Notice

Please do not attempt to operate or repair this equipment without adequate training. Any use, operation or repair you perform that is not in accordance with the information contained in this documentation is at your own risk.

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Visa is a registered trademark of Visa International Service Association.

All other product names are the property of their respective owners.

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Compliance Statements

Liability

The WARNING and CAUTION labels have been placed on the equipment for your safety. Please do not attempt to operate or repair this equipment without adequate training. Any use, operation, or repair in contravention of this document is at your own risk.

Safety

All Datacard® products are built to strict safety specifications in accordance with CSA/UL60950-1 requirements and the Low Voltage Directive 2006/95/EC.

Therefore, safety issues pertaining to operation and repair of Datacard® equipment are primarily environmental and human interface.

The following basic safety tips are given to ensure safe installation, operation, and maintenance of Datacard equipment.

• Connect equipment to a grounded power source. Do not defeat or bypass the ground lead.
• Place the equipment on a stable surface (table) and ensure floors in the work area are dry and non-slip.
• Know the location of equipment branch circuit interrupters or circuit breakers and how to turn them on and off in case of emergency.
• Know the location of fire extinguishers and how to use them. ABC type extinguishers may be used on electrical fires.
• Know local procedures for first aid and emergency assistance at the customer facility.
• Use adequate lighting at the equipment location.
• Maintain the recommended temperature and humidity range in the equipment area.
Regulatory Compliance

Notice for USA (FCC notice)

This equipment has been tested and found to comply with the limits for Class A computing devices, pursuant to Part 15 of FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy. If this equipment is not installed and used in accordance with this instruction manual, it may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at their own expense. Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Notice for Canada

Industry Canada

This digital apparatus does not exceed the Class A limits for radio noise for digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la classe A prescrites dans le Règlement sur le brouillage radioélectrique édicté par le ministère des Communications du Canada.

RSS-Gen, Issue 3, December 2010, Section 7.1.3 User Manual Notice

This Device complies with Industry Canada License-exempt RSS standard(s). Operation is subject to the following two conditions: 1) this device may not cause interference, and 2) this device must accept any interference, including interference that may cause undesired operation of the device.

Cet appareil est conforme avec Industrie Canada RSS standard exempts de licence(s). Son fonctionnement est soumis aux deux conditions suivantes: 1) ce dispositif ne peut causer des interférences, et 2) cet appareil doit accepter toute interférence, y compris les interférences qui peuvent causer un mauvais fonctionnement du dispositif.

Notice for Europe

The EU Declaration of Conformity can be found on Datacard.com

We hereby certify that this printer complies with EMC Directive 2004/108/EC, R&TTE Directive 1999/5/EC, and the EU RoHS Directive EU Directive 2011/65/EC. This printer conforms to Class A of EN 55022 and to EN 301 489-5. Operation of this equipment in a residential environment may possibly cause interference. In the event of interference, the users, at their own expense, will be required to take whatever measures are necessary to correct the problem.
Notice for Europe and Australia

This is a Class A product. In a domestic environment this product may cause radio interference, in which case the user may be required to take adequate measures.

Notice for China (Simplified Chinese)

警告

此为 A 级产品，在生活环境中，该产品可能会造成无线电干扰。在这种情况下，可能需要用户对干扰采取切实可行的措施。

Notice for Taiwan (Traditional Chinese)

警告使用者：
這是甲類的資訊產品，在居住的環境中使用時，可能會造成射頻干擾，在這種情況下，使用者會被要求採取某些適當的對策。

Notice for Japan

Japanese Voluntary Control Council for Interference (VCCI) class A statement

この装置は、クラス A 情報技術装置です。この装置を家庭環境で使用すると電波妨害を引き起こすことがあります。この場合には使用者が適切な対策を講ずるよう要求されることがあります。VCCI-A

Korea Communications Commission (KCC) statement

이 기기는 업무용(A급)으로 전자파장치기로 서 판매자 또는 사용자는 이 점을 주의하시기 바라며, 가정외의 지역에서 사용하는 것을 목적으로 합니다.
California Proposition 65 Compliance

**WARNING:** This product contains chemicals, including lead, known to the State of California to cause cancer, and birth defects or other reproductive harm. **Wash hands after handling.**

Datacard Group believes that its products are not harmful when used as designed. However, the above warning is made in compliance with the State of California Safe Drinking Water and Toxic Enforcement Act of 1986, which requires warning labels on products that may contain elements that the State of California considers harmful.
## Revision Log

**XPS Card Printer Driver User’s Guide**

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Chapter 1: About the Printer Driver

The Card Printer Driver uses Microsoft XPS print technology to support printing from currently available applications. This chapter provides a task overview of what the Card Printer Driver does, and a description of the communication between the Card Printer Driver and the card printer.

Supported Operating Systems

The following operating systems are supported by the Card Printer Driver (the latest service pack is recommended):

- Windows 7, 32- and 64-bit
- Windows 8.1, 32- and 64-bit
- Windows 10, 32- and 64-bit
- Windows Server 2008 R2, 64-bit
- Windows Server 2012 R2

For more information on PC and operating system requirements, refer to the printer’s Installation and Administrator’s Guide.

Because the Card Printer Driver supports multiple Windows operating systems, the procedures in this Guide assume you can navigate to the appropriate Windows panels for your system. The Guide describes how to set up and use the Card Printer Driver from the appropriate window (for example, Printer Properties). Operating system-specific exceptions are noted, where necessary.
Driver Task Overview

Refer to “Install the Driver” on page 9 for the steps to follow to install the printer and driver.

After the Card Printer Driver has been installed, it does the following:

1. Receives card data from an application.
2. Processes it for personalizing a card.
3. Optionally, encrypts data transactions with the printer for secure printing.
4. Sends the prepared data to the printer.
5. Checks the printer for card completion.
6. Displays any conditions (messages) associated with the card job.

The information included in this Guide does not apply to all printers supported by the Card Printer Driver. Check your printer configuration label to verify your printer model and the features and options it includes.

Printer/Driver Communication

The printer communicates with the PC via the Card Printer Driver using either a USB cable or an Ethernet cable. For both connection types, the printer treats communication as if the PC is connected over a network.

- You can update printer settings using the Printer Manager web interface. Refer to the printer’s Installation and Administrator’s Guide for information about using Printer Manager.
- You can customize applications to control card personalization features through the Card Printer Driver. If you use a customized application, follow the instructions in your application.
- Secure printing is available on current models of SD, CD, and CE series printers. Print jobs are secured with data protection automatically when the printer is configured to communicate securely. For more information, refer to “Use the Card Printer Driver for Secure Printing” on page 27.
Printer/Driver Communications Over a Network

The Card Printer Driver requires the current printer IP address when it is connected to the printer over a network. Refer to the printer’s User’s Guide for information on how to retrieve the printer’s IP address.

When both the printer and the PC use an organization's network, the network affects the speed of data transmission, and can affect who can use the printer. The network printer can have many PCs connected to it, and each PC can be connected to multiple printers over the network.

Printer/Driver Communications Using a USB Connection

Connecting the printer and a PC using a USB cable automatically creates a local network. Each time another printer is connected to the PC, it creates a new local network for the new printer.

You can connect up to eight printers to a PC using USB cables.

The printer requires a USB 2.0 connection.
Chapter 2: XPS Card Printer Driver Installation

This chapter provides information about how to install the Card Printer Driver.

Before You Install

The Card Printer Driver typically is installed using the installation CD shipped with the printer. You also can install it using a downloaded installation file.

Be aware of the following as you plan to install the Card Printer Driver.

- Prepare the printer before installing the Card Printer Driver. Load the printer supplies and cards as described in your printer’s Quick Install Guide or Installation and Administrator’s Guide.

- The Card Printer Driver installation assigns a default printer name. Each printer must have a different name. The installation automatically creates a unique name.

If your site plans to implement printer sharing, have a printer naming plan in place before installing the Card Printer Driver. You cannot rename a printer after sharing is enabled. Refer to “Use Printer Sharing” on page 29 for more information.

Installation Overview

Basic installation includes the following steps:

1. Identify Your Installation Requirements on page 6
2. Prepare to Install the Card Printer Driver on page 7
3. Install the driver based on the printer/PC communication method you are using, either USB or a network connection. Refer to “Install the Driver” on page 9.
4. Update your existing driver installation if your driver version is 4.0 or newer. Refer to “Update the Card Printer Driver” on page 16.
Advanced printer setup consists of:

- **Connect More Than One Printer** on page 25
- **Use the Card Printer Driver for Secure Printing** on page 27
- **Use Printer Sharing** on page 29
- **Use Printer Pooling** on page 35

### Identify Your Installation Requirements

How you install and set up the Card Printer Driver depends on how many users print to the card printer, the operating system you use to send card data, and other decisions specific to your environment.

Refer to the following table to locate the information you need to install and use the Card Printer Driver.

<table>
<thead>
<tr>
<th>Use the Driver Installation CD</th>
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</thead>
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<tr>
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</tr>
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<td>Use a USB Connection</td>
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</tr>
<tr>
<td>Use Secure Printing</td>
<td>Refer to “Use the Card Printer Driver for Secure Printing” on page 27.</td>
</tr>
<tr>
<td>Connect to More Than One Printer</td>
<td>Refer to “Connect More Than One Printer” on page 25.</td>
</tr>
</tbody>
</table>
Prepare to Install the Card Printer Driver

This section provides information about installing the Card Printer Driver on a PC running a supported Windows operating system. Refer to “Supported Operating Systems” on page 1 and the printer’s Installation and Administrator’s Guide for complete information about installation requirements.

You can install the driver either from the CD that ships with the printer or from a downloaded file. Most of the installation process is the same whether you install from a downloaded file or from the CD.

Download the Installation File (Optional)

You typically install the Card Printer Driver using the CD shipped with the printer. However, if you do not have access to the installation CD, you can install the driver from the downloaded Card Printer Driver installation file.

Your network security configuration might prevent the download or installation of the Card Printer Driver installation file. Ask your network support personnel if you need assistance downloading the file and installing the Card Printer Driver.

Obtain the downloaded driver installation file on a portable storage medium and save it to your hard drive.

Or, download the installation file from the website:

http://www.datacard.com

1.  Browse to the Downloads area of the website (or the Products page for the printer) and select the Card Printer Driver .exe file.

2.  When the File Download dialog displays, click Save As.

3.  Select a location on your PC, such as C:\Temp, and click Save. The file has a name similar to XPSCardPrinter_x.x.x.exe, where x.x.x is the version number.

4.  Continue with “Start the Installation” on page 8.
Start the Installation

1. Log on to the PC as a user with administrator access.

2. Do one of the following:
   - Insert the Driver Installation CD in the PC’s drive.
   - OR
   - Browse to the location on the PC where you saved the downloaded file. Double-click the downloaded file.

3. If the Autoplay dialog box displays, click Run autorun.exe.

4. Click Yes on the User Account Control dialog box if it displays.

5. When the driver installer Welcome page displays, you can select to install the printer based on the printer/PC communication method you are using, either a USB or a network connection. Continue with “Install the Driver” on page 9.
Install the Driver

The following instructions describe how to install the driver using either a USB or a network connection. Most of the installation procedure is the same for either method; differences are noted where necessary.

**Caution:** If you are installing the driver with a USB connection, do not connect the USB cable to the printer until instructed. If you start this procedure with the USB cable connected, problems can result.

1. Plug in and power on the printer. Make sure that the cards and ribbon are loaded correctly. The LCD panel displays **Ready** when the printer is completely powered on.
2. On the driver installer Welcome page, click Install a Network Printer or Install a USB Printer.

3. The Card Printer Driver installer displays the license agreement. Read the license agreement and click Accept.

If you are installing multiple copies of the driver, you only have to accept the license agreement once.
The Card Printer Driver begins loading.

4. When prompted, connect the printer to the PC with a USB cable, as shown on your screen.

- If you are using a USB connection, continue with step 4.
- If you are using a network connection, skip to step 5.

**USB Installation:**

4. When prompted, connect the printer to the PC with a USB cable, as shown on your screen.
The Card Printer Driver searches for the printer and connects the PC and printer. The **Installing USB Driver** page displays.

Continue with step 9.

Network Installation:

5. Connect the printer to the network with an Ethernet cable.

6. Use the printer LCD screen menu system to retrieve the printer’s IP address. Refer to your printer’s *User’s Guide* for details about how to obtain the IP address.

The Card Printer Driver supports both IPv4 and IPv6 addresses for network-connected printers. Refer to your printer’s *User’s Guide* for complete information about obtaining an IPv6 address.
7. Enter the IP address.
   a. Exit the menu system on the printer.

   Make sure that **Ready** displays and the **User** button on the front panel glows green.

The **Installing Network Driver** window displays on your PC.
b. When the installer displays the **Printer Properties Ports** tab, click **Configure Port** and type the IP address in the Printer Name or IP Address field on the **Port Settings** window.

If you are entering an IPv6 address, make sure that you enter the complete address. An IPv6 address requires square brackets at the beginning and end of the address. The Card Printer Driver automatically corrects an IPv6 address that is entered without the brackets. Contact your network administrator if you need more information about the address mode being used.

8. Click **OK** on the **Port Settings** window to save your settings and close the window. Then, click **Close** on the **Ports** tab to close the **Printer Properties** window.

Continue with step 9.
9. If you have ID software installed on your computer, the **Install the Plug-In** screen displays as part of the Card Printer Driver installation. Click **Yes** and follow the installation instructions to install the XPS Card Printer plug-in.

When the Card Printer Driver and any plug-in software are installed, the **Installation Complete** page displays.
10. Test your printer by printing a sample card. Make sure that Ready displays on the LCD screen, and click Print Sample Card.

- Printers that do not have a printhead installed cannot print a sample card to verify driver operation.
- Card printers that support rewritable card printing cannot print the driver sample card to a rewritable card at this time. You can, however, print the sample card to verify that the computer and printer are able to communicate. Refer to “Printer Setup for Rewritable Cards” on page 97 for complete information about printing rewritable cards.

For information about how to print a printer test card, refer to the printer’s User’s Guide.

11. If necessary, you can install additional support files. Click the second icon (upper left) on the Welcome page, and select the items you want to install (such as legacy support files for enhanced backward compatibility). Refer to “Install Support Files” on page 23 for more information.

**Update the Card Printer Driver**

If the currently installed Card Printer Driver is version 4.0 or newer, you can update to the latest driver version without having to remove all installed printers and reinstall the new driver. Use the Card Printer Driver update process to install the new version. The updated Card Printer Driver retains your printing preferences and selections from the previous version. In addition to individual installed printers, you can update the Card Printer Driver in the following cases:

- You have a number of printers set up as a printer pool.
- If your configuration consists of a host system with shared clients, you can update the Card Printer Driver on the host system. Refer to “Update a Shared Printer Client” on page 21 for information about updating the client systems.
Update Restrictions

You cannot update the driver—and the Update the Driver option does not display—if any of the following are true.

- You are installing the Card Printer Driver for the first time.
- The installed Card Printer Driver is:
  - Older than version 4.0
    To find the Card Printer Driver version installed on your computer, open the XPS Card Printer Properties window and click the About tab. Refer to “About Tab” on page 59.
  - The same version or newer than the version to which you are trying to update

If you select Install a USB Printer or Install a Network Printer from the installer Welcome page, a message displays stating that you must remove the current driver, and then run the installation again. Refer to “Uninstall the Card Printer Driver” on page 60 for more information.

- The current Card Printer Driver has already been uninstalled.
- The Card Printer Driver is installed on a shared client PC.

If you need to remove the current Card Printer Driver from your PC, click the Remove the Driver icon and follow the instructions (refer to “Uninstall the Driver with the Driver Installation CD or Downloaded File” on page 60). The installer Welcome page then displays with the Install options enabled.
Update the Driver

The Card Printer Driver update requires that you restart your computer. Plan to perform the update when no cards are printing and at a time that does not interfere with your production schedule.

To update the Card Printer Driver:

1. Log on to the PC where the Card Printer Driver is installed.
2. Insert the Driver Installation CD or double-click the downloaded installation file.
   The Card Printer Driver Installer Welcome page displays.
3. Click **Update the Driver**.

The **Update the Driver** page displays.

If you have ID software installed on your computer, and the XPS Card Printer plug-in requires updating, the **Install the Plug-In for your ID software?** check box displays.

4. Click **Update Now** to start the update process.
5. The **Update Complete** page displays. Click **Restart Now** to restart your computer and complete the update.

If the update fails to complete, the **Driver Update Failed** dialog box displays. Click **Remove Driver** to remove the driver from your PC. You then can install the driver as a new install (refer to “Install the Driver” on page 9).
Update a Shared Printer Client

If you use printer sharing, the host PC and all client PCs must be at the same version of the Card Printer Driver to work properly.

