



# ZEBRA ZXP Series 1™



## User's Manual

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<http://www.zebra.com/environment>

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# Contents



<b>1 • Getting Started</b> .....	<b>1</b>
ZXP Series 1 Part Numbers .....	2
Features, Controls, and Indicators .....	3
Rear Panel Connectors .....	4
Multi-Function LCD Panel .....	5
Zebra Supplies .....	7
<b>2 • Printer Installation</b> .....	<b>9</b>
Unpacking Your Card Printer .....	9
Installing the Printer .....	10
Setting up the Printer .....	10
Connecting Power .....	11
Connecting the Printer to your Computer .....	12
Viewing Printer Information .....	13
Installing the Windows Printer Driver .....	14
Installing the USB Printer Driver .....	14
Installing the Ethernet Printer Driver .....	19
Setting Up a Network Printer .....	24
Printer Pooling .....	28
<b>3 • Printer Setup</b> .....	<b>31</b>
Printer Features .....	31
Loading Ribbon Cartridge .....	32
Loading Cards .....	34
Card Output Hopper .....	36
Printing a Test Card .....	37
Typical Printer Operation .....	38
Creating a Sample Card .....	38
Printing the Sample Card .....	38

- 4 • Printer Settings and Adjustments . . . . . 39**
  - Introduction . . . . . 39
  - Printer Properties . . . . . 40
    - General Tab . . . . . 41
    - Sharing Tab . . . . . 42
    - Ports Tab . . . . . 43
    - Advanced Tab . . . . . 44
    - Color Management Tab . . . . . 45
    - Security Tab . . . . . 46
    - Device Settings Tab . . . . . 47
  - Printing Preferences . . . . . 51
    - Card Setup Tab . . . . . 52
    - Encoding Tab . . . . . 65
    - About Tab . . . . . 68
- 5 • Cleaning . . . . . 69**
  - Cleaning the System . . . . . 69
    - When to Clean . . . . . 69
    - How to Clean . . . . . 70
  - Cleaning the Printhead . . . . . 72
- 6 • Troubleshooting. . . . . 73**
  - Introduction . . . . . 73
  - Troubleshooting Procedures . . . . . 74
    - LCD Panel Warnings and Error Messages . . . . . 74
    - Print Quality Issues . . . . . 77
- 7 • Technical Specifications . . . . . 83**
  - Specifications . . . . . 83
  - ISO Standard Card Dimensions . . . . . 87
  - Compliance Information . . . . . 88
- A • Advanced Sharing . . . . . 91**
- B • Magnetic Encoder Option . . . . . 101**
- C • CardSense Single-Card Feed Mode . . . . . 105**
- D • Half-Panel Ribbon Operation . . . . . 111**
- E • Worldwide Support . . . . . 117**



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# Getting Started

This manual contains installation and operation information for the Zebra ZXP Series 1 Card Printer, manufactured by Zebra Technologies Corporation.

The printer provides full color dye sublimation or monochrome thermal transfer printing on standard CR-80, ISO 7810 format, 2.12 inch by 3.38 inch (54 mm by 86 mm) PVC or PVC Composite plastic 10-mil to 40-mil cards.

Zebra ZXP Series 1 Load-N-Go™ ribbon cartridges are used with an integrated card cleaning roller for easy ribbon changing or replacement.

Several options are available, making the printers configurable for varied application environments:

- Magnetic Encoder
- USB only or USB and 10/100 Ethernet
- CardSense™ Single-Card Feed Kit

Its auto-switching 100 ~ 240 Volts AC, 50 ~ 60 Hz external power supply uses interchangeable power cords for maximum flexibility.

## ZXP Series 1 Part Numbers

The Part Number of a particular Zebra ZXP Series 1 Card Printer is shown on a label affixed to the bottom of the printer; that Part Number identifies the specific configuration for that printer. This chart shows the configurations that are available:

PART NUMBER	DESCRIPTION
Z 1 _ - _ _ 0 0 _ _ _ _ _ _	<b>BASE UNIT</b>
_ _ 1 - _ _ _ _ _ _ _ _ _ _	Single-Sided
	<b>SMART CARD OPTIONS</b>
_ _ _ - 0 _ _ _ _ _ _ _ _	None
	<b>MAG ENCODER OPTIONS</b>
_ _ _ - 0 _ _ _ _ _ _ _ _	None
_ _ _ - M _ _ _ _ _ _ _ _	ISO HiCo/LoCo Mag S/W-selectable
	<b>Interface</b>
_ _ _ - _ _ 0 _ _ _ _ _ _ _	USB only
_ _ _ - _ _ C _ _ _ _ _ _ _	USB and 10/100 Ethernet
	<b>SOFTWARE / KIT</b>
_ _ _ - _ _ 0 _ _ _ _ _ _ _	None
_ _ _ - _ _ G _ _ _ _ _ _ _	Starter Kit: Monochrome ( Incl: 1 Monochrome Ribbon, 100 PVC Cards )
_ _ _ - _ _ H _ _ _ _ _ _ _	Starter Kit: Color ( Incl: 1 YMCKO Ribbon, 100 PVC Cards )
	<b>MISCELLANEOUS</b>
_ _ _ - _ _ _ _ 0 0 0 _ _ _	None
_ _ _ - _ _ _ _ _ G _ _ _ _	Buy America Act
	<b>COUNTRY CODE (power cord option)</b>
_ _ _ - _ _ _ _ _ 0 0 _ _	No power cords
_ _ _ - _ _ _ _ _ A P _ _	Britain
_ _ _ - _ _ _ _ _ U S _ _	Americas
_ _ _ - _ _ _ _ _ B R _ _	Brazil
_ _ _ - _ _ _ _ _ E M _ _	EMEA (Europe, the Middle East, and Africa)
_ _ _ - _ _ _ _ _ A U _ _	Australia
_ _ _ - _ _ _ _ _ C N _ _	China
_ _ _ - _ _ _ _ _ I N _ _	India
_ _ _ - _ _ _ _ _ T W _ _	Taiwan
_ _ _ - _ _ _ _ _ J P _ _	Japan
	<b>CUSTOM CODE</b>
_ _ _ - _ _ _ _ _ _ 0 0	State / Province / Project / Other
	<b>ACCESSORIES</b>
P1031925-100	CardSense single-card feed kit, field-upgradable option
105999-302	Cleaning Kit: 4 printer-path and 4 feeder cleaning cards

## Features, Controls, and Indicators

The picture below points out some of the printer's external features; see [Section 3](#) for an interior view.

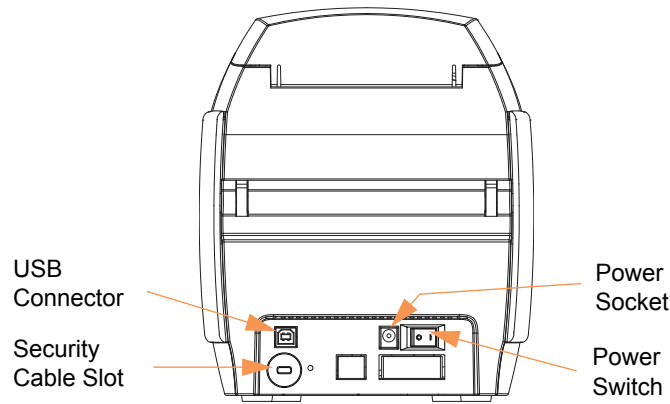


- **Card Feeder Cover** - Opening the Card Feeder Cover gives access to the automatic card feeder. The translucent cover allows you to see when the card supply is running low. The feeder has a 100-card capacity (30-mil cards).
- **Lid Release Button** - Pressing the Lid Release Button allows the printer's lid to swing open. This gives internal access for changing the Ribbon Cartridge, changing Cleaning Rollers, and cleaning the printer.
- **Multi-Function LCD Display Panel** - The Multi-Function LCD Display Panel displays printer status information. Messages also alert the user of the need for action and indicate certain fault conditions.
- **Multi-Function Control Button** - The Multi-Function Control Button initiates several functions; these are described in the appropriate sections of this document.
- **Card Output Hopper** - Front-side Card Output Hopper has a 50-card capacity.
- **Quick Help QR Code** - The QR code launches web-based help pages to find user videos for simple set-up and maintenance instructions; see <http://www.zebra.com/zxp1-info> for details.
- **Zebra Print Touch Tag** - This touch point uses NFC technology to provide key information about the printer; see <http://zebra.com/nfc> for details.

## Rear Panel Connectors

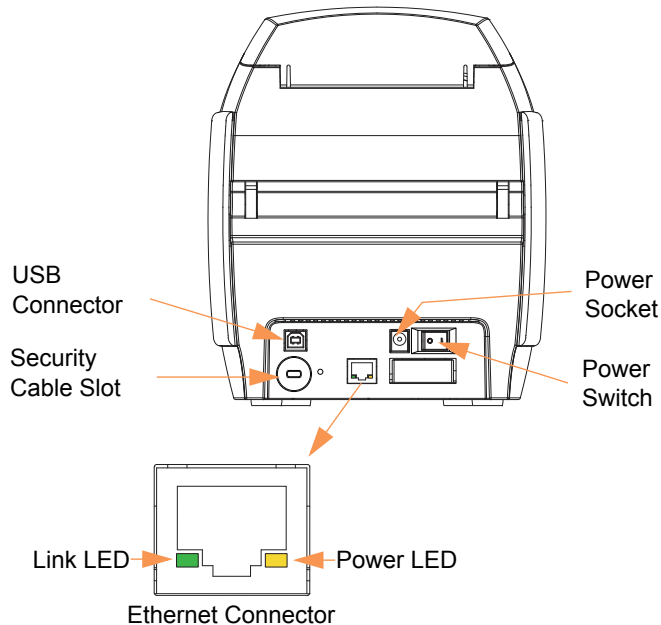
### Standard USB Connection

The figure below shows the rear of the Printer with the standard USB connection.



### Ethernet Connection

The figure below shows the rear of the printer with the standard USB interface with the Ethernet connection.



The Ethernet Connector has two LED status indicators:

- Power LED (amber): When illuminated, indicates power is on.
- Link LED (green): When illuminated, indicates valid Printer-Ethernet connectivity.

## Multi-Function LCD Panel

Your printer is equipped with a Multi-Function LCD Panel to provide printer status information. The readout is controlled by the Multi-Function Control Button directly below the viewing window.

Multi-Function LCD Panel messages fall into three categories: Operational, Warning, and Error.

### Operational Messages

Operational Messages are displayed during the Printer's normal operation.

OPERATIONAL
CARD READY
CLEANING PRINTER
CLOSE FEEDER DOOR
DOWNLOADING DATA
DOWNLOADING FIRMWARE
EMPTY FEEDER THEN CLOSE COVER
FEED LONG CLEANING CARD IN EXIT
INITIALIZING
INSERT CARD
INSERT FEEDER CLEANING CARD
MAG ENCODING
PRINTING BLACK
PRINTING CYAN
PRINTING MAGENTA
PRINTING MONO
PRINTING OVERLAY
PRINTING YELLOW
PUSH BUTTON TO CONTINUE
READY
REMOVE FEEDER CLEANING CARD
REMOVE LONG CLEANING CARD
REMOVE RIBBON THEN CLOSE LID
SINGLE CARD READY-PRINT OR EJECT

## Warning Messages

Warning messages alert the operator to action that should be taken; the printer will generally continue operation.

<b>WARNINGS (Printer will still operate)</b>
CHECKING RIBBON
CLEAN PRINTER
CLOSE LID
ENCODING ERROR
INVALID MAGNETIC DATA

## Error Messages

Error messages are displayed when a situation causes the printer to stop operating. Depending on the cause of the error message, restarting the printer or curing the displayed Error may return the printer to operational status, or the printer may require troubleshooting and repair.

<b>ERRORS (Printer will not operate)</b>
CHECK RIBBON
COMMAND ERROR
COVER OPEN
LID OPEN
MECHANICAL ERROR
OUT OF CARDS
OUT OF RIBBON

## Icons

Throughout this manual, different icons highlight important information, as follows:



**Note** • Indicates information that emphasizes or supplements important points of the main text.



**Important** • Advises you of information that is essential to complete a task, or points out the importance of specific information in the text.



Provides an example or scenario to demonstrate or clarify a section of text.



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**Electrostatic Discharge Caution** • Warns you of the potential for electrostatic discharge.

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**Electric Shock Caution** • Warns you of a potential electric shock situation.

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**Hot Surface** • Warns you of a situation where excessive heat could cause a burn.

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**Caution** • Advises you that failure to take or avoid a specific action could result in physical harm to you, or could result in physical damage to the hardware.

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## Zebra Supplies

Genuine Zebra supplies meet stringent quality standards and are recommended for optimal printing quality and proper printer performance; see <http://www.zebra.com/supplies> for details.

ZXP Series 1 printers are designed to work only with Zebra ZXP Series 1 True Colours® ix Series Ribbons.





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# Printer Installation

## Unpacking Your Card Printer

Your ZXP Series 1 Card Printer ships in a cardboard carton, protected by foam inserts and a protective anti-static bag. Keep all packaging material in case you need to move or re-ship the printer.

