidirectional parallel adapter, an Adaptec SCSI adapter, or both.

Section	Parallel	Adaptec SCSI
Removing the cover	✓	✓
Checking the jumper settings	✓	
Installing the card	✓	✓
Connecting the cable Bi-directional SCSI	✓	✓
Checking your SCSI device ID		✓

---

## Removing the Cover

Follow these steps to remove your computer's cover:

1. Turn off the computer and any peripheral devices.
2. Disconnect the computer's power cable from the electrical outlet and from the back panel. Also disconnect any cables that are connected to the computer, including the keyboard cable.
3. Remove the cover. (If you need instructions, see your computer manual.)
4. Before you touch any of the components, touch an unpainted metal surface inside the computer's case to ground yourself and avoid an electric shock.



### **Warning**

*Be sure to ground yourself to an unpainted metal surface in the computer every time you remove the cover. If you are not properly grounded, you could generate an electric shock which could damage a component.*

If you are installing an Adaptec SCSI adapter card, skip the section on checking jumper setting.

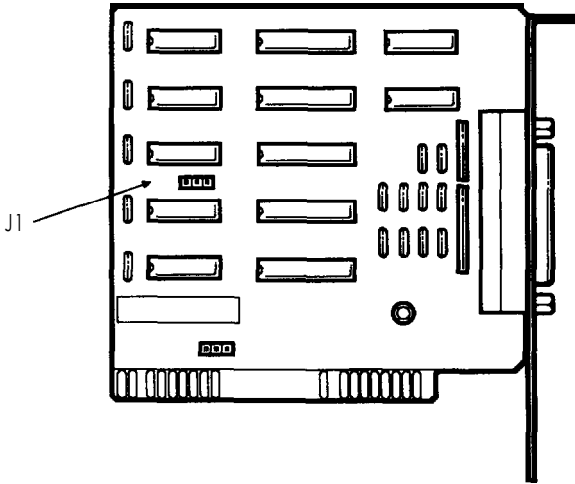
---

## Checking the Jumper Setting

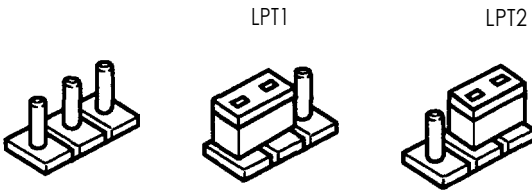
One of the jumpers on your Epson bidirectional parallel adapter card identifies the port address for your bidirectional parallel port. Follow these steps to unpack the option card and check the jumper setting:

1. Unpack the option card. When you handle it, be careful not to touch any of the components on the circuit board or the gold-edged connector.

2. Locate jumper J1 on the card. (Ignore the J2 jumper.)



A jumper's setting is determined by where the jumper is placed on the pins. It connects either the left pin and the middle pin or the right pin and the middle pin, as shown below.





Refer to the table below to see which setting is appropriate for your system.

### **J1 Jumper settings**

<b>Position</b>	<b>Function</b>
LPT2*	Identifies the port address as LPT2
LPT1	Identifies the port address as LPT1

Factory setting

Most people use LPT1 to connect a printer, so you probably want to leave the jumper at the factory setting so that it supports the LPT2 address for your scanner.

#### *Note*

*The TWAIN installation program requires that you identify your J1 jumper setting on the Epson bidirectional parallel adapter card as part of the installation process. Make sure you note the jumper setting before you install the card.*

3. If necessary, move the jumper from one position to the other, using needle-nose pliers or tweezers to pull it off its pins and gently move it to the desired position.



#### **Caution**

*Be careful not to bend the jumper pins or damage any surrounding components on the card.*

4. Place the interface card gently on top of its original packing material with the component side facing up. Keep **the** packing materials in case you remove **the** card later.

---

## ***installing the Card***

Your computer has several standard option slots that can accommodate either the Adaptec SCSI or the bidirectional parallel adapter card. You can install the interface card in any available slot. See your computer manual for detailed installation instructions or follow these general steps:

1. Remove any retaining screws from the metal option slot cover and remove the slot cover. Keep the screw(s) to secure the option card to the computer. Store the slot cover in a safe place in case you remove the interface card later.
2. Grip the interface card firmly by the top corners and make sure the connector points down.
3. Insert the card into the slot, guiding it straight down. Once the connector reaches the slot, push the card down firmly (but carefully) to insert it fully. You should feel the card fit into place.
4. Secure the end of the card to the back of the computer with the retaining screw(s).

---

## ***Replacing the Cover***

Follow these steps to replace your computer's cover:

1. Replace the cover. (If you need instructions, see your computer manual.)
2. Reconnect the computer's power cable to the back panel and then to an electrical outlet. Also reconnect any cables you disconnected, including the keyboard cable.

---

## **Connecting the Cable**

These procedures describe connecting the bidirectional parallel adapter cable, then the SCSI adapter cable.

### **Connecting the Bi-directional Parallel Cable**

Follow these steps to connect the cable to your bidirectional adapter card. This cable came in your Epson Scanner Interface kit.

1. Make sure both the scanner and computer are turned off.
2. Connect the 25-pin end of the cable to the computer, then tighten the screws on the sides of the connector.
3. Connect the 36-pin end of the cable to the scanner; then fasten the connector with the clamps on the sides of the connector.
4. Turn on your computer and scanner.

You are now ready to install Epson TWAIN.