You must update the Card Printer Driver on each client PC manually.

Update a Client PC Manually

To update the Card Printer Driver on a client system, do the following.

1. Make sure that the host computer has been updated. Refer to “Update the Card Printer Driver” on page 16.

2. Open the Devices and Printers window on the client PC.

3. Right-click the printer name and select Update driver from the menu. The text “Needs new driver” also displays as a Status message.

   If Update driver does not appear in the menu, send a card to the printer. A message to install the driver will display.

4. If the Do you trust this printer dialog box displays, click Install Driver.

   The updated Card Printer Driver is installed on the client PC.

5. Restart the client PC to complete the Card Printer Driver update.

   Update each shared client computer using these steps.
Verify the Client Update

After the client PC has been updated with the new Card Printer Driver version, verify that the update completed properly and that your settings and preferences were not changed.

1. Open the Devices and Printers window on the client PC and right-click the printer icon.

2. Select either Printer properties or Printing preferences and select the About tab.

3. Verify that the driver version is correct.

4. Review your printer properties settings and printing preferences and verify that they are correct. Refer to “Configure PC Printing Preferences for Sharing” on page 33 for more information.

5. Print sample cards to confirm that cards print successfully.
Install Support Files

1. Display the Card Printer Installation Welcome window. Refer to “Start the Installation” on page 8.

   You can use the Driver Installation CD or the file downloaded from the website.

2. Select the Install driver support items icon at the top of the installation window (see right).

   The support options window displays.

3. Select from the following support options and click Install Now.

   - **Shared Printer Client Support**:
     - **Magnetic stripe fonts**—Select this option if the shared printer client PC will process magnetic stripe cards using magnetic stripe fonts.
     - **Custom masking bitmaps**—Select this option if you plan to use custom user-defined bitmaps on the client system. The bitmaps are installed automatically on a host system, but you must select this option to install them on a shared client system. Refer to “Use a User-Defined Topcoat Bitmap” on page 85 and “Select an Erase Pattern” on page 88 for more information.

   - **Legacy Application Support**—Select Legacy magnetic stripe fonts if you have an application that uses magnetic stripe fonts from older generation desktop printers.

   - **ID Software Support**—Select XPS Card Printer Plug-in to install the XPS Card Printer plug-in for your ID software. A wizard guides you through the plug-in installation.

4. After you install the needed support files, close the Card Printer Installation window.
Install User Documentation

Install the card printer documentation files from the separate documentation CD. The document set consists of the following user manuals:

- Quick Install Guide
- XPS Card Printer Driver Guide
- User’s Guide
- Installation and Administrator’s Guide
- OpenCard Data Format Guide
- Software Development Kit (SDK) Programmer’s Reference Guide
- XPS Card Printer Plug-in User’s Guide

Advanced Setup

Advanced setup options help you set up your installation to fit your operation’s needs. Advanced setup includes the following:

Connect More Than One Printer on page 25
Use the Card Printer Driver for Secure Printing on page 27
Use Printer Sharing on page 29
Use Printer Pooling on page 35
Connect More Than One Printer

There are several options for connecting more than one printer to a PC. You can connect to several printers installed on an Ethernet network, or connect multiple printers to a PC with USB cables.

Print to More Than One Printer From One PC

When you print to more than one printer from one PC, keep the following in mind:

- Keep track of the printer names. When messages display, the title bar of the message displays the name of the printer that issued the message.
- Select the printer to use from within the card production application. Card jobs are sent to the selected printer even if more than one card printer is attached to the PC.
- Each printer has its own icon in the Printers window, and each printer has separate Properties and Printing Preferences windows. Settings are not shared among printers.
- Do not mix non-secure and secure printers on PCs that require secure printing.

Install Additional USB Printers

Use the following guidelines to install more than one printer with USB cables:

- Connect and install one printer at a time. The PC cannot run more than one installation program at a time.
- You can connect up to eight printers to a PC with USB cables.
- If you need to connect two card printers to a PC with one USB port, use an independently powered, high-speed USB hub (USB 2.0) to which both printers can connect. Do not daisy-chain multiple hubs. (Self-powered hubs are recommended.)
- Each printer must remain powered on and in the Ready state during installation.

For each USB printer installed after the initial USB installation, do the following:

1. Load supplies and power on the printer before starting the installation. Refer to the printer’s User’s Guide for the steps to load cards and ribbon.
2. Log on to the PC as a user with administrator access.
3. Connect the Ready printer to the PC with a USB cable.
4. The operating system detects the new device and begins installation. What you see during the installation process varies depending on your system's current setup.

   - A pop-up window may display during installation.
     
     If the operating system does not display a pop-up window within a few minutes, check all cables and connections to the printer, and then look at the PC’s Printers window to determine whether the icon for the new printer displays. The software sometimes installs without displaying the pop-up window.

   - The operating system usually uses the existing Card Printer Driver files to install the driver for the new printer. Insert the Driver Installation CD only if you are prompted for it.
Use the Card Printer Driver for Secure Printing

Secure printing encrypts print commands and card data and transmits the information securely from the PC to the printer. When the Card Printer Driver detects that the printer is enabled for secure communications, it encrypts the data before sending it to the printer.

Secure Printing Overview

Communication with the printer can use one of three protocols. These protocols are named for the printer command language protocols used to send card print data between the Card Printer Driver and the printer.

<table>
<thead>
<tr>
<th>Protocol</th>
<th>Secure/Non-Secure</th>
</tr>
</thead>
<tbody>
<tr>
<td>DPCL</td>
<td>Non-Secure</td>
</tr>
<tr>
<td>DPCL2</td>
<td>Non-Secure</td>
</tr>
<tr>
<td>DPCL2Secure</td>
<td>Secure</td>
</tr>
</tbody>
</table>

Printers are shipped with all communication protocols enabled. The Card Printer Driver uses the DPCL2Secure protocol for secure communication with the printer. To ensure secure communication, you must disable DPCL2 and enable DPCL2Secure. DPCL must remain enabled at all times.

You set communication protocols through the Printer Manager web interface. Refer to the printer’s Installation and Administrator’s Guide for complete information about using Printer Manager. The following table shows the communication protocol used by the Card Printer Driver depending on the Printer Setting > Behavior settings in Printer Manager:

<table>
<thead>
<tr>
<th>Printer Settings in Printer Manager</th>
<th>Driver Behavior</th>
</tr>
</thead>
<tbody>
<tr>
<td>DPCL Enable, DPCL2 Enable, DPCL2Secure Enable</td>
<td>Driver Uses: DPCL2</td>
</tr>
<tr>
<td>DPCL Enable, DPCL2 Disabled, DPCL2Secure Enable</td>
<td>Driver Uses: DPCL2Secure</td>
</tr>
<tr>
<td>DPCL Enable, DPCL2 Disabled, DPCL2Disabled</td>
<td>Driver Uses: DPCL</td>
</tr>
<tr>
<td>DPCL Enable, DPCL2 Disabled, Disabled</td>
<td>Driver Uses: DPCL2</td>
</tr>
<tr>
<td>Disabled, DPCL Enable or Disabled, DPCL2Secure Enable</td>
<td>Communication fails</td>
</tr>
</tbody>
</table>
Use Printer Manager to Set Up Secure Printing

Do the following to set up secure printing:

1. Install a printer that supports secure printing. Refer to the printer’s *Installation and Administrator’s Guide* for a list of hardware and software requirements.

2. Install and set up the Card Printer Driver. Refer to “Install the Driver” on page 9.

3. Use the Printer Manager web interface to enable secure printing. Sign on as a WebAdmin and select **Printer Setting > Behavior**. Set **DPCL2** to **Disabled**, and make sure that **DPCL2Secure** is set to **Enabled**. Refer to the printer’s *Installation and Administrator’s Guide* for complete information about using Printer Manager. Click **Set Current** to save your changes.

4. Restart the printer and computer for the settings to take effect.

5. Connect your secure printers to the host and client PCs.

   After secure printing is set up, the Card Printer Driver automatically detects and uses secure printing during card production.
Use Printer Sharing

You can share a printer over a network using Microsoft File and Printer Sharing.

Shared printing includes a host PC and up to 10 client PCs. The printer is connected to a host PC that has the Card Printer Driver installed. Client PCs then print to the shared printer over a network. Client PCs do not have the same level of access to the Card Printer Driver as the host PC.

Printer Sharing Requirements

Before sharing a printer over a network, make sure that the following requirements are met:

- Each PC that uses the printer must be connected to the same network, workgroup, or domain.
- The host and the client PC must be using the same type of processor, either 32- or 64-bit.
- The host PC must be configured and enabled for sharing.
- The host PC must remain on at all times with the Windows operating system running.
- The host PC must grant permissions for users that print to the shared printer.
- When multiple user accounts are configured on a shared printer client, we recommend that users log on and off when switching from one account to another. Using the Windows “Switch User” feature keeps multiple user accounts logged on and may cause the same message from the printer to display several times.
- Change the host printer name to meet the following requirements:
  - The name of a shared (host) printer is the name you assign plus the server name (which is added by Windows). The server name is the network name of the host PC.
  - For best results, use a name with eight or fewer characters. The printer name, including the server name, cannot be longer than 30 characters.
  - The printer name cannot contain special characters. Follow Windows guidelines for allowed characters and naming restrictions.
- If you need to rename a printer, do it before you enable printer sharing.

Caution: Renaming shared printers is not supported. Do not change printer names after sharing is enabled. If you rename a shared printer, print requests may fail and reinstallation may be necessary.
## Supported Operating Systems

The Card Printer Driver supports the following host and client operating system combinations. See the appropriate appendix for printer sharing setup information for your host and client systems.

<table>
<thead>
<tr>
<th>Host</th>
<th>Client</th>
<th>Refer to</th>
</tr>
</thead>
<tbody>
<tr>
<td>64-bit: Windows 7</td>
<td>64-bit: Windows 7</td>
<td>Appendix A: &quot;Windows Printer Sharing&quot;</td>
</tr>
<tr>
<td>Windows 8.1</td>
<td>Windows 8.1</td>
<td></td>
</tr>
<tr>
<td>Windows 10</td>
<td>Windows 10</td>
<td></td>
</tr>
<tr>
<td>Windows Server 2012</td>
<td>Windows 8.1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Windows 10</td>
<td></td>
</tr>
</tbody>
</table>
Tips for Host PC and Client PC Users

The user at the host PC has more control over the printer. The host PC typically is located near the printer and is used by administrator-level users.

The following table describes some of the tasks that can be performed at the host and client PCs. Understanding these tips for setting up and managing shared printers can help you install and modify your printer setup for your operation’s unique needs.

<table>
<thead>
<tr>
<th>Feature</th>
<th>Printer Sharing Tips</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Host PC Users:</strong></td>
<td></td>
</tr>
<tr>
<td>Manage print queue</td>
<td>Use the Windows Print Manager to manage print jobs.</td>
</tr>
</tbody>
</table>
| Secure printing | To ensure secure printing, make sure that:  
  • The printer you install and share supports secure printing.  
  • Secure printing is enabled in Printer Manager.  
  Refer to “Use the Card Printer Driver for Secure Printing” on page 27. |
| Security permissions for shared printers | Set up a Windows group account with the users who have the same printer security permissions.  
  For more information, refer to: “Set Up Group Accounts for Using Shared Printers” on page 34. |
| View messages | To set up accounts to view messages:  
  • Enable printer sharing on the Windows Printer Properties Sharing tab.  
  • Set up applicable user accounts on the Windows Printer Properties Security tab. Select the Print and the Manage this printer permissions for each user or group.  
  Selecting both of these settings lets individual users or groups print and view messages from their PCs, except in the following case: |
| View printer status, supplies, and card counts | For more information, refer to the following topics:  
  • Printer Status Tab on page 50  
  • Card Counts Tab on page 55  
  • Supplies Tab on page 57 |
<table>
<thead>
<tr>
<th>Feature</th>
<th>Printer Sharing Tips</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Client PC Users:</strong></td>
<td></td>
</tr>
<tr>
<td>Client card design printing preferences</td>
<td>Client PC users have different options for high-resolution printing on the Printing Preferences &gt; Print Mode tab.</td>
</tr>
<tr>
<td></td>
<td>• The <strong>Always use best possible resolution</strong> setting is not available.</td>
</tr>
<tr>
<td></td>
<td>• Client PC users must select <strong>Custom</strong> and then select from the list of supported resolutions.</td>
</tr>
<tr>
<td></td>
<td>Refer to “Configure PC Printing Preferences for Sharing” on page 33.</td>
</tr>
<tr>
<td>Allow printing and viewing of messages</td>
<td>Client PC users may be able to view printer messages. The buttons in the message let users resolve some issues without going to the printer.</td>
</tr>
<tr>
<td></td>
<td>Refer to the “Configure Security” section in the appendix for your operating system.</td>
</tr>
<tr>
<td><strong>All PC Users:</strong></td>
<td></td>
</tr>
<tr>
<td>Clear error messages on the printer or host PC</td>
<td>If you clear the error at the printer’s LCD screen, the error message on the PC closes automatically and removes the error message from Windows Print Manager.</td>
</tr>
<tr>
<td>Print to shared printers in interactive mode</td>
<td>Interactive printing in shared printer environments is not supported for host and client PCs. This restriction prevents using operations such as magnetic stripe read or smart card personalization.</td>
</tr>
<tr>
<td>Update the job status in Windows Print Manager</td>
<td>If Windows Print Manager is already open, press <strong>F5</strong> to update the current print job status in the window.</td>
</tr>
<tr>
<td>Use device naming rules for shared printers</td>
<td>Do not rename a shared printer. Doing so means all connected printers may need to be reinstalled at the host and client PCs.</td>
</tr>
<tr>
<td></td>
<td><strong>Note:</strong> Renaming printers after implementing printer sharing is not supported.</td>
</tr>
<tr>
<td>Submit jobs using the driver SDK</td>
<td>Shared printers are not supported for jobs submitted using the driver Software Development Kit (SDK). For more information about using the SDK, refer to the printer’s Windows Driver Software Development Kit Programmer’s Reference Guide.</td>
</tr>
</tbody>
</table>
Configure PC Printing Preferences for Sharing

When you use printer sharing, settings on the client PC must be configured to match the settings of the host PC. Print quality from the client PC may be affected if the Windows printing preferences are not the same on the host PC and the client PC.

Use the Printing Preferences window to set up your printing preferences. Refer to “Design Tasks in Windows Printing Preferences” on page 69 for complete information about how to set up printing preferences.

Consider the following when you use printer sharing:

- When you set up the host PC, write down the settings you specify in the Printing Preferences window. You use these settings when you set up each client PC’s printing preferences.

- The host PC automatically detects the ribbon type that is installed in the printer and displays it on the Printer Properties Supplies tab. The client PC does not automatically detect the type of ribbon in the printer. Instead, it defaults to YMCKT ribbon and 300 x 300 dpi resolution. Select the same ribbon type as the host on the client Printing Preferences Advanced Options window.

- Select the same topcoat and print blocking options for the front side and back side print areas. Refer to “Print Area Tab” on page 83.

- Set the print resolution on the client PC to use the same setting you selected for the host PC print resolution. Refer to “Print Mode Tab” on page 93.
Set Up Group Accounts for Using Shared Printers

If you want to define which users can both print cards and view messages, we recommend that you create a group account. Assign the client user accounts allowed to use the printer to the group account. Then, using the shared printer’s Printer Properties Security tab, select the Print and Manage this printer permissions to allow the group to print and display messages.

For more information, refer to the Microsoft documentation on setting up group accounts and printer security permissions, and the following instructions for your configuration:

- Appendix A: “Windows Printer Sharing”
- Appendix B: “Windows Server 2008 and 2012 Printer Sharing”

Use Windows Print Manager

Windows Print Manager is one tool available for managing print jobs across your host and client systems. Do not confuse Windows Print Manager (shown) with the printer’s Printer Manager web interface.

If Windows Print Manager is already open, press F5 to update the current print job status in the Print Manager window.
Use Printer Pooling

Printer pooling is used in card production environments in which an application prints to a group of printers. The user chooses to print to the pool and the pool distributes the print jobs to the next available printer.

- Printer Pooling Requirements
- Operating Systems Supported for Printer Pooling on page 36
- Tips for Printer Pooling on page 37
- Set Up a Printer Pool on page 38

Printer Pooling Requirements

Printer pooling requires that you set up all printers in a pool with the same basic setup, except as noted below. The setup includes connecting printers using an Ethernet cable only, using the same ribbons, and setting up for non-interactive printing.