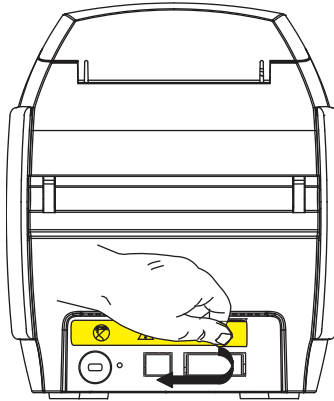
- Step 1.** Before opening and unpacking the printer, inspect the carton to ensure that no damage occurred during shipment.
- Step 2.** Ensure that you have a clean and nearly dust free environment for proper operation and storage of the printer.
- Step 3.** Open the carton, and remove the box containing the printer accessories.
- Step 4.** Lift the printer out of the carton.
- Step 5.** Remove the protective foam inserts.
- Step 6.** Make sure the following accessories are included with your printer:
  - a. Software CD-ROM
  - b. Quick Start Guide
  - c. Cleaning Kit
  - d. Power Cords (one or two depending on the configuration)
  - e. Power Supply
  - f. USB Printer Cable

If any items are missing, please contact your Zebra Reseller. To reorder, refer to [Appendix E](#) of this manual.

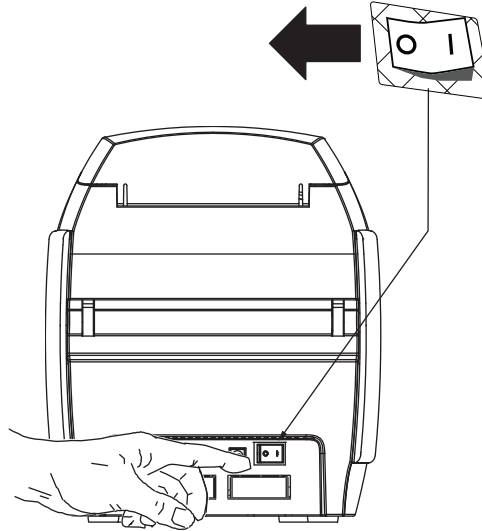
## Installing the Printer

### Setting up the Printer

- Step 1.** Place the printer in a location that allows easy access to all sides. The printer should never be operated while resting on its side or upside down.
- Step 2.** Remove the yellow CAUTION label from the back of the printer.



- Step 3.** Ensure that the printer's power switch is in the OFF (O) position.



## Connecting Power



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**Caution** • Limit electrical power supplied to the printer to 24 VDC. Limit excess current draw to 16 amps or less, using an associated circuit breaker or other such device. Never operate the printer in a location where operator, computer, or printer can get wet. Personal injury could result. The printer must be connected to an earthed electrical power supply and properly protected against electrical surges and grounding faults. The power supply pack can only be replaced by the same product from the manufacturer.

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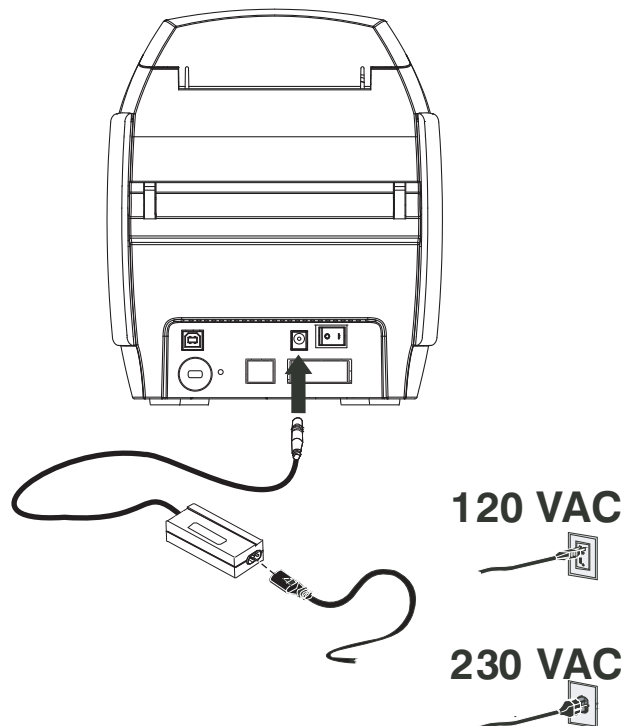


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**Caution** • Do not power the printer with USB attached to your computer at this time. THE DRIVER WILL PROMPT YOU WHEN IT IS TIME TO PLUG IN AND POWER UP YOUR PRINTER.

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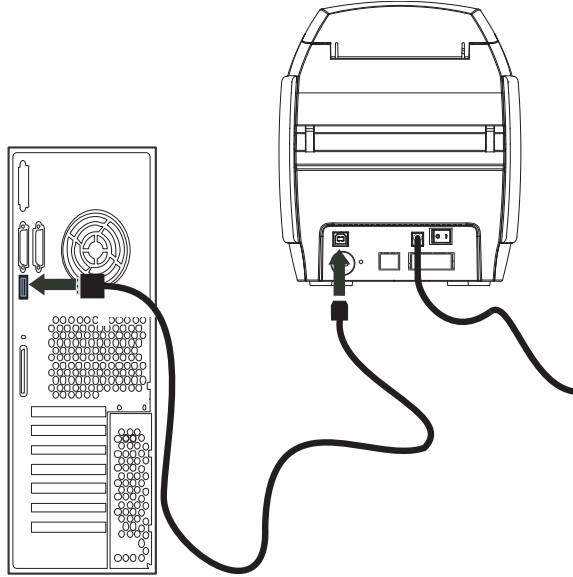
- Step 1.** Insert the power supply plug into the power socket, attach the power cord (120VAC or 230VAC) to the power supply, then plug the power cord in to a grounded electrical socket of the proper voltage and type.



- Step 2.** Ensure that the printer's power switch is in the OFF (O) position.

## Connecting the Printer to your Computer

**Step 1.** If your printer has only the USB interface, attach the included USB cable to your computer and the printer.

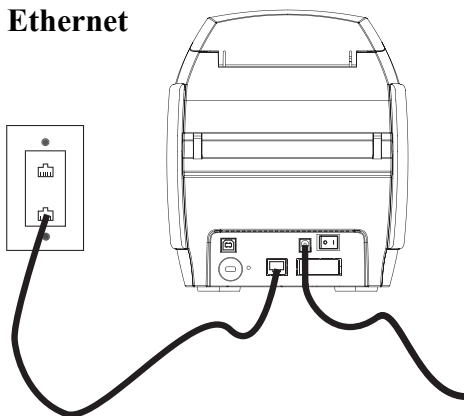


**Step 2.** If your printer has the optional Ethernet interface (as well as the USB interface), connect **either** the USB cable to printer and computer or the Ethernet cable to the printer and the Ethernet network.

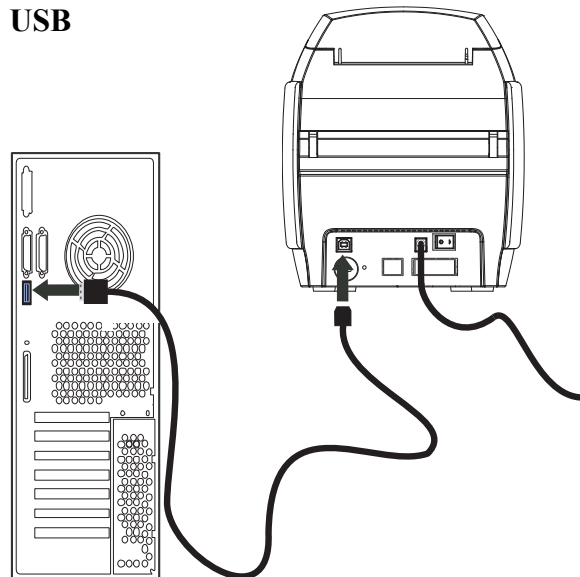


**Important •** Do not connect both the USB and the Ethernet interfaces at the same time!

**Ethernet**



**USB**



## Viewing Printer Information

- Step 1.** Turn printer power ON, wait until the LCD Display Panel shows READY, turn printer power OFF, and then wait a minimum of 20 seconds.
- Step 2.** While holding down the Control Button, turn printer power ON. The LCD Display Panel will glow blue.



- Step 3.** Keep pressing the Control Button, and observe the LCD Display Panel show Initializing and CHECKING RIBBON.
- Step 4.** When the PRINTER INFO message appears in the display panel, momentarily release and press the Control Button to display the first parameter: Model Name.
- Step 5.** Continue to tap the Control Button to advance through the parameters and cycle back to the beginning:
- Model Name (including the printer configuration)
  - Serial Number
  - Firmware Version
  - Head Resistance
  - X & Y Offset (front)
  - X & Y Offset (back)
  - EC Offset (front and back)
  - Ribbon Type
  - Smart Offset
  - IP Address** (note this address for Ethernet installation; see [page 19](#))
  - Mask
  - Gateway
  - DHCP (enabled or disabled)
- Step 6.** A long press of the Control Button (about 1 second) will escape the sequence. Idle time of 15 seconds will also escape the sequence.

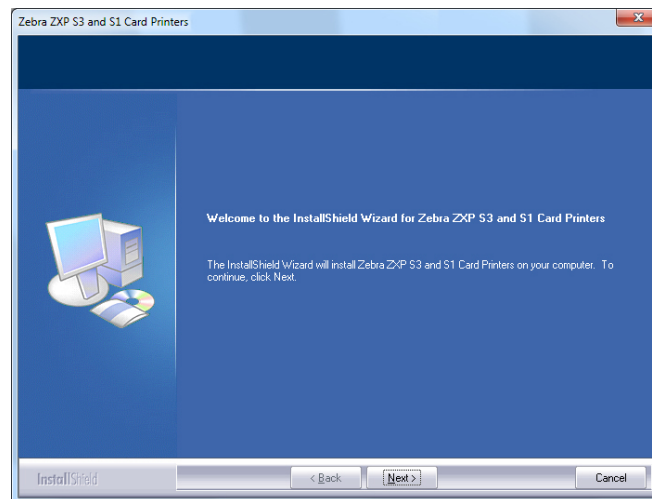
## Installing the Windows Printer Driver

### Installing the USB Printer Driver

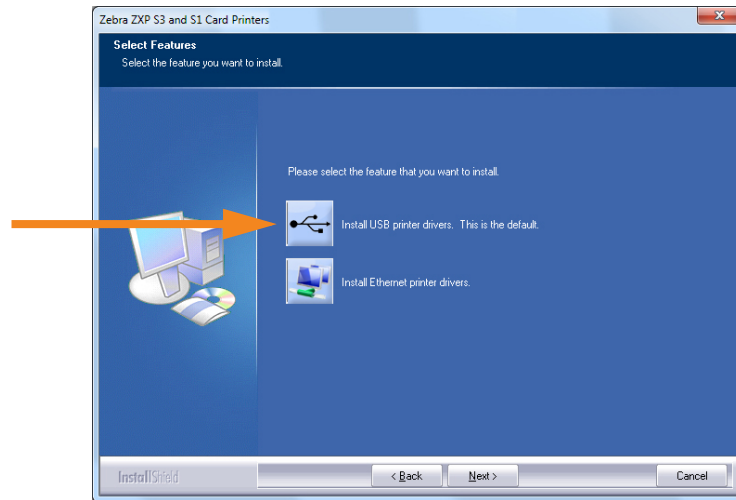


**Note** • To install the Ethernet driver, see [page 19](#).

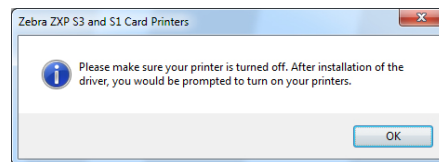
- Step 1.** If not already done, connect power to the printer. Turn power OFF.
- Step 2.** Connect the USB port on the rear of the printer to the computer's USB port.
- Step 3.** Ensure that the Printer's power switch is in the OFF (O) position.
- Step 4.** Insert the **User Documentation and Drivers CD** into the CD drive of the host computer. The **Main Menu** will open.
- Step 5.** From the **Main Menu**, click **Install Zebra Printer Driver**.
- Step 6.** The **InstallShield Wizard** window will open. To proceed with the installation, click the **Next** button.



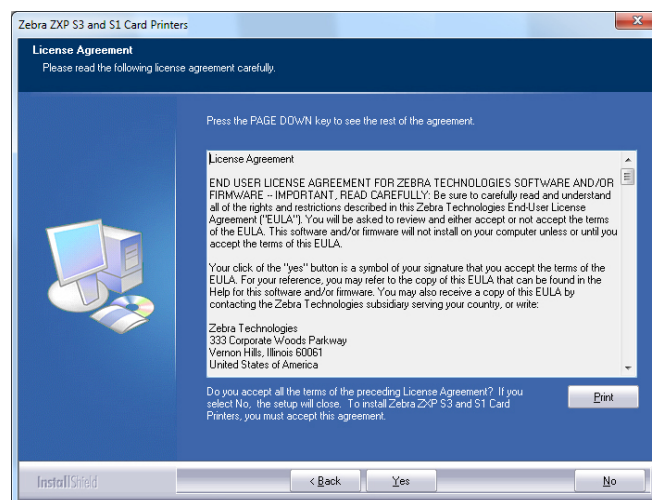
**Step 7.** Select **Install USB printer drivers**, and click the **Next** button.



**Step 8.** Ensure that the Printer's power switch in the OFF (O) position; and then click the **OK** button.



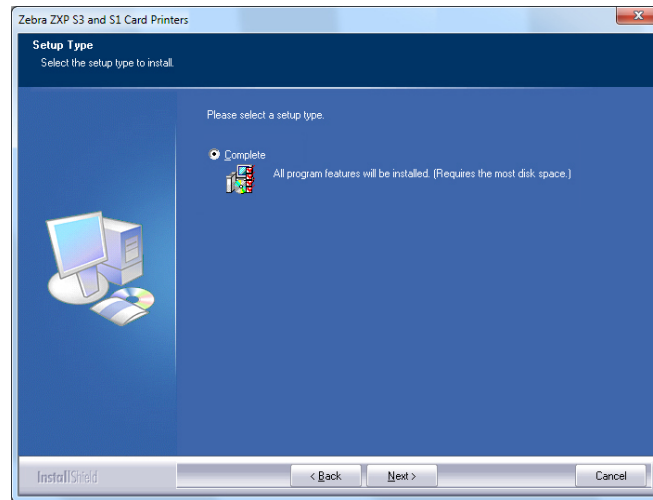
**Step 9.** This will bring up the **License Agreement** window. To proceed with the installation, click the **Yes** button.