### **Connecting the SCSI Cable**

The SCSI interface on your computer allows you to connect up to eight devices, including the computer, in a daisy-chain arrangement. Only the first SCSI device is connected to the computer; each of the other devices is connected to the previous device.

1. Make sure both the scanner and computer are turned off.
2. If the Epson scanner is your only SCSI device, attach the 50-pin connectors to the scanner and your computer. Fasten the connectors with the clamps on the sides of the connector.

You must also set the terminator switch to on or install an external terminator on one of the two SCSI connectors on your scanner if the scanner is the last device in the chain. See your scanner documentation for more information on terminators.

If you have additional SCSI devices, make sure only the last device in the daisy chain is terminated. Use cables with 50-pin connectors at both ends, then fasten the connectors to the scanner and the next device with the clamps on the sides of the connector.

3. With a SCSI adapter, always turn on the scanner first; then start the computer.



**Warning**

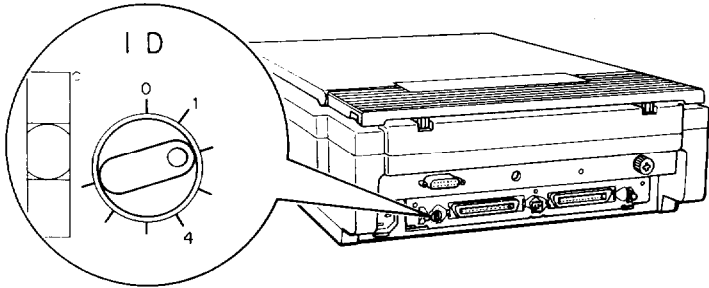
*Do not connect a parallel and a SCSI interface cable to the scanner at the same time. Always use shielded cables.*

---

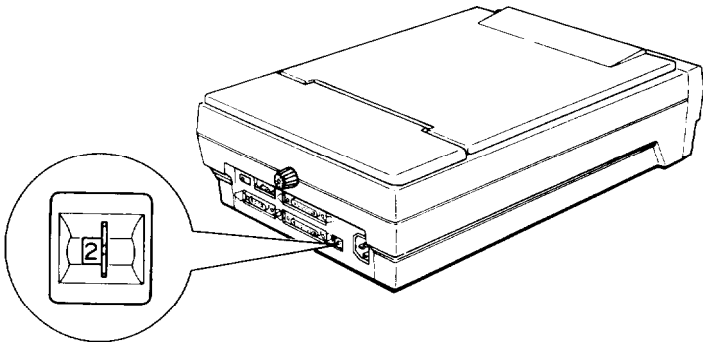
## Checking Your SCSI Device Settings

The factory-set SCSI ID of the scanner is 2. The SCSI host adapter in the computer is normally preset to ID number 7. If you are going to add the scanner to a system in which one of your SCSI devices already has a SCSI ID of 2, change the ID number of the scanner to an unused number as described next:

1. Locate the SCSI ID switch next to the SCSI connectors on the rear panel of the scanner.



ES600C



ES-800C

2. Set the switch to the desired number.



**Caution**

*Do not set the SCSI ID to 8 or 9, and do not set the ID number to an ID already assigned to another device. The computer, scanner, and other devices will not function properly.*

You are now ready to install Epson TWAIN.

## Chapter 2

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# **Installing Epson TWAIN**

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The Epson Scanner Utility Setup program collects information about your system and installs everything you need to use Epson TWAIN with TWAIN-compliant applications, including:

- Epson TWAIN
- Epson Scanner DOS Device Driver.

If you are using an Adaptec SCSI adapter, the Setup program also prompts you to insert the Adaptec ASPI DOS Manager diskette and installs the SCSI support software from that diskette.

If you change interfaces, for instance, from an Adaptec SCSI to a bi-directional parallel interface, you need to run the Setup program again.

---

## ***Starting the Epson TWA/N Setup Program***

Follow **these** steps to start the Epson TWAIN Setup program using Windows:

1. If you are not already in Windows, start Windows.
2. Insert the Epson Scanner Utility diskette in your diskette drive.
3. From the File menu in the Program Manager or File Manager, select **Run**. The Run dialog box appears.
4. Type the letter of the drive containing the diskette, followed by **SETUP**. For example:

**A:SETUP**

5. Select **OK** or press **Enter**. The screen displays this message:

Initializing Epson TWAIN Setup . . .

You see **the** Epson Scanner Utility Setup welcome screen.

If you decide to stop installing Epson TWAIN at any point, select **Exit**. The Setup program prompts you to verify leaving the Setup program.

Also, on some screens, **when you** select **Back**, Setup displays a previous screen.

For more information about any of **the** options available on a screen, select **Help**.

The screen sequence varies depending on which adapter you are using. This section describes using Setup for either the PS/2 or Epson bi-directional interface first, and then for the Adaptec SCSI adapter.

---

## ***Installing Epson TWAIN for Bi-directional Support***

Setup screens for the bidirectional parallel adapter include:

- Welcome screen
- Installation Options
- Interface Options
- Parallel Interface Options
- Enter MS-DOS Path
- Enter Windows Path.

Follow these steps to install Epson TWAIN for bi-directional parallel adapter support:

1. From the Setup welcome screen, select **Continue**. You see the Installation Options screen.



2. Select your preferred option:

**Make changes to CONFIG.SYS  
Write changes to file - CONFIG.ADD**

If you select the first option, Setup copies your existing CONFIG.SYS file to CONFIG.BAK before it modifies the file.