<table>
<thead>
<tr>
<th>All printers in a printer pool must have the same:</th>
<th>With:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model number</td>
<td>The same printing features installed, as outlined in this table.</td>
</tr>
<tr>
<td>For example, a pool includes:</td>
<td>Note: Do not place non-secure printers in pools where secure printing is needed. For more information about secure printing, refer to “Use the Card Printer Driver for Secure Printing” on page 27.</td>
</tr>
<tr>
<td>Only SD260L models</td>
<td></td>
</tr>
<tr>
<td>OR Only SD360 models</td>
<td></td>
</tr>
<tr>
<td>OR Only CD800 models</td>
<td></td>
</tr>
<tr>
<td>Supplies</td>
<td>The same settings applied. For information about defining printer ribbon settings, resolution, and other print settings, refer to “Design Tasks in Windows Printing Preferences” on page 69.</td>
</tr>
<tr>
<td>Network cable type—Ethernet only</td>
<td>No USB-connected printers. Printer pooling is not supported for USB-connected printers.</td>
</tr>
</tbody>
</table>
### Operating Systems Supported for Printer Pooling

Printer pooling is supported on all Card Printer Driver-supported operating systems. For more information about supported operating systems, refer to the printer’s *Installation and Administrator’s Guide*.

<table>
<thead>
<tr>
<th>All printers in a printer pool must have the same:</th>
<th>With:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-interactive printing requirements</td>
<td>No direct, printer-to-PC processing is permitted. Interactive print processing requires a connection to a printer, which is not possible when using a pooled printer.</td>
</tr>
<tr>
<td></td>
<td><strong>Note:</strong> Smart card and magnetic stripe read commands cannot be processed on printers in a pool.</td>
</tr>
<tr>
<td>Printer Manager settings and magnetic stripe values</td>
<td>Refer to the printer’s <em>Installation and Administrator’s Guide</em> for more information.</td>
</tr>
</tbody>
</table>
## Tips for Printer Pooling

<table>
<thead>
<tr>
<th>Feature</th>
<th>Tip for Printer Pooling</th>
</tr>
</thead>
<tbody>
<tr>
<td>Error messages</td>
<td>Messages display the name of the main printer named during the Card Printer Driver installation, rather than the name of the specific printer in error.</td>
</tr>
<tr>
<td></td>
<td>• To locate the printer with the error condition, look at each printer in the pool for warning indicators or LCD messages.</td>
</tr>
<tr>
<td></td>
<td>• Card jobs are held at the printer with the error condition. All subsequent card jobs print to other printers in the pool. The printer with the error is not used by the pool until the error condition is corrected.</td>
</tr>
<tr>
<td></td>
<td>• After correcting the error at the printer, resume or cancel the print job using the error message on the PC.</td>
</tr>
<tr>
<td>Printer Pooling information</td>
<td>Printer status, card count, and supplies information typically shown in the Windows Printer Properties window is not available to printers belonging to a printer pool.</td>
</tr>
<tr>
<td></td>
<td>For these printers, the Printer Status tab displays the status as “Printer pooling,” which indicates that the printer belongs to a printer pool.</td>
</tr>
<tr>
<td></td>
<td>Use Printer Manager to view card counts, supply information, and the status of individual printers in the pool. Refer to the printer’s Installation and Administrator’s Guide for information about using Printer Manager.</td>
</tr>
<tr>
<td>Shared Printers</td>
<td>Shared printers can be part of a printer pool.</td>
</tr>
<tr>
<td>Print Sample Card and Magstripe Test</td>
<td>The Print Sample Card and Magstripe Test Card buttons on the Printer Properties window Status tab are not available for a printer belonging to a printer pool. Print sample cards or test cards from the LCD panel on each printer.</td>
</tr>
<tr>
<td>Card are not available</td>
<td></td>
</tr>
</tbody>
</table>
Set Up a Printer Pool

The following steps describe how to set up printer pooling for all supported Windows operating systems. Operating system-specific differences are noted, where necessary. The screens shown may differ slightly from those on your system

1. Install the first network printer on the host PC. Refer to “Install the Driver” on page 9.

2. Connect each additional printer you want to include in the pool to the network using an Ethernet cable.

3. Write down the IP address of each printer. Refer to your printer’s User’s Guide for details about how to obtain the IP address.

### Feature Tip for Printer Pooling

<table>
<thead>
<tr>
<th>Feature</th>
<th>Tip for Printer Pooling</th>
</tr>
</thead>
<tbody>
<tr>
<td>Printer pool print queues</td>
<td>A printer that cannot process jobs continues to have jobs assigned to it by the pool controller. The Card Printer Driver does not determine if each printer in the pool is ready to receive card jobs. Remove printers that are not available from the pool until they are functioning and ready to receive print jobs: 1. To remove a printer from the pool, open the Printer Properties window and click the Ports tab. 2. Remove the check mark from the port assigned to the printer. Some software, such as Microsoft Office (for example, Word, Excel, Access), sends multiple-card (batch) files as a single print job. In this case, the pool sends all cards in the batch to the same printer. Software designed specifically for card production sends each card in the batch as a separate print job. The printer pool distributes these print jobs among the available printers.</td>
</tr>
<tr>
<td>Multiple active jobs</td>
<td>Pooled printers process only the current active job, so only one job is sent to the printer at a time. Pooled printers pause briefly between jobs.</td>
</tr>
</tbody>
</table>
4. Configure the network printers for printer pooling.
   a. Display the **Devices and Printers** window for your operating system.
   b. Right-click the card printer icon and select **Printer properties** to display the **Printer Properties** window.
      
      *Windows Server 2008 and Windows Server 2012*: Select the printer and click **Print server properties** on the menu bar.
   c. Select the **Ports** tab.
      
      *Windows Server 2008 and Windows Server 2012*: On the **Print Server Properties Ports** tab, scroll down and highlight the printer to add to the pool. Click **Change Port Settings**.
   d. Click **Add Port**.
      
      The **Printer Ports** window displays.
   e. Select **Standard TCP/IP Port**, and click **New Port**. The **Add Standard TCP/IP Printer Port Wizard** page displays.
   f. Follow the instructions in the wizard to add the port. Click **Next** to display each step in the wizard.
   g. In the Printer Name or IP Address field, enter the name or IP address of the printer you are adding.
   h. In the Port Name field, enter a name, such as Pooled Printer 2.
   i. Click **Next**.
      
      If the **Additional Port Information Required** page displays, select **Custom** and click **Next**.
   j. When the last page of the wizard displays, click **Finish**.
   k. Repeat these steps for each printer you want to add to the pool.
   l. Close the **Printer Ports** window.
m. Disable SNMP for each added printer.
   
i. On the Ports tab, select a printer that you want to add to the pool and click Configure Port.
   
ii. On the Configure Standard TCP/IP Port Monitor window, make sure that SNMP Status Enabled is not checked.
   
iii. Click OK to close the Configure Standard TCP/IP Port Monitor window.
   
iv. Select the next printer that you want to add to the pool and repeat steps i through iii.
   
n. Click Apply on the Ports tab after all printers and ports have been added and configured.
   
   
5. Enable printer pooling.
   
a. On the Devices and Printers window, right-click the printer icon and select Printer properties.
   
b. Select the Ports tab. The list of printer ports displays.
   
c. Select the Port check box for the printer that you want to represent the pool. (This is the printer that users select when printing to the pool.)
   
d. Select Enable printer pooling.
   
e. Select the Port check box next to each port that you added and that you want to be part of the printer pool.
   
f. Click Apply to save the settings.
   
6. Click OK to close the Printer Properties window.
Chapter 3: Card Printer Driver Management Tasks

Card Printer Driver managements tasks are accessed through the Printer Properties window.

This chapter provides information about the Card Printer Driver, including:

- The Printer Properties Window
- Uninstall the Card Printer Driver on page 60

The Printer Properties Window

The **Printer Properties** window allows you to view the settings and values that Windows uses to communicate with and manage the printer. You also can modify some of the settings.

To open the **Printer Properties** window, display the **Devices and Printers** window on your system. Right-click the icon for the card printer and select **Printer properties**. Use the Printer Properties tabs to define your printer to the PC.
General Tab

The General tab displays when you first open the Printer Properties window. It contains basic information about the printer. Click Preferences to display the Printing Preferences window. Refer to “Design Tasks in Windows Printing Preferences” on page 69 for complete information about using the Printing Preferences window.

- If you rename the printer on the General tab, all settings on all Printing Preferences tabs are reset to their default values. If you have specified preference settings, your changes will be lost. Windows does not issue a warning message to indicate that the preferences will be changed. If you do rename the printer, make sure to check your Printing Preferences settings and reset them, as needed. Refer to “Design Tasks in Windows Printing Preferences” on page 69 for a complete discussion of the printing preferences settings.

- The Print Test Page button prints a Windows test page to verify PC communication with the printer. On some operating systems, the card printer prints only a small portion of the test page. We recommend that you use the “Printer Status Tab” on page 50 to print a sample card.

Sharing Tab

Use the Sharing tab to set up printer sharing using a host PC and up to ten client PCs. Refer to “Use Printer Sharing” on page 29 and the appropriate appendix for your operating system for complete information about setting up printer sharing.
Ports Tab

Use the Ports tab to define the IP address of your printer to the PC. Refer to “Install the Driver” on page 9 and “Set Up a Printer Pool” on page 38 for information about defining a port during installation or when setting up a printer pool.

The Ports tab of the Printer Properties window includes the Enable Bidirectional Support check box. The Card Printer Driver always uses bidirectional communication with the printer. Make sure that this option is selected. Otherwise, all printing from the Card Printer Driver is disabled.

View Network Information

When the printer and PC using the Card Printer Driver are connected using a network, the network settings on the PC and the printer must match.

Use the Ports tab on the Card Printer Driver Printer Properties window to enter the printer’s IP address. Refer to the Port Type section of “Printer Status Tab” on page 50 to see the current IP address setting.

If the printer is set to use DHCP (Dynamic Host Configuration Protocol), the IP address of the printer can change when the printer is powered off and powered back on. If this occurs, the Card Printer Driver issues error message 500.

If the printer IP address changes often, consider using static IP addressing to provide a more reliable connection. Work with your network support group to identify the IP address, subnet mask, and gateway address (if used). Then, refer to the printer’s Installation and Administrator’s Guide for information about setting a static IP address.

The Card Printer Driver supports both IPv4 and IPv6 addresses for network-connected printers. Refer to your printer’s User’s Guide for complete information about obtaining an IPv6 address.

Change a Network IP Address

If you are connecting your PC to a new network printer or if the printer IP address has changed, you need to change the IP address that is defined in the Printer Properties Ports tab.

Follow the procedure to change the port settings based on the operating system you are using:

- Windows 7, Windows 8.1, and Windows 10 on page 44
- Windows Server 2008 and Windows Server 2012 on page 45
Windows 7, Windows 8.1, and Windows 10

1. Open the Printer Properties window and select the Ports tab.

2. Select the installed network printer you want to change and click Configure Port.

3. On the Configure Standard TCP/IP Port Monitor dialog, enter the new IP address for the printer.

4. Click OK to save the new settings and then click Close on the Printer Properties window.
Windows Server 2008 and Windows Server 2012

1. Open the Devices and Printers window and click the network printer you want to change. Print server properties displays in the menu bar.

2. Click Print server properties and select the Ports tab on the Print Server Properties window.

3. Scroll down and select the printer whose IP address you want to change. Click Change Port Settings.

4. The Print Server Properties window displays again. Select the printer again and click Configure Port.
5. On the **Configure Standard TCP/IP Port Monitor** dialog, enter the new IP address for the printer.

6. Click **OK** to save the settings, and then click **Close** to exit the Print Server Properties window.
Advanced Tab

The Advanced tab contains additional printer settings. We recommend you keep the defaults set when you install the Card Printer Driver.

The Card Printer Driver does not support the following options on the Advanced tab:

- The New Driver button. Use the update process to update the Card Printer Driver to a newer version. Refer to “Update the Card Printer Driver” on page 16 for complete information.
- The Keep printed documents option.
- The Print directly to the printer option. The Card Printer Driver always uses print spooling.

Color Management Tab

Refer to the Printing Preferences window “Color Adjustment Tab” on page 90 and the “Color Printing” section of your printer’s Installation and Administrator’s Guide for more information.
Security Tab

Use the Security tab to set printer permissions. If the PC to which the printer is attached has more than one user, set permissions that:

- Give users access to all features of the printer and Card Printer Driver, including messages.
- Display messages to inform users when they need to change the ribbon, load cards, or fix problems.
- Prevent access to the printer by unauthorized users.

1. Log in to the PC as the Creator/Owner.

2. On the Printer Properties window, select the Security tab.
   a. Review the Group or User Names list. If the names for which you want to specify permissions do not appear in the list, add the names.
   b. Click Add to open the Users and Groups dialog box.
   c. Select a name and click Add. Repeat for each name you want to add. When you are done adding names, click OK to close the Users and Groups dialog box.

3. In the Names list, select the name for which you want to specify permissions.
4. From the Permissions list, select the access for each user or group:
   - To enable printing, select **Allow** permission for Print, Manage this printer, and Manage documents.
   - To prevent a user from printing to the card printer, select **Deny** for all permissions.

5. Click **Apply** to save the changes.

6. Repeat steps 3 through 5 to grant access to the printer for other users or groups.

7. Click **OK** to close the **Printer Properties** window.
Printer Status Tab

The Printer Status tab displays the printer status, port type, IP address, printer information, and any messages that apply to the printer.

If your printer is part of a printer pool:
- Printer status information is not available. The status displays as “Printer pooling.” You can view status information for individual printers in the pool using Printer Manager. Refer to your printer’s *Installation and Administrator’s Guide* for complete information about using Printer Manager.
- All buttons on the Printer Status tab are unavailable.

1. On the Printer Properties window, select the Printer Status tab.

![Printer Status Tab](image)

The date and time the information was retrieved from the printer displays in the lower left area of the tab.

2. Click Ask Printer for Update to get the latest information from the printer.
3. You can view and update printer settings using the printer’s Printer Manager web interface. Click **Configure Printer** to log into Printer Manager. Refer to your printer’s *Installation and Administrator’s Guide* for complete information about using Printer Manager.

- If a shared printer client PC is connected to the host computer with a USB cable, the **Configure Printer** button on the client is unavailable and cannot be used to start Printer Manager. You must configure the printer settings from the host computer.
- **Windows 10 Users:** The **Configure Printer** button on a USB-connected printer cannot launch Printer Manager using the Edge browser that is shipped with Windows 10 as the default browser. The Card Printer Driver automatically uses Internet Explorer to start Printer Manager on Windows 10 systems. If you have removed Internet Explorer from your system, the **Configure Printer** button does not function.

**Printer Status**

The printer status can display as one of the following:

<table>
<thead>
<tr>
<th>Icon</th>
<th>Printer Status</th>
</tr>
</thead>
</table>
| ![Checkmark] | **Ready**  
The printer is not processing a card and is available to print. |
| ![Pause] | **Suspended**  
The printer was paused or it is processing a card from another PC that has an error. |
| ![Lightning bolt] | **Busy**  
The printer is processing a card or a command, or the printer menu system is being used.  
If the printer is connected to a laminator, a message displays when the laminator is warming up indicating the percent complete. Click **Ask Printer for Update** to update the warm-up percentage. |
| ![Warning] | **Message**  
The printer has issued a message for a card sent from this PC. The message text displays. |
| ![Clock] | **Initializing**  
The printer is powering on. |
| ![X] | **Unavailable**  
The printer is off, is shutting down, or is not connected. |
Port Type

The Port Type displays the connection type and the printer IP address:

- **USB**—The printer is connected locally via USB.
- **Network**—The printer is connected using a network connection. The network IP address can be either IPv4 or IPv6.

Printer Information

The Printer Information box shows the following:

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Model</strong></td>
<td>Model name of the printer</td>
</tr>
<tr>
<td><strong>Serial Number</strong></td>
<td>Printer serial number assigned at the factory</td>
</tr>
<tr>
<td><strong>Firmware Version</strong></td>
<td>Version of the firmware currently running in the printer</td>
</tr>
<tr>
<td><strong>Protocol</strong></td>
<td>DPCL protocol used by the driver to communicate with the printer</td>
</tr>
<tr>
<td><strong>Option Information</strong></td>
<td>The options or features included in this printer</td>
</tr>
</tbody>
</table>

Print a Driver Sample Card

You can print sample cards from the **Printer Status** tab to verify that the Card Printer Driver and the printer are communicating.

The Printer sample card shows a basic ID card that can be printed with any ribbon that the printer supports. The test card images and text do not change.

