

Using CardScan with Other Scanners

***Setup and Scanning Tips
for getting it right
the first time***

Corex Technologies Corporation

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About This Booklet

The information in this booklet may prove to be very useful to you. Please read this section to find out:

- Who should use this booklet
- Why you should read this booklet
- What is not covered
- How to use this booklet
- Where to get more information

Who should use this booklet

You should use this booklet if you want to enjoy the advantages of the CardScan application but don't own a CardScan scanner.

NOTE: *If you are using a Corex Scanner, consult the "CardScan Getting Started Guide," for setup and other specific information. To access the guide online, visit www.corex.com.*

Why you should read it this booklet

The CardScan program allows you to achieve excellent results using various scanners from manufacturers other than Corex Technologies. However, to get started, you need to do the following:

1. Make sure your scanner is compatible with CardScan (most scanners are; but you should still check).
2. Set up your scanner to communicate with the CardScan software and to acquire good-quality images.

This booklet should help you accomplish these initial steps with confidence and ease. We have also gathered some conceptual information and troubleshooting tips for you to get results quicker.

What is not covered

Given the multitude of scanners sold today and the product changes continually made by manufacturers, this booklet cannot instruct you on setting up every scanner that works with CardScan.

Will my Scanner Work with CardScan?

How to use this booklet

We strongly recommend that you read these sections:

- “Will my Scanner Work with CardScan?”
- “Setting up Your Third-Party Scanner”

The “*Troubleshooting Tips*” and instructions for scanning multiple cards are for those who may need such information.

Where to get more information

For more information about CardScan scanners and software, visit our Web site at www.corex.com.

For specific information about your current scanner, contact the scanner’s manufacturer.

Will my Scanner Work with CardScan?

***NOTE:** To verify your scanner’s compatibility with CardScan, consult CardScan’s online help, the topic “Scanning with TWAIN scanners”. For any updates to this information, visit CardScan’s Knowledge Database on the Web, at <http://www.corex.com/>.*

CardScan will work with your scanner if the scanner meets the following requirements:

- Includes TWAIN software (also called “TWAIN driver”)
- Can scan at 300 dots-per-inch (dpi), or better, resolution
- Supports the 256 gray-scale or black-and-white image depths

NOTE: CardScan does not work with scanners that support color only.

This section answers the following questions:

- Why must my scanner be TWAIN-compliant?
- How does CardScan work?

Why Must Scanners be TWAIN-compliant?

Scanner manufacturers program their scanners to follow specific instructions for acquiring images. These instructions specify the resolution, image depth (such as color or gray scale), brightness, and the like. Different manufacturers may use different instructions to perform the same operations. This may render some image-processing applications incompatible with certain scanners.

That's why we need TWAIN. TWAIN is an Application Programming Interface (API) that has become a software-industry standard to ensure consistent communication between image-acquisition devices and image-processing software under Windows.

If the programmer creates image-processing software which uses the TWAIN API, the program will work—with a few exceptions—with any scanner whose software includes a TWAIN driver.

How Does CardScan Work?

This section explains:

- What happens during scanning
- What happens during processing

What happens during scanning

***NOTE:** To communicate with the scanner's TWAIN software, CardScan must find it in the appropriate Windows subdirectory. See "Is the TWAIN software installed properly?" on page 18 for details.*

When you scan a card, the following processes take place:

1. CardScan communicates with the scanner's TWAIN software and captures an image of the card.
2. CardScan saves the card image on your computer's hard drive and allows you to scan as many cards as you like, one after another.
3. When you complete scanning, CardScan processes the card images to convert the information into text that you can edit, search, or transfer to other applications.

What happens during processing

To process a scanned card, CardScan uses Optical Character Recognition (OCR) technology. OCR does the following:

- Reads the digital image created by your scanner.
- Interprets the information and places it into fields labeled for specific information (for example, Name, Company, Address, and the like). It places any information that does not fit in a specific field in the field called "Other."