If you select the second option, Setup copies the changes to a file called CONFIG.ADD. You can refer to this file later to modify your CONFIG.SYS file.

3. Select **Continue**. You see the Interface Options screen.
4. Select the bidirectional parallel option:

**Bi-directional Parallel Adapter Support**

5. Select **Continue**. You see the Parallel Interface Options screen.
6. Refer to the table below to select one of the options.

**Epson Adapter J1-LPT1: - Address 03F8h  
Epson Adapter J1-LPT2: - Address 02F8h  
Most PS/2 Models - Address 038Ch**

Select	If
J1-LPT1	The jumper on your bidirectional card is set to LPT1 and you want to use LPT1 as your scanner port
J1-LPT2	The jumper on your bi-directional card is set to LPT2 (factory default) and you want to use LPT2 as your scanner port
PS/2	You are using the built-in bi-directional port on an IBM PS/2

\*default option

7. Select **Continue**. You see the Enter MS-DOS Path screen.
8. If your path for your start-up files is different from the displayed default, type the correct path, such as:

**C:\**

9. Select **Continue**. You see the Enter Windows Path screen.
10. If your path is different from the displayed default, type the correct path for Windows, such as:

**C:\WINDOWS\**

11. Select **Continue**. As Setup installs Epson TWAIN, it displays what percent of the installation is complete. Then it displays:

**Setup** Successful!

12. If you chose to change your CONFIG.SYS file yourself, make the changes now, using the information in the CONFIG.ADD file.
13. Reboot your computer.

---

## ***Installing Epson TWAIN for Adaptec SCSI Support***

Setup screens for Adaptec SCSI adapter support include:

- Welcome screen
- Installation Options
- Interface Options
- SCSI Interface Options

- Enter Scanner SCSI ID
- Enter MS-DOS Path
- Enter Windows Path
- Enter ASPI Path.

Follow these steps to install Epson TWAIN for Adaptec SCSI adapter support:

1. From the welcome screen, select **Continue**. The Installation Options screen appears.
2. Select your preferred option:

**Make changes to CONFIG.SYS**  
Write **changes to file** - CONFIG.ADD

If you select the first option, Setup copies your existing CONFIG.SYS file to CONFIG.BAK before it modifies the file.

If you select the second option, Setup copies changes to a file called CONFIG.ADD. You can refer to this file later to modify your CONFIG.SYS file.

3. Select **Continue**. You see the Interface Options screen.
4. Select the SCSI support option:

**ASPI Manager SCSI Support**

5. Select **Continue**. You see the SCSI Interface Options screen.

**Epson SCSI Support Software**  
**Use Existing SCSI Support Software**

If you are installing your first Adaptec SCSI adapter, select the first option.

If you already have an Adaptec SCSI device, select the second option to use your existing SCSI support software.

6. Select **Continue**. You see the Enter Scanner SCSI ID screen.
7. Check the back of the scanner for the Scanner SCSI ID number. If it is not 2, type the new value in the Scanner SCSI ID field.
8. Select **Continue**. You see the Enter MS-DOS Path screen.
9. If your path for your start-up files is different from the displayed default, type the correct path, such as:

c:\

10. Select **Continue**. You see the Enter Windows Path screen.
11. If your path is different from the displayed default, type the correct path for Windows, such as:

C:\WINDOWS\

12. Select **Continue**. The Setup program displays the Enter ASPI Path screen with this path:

Path A:\

13. Change the path for the ASPI diskette, if necessary.
14. Insert the Adaptec ASPI DOS Manager diskette in your diskette drive.
15. Select **Continue**. After installing the ASPI files, the Setup program prompts you to insert the Epson TWAIN diskette in your diskette drive.

16. Insert the Epson Scanner Utility diskette in your diskette drive. As Setup installs Epson TWAIN, it displays **what** percent of **the** installation is complete. Then it displays:

**Setup Successful!**

17. If you chose to change your CONFIG.SYS file yourself, make the changes now, using the information in the CONFIG.ADD file.
18. Reboot your computer.

---

## **Running SCAN TEST**

SCANTEST is a utility that bypasses any other software program to test just the physical connection to the scanner. You can run SCANTEST from within Windows or at the DOS prompt.

1. Make sure both your scanner and your printer are turned **on**.
2. **Place an image on the scanner.**
3. To start SCANTEST from the Run option on **the** Program Manager's File menu, type **the** following:

**C:\WINDOWS\TWAIN\SCANTEST**

To run SCANTEST from the DOS prompt, change to the TWAIN subdirectory in your Windows directory and type **SCANTEST**.

4. Press **Enter** (or select **OK** in Windows). If your scanner, interface, and drivers are working properly, the scanner scans the image and displays it on your screen.
5. Press any key to quit SCANTEST.

If you have problems scanning an image using SCANTEST, check that the scanner is turned on and connected with the correct cable. See your scanner manual for troubleshooting information.

Now you are ready to use Epson TWAIN.

## Chapter 3

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# Using TWAIN

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This section describes using Epson TWAIN to scan an image into your TWAIN-compliant application.

---

## **Starting Epson TWAIN**

Follow these steps to select your Epson scanner as the TWAIN acquire device and to start Epson TWAIN:

1. Make sure both your scanner and your computer are turned on.
2. Start your TWAIN-compliant application as you normally would.
3. Make sure Epson Scanners is selected as your TWAIN acquire device.