The magnetic stripe test card is available when the printer includes a magnetic stripe option. The magnetic stripe test card verifies that the Card Printer Driver sends magnetic stripe data to the printer and that the printer encodes it. The test data cannot be changed.

The Card Printer Driver includes the following sample cards:

- **Printer Sample Card**
• 3-Track ISO Magnetic Stripe

![ISO Magnetic Stripe Test Card](3-track.png)

• JIS Magnetic Stripe

![JIS Magnetic Stripe Test Card](jis.png)

**HINTS & TIPS**

- The Card Printer Driver sample cards use the settings specified in the Printing Preferences **Layout** window, except for the following: Orientation, Print on Both Sides, and Rotate front side card image 180 degrees. Refer to “Design Tasks in Windows Printing Preferences” on page 69 for information about specifying printing preferences.

- The magnetic stripe data sent by the Card Printer Driver requires that the printer be set to encode the three-track ISO format for a three-track module, or the JIS-II format for the single-track module. The magnetic stripe card that prints is determined by the printer settings.

- The name of the magnetic stripe sample card prints on the card.

- If you are printing the sample card to a rewritable card (for card printers that support rewrite only), make sure that the Card Printer Driver, printer, and Printer Manager are configured correctly. Refer to “Printer Setup for Rewritable Cards” on page 97.
To print a sample card:

1. Open the **Printer Properties** window.

2. Select the **Printer Status** tab. If the printer status is something other than **Ready** or **Busy**, determine why the printer is unavailable.

3. Do one of the following:
   - Click **Print Sample Card**.
   - OR
   - Click **Print Mag Stripe Test Card**.

The printer picks the card and prints it. If the card does not print, refer to the “Troubleshooting” section of the printer’s *User’s Guide* to determine the cause of the problem and try to print the sample card again.
Card Counts Tab

The Card Counts tab of the Printer Properties window shows the number of cards that have been processed by the printer.

1. On the Printer Properties window, click the Card Counts tab. The tab displays current and total counts.

![Card Counts Tab Image]

2. Click Ask Printer for Update to see the most recent card counts.

If your printer is part of a printer pool:

- Card count information is not available. You can view card count information for individual printers in the pool using Printer Manager. Refer to your printer's Installation and Administrator's Guide for complete information about using Printer Manager.
- The Ask Printer for Update button is unavailable.
The **Card Counts** tab provides the following information:

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total</strong></td>
<td>All the cards the printer has processed.</td>
</tr>
<tr>
<td><strong>Current</strong></td>
<td>All cards printed since the last time the count was reset. Current counts can be reset using Printer Manager.</td>
</tr>
<tr>
<td><strong>Completed</strong></td>
<td>The number of cards that completed successfully.</td>
</tr>
<tr>
<td><strong>Rejected</strong></td>
<td>The number of cards that did not process correctly.</td>
</tr>
<tr>
<td><strong>Lost</strong></td>
<td>The number of cards that were picked but did not exit the printer (for example, a jammed card that had to be removed).</td>
</tr>
<tr>
<td><strong>Since last cleaned</strong></td>
<td>The number of cards processed since the last time the printer was cleaned.</td>
</tr>
</tbody>
</table>

- The printer updates the card count information when you first display the **Card Counts** tab or click **Ask Printer for Update**.
- The printer includes cards used for test cards and cleaning cards in the **Picked** count, but not in **Completed** count.
- You can select the hopper for which you want to see the card count information.
Supplies Tab

The **Supplies** tab of the Printer Properties window shows the supplies installed in the printer, including the type of supply, the estimated percentage remaining, the part number, and a description of the supply.

1. Open the **Printer Properties** window and click the **Supplies** tab.

2. The date and time the information was retrieved from the printer displays in the lower-left area of the tab. To get the latest information from the printer, click **Ask Printer for Update**.

   If your printer is part of a printer pool:
   - Supply information is not available. You can view supply information for individual printers in the pool using Printer Manager. Refer to your printer’s *Installation and Administrator’s Guide* for complete information about using Printer Manager.
   - The **Ask Printer for Update** button is unavailable.
The Card Printer Driver **Supplies** tab shows the following supply information:

<table>
<thead>
<tr>
<th>Supply Status</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>OK</strong></td>
<td>The supply is installed, and at least 10% of the roll remains.</td>
</tr>
<tr>
<td><strong>Low</strong></td>
<td>The supply is installed, and less than 10% of the roll remains.</td>
</tr>
<tr>
<td><strong>Unknown</strong></td>
<td>The supply is missing or is not valid.</td>
</tr>
</tbody>
</table>

| Remaining | The percent of supply remaining. |
| Supply    | The name of the installed supply. |
| Part Number | The part number of the supply. (If a part number is not available, a series of dashes displays.) Ribbons that have a region code display with a prefix of -Rxxx before the part number, where xxx is the region code. |
| Description | A short description of the supply, if one is available. For example, a print ribbon can display as YMCKT. If an installed supply is not supported by the printer, “Not supported” displays. If a supply is not installed, “Not installed” displays. **Note:** A card printer configured to print rewritable cards shows the print ribbon as Not installed. |
About Tab

The **About** tab shows the Card Printer Driver version and any additional information about the driver.

1. On the **Printer Properties** window, click the **About** tab.

![Printer Properties Window]

2. Click **OK** to close the **Printer Properties** window.
Uninstall the Card Printer Driver

You can uninstall the Card Printer Driver using either of the following methods:

- Uninstall the Driver with the Driver Installation CD or Downloaded File
- Uninstall the Card Printer Driver Without the Driver Installation Media on page 64

- If you have multiple user accounts configured on a shared printer client, only one account should be logged on when removing the driver. The Card Printer Driver uninstall process removes the printer from all configured accounts on the PC.
- You must restart your computer after uninstalling the Card Printer Driver.

Uninstall the Driver with the Driver Installation CD or Downloaded File

1. Log on to the PC as a user with administrator access.
2. Do one of the following:
   - Insert the Driver Installation CD in the PC’s drive.
     OR
   - Double-click the XPSCardPrinter_x.x.x.exe downloaded file.

   The Card Printer Driver install Welcome page displays. (If the AutoPlay window displays, click Run autorun.exe.)

3. Click the wastebasket icon to start the uninstall process.
4. The **Remove the Printer Driver from the PC** window displays. Click **Remove the Driver**.

![Image of Remove the Printer Driver from the PC window]

5. The **XPS Card Printer Uninstall** dialog box displays. If the printer is connected via a USB cable, make sure that the cable is connected to the PC. If the printer connects to a network via Ethernet, you can continue with the uninstall. Click **OK** to continue.

![Image of XPS Card Printer Uninstall dialog box]
An activity indicator displays as the Card Printer Driver is being removed.

The Driver removed screen displays.

6. Click Restart Now.
If the printer was connected via USB, a message displays reminding you to unplug the USB cable.

![Remove the Printer Driver from the PC]

**a.** Click **OK** after you disconnect the USB cable.

**b.** Click **Restart Now** again to complete the driver removal.
Uninstall the Card Printer Driver Without the Driver Installation Media

If you do not have access to the Driver Installation CD:

1. Remove the device.

   From the Windows Devices and Printers window, right-click the icon for the XPS Card Printer and select Remove device from the menu. The XPS Card Printer icon is removed from the list of printers.

2. Remove the driver from your system. From the Windows Start menu, select All Programs > Datacard Printers and click XPS Card Printer Uninstall.

   ![Image of Devices and Printers window with XPS Card Printer icon removed](image-url)
3. The **XPS Card Printer Uninstall** dialog box displays. If the printer is connected via USB, make sure that the cable is connected to the PC. If the printer connects to an Ethernet network, you can continue with the uninstall. Click **OK** to continue.

4. The **XPS Card Printer Uninstall** dialog box displays a warning that no printer activity occurs while the driver files are removed. Click **OK** to continue.
5. The **XPS Card Printer Uninstall** dialog box displays a message that the Card Printer Driver is uninstalled. Unplug the USB cable, if needed. Click **OK**.

6. Restart your PC following the uninstall. Click **Yes** to restart. Click **No** to restart your PC at a later time.
Chapter 4: Card Design Tasks

This chapter provides information about card design tasks you can perform with the Card Printer Driver.

Use the following information to fine tune your card design and set up your card printing preferences:

- Change a Card Design on page 68
- Design Tasks in Windows Printing Preferences on page 69
- Printer Setup for Rewritable Cards on page 97
- Card Design for UV Ribbon on page 100
- Escapes on page 103
- Magnetic Stripe Fonts on page 117
Change a Card Design

Card design is the name given to the combined features of the printed cards.

An organization can change:

- The arrangement of card components, such as moving a photo from the center to the left side of the card.
- The source for card components, such as using a different camera for taking photos, or using a new file for a logo.
- The components on the card, such as adding a magnetic stripe, a logo, or a bar code.

Whenever the card design changes, review the settings used for the card. Use this checklist to guide your changes. Always:

- Use high-quality (300 dpi) photos and graphics.
- Print several samples of the updated card design.
- Use cards with a magnetic stripe or bar code in a reader to verify that the data works as expected.
- Check the Color Adjustment settings if you change a graphic on the card, change the camera for taking photos, or change the location where photos are taken. Refer to “Color Printing” in your printer’s Installation and Administrator’s Guide for information about how to improve the appearance on one element on a card.
- Refer to your printer’s Installation and Administrator’s Guide if you are changing a bar code or magnetic stripe.
Design Tasks in Windows Printing Preferences

The **Printing Preferences** window allows you to specify default settings that define how your card prints. The values set in the **Printing Preferences** window are used for all cards printed using the Card Printer Driver unless they are overridden by your card design application or by using an escape.

To open the **Printing Preferences** window, display the **Devices and Printers** window on your system. Right-click the icon for the card printer and select **Printing preferences**. Use the Printing Preferences tabs to set up your printing preferences.

### Layout Tab

The **Layout** tab displays when you select Printing preferences. Use the Layout tab to select the orientation of the card (either Portrait or Landscape) and specify whether to print on both sides of the card.

The Advanced button displays the **Advanced Options** window, which allows you to define additional printing settings. Refer to “Advanced Options” on page 71 for complete information about specifying additional options.

### Print on Both Sides of the Card

You can print on both sides of the card using the Card Printer Driver. The method for printing on both sides depends on the printer model.

- **Printers** that include a **duplex printing** module automatically turn the card to print on both sides. Check the configuration label located on the printer swingarm to determine whether your printer includes a duplex module. Refer to your printer’s *User’s Guide* for more information about reading the configuration label.

- **Simplex printers** support manual duplex printing. The printer prints one side of the card, places the card in the card output hopper, and displays the message **Insert same card side 2 up**. Insert the card into the hopper or manual-feed slot to print on the second side.
Set Up Duplex Printing

Use card production software or another PC application to create a card design.

1. Set up your printing preferences.
   a. Open the printer’s Printing Preferences window.
   b. On the Layout tab, select Flip on Short Edge for the Print on Both Sides setting.
   c. Click Apply.

2. Start your application and select the card printer as the current printer.

3. Use the application’s page setup options to set the paper size to ISO ID-1. Set the margin settings to 0.

4. Format the text and graphics to print on the card.
   Refer to the printer’s Installation and Administrator’s Guide for more information about card design.

   ![Image of card design software]

   Your PC application’s Print settings may override the settings in the Card Printer Driver. Make sure that your application’s Print settings specify “Print on both sides.”
Advanced Options

Use the **Advanced Options** window to specify additional print settings. The following sections describe each of the Advanced options.

Paper Size

The default paper size is ISO ID-1 (85.60m x 53.98 mm).

Print More Than One Copy of a Card

You can specify to print from 1 to 255 copies of the same card design.

1. Open the **Printing Preferences** window.
2. On the **Layout** tab, click **Advanced**.
3. Type the number of copies you want to print in the Copy Count field. You can enter a value between 1 and 255.
4. Click **OK** to close the **Advanced Options** window.
5. Click **Apply** to save your changes and then click **OK** to close the **Printing Preferences** window.
6. Send the cards to print.

If you are using a card design application, set the number of copies in the application. The application settings override the settings in the **Printing Preferences** window.
Disable Printing

The Disable printing option allows you to send a card through the printer without printing on the card. Use this option to:

- **Encode a magnetic stripe or smart card chip.** Refer to “Encode the Magnetic Stripe Without Printing” on page 73. For smart card encoding, refer to the documentation for your smart card application.

- **Laminate or impress a preprinted card.** Lamination provides extra security and durability for a card. Refer to “Lamination Tab” on page 95 and “Impress Card” on page 82 for information about specifying lamination and impresser options.

- **Emboss and indent a preprinted card.** Refer to “Embosser Escape” on page 113 or your card production software documentation for information about specifying emboss and indent data.

- **Print only on one side of a card.** Some card designs require printing on only one side of the card. Refer to “Disable Card Side Printing for Special Card Designs” on page 74.

Datacard ID software overrides the Disable printing preference. Use your card design and production printing options to control card printing.

To specify a Disable printing option:

1. Open the **Printing Preferences** window.
2. Select the Layout tab and click **Advanced**.
3. Click **Disable printing** and select an option from the drop-down list:
   - **Off**—Printing is not disabled. The card design prints normally. This is the default.
   - **All**—Disables all printing. Nothing prints on the card.
   - **Front**—Disables printing on the front side of the card. Side 2 of the card design prints on the back of the card.
   - **Back**—Disables printing on the back side of the card. Side 1 of the card design prints on the front of the card.
4. Click OK to save the setting and close the Advanced Options window.

5. On the Layout tab, click Apply. Click OK to close the Printing Preferences window.

When you send a job to the printer, the Card Printer Driver discards the printable data based on the Disable printing selection and sends only the data or instructions you want the printer to process.

Disable Printing Examples

The following examples show how you can use the Disable printing option.

Encode the Magnetic Stripe Without Printing

You can use the Card Printer Driver to encode magnetic stripe data on a card without printing on the card.

- If you use card production software to produce cards, you do not need to use the Disable printing option. Use the settings in the software to encode the magnetic stripe without printing.

1. Set the Disable printing option to All. Refer to “Disable Printing” on page 72.

2. Format the data you want to encode:
   - If you use card production software, use a magnetic stripe field if it is available.
   - If you use other PC software, format the data using magnetic stripe fonts or magnetic stripe escapes. Refer to “Magnetic Stripe Escapes” on page 108 and “Magnetic Stripe Fonts” on page 117.

   The sample card shown has the text Sports Arts formatted with a magnetic stripe font. It is sent as encoded data. The other images and text on Page 1 of the card design are discarded.

3. Send the card to the printer to test your setup.
Disable Card Side Printing for Special Card Designs

If a card design calls for printing on only one side of the card, you can use the Disable printing option to avoid printing on the wrong side of the card or using ribbon for the side of the card with no printing.

If you use ID software for your card design, it may have settings that specify the side of the card to print. You do not need to use the Disable printing option if you use the software settings.

1. Select the Disable Printing option that prints the card design correctly and save your changes. Refer to “Disable Printing” on page 72. Use the following table to determine the correct setting to select:

<table>
<thead>
<tr>
<th>Disable Printing Option</th>
<th>Off</th>
<th>All</th>
<th>Front</th>
<th>Back</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-sided card design</td>
<td>Prints side 1 on front and side 2 on back</td>
<td>No printing</td>
<td>Disables printing on side 1, prints side 2 on back</td>
<td>Prints side 1 on front, disables printing on side 2</td>
</tr>
<tr>
<td>1-sided card design</td>
<td>Prints side 1 on front</td>
<td>No printing</td>
<td>No printing</td>
<td>Prints side 1 on front</td>
</tr>
</tbody>
</table>

2. Send the card to the printer to test your setup.
Print Bar Codes Using Monochrome

The Print bar codes using monochrome setting is being replaced by the Print black image pixels using monochrome setting. Future versions of the Card Printer Driver will remove the Print bar codes using monochrome option. Refer to “Print Black Image Pixels Using Monochrome”.

The Print bar codes using monochrome setting was used by the Card Printer Driver to identify and print bar code images using the K (black) panel of color print ribbon. Refer to the printer’s Installation and Administrator’s Guide for guidelines for printing bar codes.

Print Black Image Pixels Using Monochrome

When you use a ribbon that has both color and monochrome, such as YMCKT, the Card Printer Driver evaluates each image to determine if it should be printed as color or monochrome. If the image is pure black on a white background, the Card Printer Driver processes it using the black (K) panel of the print ribbon. If the image contains a pixel of color other than pure black or pure white, it processes the image (including any black portions) using the color (YMC) panels of the print ribbon.

If the card design requires that the black in images prints using the K panel, such as with a bar code, the Print black image pixels using monochrome option changes the way the data is processed.