Processing usually takes a few seconds. It may, however, take longer because of your computer's configuration or because the card is difficult to read.

Cards that can be difficult to read are those with:

- text printed on very dark or speckled paper
- text printed in script or stylized typefaces
- text embedded in logos or graphics
- text printed diagonally
- text printed both horizontally and vertically

Setting up Your Third-Party Scanner

NOTE: *If you are using your scanner for the first time, make sure you install the scanner before installing CardScan.*

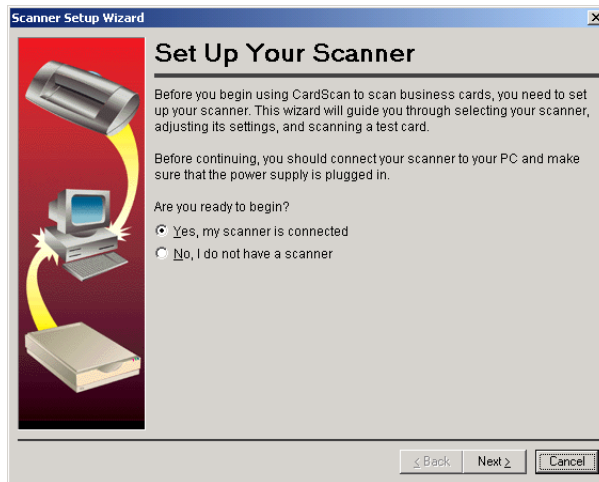
Once you have installed your scanner and CardScan software, you need to set them up to work together. Specifically, you need to:

- Instruct CardScan to work with your scanner
- Set scanning parameters

Instructing CardScan to Work with Your Third-Party Scanner

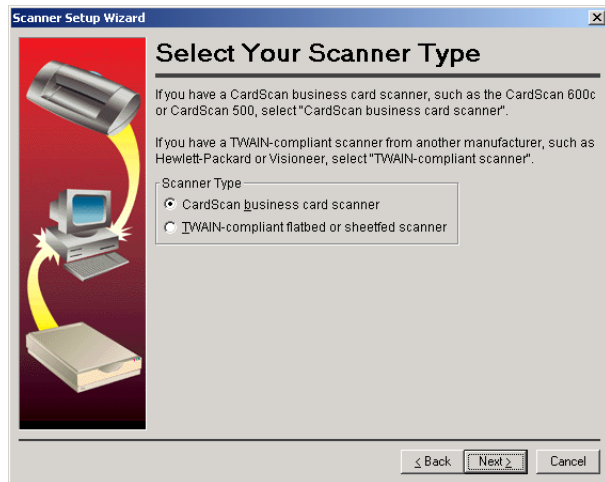
To instruct CardScan to work with your scanner, do this:

1. Start CardScan. The Scanner Setup dialog of the Scanner Setup Wizard appears.

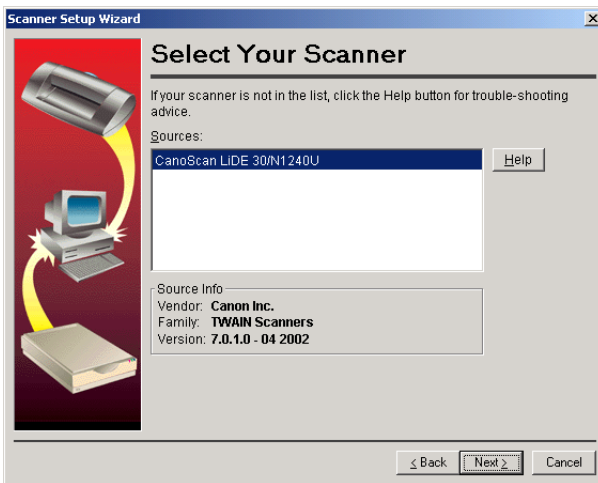


The Wizard starts automatically to help you set up your scanner when you run CardScan for the first time. Later, you can run this Wizard by choosing **Tools**→**Scanner Setup Wizard**.