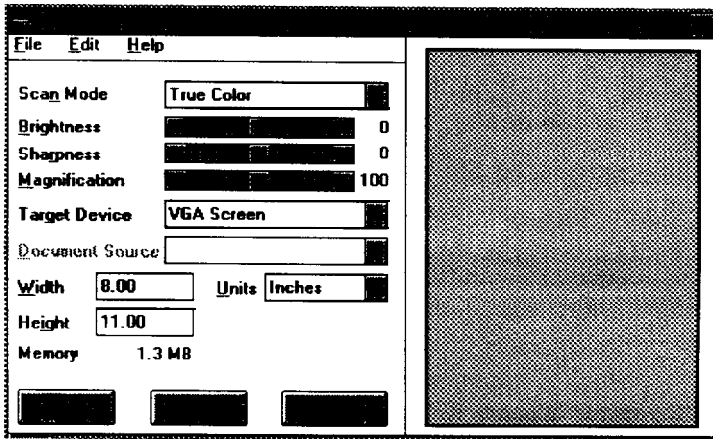
Different applications provide different options for selecting the TWAIN acquire device. Check your application software for how to select the TWAIN acquire device.

### **Note**

*You may have already installed application device drivers for other scanners. To use TWAIN, make sure you use Epson Scanners in the Acquire device setting instead.*



4. Select **Acquire** in your application's File menu. You'll see the Epson TWAIN Scanner Control screen.



*Note*

*If you do not see this screen, you may have selected a scanning option other than Acquire. Make sure you select Acquire to use TWAIN.*

---

## **Basic Scanning With Epson TWAIN**

Epson TWAIN provides some predefined settings that allow you to scan images quickly and see the results on the screen. For high-resolution scanning, see [Changing Your Scanning Resolutions](#). For other features, see [Using Epson TWAIN's Advanced Features](#).

## **Setting Epson TWAIN Options for Your Image Type**

Scanning images with satisfactory results depends on knowing the type of image you are scanning and then using the Epson TWAIN options required by that type of image.

Epson TWAIN provides two important selections, Scan Mode and Target Device, that work together to determine how your image is scanned. When you are using Epson TWAIN, make sure you pay particular attention to the settings for these two options.

If you are scanning color images, you may want to install a true color or 24-bit video card in your computer for the best results.

Follow these steps to select the Epson TWAIN options that are best for the type of image you are scanning.

1. Determine whether your image is color, a black and white photograph (also called gray scale), or black and white line art. If you need more information on these image types, see your scanner manual.
2. Use the chart below to identify the scan mode for your image type.

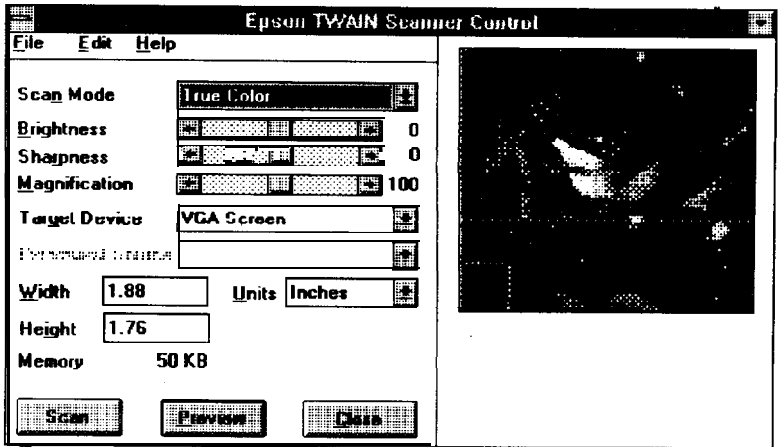
If Image Type is	Choose Scan Mode
Color	True Color
Black and white photograph	Black & White Photograph
Black and white line art	Black & White Line Art

3. Use the pull-down menu for Scan Mode to select the scan mode you want.
4. If the Target Device setting on the Scanner Control screen is not VGA Screen, use the pull-down menu for Target Device to select **VGA Screen**.

## **Previewing Your Image**

Epson TWAIN displays a preview of the image you want to scan. Follow these steps to preview your image.

1. Place the image you want to scan face down on the scanner.
2. Select **Preview**. After several seconds, the rectangle on the right of the Scanner Control screen shows the image. Note that the preview colors may not be accurate unless you have a true color (24-bit) video card. Wait until you have scanned the image to judge the colors.



## Selecting the Scanning Area

If you want to scan only a portion of the image, follow these steps:

1. Move the cursor into the preview box.
2. Hold down the mouse button and drag the cursor until the box encloses the area you want to scan.
3. Release the mouse button.

Once you have defined the scanning area, you can redefine it, move it, or reselect the default.

To define a new scanning area, move the cursor to the edge of the box until you see a double arrow; then hold **the** mouse button down while you drag **the** edge of **the** box to a different position. To reselect **the** default, click outside the selected scanning area but within **the image**.

To move the scanning area, move the cursor to the center of **the** scanning area. The cursor becomes a hand icon. Hold the mouse button down and drag the box to a different position. When the image is what you want, you can then scan or select **Preview again to see the new scan area**.

## ***Adjusting the Brightness***

If the preview of your image appears too dark or too light, you can adjust the Brightness scroll bar on the Epson TWAIN Scanner Control screen to make your image lighter or darker.