When you set the Print black image pixels using monochrome option to On, the Card Printer Driver prints the seven black-most shades (from a palette of 256 shades) using the K panel. This allows the printer to use the K panel to print the bars of a bar code embedded in a color image so that the bar code can be read by a scanner.
The following examples show a card design submitted to the driver with the option enabled, and the K-panel image created by the driver and sent to the printer.

![Design submitted to the driver](image1)  ![K-panel image created by the driver](image2)

When printing a card design with the **Print black image pixels using monochrome** option enabled:

- The black pixels are not removed from the color image. They print with the YMC panels and also with the K panel.
- The option applies only to the card side that is being printed in color, for example, the front side for a YMCKT ribbon. It is not needed for KT or K ribbons, or for the back side of a YMCKT-KT ribbon.
- The option is ignored if color is not used in the card design.

To specify the Print black image pixels using monochrome option:

1. Open the **Printing Preferences** window.
2. Click **Advanced**.
3. Set **Print black image pixels using monochrome** to **On**.
4. Click **OK** to close the **Advanced Options** window.
5. Click **Apply** on the **Printing Preferences** window.
6. Click **OK** to close the window.
Rotate the Card Image

1. Open **Printing Preferences**.
2. On the **Layout** tab, click **Advanced**.
3. Select the side of the card you want to rotate 180 degrees, and select **On**.
   
   Make sure that if you rotate the back of the card that the text in your card design prints below the magnetic stripe, not on top of it (see the example card shown).

4. Click **OK** to save the setting, and then click **Apply** on the **Layout** tab.
5. Send the card to print.

If you are using a card production software, the application settings override the settings in **Printing Preferences**. Make sure to verify that your settings are correct.
Print Cards Using Split-Ribbon Color Printing

Two-sided, split-ribbon color printing uses a single ribbon panel set to print both sides of a card. This lets you use less ribbon to print cards in color. The ribbon can be a full-panel or short-panel color ribbon.

Before using split-ribbon color printing, become familiar with the use of card printer color printing. Refer to the printer’s Installation and Administrator’s Guide for complete information about color printing.

Most types of cards, including cards with magnetic stripes and smart cards, can be printed using split-ribbon printing.

The order in which the color, black, and topcoat sections of the panel set are used to print the card depends on the type of ribbon installed in the printer and the split-ribbon option selected on the Printing Preferences window. The Card Printer Driver supports the following ribbon types and split-ribbon printing options.

<table>
<thead>
<tr>
<th>Ribbon Type</th>
<th>Split Option</th>
<th>Description</th>
</tr>
</thead>
</table>
| YMCKT       | YMCT-K       | • color (YMC) + topcoat (T) front  
                   • black (K) back           |
| YMCKT       | YMC-KT       | • color (YMC) front  
                   • black (K) + topcoat (T) back  
                   **Note:** This option does not apply topcoat to the color printing. Color printing fades over time if it lacks a topcoat. Select this option if you are using a laminator, which can apply an overlay to the front of the card. |
| YMCKT       | K-YMCT       | • black (K) front  
                   • color (YMC) + topcoat (T) back           |
| YMCK        | YMC-K        | • color (YMC) front  
                   • black (K) back  
                   **Note:** This ribbon type does not include a topcoat panel and is meant to be used with a laminator, which can apply an overlay to one or both sides of the card. |
| YMCK        | K-YMC        | • black (K) back  
                   • color (YMC) back  
                   **Note:** This ribbon type does not include a topcoat panel and is meant to be used with a laminator, which can apply an overlay to one or both sides of the card. |
Before using split-ribbon color printing, be aware of the following:

- Set up your card design with your card production software or a PC application as you normally do.

- Select a split-ribbon option that applies topcoat to the side of the card where any color printing is used. If you use a laminating system, make sure to set up your lamination options to apply an overlay to the side of the card with color printing. Refer to “Lamination Tab” on page 95 for information about specifying lamination options.

- Install the correct ribbon type in your printer. The split-ribbon option is ignored if the ribbon installed in the printer does not match the selection in the Printing Preferences Advanced Options window.

- When the split-ribbon option specifies only color for a card side (for example, YMCT-K), any black text or monochrome images (including bar codes) on that side of the card are printed using the color panels to simulate black.

  If short-panel color ribbon is installed in the printer, make sure that your card design does not have any black elements on the front side of the card that will print before the color elements. The ribbon split will begin printing the black element using the color panels of the ribbon, resulting in the color elements possibly not printing completely.

- When the split-ribbon option specifies black, printing on that side of the card is done only in black, even if the original text and images are in color.
- Based on the split-ribbon option selected, the printer flips the card multiple times to print and apply topcoat. This increases the time it takes to print a card, and the cards may be stacked upside down in the output hopper.

- If you use the split-ribbon option with manual duplex printing on a simplex printer, a message displays on the printer LCD panel each time you have to flip the card to print the other side. A card may be flipped multiple times.

To apply split-ribbon color printing:

1. Display the **Printing Preferences** window, select the **Layout tab**, and click **Advanced**.

2. Select a **Split ribbon** option from the drop-down list. The default is **No**, split-ribbon printing is not used.

3. Click **OK** to save your selection and then click **Apply** on the **Layout tab**.
Input Hopper

For printers that have an optional multi-hopper, the Input Hopper setting allows you to select the hopper to use when you print a card. This setting does not display for single hopper printers. You also can use an escape to specify the input hopper to use. Refer to “Input Hopper Selection Escape” on page 110 for more information.

1. Display the Printing Preferences window, select the Layout tab, and click Advanced.
2. Click Input hopper and select the hopper number. The default is hopper 1.
3. Click OK to save your selection and then click Apply on the Layout tab.

Text Clipping

You may experience an issue with the clipping of some text characters on your printed cards. Set Text clipping to Remove to eliminate character clipping.

1. Display the Printing Preferences window, select the Layout tab, and click Advanced.
2. Click Text clipping and select Remove.
3. Click OK to save your selection and then click Apply on the Layout tab.
Impress Card

If your laminator system is equipped with the optional impresser, you can select to add an impression to the front of the card. The impresser uses an installed die to stamp an impression on the card. The impresser typically is used with a laminator and uses heat to fuse the overlay material to the card, adding an extra layer of security.

Use the Card Printer Driver to specify if you want to impress the card. The impresser can stamp up to three impressions on either the left, center, or right part of the card. Impresser settings are specified using Printer Manager. Refer to the “Laminator” section of your printer’s *Installation and Administrator’s Guide* for information about using Printer Manager.

The Impress card setting displays only when your laminator has an impresser installed. If the Card Printer Driver is installed on a shared printer client or is part of a printer pool, always make sure that an impresser is installed in the laminator before using this setting.

You also can use an escape to impress a card. Refer to “Impresser Escape” on page 112.

To impress a card:

1. Display the **Printing Preferences** window, select the **Layout** tab, and click Advanced.

2. Click **Impress card** and select Front. (The default Impress card option is None.)

3. Click **OK** to save your selection and then click **Apply** on the **Layout** tab.

4. Print sample cards to verify that they are being impressed properly.
Print Area Tab

The Print Area tab allows you to specify printing and topcoat application areas on the card.

For card printers that support printing to rewritable cards, you use the Print Area tab to specify erase options. Refer to “Select an Erase Pattern” on page 88.

Printing rewritable cards requires several settings in Printer Manager and in the Card Printer Driver. Refer to “Printer Setup for Rewritable Cards” on page 97 for a complete discussion of how to set up your system to use the rewritable feature.

Print and Topcoat Blocking

The Card Printer Driver can prevent printing and topcoat application on specific areas of the card. This includes the magnetic stripe, smart card chip, signature panel, or another area that must remain unprinted or without topcoat.

The Print Area tab provides a selection of standard blocking patterns that use a driver preset mask, which automatically applies the proper dimensions and locations of a smart card chip and magnetic stripes for print blocking. For more information about non-printing areas of a card, refer to the printer’s Installation and Administrator’s Guide.

If the predefined blocking selections offered by the Card Printer Driver do not fit the card design, you can use escapes to define custom rectangular areas for printing and topcoat application, including defining more than one blocking area per side of a card. Refer to “Print Blocking Escapes” on page 104.

You also can create a custom topcoat blocking pattern that is not possible with the topcoat settings offered by the Card Printer Driver or by using escapes. This can be a non-rectangular shape or another shape based on a graphic image bitmap, such as a logo. Refer to “Use a User-Defined Topcoat Bitmap” on page 85.

To return the Print Area tab to the default settings, click Restore Defaults. The default print and topcoat settings are:

- Front Side Print Area: Print and topcoat entire side of card
- Back Side Print Area: Print and topcoat entire side of card
- Custom bitmap is not selected

If you are using YMCK or YMCK-K ribbon (ribbons without a topcoat panel), the topcoat blocking preferences are ignored. Print blocking preferences function normally.
Select a Preset Mask

To select a preset mask for magnetic stripe or smart card areas, do the following:

1. Open the Printing Preferences window.
2. Select the Print Area tab.
3. For the side of the card with the non-printing area, select **Block printing and topcoat over this area**, and then select the area from the list.

   The Print Blocking and Topcoat Blocking icons display the location of the card element.

The example shown blocks printing and topcoat application on the ISO 3-Track Magnetic Stripe area on the back of the card. The text shown on the back of the card design is formatted with a magnetic stripe font and is encoded.

4. Click **Apply** to save the setting, and then click **OK**.
5. Send the card to print.

The back of the completed card looks like the following:

The narrow white area above and below the magnetic stripe indicates the non-printing area. It is slightly larger than the feature, in this case the magnetic stripe.
Use a User-Defined Topcoat Bitmap

User-defined bitmaps allow you to apply topcoat to a card in a pattern that is not available in the predefined selections on the Print Area tab or with the rectangular shapes created with print blocking and topcoat escapes. The bitmap files are installed as part of the Card Printer Driver Installation. The files are installed in the `C:\CardPrinter` folder. If you previously used an older-generation desktop printer, the bitmap files may already be on your PC.

The topcoat bitmap used depends on the card side and orientation you specify.

<table>
<thead>
<tr>
<th>Side</th>
<th>Orientation</th>
<th>Bitmap File</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Portrait</td>
<td>CRDPortTopcoatFront.bmp</td>
</tr>
<tr>
<td>2</td>
<td>Portrait</td>
<td>CRDPortTopcoatBack.bmp</td>
</tr>
<tr>
<td>1</td>
<td>Landscape</td>
<td>CRDLandTopcoatFront.bmp</td>
</tr>
<tr>
<td>2</td>
<td>Landscape</td>
<td>CRDLandTopcoatBack.bmp</td>
</tr>
</tbody>
</table>

If the bitmap files are already installed on your computer, a new driver installation or update does not overwrite the existing files.
Modify a User-Defined Bitmap

Creating a custom bitmap is not recommended. Instead, modify the bitmap files provided with the driver. The bitmap files are black-and-white, one-bit-per-pixel files that contain the specifications for blocking. The white areas of the bitmap represent the topcoat blocking area, and the black area represents the topcoat areas. Each bitmap has a sample image that illustrates the card orientation. Use a graphics editing program, such as Microsoft Paint, to modify the driver-provided bitmap.

1. Open the driver-provided bitmap that describes the card side and orientation of your card design.

2. Draw a black shape over any sample images you want to remove.

If the card design includes more than one blocking area, you must create all blocking areas in the bitmap file, including smart card chip or magnetic stripe areas. Refer to your printer’s *Installation and Administrator’s Guide* for the dimensions of non-printing areas for magnetic stripes and smart card chips.
3. Create a new blocking area by drawing a white shape or pasting a graphic. The example shows a possible signature area below the magnetic stripe area on the back of a card. The magnetic stripe and signature areas were created by drawing a white rectangle on the black background of the file CRDLandTopcoatBack.bmp.

![Image of a white shape or graphic pasted on a black background]

4. Save the file using the same name in the C:\CardPrinter folder.

**Hints & Tips**

- If you use a user-defined topcoat bitmap, you must define all card elements in the bitmap, including smart card chip and magnetic stripe locations. Driver-defined preset masks or ID software topcoat blocking areas are not used.

- The purpose of topcoat is to protect the printed image on a card. Any area with color printing eventually fades if it lacks a topcoat. Make sure that most color printing is covered with topcoat.

**Select a User-Defined Bitmap**

1. Open the Printing Preferences window.

2. Select the Print Area tab.

3. For the side of the card that you want to use the user-defined bitmap, select **Ignore topcoat selection. Use my bitmap for topcoat**. The Topcoat Blocking icon displays as BMP.

   The driver uses the correct bitmap based on the card orientation you specified on the Layout tab.

4. Click Apply to save the setting, and then click OK to close the Printing Preferences window.

5. Send the card to print.

6. Check the card to verify the topcoat is being applied correctly. Print sample cards until you are satisfied that the topcoat meets your card design requirements.
Select an Erase Pattern

When a printer is configured to print to rewritable cards, you use the **Print Area** tab to specify the erase option to use. The Print Area tab erase options display only when the **Print Mode** tab Rewrite option has been selected. Refer to “Print Mode Tab” on page 93.

The options for erase patterns include entire card, which erases the whole card, or a user-defined bitmap, which erases a portion of the card.

The user-defined erase patterns use bitmap files that are installed as part of the Card Printer Driver installation. The following files are installed in the C:\CardPrinter folder:

<table>
<thead>
<tr>
<th>Orientation</th>
<th>Bitmap file</th>
</tr>
</thead>
<tbody>
<tr>
<td>Portrait</td>
<td>CRDPortEraseFront.bmp</td>
</tr>
<tr>
<td>Landscape</td>
<td>CRDLandEraseFront.bmp</td>
</tr>
</tbody>
</table>

Rewritable cards are erased and printed only on the front side of the card.

You can modify the bitmap files to erase just a portion of the card, based on your card design. The bitmap files are black-and-white, one-bit-per-pixel files that allow you to specify the erase area. The white areas of the bitmap represent the part of the card that will not be erased, and the black area represents the area to erase. Use a graphics editing program, such as Microsoft Paint, to modify the driver-provided bitmap.

1. Open the driver-provided bitmap that describes the orientation of your card design.

![CRDLandEraseFront.bmp](image)

![CRDPortEraseFront.bmp](image)
2. Create a new erase pattern by drawing a shape that corresponds to the erase area of the card. The example shows a custom erase area that erases just the middle portion of a portrait-oriented card.

3. Save the file with the same name and in the same location (C:\CardPrinter).

To select an erase pattern on the Print Area tab:

1. Open the **Printing Preferences** window.
2. Select the **Print Area** tab.
3. Select one of the following options:
   - **Erase and print entire side of card**—The entire front of the card is erased before writing.
   - **Use my bitmap for erasing the card**—The driver uses the correct custom bitmap to erase the card, based on the card orientation specified on the **Layout** tab.
     The Print Blocking icon displays as BMP.
4. Click **Apply** to save the setting, and then click **OK** to close the **Printing Preferences** window.

Printing rewritable cards requires several settings in Printer Manager and in the Card Printer Driver. Refer to “Printer Setup for Rewritable Cards” on page 97 for a complete discussion of how to set up your system to use the rewritable feature.
Color Adjustment Tab

The Card Printer Driver allows you to adjust the color printing on a card using the Printing Preferences window.

Using the Color Adjustment tab, you can change the following:

- The brightness of color printing on the card
- The contrast of color printing on the card
- The color balance of color printing on the card

1. On the Printing Preferences window, select the Color Adjustment tab.

   The tab contains the Original image and the Adjusted image. They show how your changes might look on a card.

2. Select Enable Color Adjustment to adjust the settings.

Brightness

The Brightness setting changes the overall lightness or darkness of the card.

1. Click the Up arrow to make the image lighter, or the Down arrow to make the image darker.

   The Adjusted image shows the effect of the new setting.

2. Click Apply after each change to save it.

3. To verify changes, do one of the following:
   - Print one or more cards from your card production software.
   - Print a sample card from the Printer Properties > Printer Status page.
4. Evaluate the appearance of the cards.
5. Repeat these steps until the cards meet your requirements.
6. Click Apply to save the new values.

Contrast

The Contrast setting changes the degree of difference between the light and dark values of an image.

1. Click the Up arrow to increase contrast, or the Down arrow to decrease contrast.
   
   The Adjusted image shows the effect of the new setting.

2. Click Apply after each change to save it.

3. To verify changes, do one of the following:
   
   - Print one or more cards from your card production software.
   
   - Print a sample card from the Printer Properties > Printer Status page.

4. Evaluate the appearance of the cards.
5. Repeat these steps until the cards meet your requirements.
6. Click Apply to save the new values.
**Color Balance**

1. Evaluate the image for color balance. Does the card have a yellow cast or do photos have a greenish tint?

   If most of the card prints with the correct colors, consider using a graphics application to change the logo or other part of the card that needs color improvement.