2. Click **Next**. The Scanner Type dialog appears.



3. Choose "TWAIN-compatible flatbed or sheetfed scanner," and click **Next**. The Select Your Scanner dialog appears. The dialog lists all the TWAIN-compatible scanners installed on your computer.



4. Choose your scanner from the list, and click **Next**. The Test Scanner dialog appears.

NOTE: *In the Sources list, some scanners are listed by the name of the software they use, which may be different from the scanner's name. Your scanner's documentation should specify the software used by the device. If neither your scanner nor its software is listed, consult the Troubleshooting Tips in this document.*

5. To test the scanner, place a business card face down in the scanner and click **Scan**. A dialog from the scanner's manufacturer appears.
6. Follow the instructions on the dialog. When done testing, click **Next**.
7. When the setup is complete and the Finished dialog appears, click **Close**.

Setting Scanning Parameters

Scanner interfaces (dialog boxes) vary between various scanners. Consequently, this document cannot give you specific instructions for setting your scanner's parameters. Therefore, this section provides you with:

- Generic setup procedure
- Overview of scanning parameters
- Guidelines for best results

NOTE: *Although you access your scanner's dialog box through CardScan, keep in mind that this dialog box is not part of CardScan. Therefore, if you have any problems or specific questions about it, see the scanner's documentation or contact the manufacturer.*

Generic setup procedure

The following generic procedure is based on the information and guidelines described later in this section.

1. Start with the resolution. 400 dpi (dots per inch) is best; 300 dpi is OK.
2. Choose gray-scale images. Binary (black-and-white) is second best.
3. For brightness, choose the default if available. Otherwise, choose the middle of the available scale (for example, choose 50 on a scale of 0-100).
4. For contrast, choose the default if the interface allows one. Otherwise, choose the middle of the available scale (for example, choose 50 on a scale of 0-100).
5. For gamma, choose the default if the interface allows one. Otherwise, choose the middle of the available scale (for example, choose 50 on a scale of 0-100).

Overview of scanning parameters

TWAIN-compliant scanners usually have their own interface—a dialog box that allows you to change the image characteristics. Each scanner may allow you to change different parameters for the images—depending on the capabilities of that scanner.

***NOTE:** Resolution and image depth are the most important parameters for CardScan.*

The scanner's software may allow you to set:

- Resolution (dots per inch or dpi)
- Image depth (such as color, gray scale, or binary)
- Brightness, Contrast, and Gamma

There are no standard names for gray-scale and binary images. Here are some equivalents:

- Gray scale = black-and-white photo, 256 gray levels
- Binary = black & white, bi-tonal, bi-level, line art, OCR document

In scanner dialog boxes, manufacturers try to provide a name for the type of image that corresponds to what you want to do, for example, “scan documents.” Usually, there is a “Details” button to allow you to see what the selection means in more exact terms. For example, there may be specific information about the resolution and whether the images are gray-scale or binary.

Preferred image depth and resolution

The best images to select for CardScan performance, in the descending order, are:

- Gray Scale, 400 dpi
- Gray Scale, 300 dpi
- Binary, 400 dpi
- Binary, 300 dpi

Effects of higher resolutions

Some scanners allow for higher resolutions: 600 dpi, 800 dpi, and even 1200 dpi. However, these images become very large, take a long time to scan, and require a lot of storage. CardScan does work with these images, but no better than with the smaller, faster images listed above.

Effects of lower resolutions

Some scanners offer lower resolutions: 200 dpi and even 100 dpi. CardScan does process these images, but the accuracy is poor. If you scan an image of less than 200 dpi, CardScan displays a message asking you to increase the resolution if possible. However, it continues processing.