Brightness values range from -3 to +3. To lighten a dark original, use -1 to -3. To darken a light original, use +1 to +3.

## ***Adjusting the Magnification***

If you want to increase or decrease the size or scale of your image, you can use **the** Magnification scroll bar on the Epson TWAIN Scanner Control screen to select sizes from 50% to 200% of **the** original.

The size you select is not reflected in the preview scan but is reflected in the final scan. Also, the size of the image on the monitor is only **an** approximation of the actual size of the image when printed. The Width and Height settings on the Scanner Control screen show the exact size of the image.

## Checking the Size

Three options on the Scanner Control screen allow you to see the size of the image you are scanning. The Width and Height options allow you to see the size of the selected image while the Units setting allows you to select inches, centimeters, or pixels as your units. The Memory setting allows you to see the memory requirements for the selected scan.

## Scanning Your Image

Once you have adjusted the Epson TWAIN settings to suit your needs, you can scan the image by selecting Scan. After several seconds, Epson TWAIN places the scanned image in your application.

---

## Changing Your Scanning Resolutions

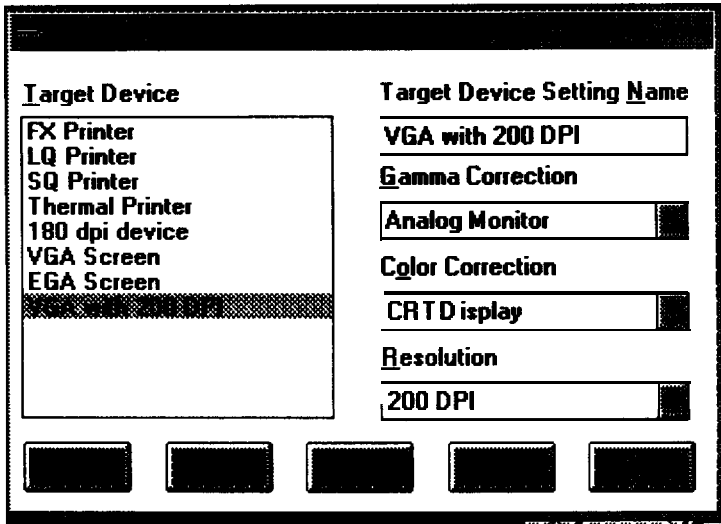
You may want to change your scanning resolutions to provide the best results possible for the printer or other output device you are using. The following table provides some resolution guidelines for you to consider. Your scanner manual also provides detailed information on resolutions.

### **Resolution guidelines**

	<b>Line art</b>	<b>Black and White Photograph</b>	<b>Color</b>
Black and white printer	300-400	75	75
Electronic color printer	300-400	150-200	150-200
Printing press/ Imagesetter	400-800	150-200	150-200

If you need to scan images at resolutions above 72 DPI, follow these steps to modify your resolution settings.

1. From the Epson TWAIN Scanner Control screen, select Target Device from the Edit pull-down menu. You see the Edit Target Device screen.



2. Select **VGA Screen** from the Target Device list.
3. Move the cursor to the Target Device Setting Name field and type the name of the new target device over the old name. For example, to create a target device with a resolution of 200, you would type:

**VGA with 200 DPI**

4. From the pull-down Resolution menu, select the resolution that matches the resolution you used to name your target device.
5. Select **Add**. You see the target device you created in the list of target devices.

Note

*Make sure you select Add and not Modify or OK or Epson TWAIN modifies the existing target device rather than creating a new one.*

6. Select OK to return to the Epson TWAIN Scanner Control screen.

To scan an image at the resolution you have just identified, follow the procedures in the section Basic Scanning with Epson TWAIN. Instead of selecting VGA Screen as your target device, however, make sure you select the target device you created, for example, VGA with 200 DPI.

---

## Using Epson TWAIN s Advanced Features

You may want to use Epson TWAIN s advanced features to meet your scanning needs.

### Modifying Settings on the Scanner Control Screen

The following table summarizes the options available to you on the Epson TWAIN Scanner Control screen. Use these options to modify the settings used to scan your image.

#### Scanner Control Screen Options

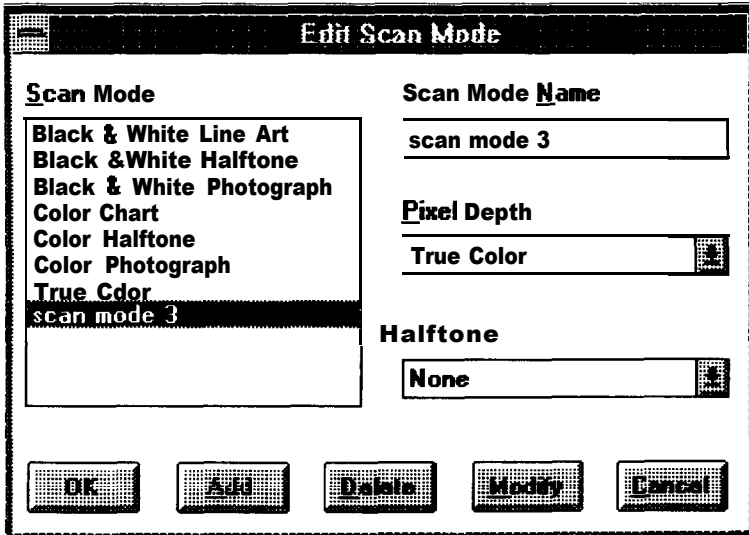
Use	To
Scan Mode	Select from a list of scan modes.
Brightness	Increase or decrease the brightness of the image from -3 to +3.
Sharpness	Correct the sharpness of an image on scanners that support this feature. Values range from -2 to +2.
Magnification	Scale the image from 50% to 200%.
Target Device	Select from a list of target devices.
Document Source	Select the type of document feed on scanners that support this feature, such as manual feed, the optional automatic document feed, and the optional transparency unit. This selection is available only if an option is installed.
Width and Height	See the size of the selected scan or enter a new size.
Units	Select the measurement units, from inches, centimeters, or pixels.
Memory	See the memory requirements for the selected scan.