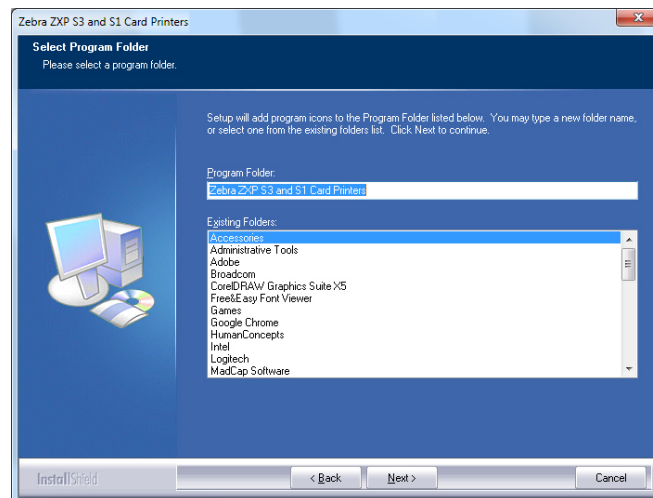
## 2: Printer Installation

### Installing the Windows Printer Driver

**Step 10.** This will bring up the **Setup Type** window. Select *Complete* to install all program features, and click the **Next** button.

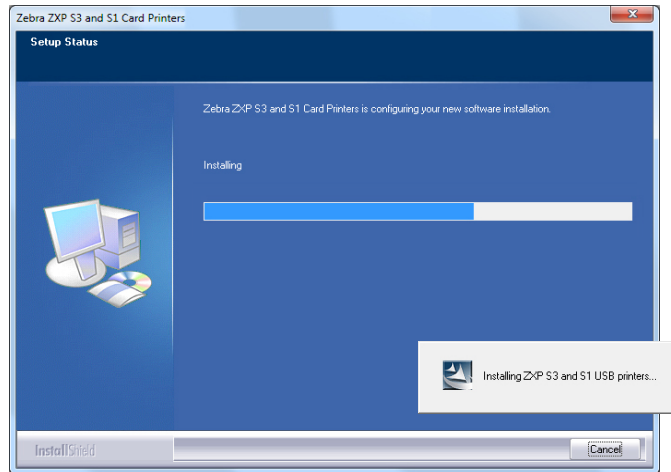


**Step 11.** This will bring up the **Select Program Folder** window. Type in a new folder name or select one from the existing folders list, and click the **Next** button.

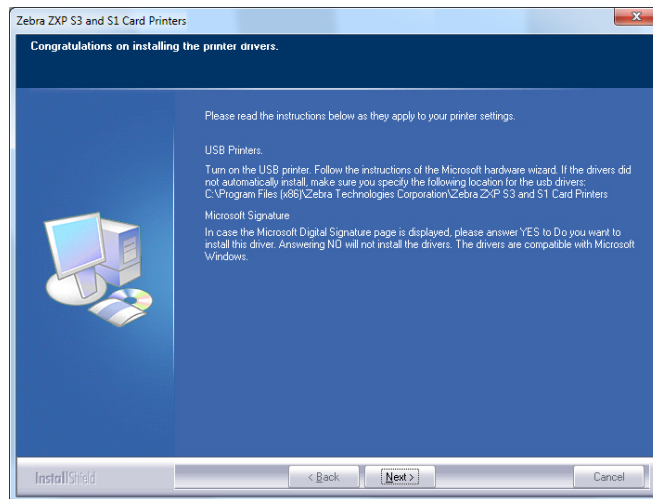




**Step 12.** Observe the **Setup Status** window.



**Step 13.** The **Congratulations** window will appear.

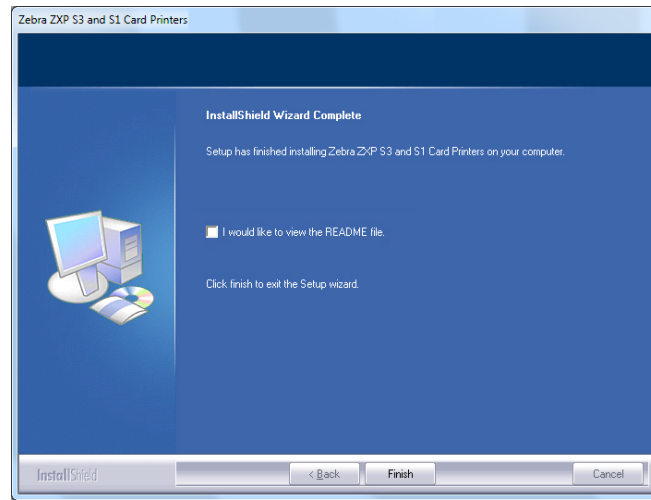


**Step 14.** At this point, **turn on your printer**; and then click the **Next** button. The *Windows New Hardware Found* wizard will find the printer.

## 2: Printer Installation

### Installing the Windows Printer Driver

**Step 15.** When the **InstallShield Wizard Complete** window appears, click the **Finish** button.



**Step 16.** This completes USB driver installation.

**Note** • You may need to change the card setup (card orientation, ribbon type, etc.), encoding, overlay, and/or black panel settings via the Printer Driver; see [Printing Preferences](#) on page 51.



**Note** • You may also need to set the card thickness adjustment to the thickness of the cards being used; see [Loading Cards](#) on page 34.

## Installing the Ethernet Printer Driver

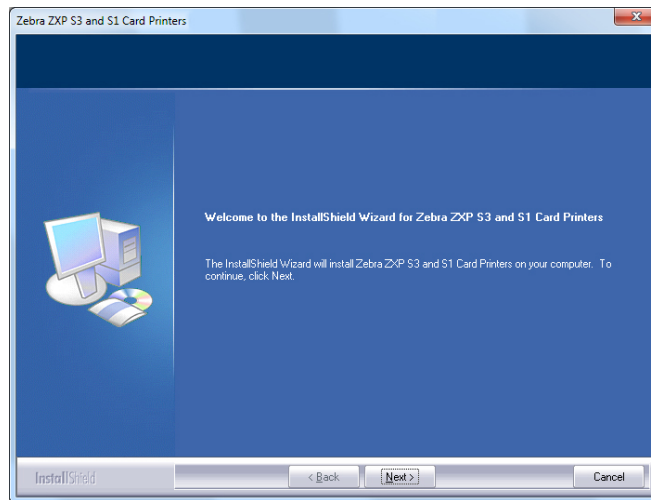


**Note** • To install the USB driver, see [page 14](#).



**Important** • The Ethernet Network must be configured correctly, with the Printer and the host computer on the same subnet mask. If you are not sure how to verify this or change the configuration, consult someone knowledgeable on Ethernet Networks.

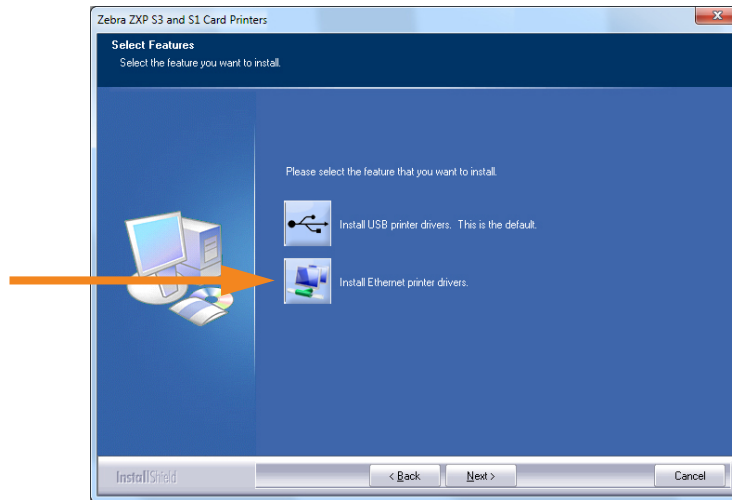
- Step 1.** If not already done, connect power to the printer. Turn power ON.
- Step 2.** Connect the Ethernet port on the rear of the printer to the Ethernet network connection or directly to the computer's Ethernet port.
- Step 3.** Ensure that the Printer's power switch in the ON ( | ) position.
- Step 4.** Insert the **User Documentation and Drivers CD** into the CD drive of the host computer. The **Main Menu** will open.
- Step 5.** From the **Main Menu**, click **Install Printer Driver**.
- Step 6.** The **InstallShield Wizard** window will open. To proceed with the installation, click the **Next** button.



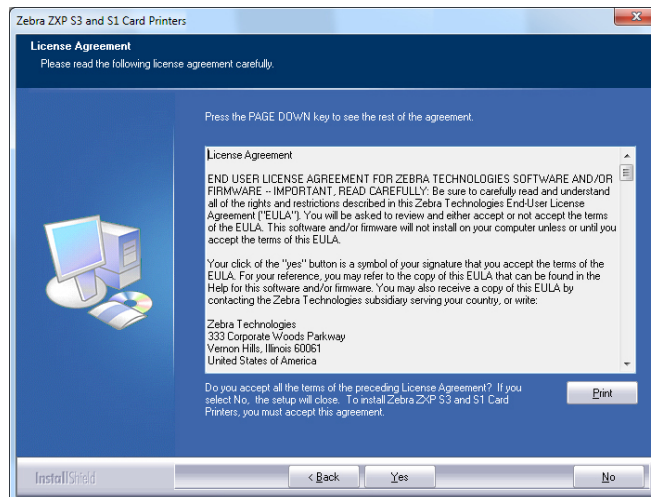
## 2: Printer Installation

### Installing the Windows Printer Driver

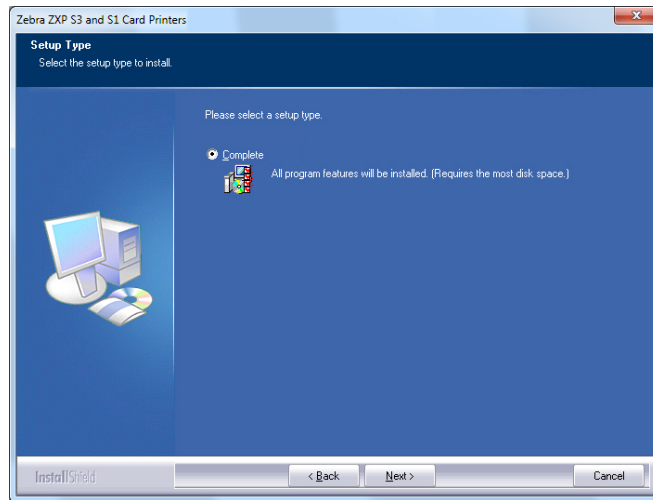
**Step 7.** Select **Install Ethernet printer drivers**, and click the **Next** button.



**Step 8.** This will bring up the **License Agreement** window. To proceed with the installation, select the *I accept the terms of the license agreement* option, and then click the **Next** button.

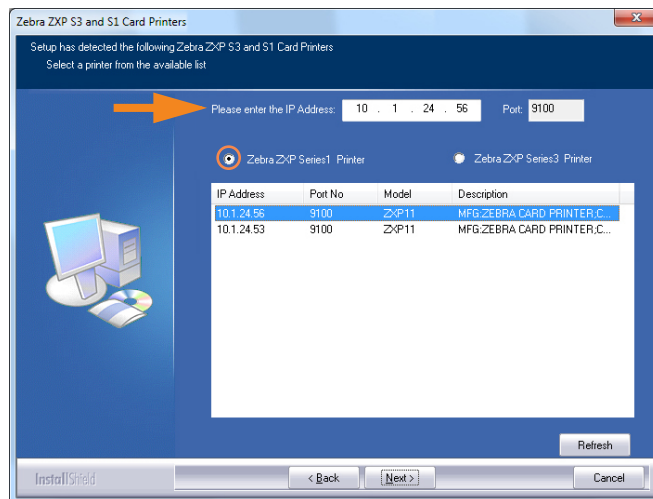


**Step 9.** This will bring up the **Setup Type** window. Select *Complete* to install all program features, and click the **Next** button.



**Important** • To get the printer's IP Address, see [Viewing Printer Information](#) on page 13.

**Step 10.** Select the *Zebra ZXP Series 1 Printer* radio button (circled below), and click the **Refresh** button.

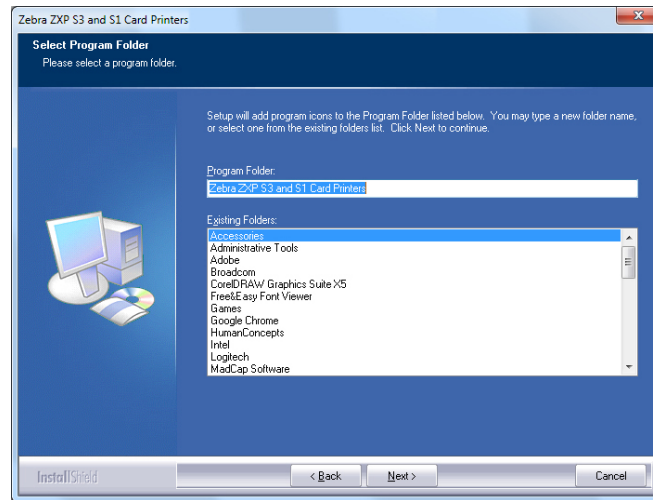


**Step 11.** Setup will find and list all Zebra ZXP Series 1 Printers on the network. Select the printer from the list (if listed), or enter the IP Address (arrow below); and click the **Next** button.