If only lower resolutions can be scanned in gray scale

Some scanners may allow only lower resolutions to be scanned in gray scale. For example, if you choose gray scale, the option to scan in 400 dpi may be removed. In this case, you may achieve the best performance by using binary images at higher resolution.

Guidelines for best results

CardScan scans and recognizes cards by taking a gray-scale image of the card and converting it to black-and-white using special-purpose image-enhancement algorithms. These image-enhancement algorithms are tuned for scanners' default brightness and contrast settings.

Cropping means selecting a portion of the preview image for the final scan.

NOTE: Gray-scale images are sometimes called “256 gray levels” or “black-and-white photo.”

Black-and-white images are sometimes called “bi-level”, “text”, or “line-art.”

Some scanners automatically adjust brightness and contrast for best results. However, if you have persistent problems with the image quality, and therefore with the recognition, try adjusting the brightness and contrast a little in either direction.

In general, follow these guidelines:

- If your scanner’s documentation recommends cropping for better scanning results, make sure to follow the instructions provided there.
- Scan in gray scale. Often, you can get acceptable results scanning in black and white if you take the time to adjust the brightness and contrast manually for each card. However, scanning in gray scale usually yields better results.
- Scan using 400 dpi resolution, if your scanner supports it. Otherwise, use 300 dpi. Below 300 dpi, CardScan can’t read small text or light printing. Above 400 dpi, CardScan’s accuracy does not improve but the images require significantly more memory, disk space, and time to process.

Scanning Multiple Cards

The software-only version of CardScan includes a flexible plastic cardholder (sometimes referred to as “template”) that you can use with most scanners to scan multiple cards.

This section describes:

- Inserting cards into the cardholder
- Using the cardholder with various scanners

Inserting Cards into the Cardholder

Insert business cards into the pockets face-up with the top of each card toward the top of the pockets. The top row of the cardholder has slightly larger pockets for oversized cards (for example, European business cards). You don't have to fill all the pockets in the cardholder when scanning multiple cards. However, if you are not using all the pockets, insert cards starting at the top and from left to right.

NOTE: *If your cards are already in a transparent cardholder, you can put a black piece of paper on the back of the cardholder and scan the cards.*

Using the Cardholder with Various Scanners

This section describes how to use the cardholder with:

- Flatbed scanners
- Sheetfed scanners
- Handheld scanners

Flatbed scanners

Place the cardholder facedown on the scanner bed as you would a sheet of paper. CardScan automatically detects that you are using the cardholder.

Sheetfed scanners

Feed the cardholder into the scanner as you would a sheet of paper.

Handheld scanners

Fold the cardholder vertically and slowly drag the scanner down over it. To prevent the cardholder from slipping under the scanner, tape it to the desk, place it under a ScanPad, or use a SCAN:ALIGN. You should be able to purchase these accessories where you purchased your scanner.

Cardholder and Image Quality

Sometimes the cardholder may introduce reflections from the plastic, thereby impairing image processing and reducing the image quality. If you are not satisfied with the image quality, consider scanning without the cardholder. To do so, follow these steps:

1. Arrange cards on the scanner in 2 columns, similarly to the way the plastic cardholder would.
2. Make sure that the cards do not touch each other, and that there is at least 0.5 inch of space between them.
3. Scan with the lid open.

Troubleshooting Tips

This section explains the following:

- How to use the information in this section
- Error messages
- Other problems
- Reinstalling your TWAIN software

How to Use the Information in this Section

This section is intended to help you troubleshoot the problems that are not associated with any particular scanner. Therefore, you may need to consult the following resources:

1. Check if your scanner's documentation has an answer to your problem.
2. In CardScan's online help:
 - Check if your scanner is mentioned in *Troubleshooting and tips*.
 - Consult the topics in the section "Scanning with TWAIN scanners" for instructions on using your scanner.
3. Check "[Support Solutions Online](http://www.corex.com)" (at www.corex.com).

NOTE: When using information in this section, follow the suggestions step by step, in the order they are presented here. Acting at random may make the problem worse.