## Editing the Scan Mode Settings

The scan mode definitions provide pixel depth and halftone values used to scan your image. Epson TWAIN allows you to modify or delete existing definitions or create your own definitions to suit your needs.

Select Scan **Mode** from the Edit **pull** down menu. You see the **Scan Mode** screen:



### To Add a Scan Mode

Rather than modifying the Epson-supplied scan modes, you will probably want to create your own definitions. Follow these steps to add a scan mode:

1. Select a scan mode similar to the mode you want to define.
2. Type the name you want to assign to your scan mode over the name displayed in the **Scan Mode Name** dialog box.

3. Select Pixel Depth and Halftone values, using the information in the following table. These options are described in detail in your scanner manual.

Use	To										
Pixel Depth	<p>Select the form of the image data. Each option below identifies a data format that specifies the number of bits used to represent the tone of a pixel. The more bits per pixel, the more tones and colors you can capture in the scanned image. The highest number of bits possible is 24 bit color (or True Color), which can represent over 16 million colors.</p> <p>Note, however, that the output devices you use should be capable of producing the same tones. Also, the larger the bits per pixel value chosen, the larger the size of the image data.</p> <p>Possible values are:</p> <table> <tr> <td>Black and White</td> <td>8 Colors</td> </tr> <tr> <td>16 Gray Scale</td> <td>16 Colors</td> </tr> <tr> <td>255 Gray Scale</td> <td>64 Colors</td> </tr> <tr> <td></td> <td>256 Colors</td> </tr> <tr> <td></td> <td>True Color</td> </tr> </table>	Black and White	8 Colors	16 Gray Scale	16 Colors	255 Gray Scale	64 Colors		256 Colors		True Color
Black and White	8 Colors										
16 Gray Scale	16 Colors										
255 Gray Scale	64 Colors										
	256 Colors										
	True Color										
Halftone	<p>Define the halftone processing applied to the scanned image. You will generally want to select None and let your image editing software or the output device perform the halftoning.</p> <p>The selections you see vary depending on the scanner you are using. Possible values are:</p> <table> <tr> <td>None</td> <td>Bayer dither</td> </tr> <tr> <td>Hard Tone</td> <td>Spiral dither</td> </tr> <tr> <td>Soft Tone</td> <td>Net dither 4</td> </tr> <tr> <td>Net Screen</td> <td>Net dither 8</td> </tr> </table>	None	Bayer dither	Hard Tone	Spiral dither	Soft Tone	Net dither 4	Net Screen	Net dither 8		
None	Bayer dither										
Hard Tone	Spiral dither										
Soft Tone	Net dither 4										
Net Screen	Net dither 8										

4. Select **Add**.
5. Select **OK** to accept your changes or **Cancel** to discard them.

## To Modify a Scan Mode

You can modify any of the scan modes. Follow these steps:

1. Select the name of the scan mode you want to modify.
2. Change the Pixel Depth and Halftone values, as needed.
3. Select **Modify**.
4. Select **OK** to accept your changes or **Cancel** to discard them.

Use the following table if you need to reset the defaults of your Epson-supplied scan modes once you have modified them.

### *Epson-supplied Scan Mode Defaults*

<b>Scan Mode</b>	<b>Pixel Depth</b>	<b>Halftone</b>
Black & White Line Art	Black and White	None
Black & White Halftone	Black and White	Hard Tone
Black & White Photograph	256 Gray	None
Color Chart	16 Colors	None
Color Halftone	16 Colors	Hard Tone
Color Photograph	256 Colors	None
True Color	True Color	None

## To Delete a Scan Mode

Follow these steps to delete a scan mode:

1. Select the name of the scan mode you want to delete. You see the Pixel Depth and Halftone values for the selected scan mode.
2. Select **Delete**.
3. Select **OK** to accept your changes or **Cancel** to discard them.

## **Editing the Target Device Settings**

Epson TWAIN provides several target device definitions you can use or edit to suit your needs. In addition to Gamma Correction and Color Correction settings, the Target Device screen allows you to edit Resolution settings.