2. Determine which color needs adjustment.

   Click the Up arrow to increase a color, or the Down arrow to decrease the color.
   - The Adjusted image shows the effect of the new setting.
   - If changing the obvious color does not produce the desired effect, try changing the other two.

3. Click **Apply** after each change to save it.

4. To verify changes, do one of the following:
   - Print one or more cards from your card production software.
   - Print a sample card from the **Printer Properties > Status** page.

5. Evaluate the appearance of the cards.

6. Repeat these steps until the cards meet your requirements.

7. Click **Apply** to save the new values.

**HINTS & TIPS**

- The settings on the Color Adjustment page affect the color printing of all cards sent from the PC that uses the Card Printer Driver.

- Text and images formatted as black (K) are not affected by color adjustment.

- To return the Color Adjustment settings to their default values, click **Restore Defaults**.
Print Mode Tab

The **Print Mode** tab allows you to specify the print resolution to use when printing a card.

For card printers that support printing to rewritable cards, use the **Print Mode** tab to tell the printer to use the rewrite feature. Refer to “Select the Rewrite Feature” on page 94.

Select the Print Resolution

1. Open the **Printing Preferences** window.
2. Select the **Print Mode** tab.
3. Select the desired print resolution. The **Print Mode** tab has the following three options.
   - **Always use standard resolution (300x300 dpi)—this is the default value**
   - **Always use best resolution (This option is not available at a shared printer client PC.)**
   - **Custom**
     
     If the Custom option is available and you select it, select the resolutions from the Color and Monochrome drop-down lists.
4. Click **Apply** to save your changes, and then click **OK** to close the **Printing Preferences** window.
Select the Rewrite Feature

When a card printer supports rewritable card printing, the Rewrite check box is enabled on the Print Mode tab. If the printer does not support rewritable cards, the Rewrite option is not available.

When you select the Rewrite option on the Print Mode tab, the Print Area tab displays the erase options for a rewritable card. Refer to “Select an Erase Pattern” on page 88.

1. Open the Printing Preferences window.
2. Select the Print Mode tab.
3. Select the Print using rewritable cards check box.

Only valid Print Resolution options are available.

4. Click Apply to save your changes and then click OK to close the Printing Preferences window.

Printing rewritable cards requires several settings in Printer Manager and in the Card Printer Driver. Refer to “Printer Setup for Rewritable Cards” on page 97 for a complete discussion about how to set up your system to use the rewritable feature.
Lamination Tab

The Lamination tab displays only if your printer is part of a laminator system. It allows you to specify how you want to apply overlay material to your card.

The laminator system can have one or two laminators (labeled L1 and L2) that can apply a patch or topcoat overlay to one or both sides of a card. Refer to your printer’s User’s Guide and Installation and Administrator’s Guide for complete information about setting up a laminator system.

You can use escapes to override the printing preferences set on the Lamination tab on a card-by-card basis. Refer to “Laminator Escape” on page 111.

Apply an Overlay

To specify lamination settings:

1. Open the Printing Preferences window.
2. Select the Lamination tab.
3. Select a Laminate card option for each laminator. You can select from the following options:
   - Do not apply—No overlay material is applied.
   - Front side only—Applies the overlay to the front of the card.
   - Back side only—Applies the overlay to the back of the card.
   - Both sides—Applies the overlay material to both sides of the card.
   - Twice on front side—Applies two layers of the overlay material to the front of the card. Use this option only with a topcoat overlay.
4. Click Apply to save your changes, and then click OK to close the Printing Preferences window.

- The default Laminate card setting for both L1 and L2 is Do not apply. You must specify a lamination option on the Lamination tab or no overlay material is applied to the card.
- If an L2 laminator is not installed, Not installed displays and the L2 options are not available.
Debow the Card

When you apply an overlay to a card, the card may become bowed slightly due to heat from the laminator.

Select the **Debow card** option on the **Lamination** tab to use the debow mechanism in the laminator to return the card to its proper shape.

- Do not debow cards with a smart card chip or wireless antenna.
- The Debow card option is not checked by default. You must select the option after setting the lamination options.
- If you use ID software to specify lamination options, you can check the Debow card option on the **Lamination** tab to make sure that cards are debowed after they are laminated. You also can use a debow escape to debow the card. Refer to “Laminator Escape” on page 111.

- The debow settings—such as the amount (distance) of debow, the direction of debow (up or down), and the time the debow action is applied—are set in Printer Manager. You may need to print several cards to determine the best debow settings for your card type. Refer to your printer’s *Installation and Administrator’s Guide* for complete information about using Printer Manager.

About Tab

The **About** tab shows the Card Printer Driver version and any additional information about the driver.
Printer Setup for Rewritable Cards

Printing rewritable cards on a printer that supports the rewrite option requires that the printer, Printer Manager, and the Card Printer Driver all are set up properly.

Set Up the Printer

Do the following to prepare the printer to print rewritable cards:

1. Open the printer cover and remove the print ribbon cartridge.
2. Remove the print ribbon from the cartridge and set it aside.
   Make sure that the cleaning roller with the replaceable cleaning sleeve is installed.
3. Return the print ribbon cartridge to the printer.
4. Close the printer cover.
5. Have rewritable cards available to insert into the printer.

Refer to your printer’s User’s Guide for complete information about each of these steps.

Set Up Printer Manager

Use Printer Manager to enable rewritable printing. Do the following to access Printer Manager and specify rewritable settings:

1. Open the Windows Devices and Printers window.
2. Right-click the XPS Card Printer icon and select Printer properties.
3. Select the Printer Status tab.
4. Confirm that the Printer Information list shows that the printer supports Rewritable Cards.
5. Click Configure Printer to launch Printer Manager.
7. Select **Print** from the **Printer Setting** menu.

8. On the **Print** page, change the **RewritableCardEnable** setting to **Enabled**.

   Change any of the other Rewritable settings, as needed. Refer to the Printer Manager **Print** settings section in your printer’s *Installation and Administrator’s Guide* for more information about the Rewritable card settings.

9. Scroll to the bottom of the page and click **Set Current**.

10. Log out of Printer Manager and close the browser window.

### Set Up the Card Printer Driver

To set up the Card Printer Driver to print rewritable cards, do the following:

1. Open the Windows **Devices and Printers** window.

2. Right-click the XPS Card Printer icon and select **Printing preferences**.

3. Select the **Print Mode** tab.
4. Select the **Print using rewritable cards** check box. Refer to “Select the Rewrite Feature” on page 94.

Selecting the Rewrite option on the **Print Mode** tab enables the erase options on the **Print Area** tab.

5. Select the **Print Area** tab.

6. Select the erase option you want to use. Refer to “Select an Erase Pattern” on page 88 for more information.

The printer is ready to print rewritable cards. You can print the following:

- A driver sample card. Refer to “Print a Driver Sample Card” on page 52.

- A test card from Printer Manager. Refer to the Printer Manager **Testcard** section in the printer’s **Installation and Administrator’s Guide**.

- A card from your card design software. Refer to the Elements of Card Design chapter in the printer’s **Installation and Administrator’s Guide**.

  A printer configured to print rewritable cards prints card designs as though they were printed using a monochrome ribbon.
Card Design for UV Ribbon

Full-color print ribbons with a UV fluorescing (F) panel are supported by the Card Printer Driver. The UV printing is undetectable under normal lighting and is meant to provide an additional form of security.

The Card Printer Driver supports UV printing from multiple applications. The driver detects when a UV ribbon is installed in the printer and determines the text and graphics to print with the UV panel.

To identify the card design elements to print in UV, the driver looks for the color R:217, G:217, B:217. This is a light gray color and is a standard selection from the Microsoft Office color chooser.

If you use Datacard ID software, it allows you to specify the card elements to print using the UV panel, so that you don’t need to use the defined RGB color. The XPS Card Printer plug-in translates those settings and sends the information to the printer.
Set Up a UV Card Design

When a UV element is placed over the top of a color or black (K) element, these elements print as though the UV element isn’t there. Although the UV element cannot be seen under normal lighting, be aware of the following when creating your card design:

- Text with a UV shadow prints so that the text characters display under normal lighting and a UV shadow appears below and to the right of each character under a UV light source. The UV ink prints only where the shadow appears (it does not print over the text).

- UV printed over other colors does not block those colors. Non-UV text or images behind the UV element print as though no UV element exists.

- UV printed over other colors does not fluoresce with the same intensity. Design your card to place UV elements where there is no other printing so that it appears over the white card background.

- UV text and images printed behind non-UV elements are punched out where the color or K element overlaps the UV element.
- A laminating system prints UV elements only on the front side of the card. The SD160 and SD260 printers can print UV elements on both the front and the back of the card. A two-sided card design with UV on both the front and back uses two panel sets of the ribbon.

- If the card design contains the UV color, but UV ribbon is not detected in the printer, UV elements are treated as normal color elements.

- Do not print an entire card using the UV panel.

**Print UV Design Elements**

The following will print with the UV panel:

- Text set to the UV color.

- Vector graphics set to the UV color. Vector graphics have components such as lines and fills that the driver processes into a shape.

- Raster images (or bitmaps), such as photographs, with the pixel color set to the UV color or white.
  - You cannot print color photographs with the UV panel directly. To print an image using the UV panel, the application must create a two-color image with white as one color and the UV color as the other color.
  - UV raster images always print over other card elements even if they are placed behind the element in the card design.
Escapes

Escapes are formatted text that the Card Printer Driver converts to printer commands to support a number of operations, including:

- Block printing
- Apply topcoat
- Erase and write rewritable cards
- Encode magnetic stripe data
- Select an input hopper
- Laminate a card
- Impress a card
- Debow a card
- Emboss/indent a card

Escapes override printing preferences set in the Card Printer Driver or in a card design application. You can use escapes to change printing controls on a card-by-card basis without having to reset your printing preferences.

Hints & Tips

- For each escape, make sure that the text is consistent (same font, size, color). Use a common font that is easy to see, and is different from, the text you want to print on the card.

- Each escape must be on a single line with no formatting. Use a small font size to make sure that there is enough room for long escapes.

- Do not align escape text to be on the same horizontal line as printed text.

- Make each escape its own line of text on the card design.
Print Blocking Escapes

The Card Printer Driver provides several methods to prevent printing and topcoat on specific areas of the card. Refer to “Non-Printing Areas” in your printer’s Installation and Administrators Guide and “Print Area Tab” on page 83 for more information.

By default, the entire surface of the card is available for printing and topcoating. But when cards have a magnetic stripe, a smart card chip, or another non-printable area, such as a signature panel or hologram, you must define those areas so that the printer does not print or apply topcoat to them.

To block non-standard areas, or for more than one blocking area per side of a card, use escapes to define the print areas. Escapes are specific sequences of characters that mark data with a special purpose. The Card Printer Driver recognizes the following types of print blocking and topcoat escapes:

- Block Print
- Topcoat Add
- Topcoat Remove

If you use YMCK or YMCK-K ribbon (ribbons without a topcoat panel), the topcoat escapes are ignored. Print blocking escapes function normally.

About Non-Printing Areas

If the card has more than one non-printing area on a side, define all non-printing areas using print blocking escapes. An escape applies to the side of the card where it appears in the card design.

Non-printing areas defined using print blocking escapes always override the driver Printing Preferences settings.

Each print blocking area defined by an escape is a rectangular shape.
Print Blocking Syntax

The syntax or structure of each print blocking escape is `~XX%n1n2n3n4?` where:

- `~` is the beginning of the escape.
- `XX` represents the type of action—Block Print (PB), Topcoat Add (TA), or Topcoat Remove (TR).
- `%` indicates the start of values.

All of the following values are in mm:

- `n1` is the distance from the top of the card to the start of the area.
- `n2` is the distance from the left edge of the card to the start the area.
- `n3` is the width of the area.
- `n4` is the height of the area.
- `?` is the end of the escape.

The card in the example shows the dimensions of a three-track magnetic stripe area.

Blocking typically extends 0.1 inch (2.54 mm) beyond the edges of a feature. The dimensions listed include the extended blocking region.

The escape can specify more than one area of the same type by placing a semicolon (;) character between each set of values.
Block Print Escape

A block print escape begins with ~PB%.

Examples:

<table>
<thead>
<tr>
<th>~PB% 10 5 5 15?</th>
<th>Printing is blocked in one area.</th>
</tr>
</thead>
<tbody>
<tr>
<td>~PB% 10 5 5;30.5 45.23 15 15?</td>
<td>Printing is blocked in two areas.</td>
</tr>
<tr>
<td>~PB%?</td>
<td>No printing is blocked.</td>
</tr>
</tbody>
</table>

Topcoat Add Escape

The topcoat add escape applies topcoat only in the area defined in the escape. Topcoat is not applied to other areas of the card. All full-color printing should be covered with topcoat, so use this option with care.

The topcoat add escape begins with ~TA%.

Examples:

<table>
<thead>
<tr>
<th>~TA% 0 85.6 37?</th>
<th>Topcoat is applied to one large area of the card.</th>
</tr>
</thead>
<tbody>
<tr>
<td>~TA%16.8 0 37.1 5;30.5 45.23 15 15?</td>
<td>Topcoat is applied in two areas.</td>
</tr>
</tbody>
</table>

Topcoat Remove Escape

With a topcoat remove escape, the topcoat is not applied to the areas defined by the escape. All other areas of the card have topcoat.

The topcoat remove escape begins with ~TR%.

Full-Card Topcoat Options

- Use the escape ~TR%? to override the Card Printer Driver preset masks and topcoat the entire card side.
- Use the escape ~TA%? to override the Card Printer Driver preset masks and apply no topcoat to the entire card side.

Print several cards using your card design and application to verify that printing and topcoat are applied as you intend.
Escape Support for Rewritable Cards

When rewritable printing is enabled, you can use print blocking and topcoat escapes to specify the write and erase areas.

Use topcoat escapes to control the erase area. The areas where topcoat would be applied is where the card is erased.

**Examples:**

<table>
<thead>
<tr>
<th>Escape Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>~TA%?</td>
<td>The card is not erased.</td>
</tr>
<tr>
<td>~TR%</td>
<td>Erases the entire card.</td>
</tr>
<tr>
<td>~TA%0 0 50 38?</td>
<td>Erases the top half of a portrait-oriented card.</td>
</tr>
</tbody>
</table>

Use print blocking escapes to control rewritable printing just as you would standard printing.
Magnetic Stripe Escapes

Use magnetic stripe escapes when an application cannot format magnetic stripe data or if an application does not allow you to select the driver’s magnetic stripe fonts. The data to encode on a magnetic stripe is entered as text and can look like data to print. The Card Printer Driver uses the magnetic stripe escapes to identify the data to encode. Data contained within the escape is not printed.

Supported Escapes

The escape defines the track for the data. Because the data format for each track is set in the printer, you must enter the type of data the format requires. The Card Printer Driver supports several escape systems that allow compatibility with card designs defined for various card printers. The table below shows the default ISO data format for each track. The Syntax column shows the general escape format for providing data to the printer. The Example column shows how the data looks when formatted.

<table>
<thead>
<tr>
<th>Syntax</th>
<th>Track</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>~&lt;track#&gt; &lt;Start Sentinel&gt; &lt;data&gt; &lt;End Sentinel&gt;</td>
<td>1 (IATA)</td>
<td>~1%ENCODING WITH ESCAPES?</td>
</tr>
<tr>
<td></td>
<td>2 (ABA)</td>
<td>~2;1234567890?</td>
</tr>
<tr>
<td>The only Start Sentinel permitted for tracks 2 and 3 is a semicolon (;)</td>
<td>3 (TTS)</td>
<td>~3;1234567890?</td>
</tr>
<tr>
<td>Used by Datacard, JVC, and Fargo printers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>~&lt;track#&gt;&lt;data&gt;</td>
<td>1 (IATA)</td>
<td>~1ENCODING WITH ESCAPES</td>
</tr>
<tr>
<td>Used by Eltron/Zebra printers</td>
<td>2 (ABA)</td>
<td>~21234567890</td>
</tr>
<tr>
<td></td>
<td>3 (TTS)</td>
<td>~31234567890</td>
</tr>
<tr>
<td>~&lt;track#&gt;=&lt;data&gt;</td>
<td>1 (IATA)</td>
<td>~1=ENCODING WITH ESCAPES</td>
</tr>
<tr>
<td>Used by Atlantek printers</td>
<td>2 (ABA)</td>
<td>~2=1234567890</td>
</tr>
<tr>
<td></td>
<td>3 (TTS)</td>
<td>~3=1234567890</td>
</tr>
</tbody>
</table>
Set Up Magnetic Stripe Escapes

1. Format the text and graphics to print on the card. Use card production software or another application to create the card design.