Error Messages

You may receive the following error messages:

- “Scanner not responding”
- “Error writing to LPT port”
- “There are no saved images”
- “No more file handles available”
- “Cannot create directory”

“Scanner not responding”

If you get this error message for a scanner that connects to your computer’s parallel port, check the following:

1. Wrong scanner selected in CardScan’s Preferences dialog box. CardScan’s Sources list includes scanners and scanner software for several scanners. Choose **Edit→Preferences→Scan** and make sure you have selected the scanner connected to your computer.
2. Scanner not connected. Check the scanner’s connections to the power outlet and the computer’s parallel port.
3. If your scanner is connected to an A-B switch box that allows the scanner to share the parallel port with another device, make sure the switch box is bi-directional.
 - Remove the switch box.
 - Plug the scanner directly into the computer.
 - Try to scan again. If the scanner and CardScan communicate successfully, this means that your A-B switch box is not bi-directional and should be replaced.
4. Wrong parallel port selected. If your computer has more than one parallel port interface, check that you have selected the correct one.

“Error writing to LPT port”

If you receive this error message, it is likely that certain features of your scanner did not load correctly. Try the following:

1. On the desktop, click the **Start** button.
2. On the **Start** menu, choose **Settings**→**Control Panel**→**System**.
3. In the System Properties dialog box, click the Device Manager tab.
4. Double-click **Ports (COM&LPT)**.
5. If there is a yellow exclamation point next to Printer Port (LPT1), choose it.
6. Click **Remove**.
7. Click **OK** to close the System Properties dialog box.
8. Close the Control Panel window.
9. Choose **Start**→**Shut Down** to shut down your computer.
10. Restart the computer. It automatically reinstalls the LPT port.

“There are no saved images”

If you have scanned a card successfully but in CardScan this message is displayed, try the following:

1. Check the scanning parameters in your scanner's dialog box. Follow *“Guidelines for best results”* on page 9.
2. Reinstall your scanner's TWAIN software as described in *“Reinstalling your TWAIN Software”* on page 20.
3. Try to use image-reading software that came with your scanner. If it can successfully display the scanned image, the problem may be with CardScan. Contact CardScan's technical support (see *“Contacting CardScan Technical Support”* on page 21).

“No more file handles available”

Some early versions of the TWAIN software for handheld scanners failed to release all the resources allocated from the operating system. This caused the scanners to fail after scanning about 12 to 16 cards. If you experience this problem, restart CardScan to scan more cards. Contact the scanner's manufacturer for a newer version of the TWAIN software.

“Cannot create directory”

If you receive this message, your troubleshooting steps depend on whether or not you use CardScan on a network.

On a network

Make sure you have write-access privileges for CardScan’s directory.

Not on a network

Try the following:

1. Make sure there is sufficient free space on your computer’s hard drive.
2. Free as much disk space as you can.
3. Run Scandisk to check your hard drive for errors. Choose **Start**→**Programs**→**Accessories**→**System Tools**→**Scandisk**. If the hard drive is not in proper order, it may appear that there is not enough free space available.

Other Problems

This section is intended to help you solve problems with the following symptoms:

- Your scanner is not listed among CardScan’s Sources
- Many errors in a scanned card
- Cannot process a card
- CardScan crashes when trying to scan

Your scanner is not listed among CardScan’s Sources

If you don’t see your scanner or your scanner software in the Sources list in CardScan’s Scan Preferences, check for the following:

- Are you using the Visioneer PaperPort?
- Is the scanner set up properly?
- Is the TWAIN software installed properly?

Are you using the Visioneer PaperPort?

If you are using the Visioneer PaperPort, this is normal. CardScan does not communicate directly with the PaperPort scanner; therefore, this scanner is not listed as a source. See the “*Scanning with TWAIN Scanners*” topic of the online help for more information on your scanner.

Is the scanner set up properly?