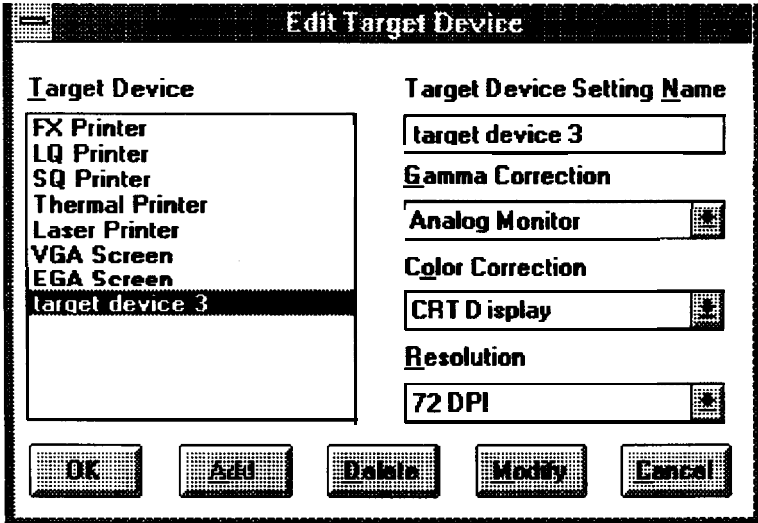
You may want to use only the VGA Screen target device or the target devices you defined to change resolutions, for example, VGA with 200 DPI.

When you scan an image using the VGA target device option, you get the best quality scan. Your image editing software can then provide the output settings appropriate for your output device.

If you are scanning a color image and you select a target device other than a VGA option, the colors displayed may not match the colors in the original.

If you get poor color quality from a dot matrix or ink jet printer, try re-scanning the image using a different target device, such as LQ printer or Thermal printer. The colors on the screen will be inaccurate, but your color printout will be better.

Select Target Device from the Edit pull down menu. You see the Target Device screen:



### To Add a Target Device

Rather than modifying the Epson-supplied target devices, you will probably want to create your own definitions. Follow these steps to add a target device:

1. Select a predefined target device similar to the device you want to define.
2. Type the name you want to assign to your target device over the name displayed in the Target Device Setting Name dialog box.
3. Select the values you want to assign to the target device, using the information in the following table. These options are described in more detail in your scanner manual.

<b>Use</b>	<b>To</b>
Gamma Correction	Adjust the gamma curve so that the reproduction results on different types of output devices have gradations similar to the original image. Possible values include:  Digital Monitor Analog Monitor High Density Printer Low Density Printer High Contrast
Color Correction	Adjust the color image data for a particular type of device so that the reproduction results are close to the original colors. Values include:  CRT Display Impact Dot Thermal Transfer Ink Jet
Resolution	Select minimum to maximum dots per inch (DPI) defined by the scanner. Values are:  50 DPI                    175 <b>DPI*</b> 60 <b>DPI*</b> 180 DPI 72 DPI                    200 DPI 75 DPI                    216 <b>DPI*</b> 80 DPI                    240 DPI 90 DPI                    300 DPI 100 DPI                   320 DPI 120 DPI                   360 DPI 133 <b>DPI*</b> 400 DPI 144 DPI                   480 DPI 150 DPI                   600 DPI 160 DPI                   800 <b>DPI*</b>

\*Not available on some scanners,

#### 4. Select Add.

**Note**

*Make sure you select Add and not Modify or OK or Epson TWAIN modifies the existing target device rather than creating a new one.*

5. Select **OK** to accept your changes or **Cancel** to discard them.

**To Modify a Target Device**

You can modify any of the existing target devices. Follow these steps:

1. Select the name of the target device you want to modify.
2. Change the settings as needed.
3. Select **Modify**.
4. Select **OK** to accept your changes or **Cancel** to discard them.

Use the following table if you need to reset the defaults of your Epson-supplied target devices once you have modified them.

### ***Epson-supplied Target Device Defaults***

<b>Target Device</b>	<b>Gamma Correction</b>	<b>Color Correction</b>	<b>Resolution</b>
FX Printer	Low Density Printer	Impact Dot	72 DPI
LQ Printer	High Density Printer	Impact Dot	90 DPI
SQ Printer	High Density Printer	Ink Jet	90 DPI
Thermal Printer	High Contrast	Thermal Transfer	100 DPI
Laser Printer	High Contrast	Thermal Transfer	100 DPI
VGA Screen	Analog Monitor	CRT Display	72 DPI
EGA Screen	Digital Monitor	CRT Display	72 DPI

### **To Delete a Target Device**

Follow these steps to delete a target device:

1. Select the name of the target device you want to delete. You see the values associated with the selected target device.
2. Select Delete.
3. Select OK to accept your changes or Cancel to discard them.



# Chapter 4

---

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If you have problems using Epson TWAIN, check this section. It describes potential problems and provides possible solutions.

---

### **When you select an Acquire device, Epson Scanners is not listed.**

---

Either Epson TWAIN was not installed or was not installed correctly. Reinstall Epson TWAIN using the Setup program from within Windows.

---

### **Nothing happens when you select Acquire.**

---

Make sure your scanner is turned on and the cables are connected properly.

Epson Scanners may not be selected as the Acquire device. From within your application, select Epson Scanners as the TWAIN device. You'll usually find this option under **Select** in your application.

You may not have rebooted your computer after you installed Epson TWAIN. Reboot your computer and try again.

The Epson Scanner DOS Device Driver, the Epson TWAIN Data Source (ESTWAIN.DS) file, or the SCSI support software may not be installed correctly. Reinstall Epson TWAIN using the Setup program within Windows.

You may have selected the wrong port number or SCSI ID during setup. Check your interface adapter and scanner settings. Reinstall Epson TWAIN using the Setup program from within Windows, making sure the settings you select match the settings on the adapter and scanner.