2. Type the encode data (text) for one track. Locate an area on the card where typing the data to encode does not affect other card design components.

   The example shown uses the syntax:
   ~<track#><Start Sentinel><Data> <End Sentinel>

   The text for track 1 has the format: ~1%Zachary Hamilton 12345 Finance?

3. Repeat Step 2 for each track of magnetic stripe data.

4. With magnetic stripe cards in the printer, send the card to print.

5. Verify that the encoding was successful by passing the card through a magnetic stripe reader.

**HINTS & TIPS**

- Do not put data for two tracks on the same line.
- Use a small font size to keep the text to encode on one line. Do not allow the text to encode to wrap to another line.
- Do not enter data to print on the same line as data to encode. It will not print.
- If necessary, you can use two or more lines of text for one track. Start and end each line with escapes, and enter a carriage return at the end of the line. The Card Printer Driver adds (appends) lines for the same track together.

   When the Card Printer Driver adds lines of text for the same track, the sequence is determined by the application. Test your application with the Card Printer Driver to make sure that the data is in the correct order.

- The data to encode can be on side 1 (front) or side 2 (back) of the card design. Magnetic stripe data sent by the Card Printer Driver is always encoded on side 2 of the card.
- Magnetic stripe data is converted to uppercase letters if needed.
- The printer displays a message if characters unsupported by a track format are sent in the magnetic stripe data.
Input Hopper Selection Escape

Some printer models offer an optional multi-hopper that has six input hoppers, each holding 100 cards. The Card Printer Driver allows you to specify the number of the hopper to use on the Advanced page of the Printing Preferences Layout tab. However, this option applies the hopper selection to all cards sent to the printer.

Using a hopper selection escape allows you to specify the input hopper to use as part of each print job from any application.

The syntax for an input hopper selection escape is ~HS%x?, where:

- ~ indicates the start of the escape.
- HS tells the Card Printer Driver that it is a hopper selection escape.
- % indicates the start of a hopper value.
- x specifies the hopper number to use. x can be any value between 1 and 6.
- ? is the end of the escape.

For example, the escape ~HS%5? tells the Card Printer Driver to pick a card for the print job from input hopper 5.

Hints & Tips

- The input hopper selection value specified by the escape overrides the value set on the Printing Preferences Layout tab.
- If a printer does not have a multi-hopper, the escape is ignored. The card prints from the single hopper, or manual card input slot. No error is logged or displayed.
- If the value of x is anything other than 1, 2, 3, 4, 5, or 6, the escape is not detected and the escape prints on the card as regular text.
- The escape sets the printing preference for the input hopper by job. The application you use determines how the escape is interpreted:
  - Some applications, such as Microsoft Word, send a multipage, multicard document as a single job. The driver uses the first escape it encounters for all cards in the job. Any other valid escapes are ignored.
  - Card production applications usually send a separate job for each card. This allows you to specify a different hopper for each card in a batch of printed cards.
Laminator Escape

Lamination systems can use escapes to control the application of overlay on a card and to debow the card.

The syntax for a laminator escape is `~LM%Lxy;D?` where:

- `~` is the beginning of the escape.
- `LM` indicates it is a laminator escape.
- `%` indicates the start of laminator values.
- `L` indicates a laminator action.
- `x` is the laminator number to use, where `x = 1` or `2`.
- `y` is the card side: `F` (front), `B` (back), `A` (both sides), `T` (front side twice), or `N` (do not apply).
- `;` is a separator character that allows you to specify more than one lamination option in the escape.
- `D` debows the card.
- `?` is the end of the escape.

Examples:

<table>
<thead>
<tr>
<th>Escape</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>~LM%L1F;L2B;D?</code></td>
<td>Laminate front side using L1, back side using L2, debow the card</td>
</tr>
<tr>
<td><code>~LM%L1A;D?</code></td>
<td>Laminate both sides using L1, debow the card</td>
</tr>
<tr>
<td><code>~LM%L1T?</code></td>
<td>Laminate front side twice using L1; the card is not debowed</td>
</tr>
<tr>
<td><code>~LM%D?</code></td>
<td>Debow the card only (no overlay is applied)</td>
</tr>
<tr>
<td><code>~LM%L1N;L2N?</code></td>
<td>Do not laminate the card. Use this escape to override the Laminate card settings in the Printing Preferences Lamination tab, for example, for a single card.</td>
</tr>
</tbody>
</table>

**Hints & Tips**

- The order of the escape Lxy elements is not important. The Card Printer Driver orders the L1 and L2 lamination and debow actions in the proper sequence.
- The escape control characters are not case-sensitive.
• Only one escape is used.
  ■ If more than one escape is entered in the same text string, only the first escape is used. Subsequent escapes, even if they are valid, are not processed.
  ■ If multiple escapes are entered separately, only the last escape is used.
• Do not debow cards with a smart card chip or wireless antenna.
• Leading and trailing spaces in the escape string are removed by the Card Printer Driver.
• Embedded spaces in the escape string make the escape invalid.
• Invalid escapes print on the card as regular text. This provides a record of what went wrong and lets you know that the card was not laminated. The following can invalidate an escape:
  ■ A missing laminator number or any character other than 1 or 2.
  ■ A missing laminator action or any character other than F, B, A, T, or N.
  ■ More than one instance of a laminator number (for example, ~LM%L1F;L1B? has two L1 actions).
• If a laminator is not installed, the escape is ignored and the card prints using other valid job options. No error messages are issued.

Impresser Escape

You can use an impresser escape to stamp an impression on the card (if your system is equipped with an impresser).

The syntax for an impresser escape is ~IM%? where:
• ~ is the beginning of the escape.
• IM indicates it is an impresser escape.
• % tells the Card Printer Driver to send the impresser action.
• N disables the impresser and overrides the Impress card printing preference, if it is enabled.
• ? is the end of the escape.

Examples:

<table>
<thead>
<tr>
<th>~IM%?</th>
<th>Impresses the card.</th>
</tr>
</thead>
<tbody>
<tr>
<td>~IM%N?</td>
<td>Does not impress the card.</td>
</tr>
</tbody>
</table>

If an impresser is not installed, the escape is ignored and the card prints using other valid job options. No error messages are issued.
Emboss Escape

Use an embosser escape to specify the font and position of embossed and indented data. An embosser escape is made up of the following elements:

- **Escape preamble**—Tells the Card Printer Driver that the text characters following are part of an embosser escape and not text for rendering on the card.

- **Emboss/Indent position**—Two values that specify the starting location of the emboss/indent operation.

- **Emboss data**—The text to be embossed or indented at a given location using the font number specified.

**Emboss Escape Syntax**

The embosser escape syntax is: \texttt{~EM\%font#;horz\_offset;vert\_offset;data}

Use a semicolon (;) character to separate embosser escape elements.

**Escape Preamble**

In the preamble, the characters \texttt{~EM\%} identify the beginning of an emboss escape.
**Emboss Font Number**

The usable font numbers are based on the emboss wheel installed in CE Series systems. Several fonts from the following list typically are supported by a given wheel:

<table>
<thead>
<tr>
<th></th>
<th>Font Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Emboss Standard Gothic [front 10 cpi]</td>
</tr>
<tr>
<td>2</td>
<td>Emboss Farrington 7B [front 7 cpi]</td>
</tr>
<tr>
<td>3</td>
<td>Indent OCRB [back 10 cpi]</td>
</tr>
<tr>
<td>4</td>
<td>Indent Master Card Slanted [back 14 cpi]</td>
</tr>
<tr>
<td>5</td>
<td>Indent OCRB Size IV [front 7 cpi]</td>
</tr>
<tr>
<td>6</td>
<td>Indent Master Card Slanted [front 14 cpi]</td>
</tr>
<tr>
<td>7</td>
<td>Indent OCRB Front [front 10 cpi]</td>
</tr>
<tr>
<td>8</td>
<td>Indent Master Card Inverted [back 7 cpi]</td>
</tr>
<tr>
<td>9</td>
<td>Indent Helvetica [front 14 cpi white ribbon]*</td>
</tr>
<tr>
<td>10</td>
<td>Indent Helvetica [front 14 cpi black ribbon]*</td>
</tr>
<tr>
<td>11</td>
<td>Tactile Identifier Mark (refer to Appendix C: &quot;Tactile Identifier Mark Conversion&quot;)</td>
</tr>
</tbody>
</table>

*Note: Add 20 (decimal) to override default side.*

**Emboss/Indent Position**

The emboss/indent position indicates the start of the emboss or indent data.

<table>
<thead>
<tr>
<th>Offset Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>horz_offset</td>
<td>Whole number in mils (1/1000 of an inch) from left edge of card to center of first character</td>
</tr>
<tr>
<td>vert_offset</td>
<td>Whole number in mils (1/1000 of an inch) from bottom edge of card to the vertical midpoint of the characters</td>
</tr>
</tbody>
</table>
The following restrictions apply to the horizontal and vertical offsets.

### Horizontal Offset Limits

<table>
<thead>
<tr>
<th>Topping</th>
<th>Maximum Value</th>
<th>Minimum Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>on</td>
<td>3025</td>
<td>280</td>
</tr>
<tr>
<td>off</td>
<td>3275</td>
<td>100</td>
</tr>
</tbody>
</table>

### Vertical Offset Limits

<table>
<thead>
<tr>
<th>Topping</th>
<th>Maximum Value</th>
<th>Minimum Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>on</td>
<td>860</td>
<td>135</td>
</tr>
<tr>
<td>off</td>
<td>1460</td>
<td>135</td>
</tr>
</tbody>
</table>

### Emboss Data Restrictions

CE Series systems have restrictions for the characters allowed.

- The emboss data range is from 20 hex to FF hex.
- Reserved XML characters (3c hex and 3e hex) are not allowed as emboss characters.
- For data greater than 127 ASCII, you must use an escape (for example, \&#181; is used to emboss a Katakana character [B5 hex]).
Emboss Example

The embosser escapes define emboss and indent data to produce the following card. The sample card shows the location of each embossed element. The escapes can be placed anywhere on the card design that does not contain data to be printed.

```
~EM%2;401;843;0001 3416 7890 1286
~EM%10;401;650;0001
~EM%1;800;480;2007
~EM%1;1600;480;10/17
~EM%1;401;328;Janice Holloway
```
Magnetic Stripe Fonts

The Card Printer Driver provides fonts to format magnetic stripe data. Use these fonts when magnetic stripe escapes cannot be used.

1. Use the application’s page setup feature to set the paper size to ISO ID-1. Reduce the page margins to match the card design.

2. Format the text and graphics to print on the card.

3. Type the data to encode using a standard font, such as Arial.
   - Use a small font size to minimize the amount of space used for encoded data.
   - Do not put data for two tracks on the same line.
   - Do not allow text to encode to wrap to another line.
   - Data to encode can be on side 1 (front) or side 2 (back) of the card.

4. Add an extra space character to the end of the data.

5. Select a line of data up to, but not including, the extra space character and apply one of the following fonts:
   - Mag Track 1 XPS Card Printer
   - Mag Track 2 XPS Card Printer
   - Mag Track 3 XPS Card Printer
   - Mag Track JIS XPS Card Printer

6. Repeat Steps 3 through 5 for each line of text to encode.

7. Send the card to print.

8. Verify that the encoding was successful by passing the card through a card reader.
**Hints & Tips**

- Do not use character formatting, such as kerning.
- Do not use smart quotes.
- Use a small font size to shorten lines of text to encode.
- Keep text to print on a different line from text to encode.
- When the Card Printer Driver adds lines of text for the same track, the sequence is determined by the application. Test your application with the Card Printer Driver to make sure that the data is in the correct order.
- Magnetic stripe data sent by the Card Printer Driver is always encoded on side 2 of the card.
- Magnetic stripe data is converted to uppercase letters if needed.
- If characters unsupported by a track format are sent within the magnetic stripe data, the printer displays a message.

If you have an existing application that uses magnetic stripe fonts from older generation printers, the Card Printer Driver recognizes these fonts. If the fonts are not installed on your computer, use the “Legacy Application Support” option on the driver installation **Support Files** screen to install them. Refer to “Install Support Files” on page 23 for more information.
Chapter 5: Installation
Troubleshooting

This section describes how to:

- **Troubleshoot the Card Printer Driver Installation**
- **Use Advanced Troubleshooting Tools** on page 122

The Card Printer Driver Installation CD is provided in the CD folder included in the shipping carton. If the CD is not available, you can download the driver from http://www.datacard.com. Select **Support & Drivers > Drivers & Downloads** from the menu. Enter your printer model in the Enter Product Name or Number area, and click Go.

**Troubleshoot the Card Printer Driver Installation**

This section describes issues that could prevent a successful installation and provides recommended solutions to those issues. Select from the following topics:

- **USB Installation Troubleshooting** on page 120
- **Network Installation Troubleshooting** on page 122
## USB Installation Troubleshooting

<table>
<thead>
<tr>
<th>Problem</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>The cable is loose.</td>
<td>Reconnect the USB cable to the ports on the PC and the printer. Power the printer off, and then back on. If the PC and printer still do not communicate, restart the PC.</td>
</tr>
<tr>
<td>The data cable is damaged or frayed.</td>
<td>Power off the printer. Replace the cable if you have a spare. Contact your service provider to order a new data cable.</td>
</tr>
</tbody>
</table>
| The system has a temporary communication problem. | Check the following:  
- USB extension cables can cause communication problems. The recommended USB cable is 6-ft. (2 meters) long. Make sure that the cable is rated for USB 2.0 data transmission.  
- If you are using a USB hub, a self-powered hub is recommended. |
| The card printer does not install when the USB cable is connected. | If a previous printer installation attempt was unsuccessful, Device Manager might still show an entry for the printer. Remove the printer entry from Device Manager before reinstalling the printer:  
1. Disconnect the printer from the PC.  
2. Open the Windows Device Manager.  
3. Locate the device to delete. The device might be called “Unknown device” or it might be located under the Printers or Network Adapters folder. The device might be marked with a yellow question mark or exclamation point.  
4. Select the device, and right-click to display a pop-up menu.  
5. Select **Remove device** from the pop-up menu.  
6. Click **Yes** or **OK** to confirm removal of the device.  
8. Reinstall the printer. |
<p>| Error message states the USB is not detected. | The USB installer timed out before a printer was detected. Remove the Card Printer Driver from the Device Manager before reinstalling the printer. |
| The USB cable is connected before the Card Printer Driver is installed. | The first printer installed on a PC using a USB connection must be installed from the driver CD or downloaded Card Printer Driver. Connect the USB cable to the printer when you are prompted. Do not connect the cable before starting the installation. |</p>
<table>
<thead>
<tr>
<th>Problem</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Print Sample Card button is not available.</td>
<td>The Print Sample Card button in Printer Properties is enabled when the printer and Card Printer Driver communicate normally. If Print Sample Card is not available, make sure that the User button on the printer front panel is steady green and that Ready displays on the LCD panel. <strong>Note:</strong> The Print Sample Card button is not available when printer pooling is enabled.</td>
</tr>
<tr>
<td>The PC USB port does not communicate with the printer USB port.</td>
<td>Power management on the PC has shut down USB communication. Check the following:</td>
</tr>
<tr>
<td></td>
<td>• Open the Windows Device Manager and display the list of USB devices. Disable shutdown for each hub in the list. Restart the PC for the changes to take effect, if necessary.</td>
</tr>
<tr>
<td></td>
<td>• Hibernation on a laptop PC requires several moments to enable USB communication. Unplug the USB printer port and then connect it again.</td>
</tr>
<tr>
<td></td>
<td>• Replace the PC port or the PC. Contact your PC or port vendor if you need assistance.</td>
</tr>
<tr>
<td>The printer does not install or print on the PC when the PC is connected to a remote network using VPN Client software.</td>
<td>VPN Client software can prevent the installation and use of other devices. Choose one of the following solutions:</td>
</tr>
<tr>
<td></td>
<td>• Configure your VPN software to allow local network connections.</td>
</tr>
<tr>
<td></td>
<td>• Disconnect the VPN Client software from the network. Then, install the USB printer and Card Printer Driver, or resume printing.</td>
</tr>
</tbody>
</table>
Network Installation Troubleshooting

<table>
<thead>
<tr>
<th>Problem</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>The network cable is loose.</td>
<td>Reconnect the data cable to the network port and the printer, making sure that it is snapped in. Restart the printer.</td>
</tr>
</tbody>
</table>
| The Status page of Printer Properties shows the printer is not available, but the printer displays Ready on the LCD screen. | Follow your network troubleshooting procedures to isolate and test each component of the computer-to-printer communication link. Suggestions:  
  • Check the computer-to-network connection by accessing a network resource, such as a network drive.  
  • Have the network administrator test communication between a server and the printer.  
  • Make sure that the user is logged in to the network. |
| The printer is not configured with the correct network address.         | Make sure that the server name or IP address has been entered correctly in the Port Settings or Configure Port dialog box on the computer. For information about retrieving the printer’s IP address, refer to the card printer’s User’s Guide. Make sure that Ready displays on the printer’s LCD panel. |

Use Advanced Troubleshooting Tools

For additional troubleshooting topics, refer to the printer’s User’s Guide.