## 2: Printer Installation

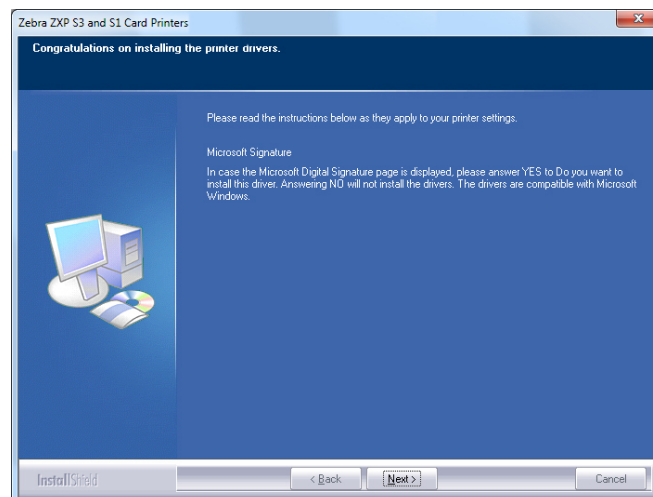
### Installing the Windows Printer Driver

**Step 12.** This will bring up the **Select Program Folder** window. Type in a new folder name, or select one from the existing folders list; and click the **Next** button.

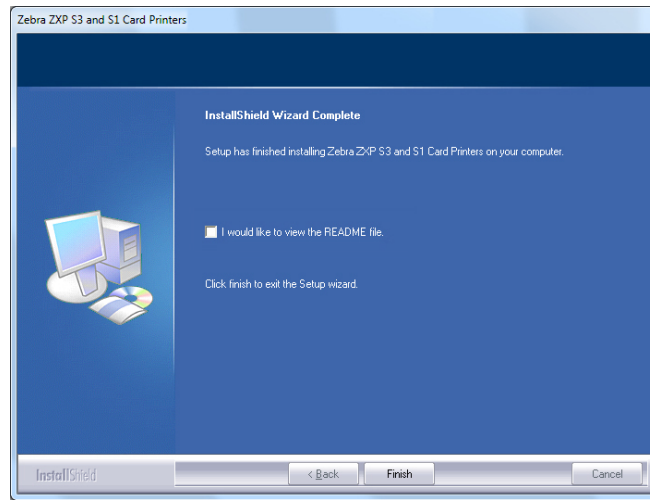


**Step 13.** Observe the **Setup Status** window.

**Step 14.** When the **Congratulations** window will appears, click the **Next** button.



**Step 15.** When the **InstallShield Wizard Complete** window appears, click the **Finish** button.



**Step 16.** This completes Ethernet driver installation.

**Note** • You may need to change the card setup (card orientation, ribbon type, etc.), encoding, overlay, and/or black panel settings via the Printer Driver; see [Printing Preferences](#) on page 51.



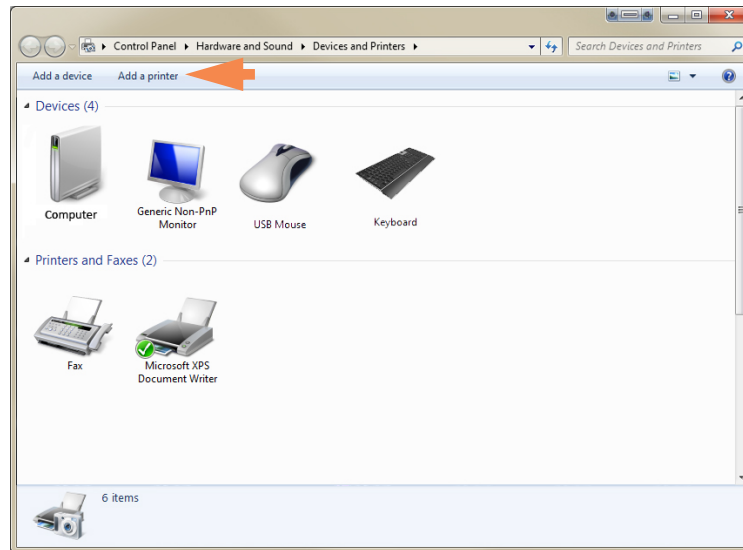
**Note** • You may also need to set the card thickness adjustment to the thickness of the cards being used; see [Loading Cards](#) on page 34.

## Setting Up a Network Printer

Use this procedure if you have already installed an Ethernet printer on your system (refer to [Section 2](#)), and you want to install a second Ethernet printer on the network via the Microsoft **Add Printer Wizard**.

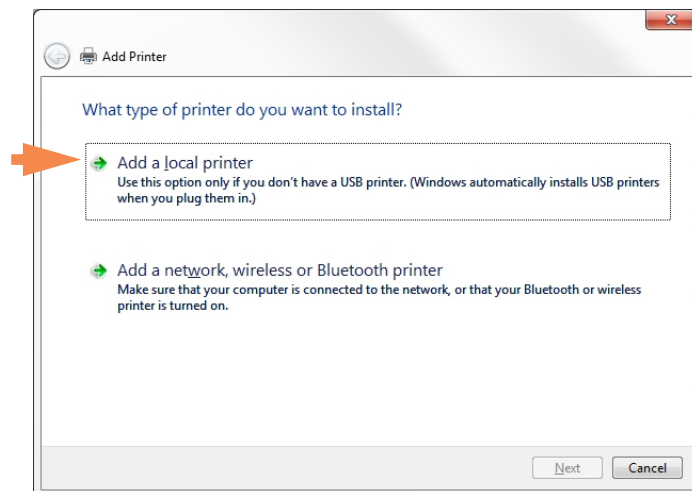
Step 1. Click on the **Start** button, then select *Devices and Printers*.

Step 2. Observe the **Devices and Printers** window.



Step 3. Click on the *Add a printer* option in the Taskbar (arrow above).

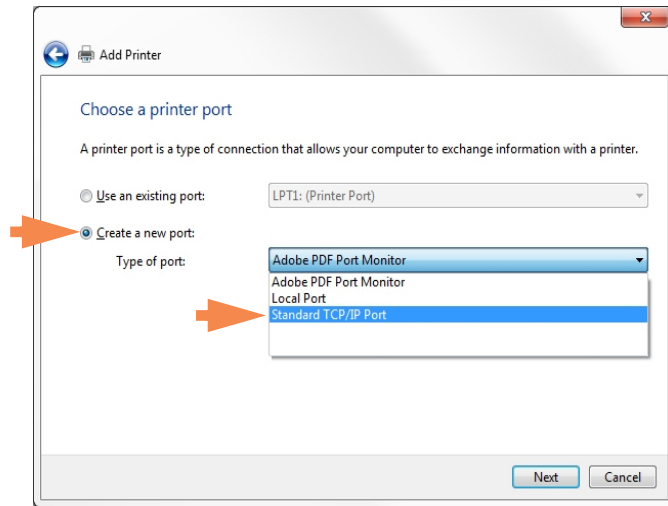
Step 4. Observe the **What type of printer do you want to install** window.



Step 5. Select *Add a local printer* (arrow above), and click the **Next** button.



Step 6. Observe the **Choose a printer port** window.

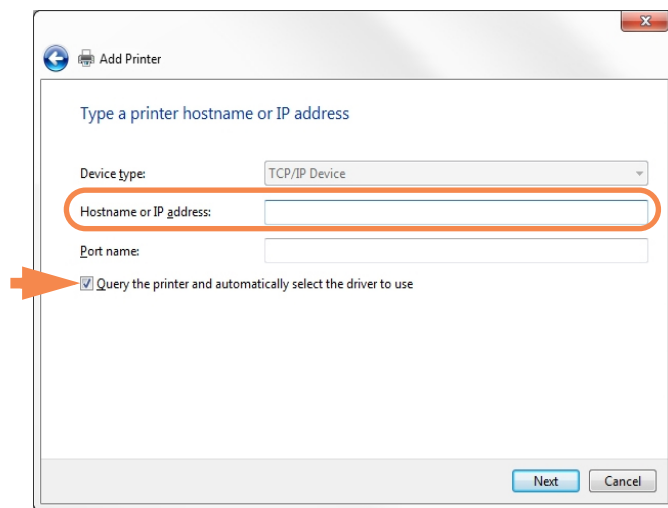


Step 7. Select the *Create a new port* radio button (1st arrow above).

Step 8. From the dropdown menu, select *Standard TCP/IP Port* (2nd arrow above).

Step 9. Click on the **Next** button.

Step 10. Observe the **Type a printer hostname or IP address** window.



Step 11. Enter the IP address of your printer in the *Hostname or IP address* text box (circled above). Note that the Port name will automatically be filled in when you enter the IP Address. **Do not change the Port Name.**

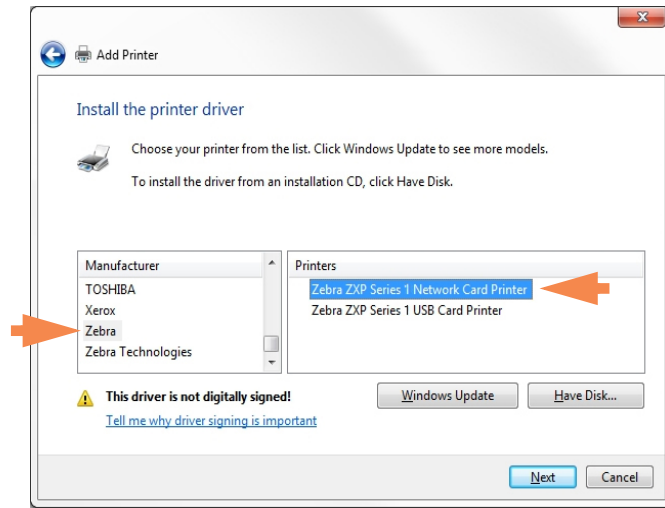
Step 12. Ensure that the *Query the printer ...* checkbox is selected (arrow above).

Step 13. Click on the **Next** button.

## 2: Printer Installation

### Setting Up a Network Printer

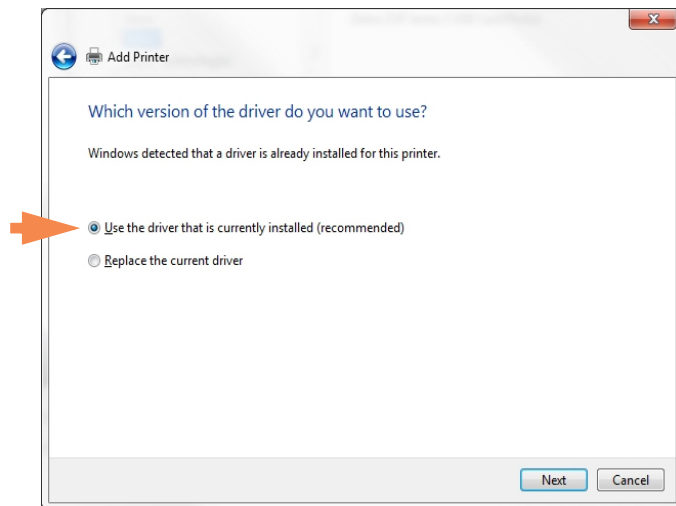
Step 14. Observe the **Install the printer driver** window.



Step 15. Select the Manufacturer and the Printer (arrows above).

Step 16. Click on the **Next** button.

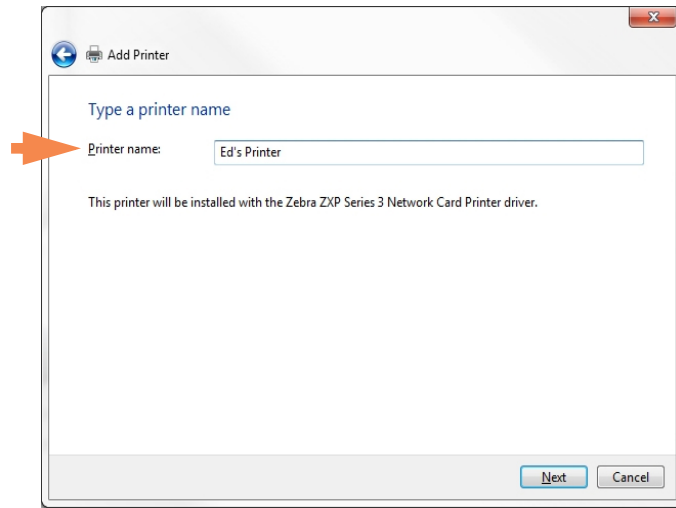
Step 17. Observe the **Which version of the driver do you want to use** window.



Step 18. Select the *Use the driver that is currently installed* radio button (arrow above).

Step 19. Click the **Next** button.