You may have changed the interface from parallel to SCSI or from SCSI to parallel without reinstalling Epson TWAIN. Reinstall Epson TWAIN for the correct interface using the Epson TWAIN Setup utility that **came with** your interface solution.

You may have tried to install Epson TWAIN using the Setup utility for the Adaptec AHA-1510 SCSI Host Adapter when you were using another Adaptec host adapter. The Epson TWAIN SCSI installer installs SCSI support only for the Adaptec AHA-1510 SCSI Host Adapter. If you are using a different adapter, follow the software installation instructions in the adapter user manual. Then run the Epson TWAIN Setup program and select **Use Existing SCSI Support Software** at the SCSI Interface Options screen.

An error condition may have caused your application or the TWAIN Source Manager to stop working correctly. Save any documents in process, close any open applications, and exit Windows. Restart Windows to restore the TWAIN Source Manager, then start your application and try again.

---

**Target Device or Scan Mode names or settings are different or incorrect.**

---

You may have connected a different model scanner than you were using when you defined the Target Device or Scan Mode. Delete or modify the settings to match your new scanner's capabilities.

---

**The scan is not the full width you selected in the Preview area.**

---

The Epson ES-300C scanner restricts the scan width to 4096 pixels at high resolutions. Choose a lower resolution for a wider scan.

---

**Numbers you type in the width or height box are not accepted.**

---

Check that the value you entered is not greater than 8 inches wide and 11 inches high (14 inches if the Automatic Document Feeder option is installed).

If you are using the optional Transparency unit, values greater than 4.5 inches high and 4.5 inches wide are not allowed.

When you type a value that exceeds the right edge of the scanning area, the value is **not** accepted. Move the selection rectangle to the left edge and retype the value.

---

**An error in the scanner or a paper jam in the Automatic Document Feeder caused an error message.**

---

Reset the scanner to clear the error condition, then try scanning again.

---

**The Sharpness setting is grayed out in the Epson TWAIN Scanner Control dialog.**

---

You are using a scanner that does not support the Sharpness feature.

---

**The Document Source setting is grayed out in the Epson TWAIN Scanner Control dialog.**

---

This feature requires an optional Automatic Document Feeder or a Transparency Unit.

---

**The Preview button is grayed out when the Automatic Document Feeder is selected under Document Source.**

---

The preview feature is disabled when the Automatic Document Feeder is selected because the document would have to be fed through the feeder for the preview scan and then reinserted into the feeder for the final scan. If necessary, use the flatbed for previewing your document.

---

**When you scan Black and White Line Art, Black and White Halftone, or other monochrome image, the scanned image is reversed like a negative image.**

---

Some TWAIN-compliant applications incorrectly interpret the scanner data. Check with your software application publisher for an updated version of the software.

If your application has an INVERT function, use it to reverse the image.

---

**The predefined Scan Mode and Target Device settings don't meet your specific scanning requirements.**

---

You can define your own settings using the instructions in Chapter 3 of this manual.

---

**Sometimes the halftone or dither settings you select in Scan Mode seem to be ignored.**

---

Halftone and dither settings on most Epson scanners are only available when the Pixel Depth setting is set to Black and White or 8 colors (1 or 2 bits per pixel per color). With other Pixel Depth settings, the halftone or dither settings may be ignored. Choose Black and White or 8 colors for scanning with halftone or dither settings.

---

# Glossary

## ***application program***

A software program designed to perform a specific task, such as a word processing, image editing, or spreadsheet program.

## ***bi-directional parallel interface***

An interface Epson TWAIN uses to communicate between the computer and the scanner.

## ***brightness***

A scanner function to lighten or darken the output image data.

## ***color correction***

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

## ***cursor***

The **highlighted** marker that shows your position on **the** screen.

## ***device***

A piece of equipment that is part of a computer system and performs a specific task, such as a disk drive, a monitor, a printer, or a scanner. Also called a peripheral.

## ***device driver***

A file containing instructions **that** allow your computer to recognize and control a device.

***dithering***

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

***dpi***

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

***gamma correction***

A method of adjusting the transfer curve so that the reproduction results on different types of output devices have gradations similar to the original image.

***halftoning***

A data processing method of converting continuous tones into digital data so that the output data simulates the tones.

***interface***

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

***jumper***

A small device that connects two pins on an option card used to activate a particular function.

***path***

The directory name(s) you specify to locate a file. For example, the path for the TWAIN directory in Windows may be C:\WINDOWS\TWAIN or D:\WINDOWS\TWAIN.

## ***pixel***

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

## ***port***

An interface channel through which data is transmitted between devices.

## ***resolution***

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

## ***scan***

An operation performed by the sensor and the carriage. The image is divided into pixels by scanning.

## **scan mode**

A selection of pixel depths and halftoning methods. Epson TWAIN provides several scan mode settings to adjust the scanned image you are creating. You can also define your own scan mode settings.

## ***scanning area***

The physical size of the image that can be scanned by the scanner.

## ***SCSI***

Short for small computer system interface. Epson TWAIN can use the Adaptec AHA-1510 SCSI host adapter or any other ASPI compliant host adapter to communicate between the computer and the scanner.



### *target device*

A set of gamma correction, color correction, and resolution settings that match the characteristics of the scan to the final output device. Epson TWAIN provides several target device settings to adjust your scanned image to suit the target device you intend to use. You can also define your own target device settings.

### **TWAIN**

An open industry interface allowing you to acquire image data directly from external sources without leaving your current application.

---

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