Printer Manager also provides access to additional troubleshooting tools. Refer to the your printer’s Installation and Administrator’s Guide for information about using Printer Manager.
Appendix A: Windows Printer Sharing

This appendix provides information about how to install and share the Card Printer Driver on a host and client PC running the Windows 7, Windows 8.1, or Windows 10 64-bit operating system.

Installation

Printer sharing involves setting up the host PC for sharing, then installing and setting up the Card Printer Driver on each client system that prints to the printer.

Set Up the Host PC for Printer Sharing

1. Install the XPS Card Printer Driver on the host PC. Refer to “Install the Driver” on page 9.
2. Configure the host PC for printer sharing.
   a. From the Windows Control Panel, select Network and Internet > Network and Sharing Center.
   b. Select Change advanced sharing settings from the left column. The Advanced sharing settings window or the Network profile options display. If the Advanced sharing settings list displays, select the network profile you want to work with.
   
   The Advanced sharing settings display varies depending on a system’s setup. In addition, based on its setup, a system may open one of the profiles and display the options shown in step 2c.
   
   c. On the Network profile options page, select the following options (these are the default settings).

<table>
<thead>
<tr>
<th>Field</th>
<th>Select option</th>
</tr>
</thead>
<tbody>
<tr>
<td>Network discovery</td>
<td>Turn on network discovery</td>
</tr>
<tr>
<td>File and printer sharing</td>
<td>Turn on file and printer sharing</td>
</tr>
<tr>
<td>Password protected sharing</td>
<td>Turn on password protected sharing</td>
</tr>
</tbody>
</table>
   
   d. If you selected (turned on) any options in this step, click Save changes. Close the Network and Sharing Center window.
3. Enable printer sharing.
   a. Open the Devices and Printers window and right-click the card printer icon. Select Printer properties to display the Printer Properties window.
   b. Allow printer sharing.
      i. On the Printer Properties window, select the Sharing tab.
      ii. Select Share this printer. The printer name displays in the Share name field. Write down the printer name. Refer to “Printer Sharing Requirements” on page 29 for more information about naming the host printer.
         Remember to record the printer name and host PC name. You need these names to install the Card Printer Driver on the client PC. For more about printer names, refer to “Use device naming rules for shared printers” on page 32.
      iii. Select Render print jobs on client computers.
      iv. Click Apply to store these settings.
   c. Find the host PC full computer name and write it down.
      i. From the Windows Control Panel, select System and Security > System.
      ii. Write down the name of the computer found in the Full computer name field on the System window.
      iii. Close the System window.
4. Configure security for sharing printing and viewing print error messages.
   
   a. From the **Printer Properties** window, select the **Security** tab.
   
   b. Review the Group or user names list. Make sure that the default settings on the **Security** tab have the following printer-sharing permissions:
      
      - **Everyone** has Print permission set to **Allow** (refer to the figure at right).
      - Only **CREATOR OWNER** has **Manage documents** permission set to **Allow**. This lets the owner both view printer error messages and perform document-related administrator tasks at the PC.
   
   c. If you made any changes, click **Apply** to save your updates.
   
   d. Add users or groups.
      
      i. From the **Security** tab, click **Add**. The Select Users or Groups dialog box displays.
      
      ii. Click **Advanced** and then **Object Types**.
      
      iii. Select the check boxes for Users and Groups and click **OK**. The **Select Users or Groups** dialog box displays.
      
      iv. Click **Find Now**. A list of user and group names displays.
      
      v. Select each name to add and click **OK**. The name(s) you selected display in the **Select Users or Groups** dialog box.
      
      vi. When you finish adding names, click **OK**. The names display on the **Security** tab. Each name you added has Print permission.
      
      vii. If you want to revoke Print permission and prevent a user or group from printing, select the user or group and clear the Allow check box for the Print permission.

      Do not select the **Manage documents** or the **Deny** check boxes for any user or group. Only the **CREATOR OWNER** should have **Manage documents** permission set to **Allow**, which is the default.
e. Allow users or groups to view printing error messages.
   i. From the Security tab, select a user or group and select Allow for the Manage this printer permission.
   ii. Repeat for each user or group.
   iii. Click Apply to save changes for each name.

f. Set up Windows printing for card design.

g. From the Printer Properties window, select the Supplies tab.

h. Write down the ribbon type installed in the printer.

i. Click OK to close the Printer Properties window.

j. On the Devices and Printers window, right-click the card printer icon and select Printing preferences. The Printing Preferences window displays.


l. Write down the printing preferences settings for topcoat and print blocking, and print resolution.

   These settings are not set automatically at the client PC to match the host. You must enter these settings manually on each client PC when you set up printing preferences. For an overview, refer to “Configure PC Printing Preferences for Sharing” on page 33.

m. Click OK to close the Printing Preferences window.
Install the Card Printer Driver on the Client PC

The client PC must be running the Windows 7, Windows 8.1, or Windows 10 64-bit operating system. Refer to “Printer Sharing Requirements” on page 29 for a list of supported host/client operating system combinations.

The following instructions may vary slightly based on the operating system of the client PC.

1. Make sure that the Card Printer Driver is installed and set up on the host PC.

2. Log on to the client PC with a user account that has administrator privileges and matches an account and password on the host PC.

   - Start at the Login screen of the client PC and review the user names displayed. Look for a user with administrator access that matches a user name on the host PC. If one is not listed, set up a user account and password on the client PC to match an administrator account from the host PC.

   OR

   - Log on to the host PC from the client PC using a network access as follows:
     ♦ Use Windows File Explorer or My Computer to locate the host PC.
     ♦ Select the host PC. The Enter Network Password dialog box displays.
     ♦ Enter your password and click OK. The host PC desktop displays.

   * You must log on to the host PC across the network by using a different user account than was used to install the printer on the host.
   After you log on to the host PC using the network, keep the window open until the installation completes.
3. Add the Printer to the client PC.
   a. Open the Windows Devices and Printers window.
   b. Select **Add a printer**. The **Add Printer** wizard displays.
   c. Select **Add a network, wireless or Bluetooth printer**.
      The system searches for networked printers and displays the **Select a printer** page.
   d. Select the printer to which you want to connect.
      If the printer does not display in the list:
      i. Click **The printer that I want isn’t listed**. The **Find a printer by name or TCP/IP address** page displays.
      ii. Click **Select a shared printer by name**.
   e. Enter the name of the host PC and the shared printer name by doing one of the following:
      - Use the names you wrote down during the host PC installation using the format:
        `\\host PC name\shared printer name`
      - If you don’t have the printer name, enter the host PC name using the format:
        `\\host PC name\`
When you type the last backslash without a printer name, a list of host printers displays in a drop-down list.

Select the shared printer from the drop-down list.

f. Click **Next**. If the Do you trust this printer? dialog box displays, click **Install Driver**.

Windows installs the Card Printer Driver. The message “You’ve successfully added printer name” displays when the installation is complete. Click **Next**.

g. Close any open windows.

h. Click **Finish** to end the Add Printer wizard.

4. If card production software is installed on this computer, or if you need other support files, such as magnetic stripe fonts, install the Printer Plug-in or support files from the Driver Installation CD. For instructions, refer to “Install Support Files” on page 23.

5. Configure the client PC printing preferences.

   a. Get the print settings you wrote down at the host PC for ribbon type, topcoat and print blocking, and print resolution.

      These settings are not set automatically at the client PC to match the host, so you must enter them manually.

   b. From the Devices and Printers window, right-click the card printer icon and select **Printing preferences**. The Printing Preferences window displays.

   c. Enter the required printing preferences. Refer to “Configure PC Printing Preferences for Sharing” on page 33 and “Design Tasks in Windows Printing Preferences” on page 69.

   d. Click **OK** to close the **Printing Preferences** window.
Appendix B: Windows Server 2008 and 2012 Printer Sharing

This appendix provides information about how to install and share the Card Printer Driver on a host PC running either the Windows Server 2008 or Windows Server 2012, 64-bit operating systems.

Windows Server 2008 or 2012, 64-bit Installation

Printer sharing involves setting up the host PC for sharing, then installing and setting up the Card Printer Driver on each client system that prints to the printer.

Set Up the Host PC for Printer Sharing

1. Install the XPS Card Printer Driver on the host PC. Refer to “Install the Driver” on page 9.
2. Configure the host PC for printer sharing.
   a. From the Windows Control Panel, select Network and Internet > Network and Sharing Center.
   b. Select Change advanced sharing settings from the left column. The Advanced sharing settings window or the Network profile options display. If the Advanced sharing settings list displays, select the network profile you want to work with.

   The Advanced sharing settings display varies depending on a system’s setup. In addition, based on its setup, the system may open one of the profiles and display the options shown in step 2c.

   c. On the network profile options page, select the following options:

      | Field                      | Select option                      |
      |----------------------------|------------------------------------|
      | Network discovery          | Turn on network discovery          |
      | File and printer sharing   | Turn on file and printer sharing   |
      | Password protected sharing | Turn on password protected sharing |

   d. Click Save changes to close the Advanced sharing settings window.
3. Write down the printer name and host PC name.

Remember to record the printer device name. You need this printer name to install the Card Printer Driver on the client PC.

a. Display the Devices and Printers window. Select the card printer icon and click Print server properties in the menu bar. The Printer Properties window displays.

b. Select the General tab on the Printer Properties window to display the printer device name.

c. Write down the name of the printer.

d. Display the System properties window for your computer.

e. Write down the host PC name found in the Full Computer Name field.

f. Close the System properties window.

4. Enable printer sharing.

a. Select the Sharing tab on the Printer Properties window.

b. Click Change Sharing Options. The shaded fields become active.

c. Select Share this printer.

Make sure that a printer name displays in the Share name field. Refer to “Printer Sharing Requirements” on page 29 for more information about naming the host printer.

The printer Share name is assigned by the Windows operating system. This displays as the same printer name (or an abbreviated version of the printer name) you wrote down earlier.

d. Select Render print jobs on client computers.

e. Click Apply to apply these settings.
5. Configure security.

   Skip this Configure security section if you want to accept the following defaults:
   - All users (the Everyone account) can print.
   - Only the person who enabled sharing on the printer (the CREATOR OWNER account) can view printer error messages at the client PC.

   Users at the client PC can view printer error messages from Windows Print Manager. These printer errors can be resolved at the printer LCD screen or host PC.

   For more information, refer to “Security permissions for shared printers” on page 31, and “View messages” on page 31.

   a. Select the Security tab on the Printer Properties window.
   b. Review the Group or user names list. Do the following to add users to the list.
      i. Click Add. The Users or Groups dialog box displays.
         
         ![Select Users or Groups dialog box]
         
         ii. Select the name you want to add, and click Add. Repeat for each name you want to add.

   For more information, refer to “Security permissions for shared printers” on page 31, and “View messages” on page 31.
iii. If the names or groups do not display in the list, add the names or a group as follows. Repeat for each name you want to add.

– Click Advanced. The Select Users or Groups dialog box displays.

– Select Object Types. The Object Types window displays.

– Select Users.

– Click OK. The Select Users or Groups search window displays.

– Click Find Now. A list of user names displays in the search results section.

– Select each name you want to add.
– Click OK. The Select Users or Groups window displays the names you selected.

![Select Users or Groups window]

iv. When you finish adding names, click OK to close the Users and Groups dialog box.

c. In the Names list, select the name or group to set up.

   Do not select the Manage documents or the Deny check boxes for any user or group. Select Allow for Manage Printer if you want a user or group to view messages.

   i. Select Allow for permissions you want to apply to the user or group.

   ii. Clear the Allow check box for permissions you want to deny the user or group.

   iii. Click Apply to save your changes. Make sure that you save changes for each name.

6. Configure the host PC printing preferences.

   a. From the Printer Properties window, select the Supplies tab.

   b. Write down the ribbon type installed in the printer.

   c. Click OK to close the Printer Properties window.

   d. On the Devices and Printers window, right-click the card printer icon and select Printing preferences. The Printing Preferences window displays.

   e. Specify your printing preferences. Refer to “Design Tasks in Windows Printing Preferences” on page 69.

   f. Write down the printing preferences settings for topcoat and print blocking, and print resolution.

   These settings are not set automatically at the client PC to match the host. You must enter these settings manually on each client PC when you set up printing preferences. For an overview, refer to “Configure PC Printing Preferences for Sharing” on page 33.

   g. Click OK to close the Printing Preferences window.
Install the Card Printer Driver on the Client PC

The client PC must be running the Windows 7, Windows 8.1, or Windows 10 64-bit operating system. See “Printer Sharing Requirements” on page 29 for a list of supported host/client operating system combinations.

Differences between operating systems are noted, as needed.

1. Make sure that the Card Printer Driver is installed and set up on the host PC.

   Before you log on to the client PC, look for a user account that matches an account on the host PC. If one is not listed, set up the user account and password on the client PC.

2. Log in to the client PC with a user account that has administrator privileges and matches an account and password on the host PC.

3. Add the printer to the client PC.
   a. Display the Devices and Printers window.
   b. Select Add a printer. The Add Printer wizard displays.
   c. Select Add a network, wireless, or Bluetooth printer.
      The system searches for networked printers and displays the Select a printer page.
   d. Select the printer to which you want to connect.
      If the printer does not display in the list:
      i. Click The printer that I want isn’t listed. The Find a printer by name or TCP/IP address page displays.
      ii. Click Select a shared printer by name.
   e. Enter the name of the host PC and the shared printer name by doing one of the following:
      ♦ Use the names you wrote down during the host PC installation using the format:
        \host PC name\shared printer name
      ♦ If you don’t have the printer name, enter the host PC name. Use the format:
        \host PC name\
        When you type the last backslash without the printer name, a list of host printers displays in a drop-down list.
        Select the shared printer from the drop-down list.
   f. Click Next. A series of messages display and you are asked to install the printer driver.
g. Click **Install driver**. When a message displays that you successfully added the printer, click **Next**.

h. Close any open windows.

i. Click **Finish** to close the wizard. The shared card printer icon displays in the **Devices and Printers** window of the client PC.

4. If card production software is installed on this computer, or if you need other support files, such as magnetic stripe fonts, install the XPS Card Printer Plug-in or support files from the Driver Installation CD. For instructions, refer to “Install Support Files” on page 23.

5. Configure the client PC printing preferences.
   
a. Get the print settings you wrote down at the host PC for ribbon type, topcoat and print blocking, and print resolution. These settings are not set automatically at the client PC to match the host, so you must enter them manually.

b. From the **Devices and Printers** window, right-click the card printer icon and select **Printing preferences**.

c. Enter the required printing preferences. Refer to “Configure PC Printing Preferences for Sharing” on page 33 and “Design Tasks in Windows Printing Preferences” on page 69.

d. Click **OK** to close the **Printing Preferences** window.
Appendix C: Tactile Identifier Mark Conversion

Embosser font 11 allows you to emboss up to three Braille (Tactile Identifier Mark or TIM) characters on a card. Braille uses a 6-dot format to represent letters, numbers, and combinations of sounds.

The Braille characters are expressed as a sequence of numbers that indicate the position of the dots, with dots 1–3 in the left column, and dots 4–6 in the right column.

1 • • 4
2 • • 5
3 • • 6

The CE system uses a single emboss character to form each dot. Up to three 6-dot characters can be embossed in any allowed location on the card.

The vertical and horizontal spacing between the embossed dots is 0.091 in (2.3 mm). The distance between characters is 0.240 in (6.1 mm).

Because there isn’t a one-to-one correlation between the ASCII value and the Braille character, use the following conversion table to map your ASCII data to the Braille characters. The table includes the dot sequence for each character and its binary representation.

Some characters must be sent as an ASCII sequence because they are reserved XML characters. In addition, some characters have more than one valid value. All are shown in the following table.
<table>
<thead>
<tr>
<th>ASCII (dec)</th>
<th>ASCII (hex)</th>
<th>ASCII (char)</th>
<th>Braille Dots (dec)</th>
<th>Braille Dots (bin)</th>
<th>Cell</th>
<th>Meaning</th>
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