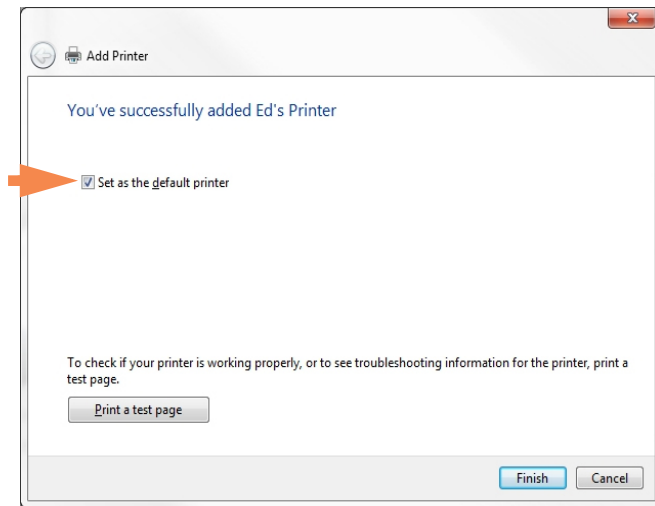
Step 20. Observe the **Type a printer name** window.



Step 21. Enter the printer name: use the default name, or add more information to indicate the printer location; e.g., Ed's Printer, Mike's Office, Room 33, etc.

Step 22. Click the **Next** button.

Step 23. Observe the **You've successfully added ...** window.



Step 24. If appropriate, select the *Set as the default printer* checkbox (arrow above).

Step 25. Click on the **Finish** button to complete the *Add Printer Wizard*.

You have successfully installed the network printer.

## Printer Pooling

### Setting Up Printer Pooling

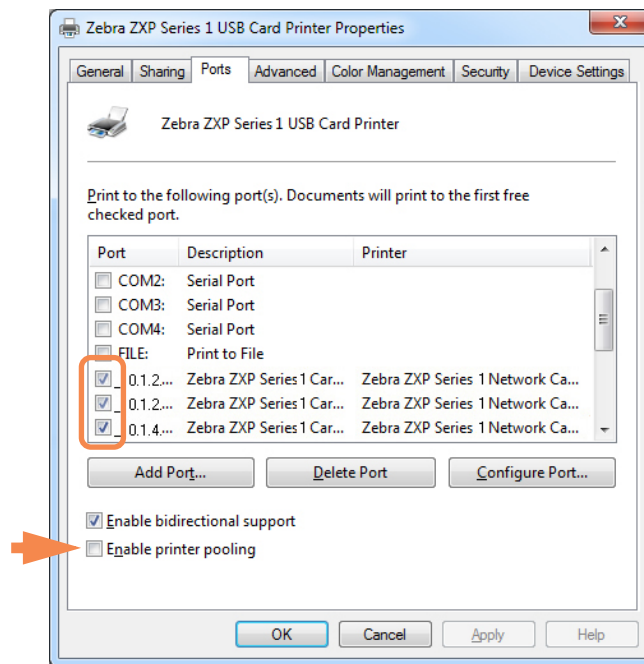
Printer Pooling is a standard feature of Windows, which lets you spread the printed output across a pool of several printers. In this example, we will install and setup the three network printers to be used for pooling.

Step 1. Before proceeding to pool the printers, test them individually, and be sure they are configured similarly. Specifically, check the following:

- Ribbon panel configuration (ribbon type, and what prints on which side of the card).
- Mag encoding configuration.
- Black extraction configuration (if applicable).

Step 2. Access the Ports Tab.

To access the Ports tab, select *Start > Devices and Printers*. Right click on the *Zebra ZXP Series 1 USB Card Printer* listing. Select *Printer properties > Ports*.



Step 3. Select the three network printers by selecting the associated checkbox (circle above).

Step 4. Select the *Enable printer pooling* checkbox (arrow above).

Step 5. Click the **Apply** button, then click the **OK** button.

## Using Printer Pooling



**Important** • Send print jobs to the printer pool, **not** to an individual printer.

When the first printer has taken as many jobs as it can handle (that being two jobs - one to be printed immediately, the other waiting), the following jobs “spill over” to the second printer, and then to the third printer.

Note that if you are only printing two jobs, they would both go to the first printer. Pooling is a spill-over methodology. It does not balance printer usage.

Once the pool has been set up, maintenance and configuration changes should be done through the menus for each individual printer, **not** through the pool (which can produce undesirable results).



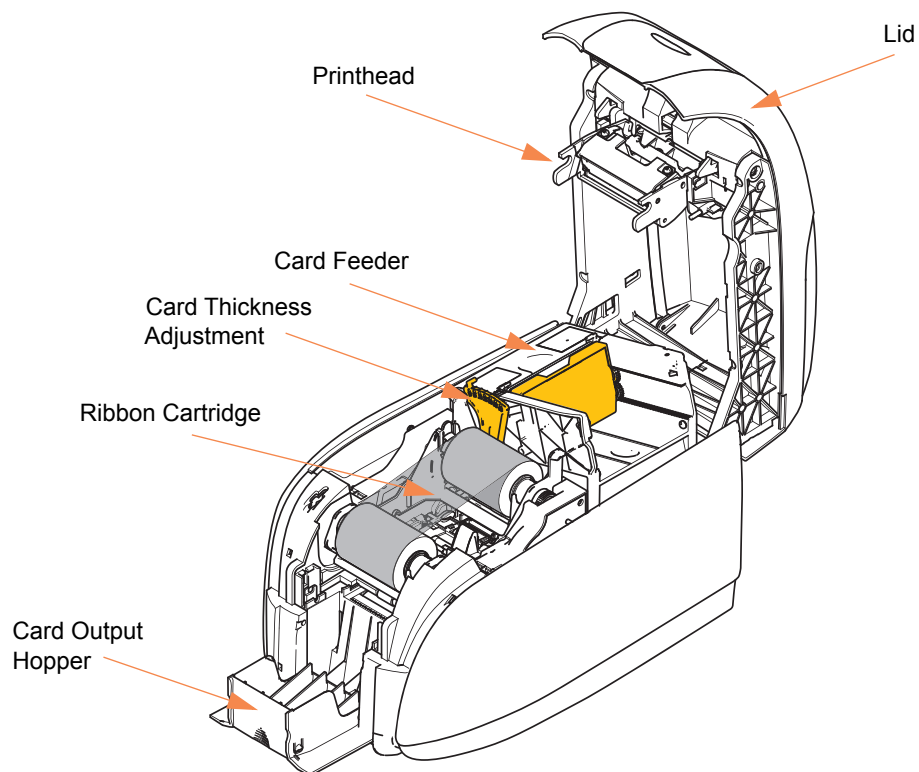
**Important** • The effect of any maintenance and/or changes can (and should) be tested by sending print jobs **separately** to each printer, not to the pool.



# Printer Setup

## Printer Features

The following shows an interior view of the ZXP Series 1 Card Printer.



## Loading Ribbon Cartridge

The ZXP Series 1 Printer requires genuine Zebra ZXP Series 1 True Colours® ix Series Ribbons. These high-performance Resin Thermal Transfer and Dye Sublimation ribbons are specifically designed for the ZXP Series 1 Printer.

- Each ribbon cartridge includes an integrated adhesive cleaning roller assembly that is used to clean the cards entering the printer. Improper cleaning will reduce printer life and degrade print quality
- When the ribbon is completely used, change the cartridge assembly.

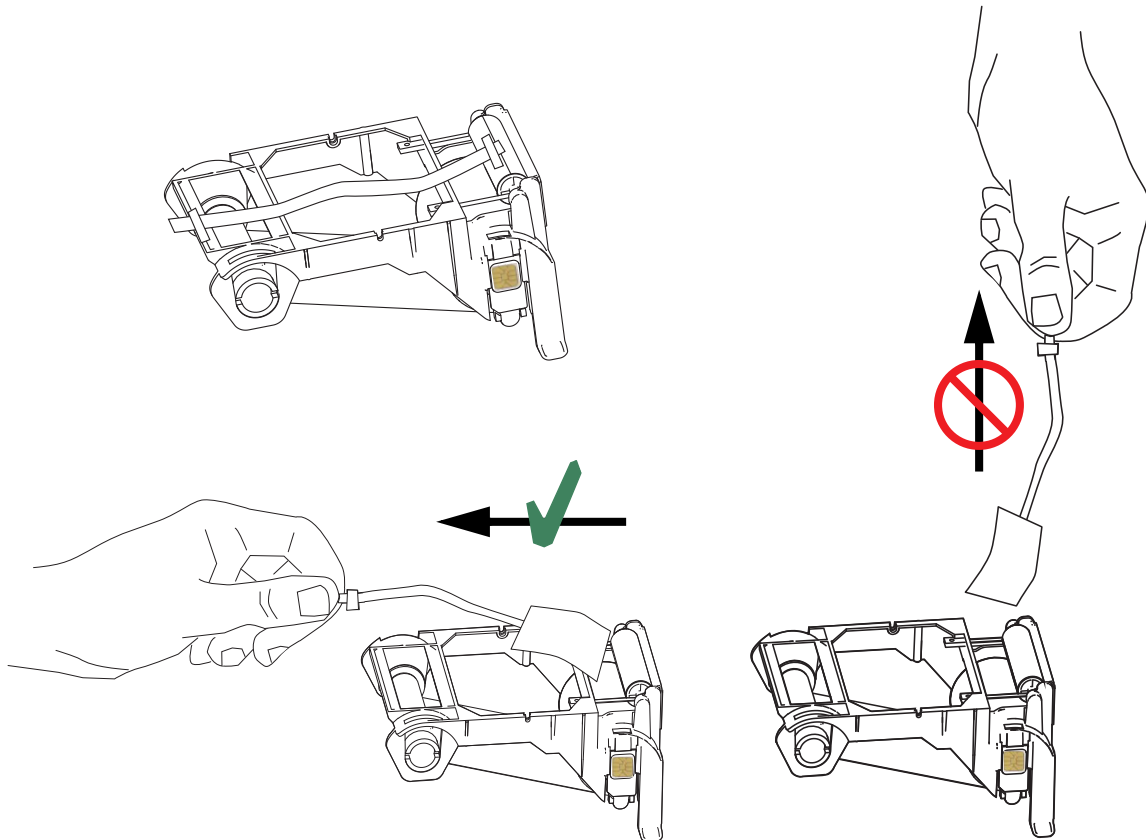


---

**Electrostatic Discharge Caution • DO NOT TOUCH** the printhead or the electronic components on the printhead. Discharge of electrostatic charge from the human body or other surfaces can damage the printhead or other electronic components

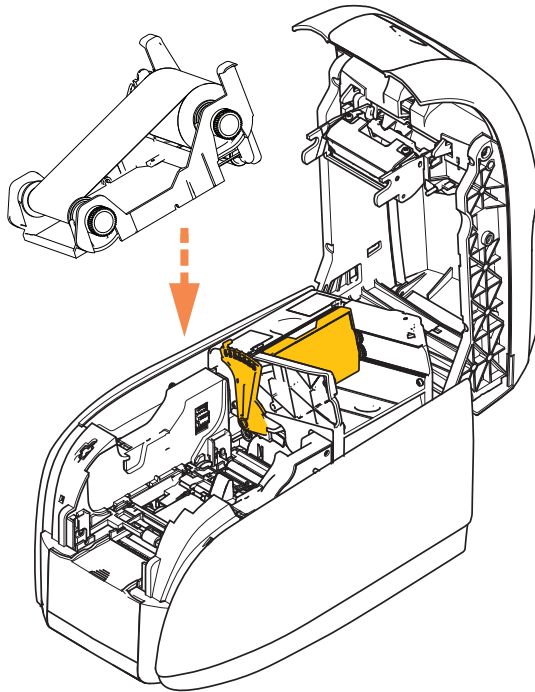
---

1. Open printer lid by pressing the Cover Release button on the top of your printer.
2. Peel protective wrapper from the adhesive cleaning roller by gently pulling on the tape. Discard the protective wrapper.





3. Insert the ribbon cartridge with the cleaning roller facing down, so the gears on the ends of the rollers fit into the appropriate slots.



4. Close the printer lid and push down until you hear an audible click.



**Note** • After the lid is closed, the ribbon automatically synchronizes when the printer power is on.

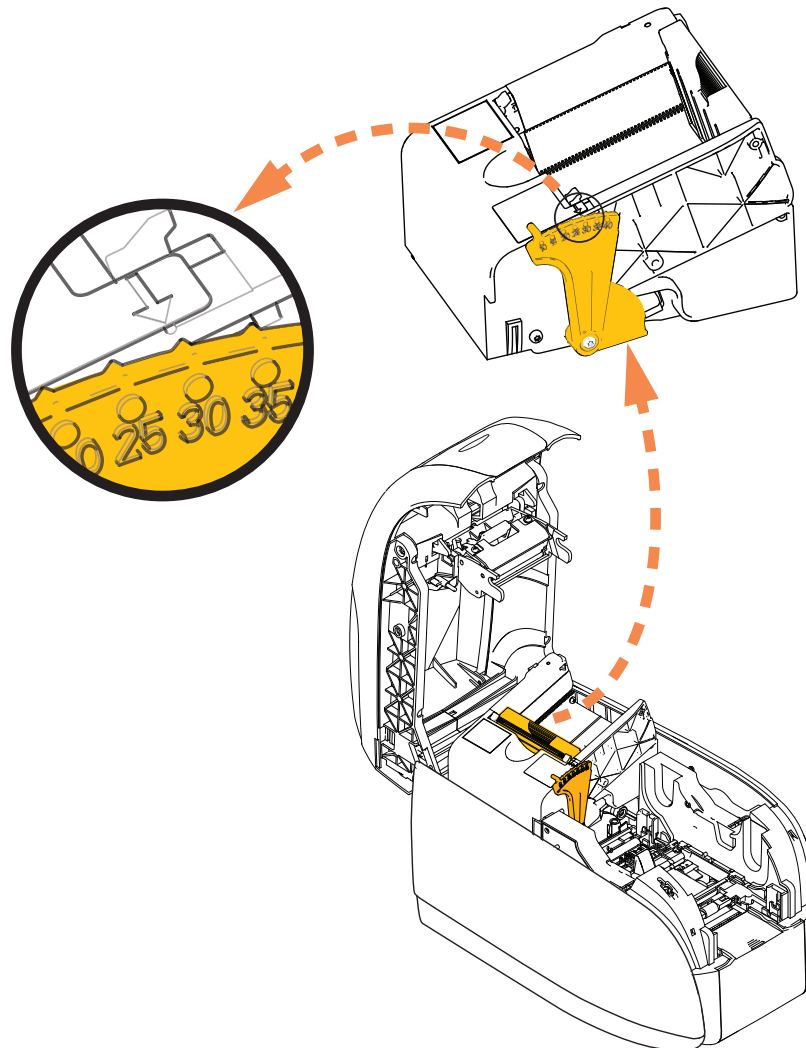
## Loading Cards

### Card Feeder

The card feeder is used for loading cards, it can hold up to 100 cards of 30-mil thickness. The card feeder is located under the card feeder cover of the printer. Check with your card vendor or packaging label to identify the thickness of your cards. A typical card thickness is 30 mil.