Follow the instructions that came with your scanner to make sure it is installed and set up properly.

Is the TWAIN software installed properly?

Check for the following files to verify that the scanner’s TWAIN driver is properly installed.

C:\WINDOWS\TWAIN.DLL

C:\WINDOWS\TWAIN_32.DLL

C:\WINDOWS\TWAIN*.DS or

C:\WINDOWS\TWAIN\directory*.DS (*where “directory” is the directory name created by your scanner software*)

If you have installed Windows in a different directory, substitute the drive and directory for C:\Windows above.

Refer to your scanner’s documentation to determine whether you must take extra steps to enable the scanner’s TWAIN support.

NOTE: *If you need to reinstall your TWAIN software, follow the procedure in “Reinstalling your TWAIN Software” on page 20.*

Many errors in a scanned card

If you see many errors in a scanned card, the first thing you should do is scan the card again. The card may have been aligned incorrectly, or there may have been problems with your scanner.

Also, make sure you follow “*Guidelines for best results*” on page 9.

Cannot process a card

If CardScan cannot process a card, explore the following:

- Is the card a difficult one?
- Are the scanning settings adequate?
- Any problem files in the CardScan's Images directory?

Is the card a difficult one?

Check if the card itself is difficult to process. See *“What happens during processing” on page 4* for specific information on cards that may cause problems for OCR.

Are the scanning settings adequate?

The settings in your scanner dialog box may render the scanned image impossible to process. To see if this is the problem, do the following:

1. Make sure the brightness and contrast are set in the middle of the allowed range of values. Consult *“Guidelines for best results” on page 9* for details on setting up your scanner.
2. Scan the card again making sure the image is not crooked.

If the problem persists, explore the next possibility.

Any problem files in CardScan's Images directory?

Certain files in CardScan's Image directory may cause processing problems. Try the following:

1. Check the Images directory in CardScan for any files with the extension .css or .csr.
2. Delete the .css and .csr files, if any.
3. Scan the card again.

CardScan crashes when trying to scan

If CardScan crashes when trying to scan, do the following:

1. Check the scanning parameters in your scanner's dialog box. Follow *"Guidelines for best results"* on page 9. Try to scan again. If the problem persists, try the following.
2. Uninstall and reinstall the scanner's TWAIN software. Follow the instructions in *"Reinstalling your TWAIN Software"* on page 20. Try to scan again. If the problem persists, contact CardScan's technical support (see *"Contacting CardScan Technical Support"* on page 21).

Poor image quality

If you are using a plastic cardholder, consult the section *"Cardholder and Image Quality"* on page 12.

Reinstalling your TWAIN Software

Sometimes, scanning error messages are caused by improperly installed TWAIN software. You may be able to solve such scanning problems by reinstalling your TWAIN software as follows:

1. On your desktop, click the **Start** button.
2. Choose **Find**→**Files or Folders**.
3. Type twain*.d*
There are two files: twain.dll and twain_32.dll.
4. Right-click each of these files and choose **Rename**.
5. Change the .dll extensions to .old.
6. Choose **Find**→**Files or Folders**.
7. Type twunk*.exe.

- There are two files: twunk_16.exe and twunk_32.exe.
8. Right-click each of these files and choose **Rename**.
 9. Change the .exe extensions to .bak.
 10. Reinstall your CardScan software.
 11. Reinstall your scanner software.

Contacting CardScan Technical Support

When using non-CardScan scanners, keep in mind that the shortest path to solving your scanning problems is most likely through contacting the scanner's manufacturer. Check the scanner's documentation, CardScan online help, CardScan "[*Support Solutions Online*](#)", and the "[*Troubleshooting Tips*](#)" on page 13.

If you still need assistance, contact Corex Technical Support.

Technical Support

North America

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<http://www.cardscan.com/nasupport>

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Other Countries

Please contact your local reseller. To find your local reseller, visit www.cardscan.com.