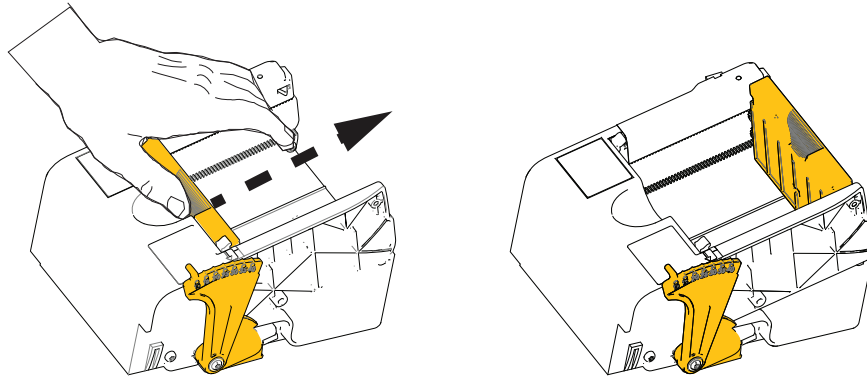
1. Set the card thickness adjustment (circled below) to the number corresponding to the thickness of the cards being loaded. Note that the thickness adjustment ranges from 10 mils to 40 mils.

**Failure to make the proper thickness adjustment (particularly for 10-mil cards) may result in a multiple-card jam. To clear a card jam, refer to [MECHANICAL ERROR](#) on page 75.**



2. Open the card feeder cover.

3. Slide the card guide all the way to the right until it locks in place with an audible click.

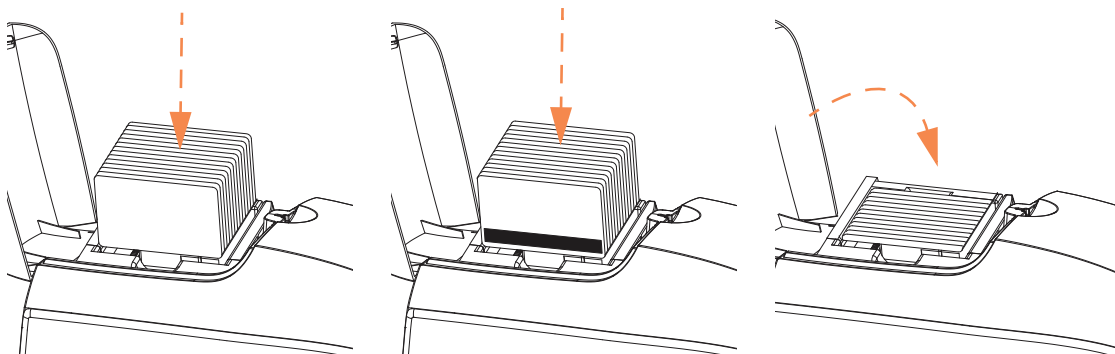


---

**Caution** • Hold the cards by the edges only. **DO NOT** touch print surfaces as this can reduce print quality.

---

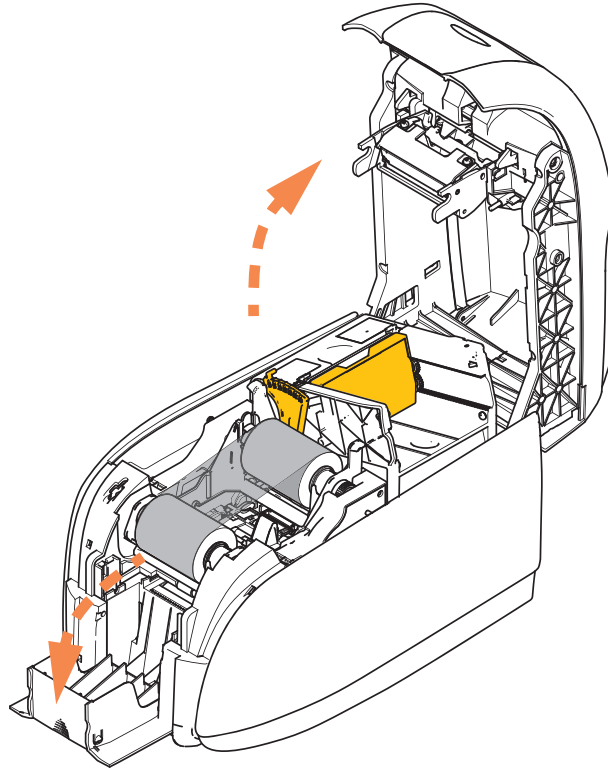
4. Remove the wrapper from the card stack.
5. Examine the cards, and discard any cards with damaged edges.
6. Holding the card stack by its sides, fan the cards (like flexing a deck of playing cards) at least once from each end, so as to separate all the cards.
7. Restore the card stack to its original squared-off condition.
8. Place the stack of cards into the card feeder.



9. Close the card feeder cover. When card feeder cover is closed, the card guide locking mechanism will be released automatically.

## Card Output Hopper

1. Raise the printer lid.
2. Pull the card output hopper down to place it in its functional position.

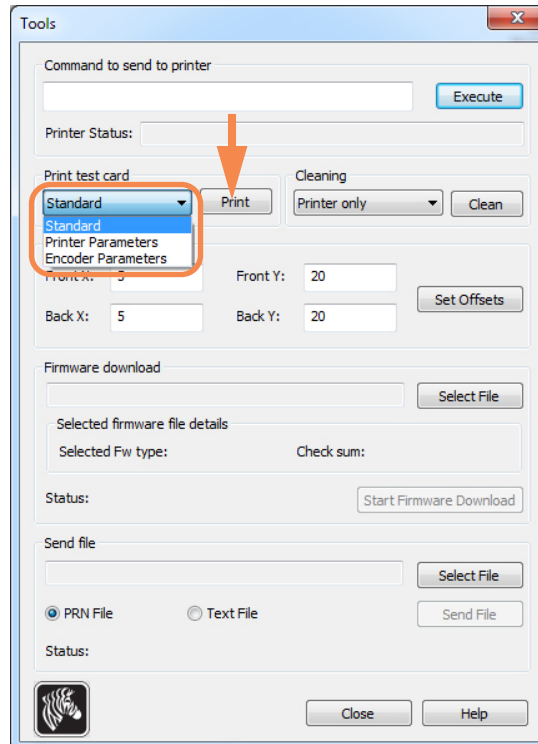


3. When not using the printer, place the card output hopper back in its closed position to protect the printer from dust.

## Printing a Test Card

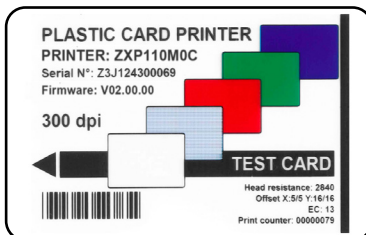
With ribbon cartridge and cards loaded, your printer is ready to print. To check the operation of the printer, you should print a test card.

1. Select *Start > Devices and Printers*. Right click on the *Zebra ZXP Series 1 Card Printer* listing. Select *Printer properties > Device Settings*; and click on the **Tools** button.
2. Observe the **Tools** window.

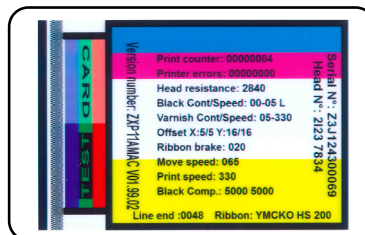


3. From the Print Test Card dropdown menu, select the desired test card (circled above).
4. Click on the **Print** button (arrow above) to print the selected test card; see sample test cards below.

Standard:



Printer Parameters:



Encoder Parameters:



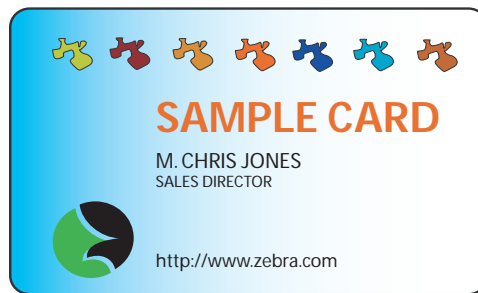
## Typical Printer Operation

The ZXP Series 1 Card Printer can be used with your software application program, using the Drivers on the CD provided with your Printer; refer to [Installing the Windows Printer Driver](#) on page 14.

### Creating a Sample Card

Before you begin a new printing session, print a sample card to ensure that the cards will be printed correctly. Follow the steps below to print your first card.

1. Open a new Microsoft Word document.
2. If the Zebra Printer was not set as the default printer, select the ZXP Series 1 Card Printer as the default.
3. From the Microsoft Word document., set the Page Layout:
  - a. Size: CR-80, ISO 7810 format, 2.12 inch by 3.38 inch (54 mm by 86 mm) Card
  - b. Orientation: Portrait or Landscape
  - c. Margins: Top, Bottom, Left, and Right = 0 (zero).
4. The card appears as a Microsoft Word document.
5. Design a card with both black and colored text and with colored images similar to the sample card shown below.



### Printing the Sample Card

Once you complete creating your sample card, you are ready to print. Ensure your printer has a True Colours™ Card Printer Ribbon Cartridge installed and there is card stock in the card feeder. See [Section 3](#) for instructions on installing the ribbon and loading the cards.

1. Print your sample card to the ZXP Series 1 Card Printer.
2. Once the printing is completed, remove the sample card from the card output hopper; and check for any discrepancies. For quality issues, see [Troubleshooting](#) on page 73.
3. If the sample card is correct, your printer is ready to produce more cards.

---

# Printer Settings and Adjustments

## Introduction

This section describes the settings and adjustments that can be made to your ZXP Series 1 Printer Driver:

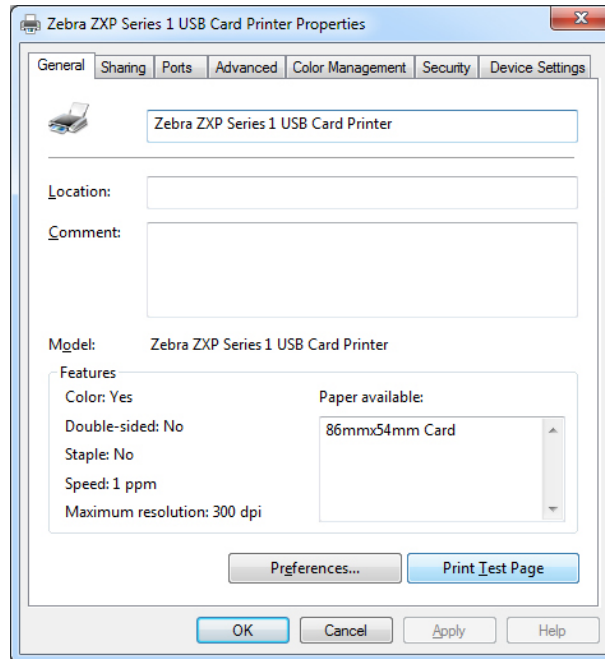
Printer Properties .....	40
Printing Preferences .....	51

## Printer Properties



**Note** • The screen shots shown in this section are for a printer using the USB interface. If you are using the Ethernet interface, the screens will refer to the “Network Printer.” Screen shots may also look different depending on your Operating System.

Access to Card Printer Properties varies depending on your Operating System (OS); e.g., for Windows 7, select *Start > Devices and Printers*. Right click on the *Zebra ZXP Card Printer* listing, then select *Printer properties*.



General Tab .....	41
Sharing Tab .....	42
Ports Tab .....	43
Advanced Tab .....	44
Color Management Tab .....	45
Security Tab .....	46
Device Settings Tab .....	47

The **OK** button saves the settings and closes the printer properties pages.

The **Cancel** button exits Printer Properties. Changes made are abandoned.

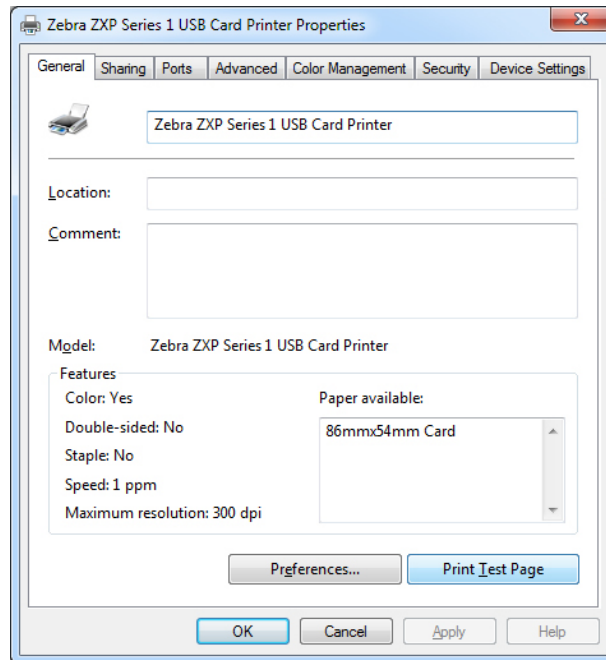
The **Apply** button saves the settings but does not close the printer properties pages.

The **Help** button enables you to view a corresponding page of help information.



## General Tab

The General tab shows the selected printer and lists the features of the printer.



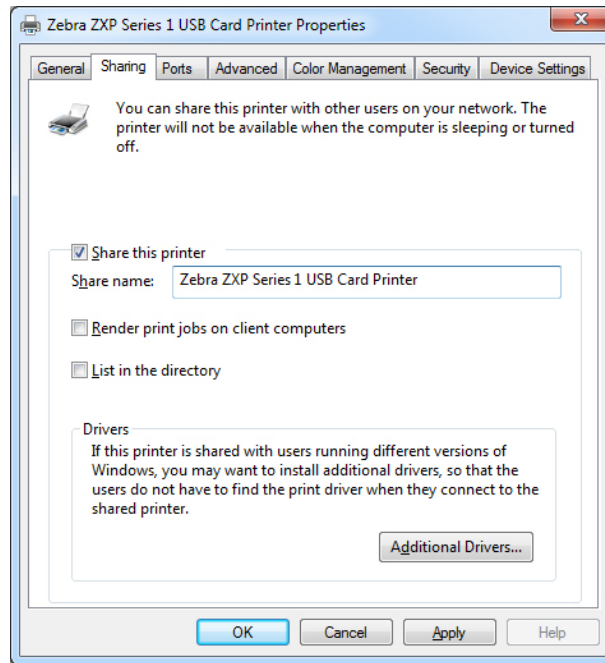
- **Location** - Lets you specify where the printer is located.
- **Comment** - Lets you specify general information about the printer, such as the type of print device and who is responsible for it. Once set, these fields can be displayed by applications.
- **Model** - Specifies the name of the printer driver installed.
  - **Features** - Specifies whether various options are available on the printer.

The **Printing Preferences** button takes you to Printing Preferences used to set selected configuration parameters; see [Printing Preferences](#) on page 51.

The **Print Test Page** button sends the standard Windows test page to the printer.

## Sharing Tab

On the Sharing tab, you can choose to share the printer over the network and install additional drivers to accommodate different operating systems. See [Appendix A](#) for the various printer sharing options allowed and the configurations required.



Printer sharing tasks that you can perform include:

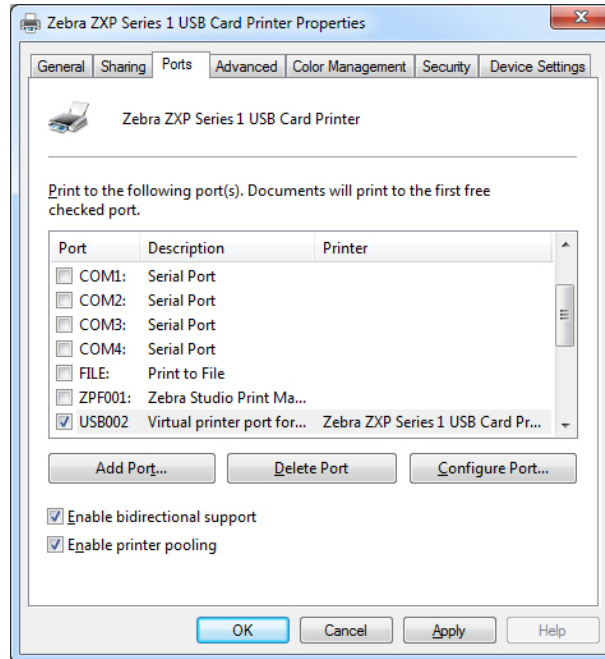
- To share a printer, select the *Share this printer* checkbox; and specify a name for the shared resource. Click the OK button when you are finished.
- To change the shared name, simply enter a new name in the *Share name* field; and click the OK button.
- To quit sharing a printer, deselect the *Share this printer* radio button. Click the OK button when you are finished.

**Drivers:** If this printer is shared with users running different versions of Windows, you may want to install additional drivers, so that the users do not have to find the print driver when they connect to the shared printer.

For *Printer Sharing Configurations* and *Advanced Sharing Settings*, refer to [Appendix A](#) for details.

## Ports Tab

Use the Ports tab to specify the computer port to which the printer is connected. This will have been established at the initial installation of the printer.



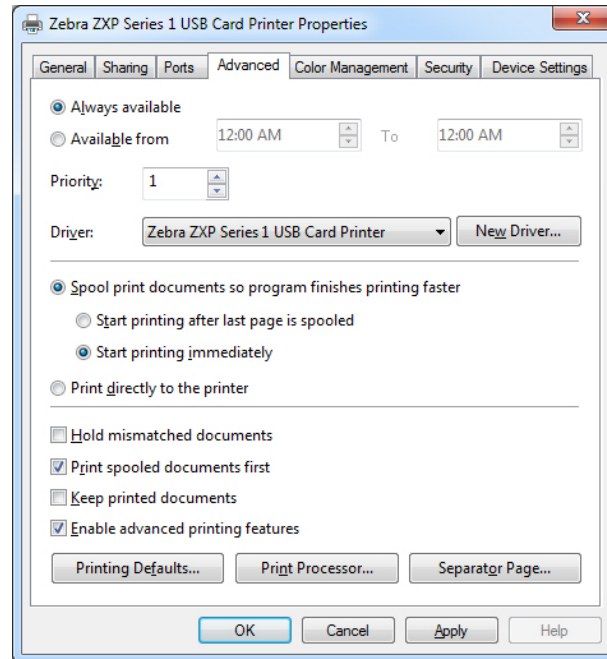
An exception to this is if you wish to use *printer pooling*, the ability to distribute print jobs to multiple printers; see [Printer Pooling](#) on page 28 for details.

To enable printer pooling, select the *Enable printer pooling* checkbox, then check the additional ports boxes. Each port should have a single Zebra printer installed on it. All the pooled printers must be identical models with the same configuration (e.g., all with YMCK front); and each must have its own printer driver installed.

Now, when you print to the “main printer” (that is, whichever printer you right-clicked in Devices and Printers to get to this screen), this printer will get print jobs until it has buffered as many jobs as it can take. The remaining jobs will then “spill over” to other printers until all printers in the pool are busy.

## Advanced Tab

The Advanced tab determines the spooling (queuing) of print jobs and determines how spooled jobs are handled relative to the most recent job.



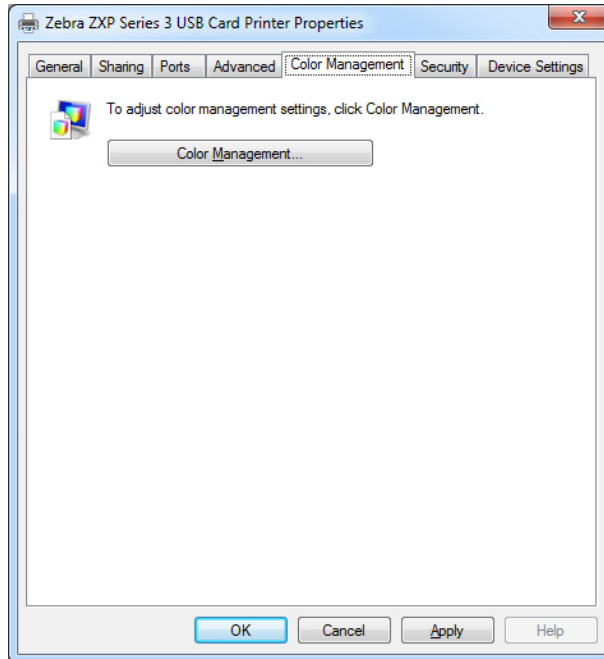
You can make the printer always available by selecting the *Always available* radio button, or you can limit availability by selecting the *Available from* radio button and specifying the “Available from” and “To” times. Click the **Apply** button, and then the **OK** button.

- **To enable spooling:** Select the radio button labeled *Spool print documents so program finishes printing faster*.
  - Select *Start printing after last page is spooled* if you want the entire document to be spooled before printing begins. This option ensures that the entire document is sent to the print queue before printing. If for some reason printing is canceled or not completed, the job will not be printed.
  - Select *Start printing immediately* if you want printing to begin immediately when the print device is not already in use. This option is preferable when you want print jobs to be completed faster or when you want to ensure that the application returns control to users as soon as possible.
- **To disable spooling:** Select the radio button labeled *Print directly to the printer*.

**Printing Defaults:** When the printer is set up as a network printer on a server, Printing Defaults needs to be used to set the printer options. The values from this screen will be filled into the Windows Drivers when they are installed on local PCs with the Add Printer Wizard.

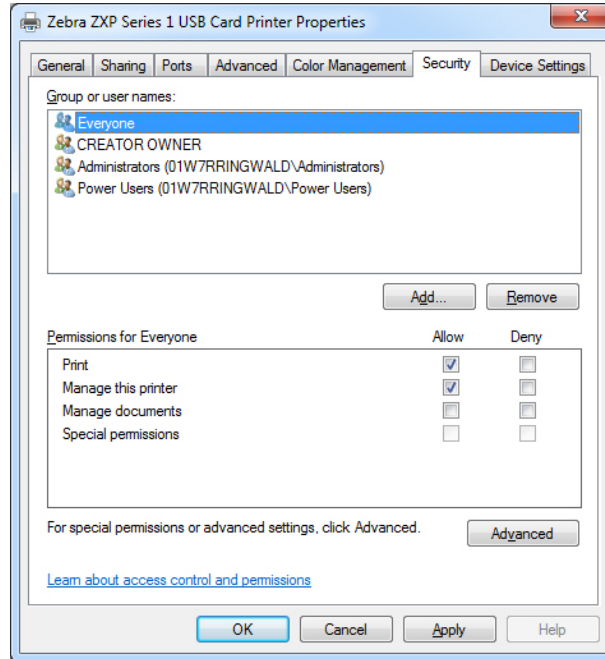
## Color Management Tab

This is the standard Windows color management screen, showing user access to various printer control options.



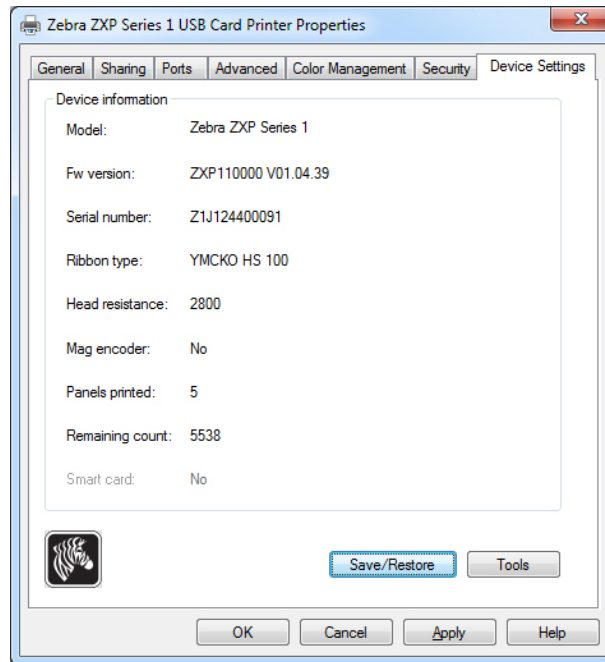
## Security Tab

This is the standard Windows security screen, showing user access to various printer control options.



## Device Settings Tab

The Device Settings tab provides device information, security status, and printer usage.



### Device Information

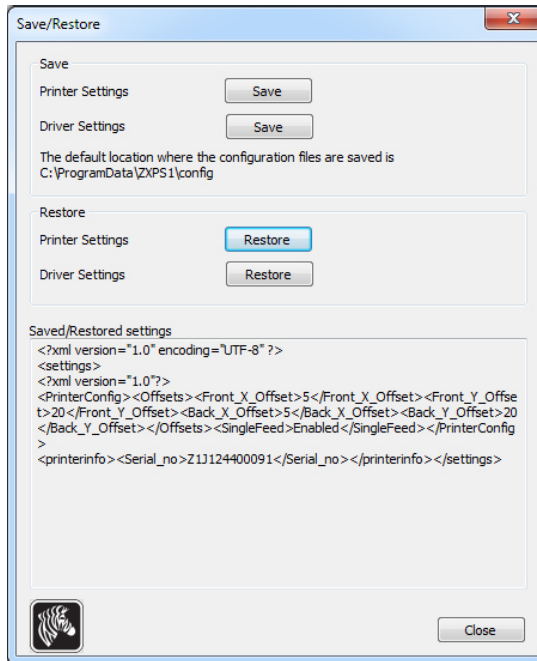
- **Model:** Specifies the printer model number.
- **Fw version:** Specifies the printer model and the installed firmware version.
- **Serial number:** Specifies the printer serial number.
- **Ribbon type:** Specifies the ribbon installed in the printer.
- **Head resistance:** Specifies the printhead resistance value.
- **Mag encoder:** Specifies if this option is present.
- **Panels printed:** Shows the total number of panels printed for the lifetime of the printer.
- **Remaining count:** Shows the remaining card count for the ribbon installed. For monochrome ribbons, this will display *Unknown*.

Click on the **Save/Restore** button to save your printer and/or driver settings. You can later restore those saved settings; see [Page 48](#) for details.

Click on the **Tools** button to access a dialog box that allows you to test and communicate with the printer; see [Page 49](#) for details.

## Save/Restore

Dialog box for saving printer and driver settings or restoring previously saved settings.



To save settings:

- Step 1.** Click on the appropriate **Save** button (Printer Settings or Driver Settings).
- Step 2.** Observe a browse window showing the default location where the configuration files are saved. The location depends on the Operating System; e.g., for Windows 7, C:\Program Data\ZXPS1\config.
- Step 3.** Enter an appropriate file name, and click the **Save** button. Note: A prefix, P\_ or D\_, will be added to the file name for printer settings and driver settings respectively.
- Step 4.** Your selected settings (Printer Settings or Driver Settings) will be saved.

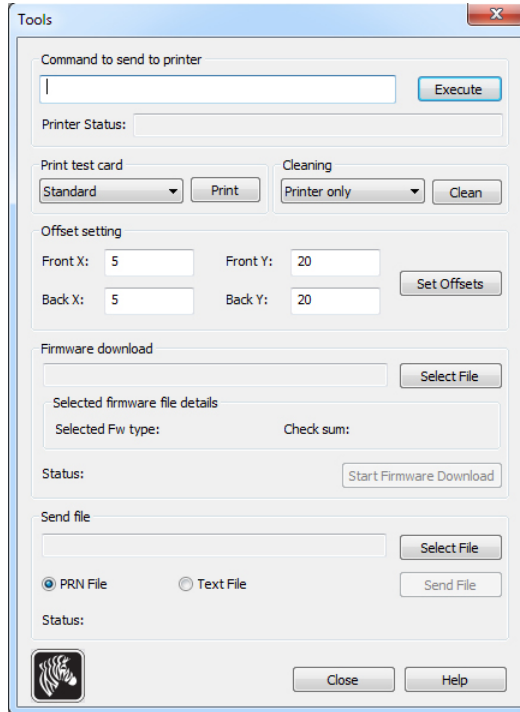
To restore settings:

- Step 1.** Click on the appropriate **Restore** button (Printer Settings or Driver Settings).
- Step 2.** Observe a browse window showing the default location where the configuration files are saved. The location depends on the Operating System; e.g., for Windows 7, C:\Program Data\ZXPS1\config.
- Step 3.** Select the desired file, and click the **Open** button. Note that prefixes P\_ and D\_ indicate printer settings and driver settings respectively.
- Step 4.** Your selected settings will be restored.



## Tools

Dialog box for testing and communicating with the printer.



- **Command to send to printer** - Enter a printer command (all capitals without the leading escape character) in the top edit box; e.g., MI MO, which will pick and eject one card. Then click on the **Execute** button. *Printer Status* will show the status of the command. Contact Zebra Technical Support for a complete list of the printer commands.
- **Print test card** - Select the desired test card type from the dropdown menu: Standard, Printer Parameters, and Encoder Parameters. Click on the **Print** button to print the card.
- **Cleaning** - Select the desired cleaning to be performed from the dropdown menu: Printer only or Magnetic encoder. Click on the **Clean** button to run the cleaning process.
- **Offset setting** - Enter the Front X and Y direction offsets, and click on the **Set Offsets** button to set the offsets for printing the card.
- **Firmware download:** See [Page 50](#) for details.
- **Send file** - This command will allow a .prn or .txt file to print.
  - The .prn file must be created with a Zebra printer driver using the same ribbon as present in the printer.
  - The .txt file must contain firmware commands only with only one command per line. The first line must only contain *MASTER*; the last line must only contain *SLAVE*.

## Firmware Download

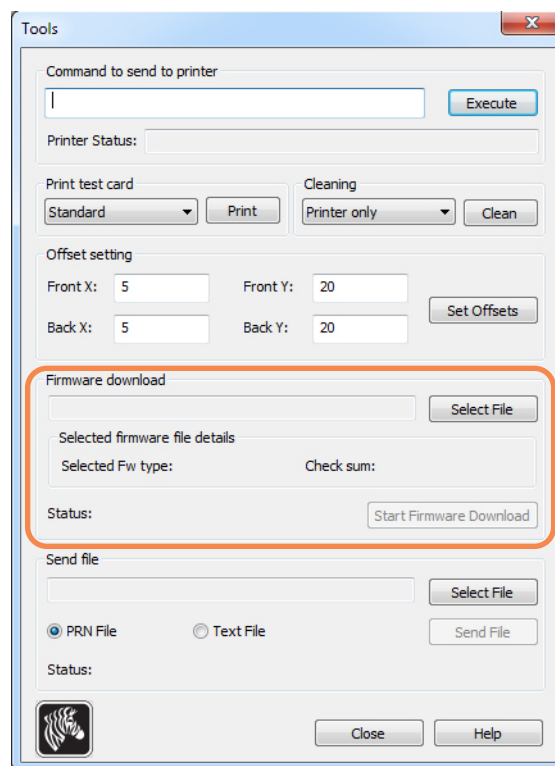
This option is used to install the ZXP Series 1 firmware, downloaded from the Zebra web site at <http://www.zebra.com> under *Drivers & Downloads*.



**Important** • Do not turn off the power to the printer until the process is done and the LCD Display shows *READY*. If the download process is interrupted, the printer will not operate.

**Step 1.** Download the firmware from Zebra web site ( <http://www.zebra.com> ), and save it to a location you can easily find.

**Step 2.** In the Tools window, click on the **Select File** button.



**Step 3.** From the Browse window, “find” and select the firmware file (BIN file type) you downloaded in [Step 1](#); and click on the **Open** button.

**Step 4.** Click on the **Start Firmware Download** button to install the firmware.

**Step 5.** Wait while the firmware downloads and installs, and then wait while the printer resets and initializes.

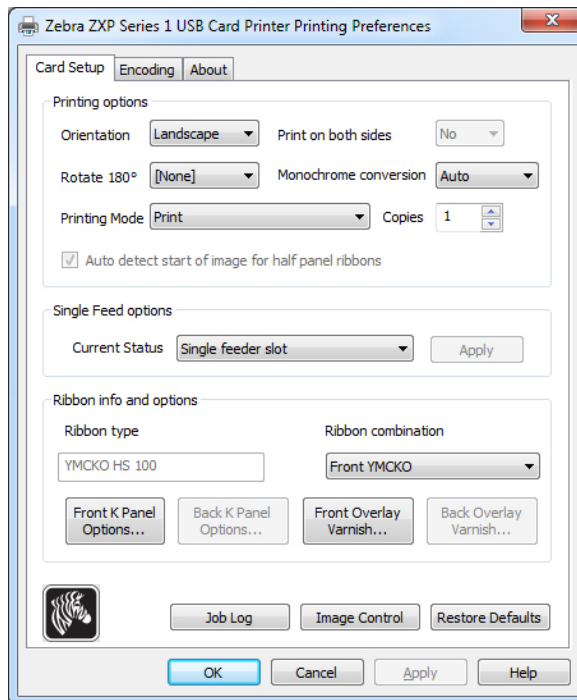
**Step 6.** When the installation is complete, the Status field will display *Firmware Downloaded Successfully*.

## Printing Preferences



**Note** • The screen shots shown in this section are for a printer using the Ethernet interface. The screens refer to the “Network Card Printer.” If you are using the USB interface, the screens will refer to the “USB Card Printer.” If you are using a network driver on a server, set the parameters from the [Advanced Tab](#), Printing Defaults.

Access to Card Printing Preferences varies depending on your Operating System (OS); e.g., for Windows 7, select *Start > Devices and Printers*. Right click on the *Zebra ZXP Card Printer* listing, then select *Printing preferences*.



Card Setup Tab .....	52
Encoding Tab .....	65
About Tab .....	68

Click on the **Job Log** button to create and manage a database of card transactions; see [Job Log](#) on page 62 for details.

Click on the **Image Control** button to adjust the image colors; see [Image Control](#) on page 64 for details.

The **OK** button saves the settings and closes the printing preferences pages.

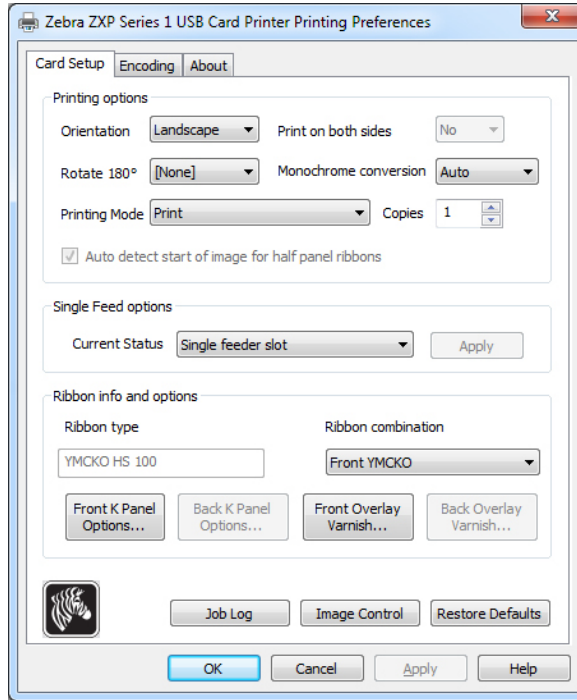
The **Cancel** button exits Printing Preferences. Changes made are abandoned.

The **Apply** button saves the settings but does not close the printing preferences pages.

The **Help** button enables you to view a corresponding page of help information.

## Card Setup Tab

Card Setup tab allows the user to adjust selected card and print job parameters.



- **Printing options**

- **Orientation:** Selection for portrait or landscape printing.



- **Rotate 180°:** Selection for rotating the image 180°. The options are No and Yes.

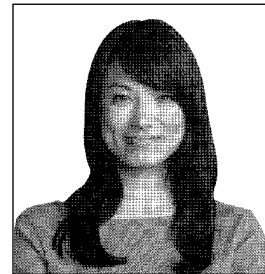


- **Monochrome Conversion:** Specifies the method of monochrome conversion used in printing. Different selections have different effects on the way the image is printed. The options are Diffusion, Halftone, Barcode, Text Mode, and Auto.

- **Diffusion:** Error diffusion is used primarily where you have a full color (RGB image with 8 bits per pixel) or full gray (single color but still 8 bits per pixel) that you need to print with binary printing (can only print full-on or full-off; i.e., 1 bit per pixel). Typically preferred over halftoning (see below) for most images.

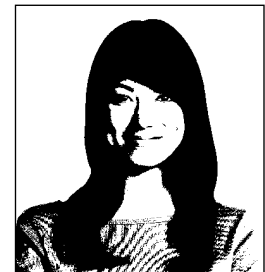


- **Halftone:** To simulate gray in graphics, halftones are printed. Halftones are arrays of dots arranged in a grid (e.g., 6x6 or 8x8) to represent each image pixel as a shade of gray. For dark gray, more grid dots are black. For light gray, more grid dots are white. As the grid size goes up so does the number of possible output levels, 6x6 cell has 36 possible output levels while 8x8 has 64. But as cell size increases, there is a corresponding decrease in resolution.



- **Barcode:** This is the simplest method for converting from 8 bits per pixel to 1 bit per pixel.

For example, the input pixel can be a value from 0 to 255. If the threshold is 128, any pixel over 128 becomes full on (1); and any pixel that is less than 128 becomes full off (0). This mode works best for text, barcodes, line art, logos -- everything except continuous-tone pictures.



- **Text Mode:** This mode can be used when you have black anti-aliased text. Black anti-aliased text is typically black in the center; but on the edges, it has shades of gray that get lighter as you move out from the center of the text. This anti-aliased text will have a softer looking edge that is less sharp than non anti-aliased text.



- **Auto (default):** This mode analyzes the image and optimizes the conversion (diffusion, halftone, barcode, or text mode) automatically.

## 4: Printer Settings and Adjustments

### Printing Preferences

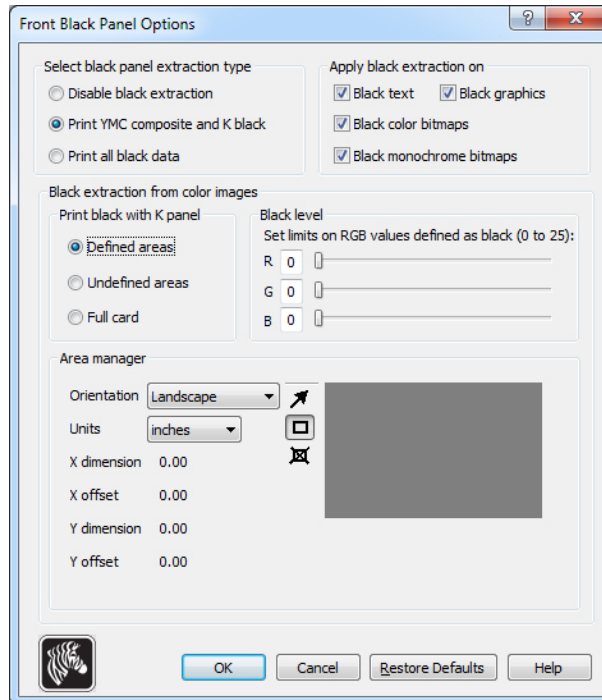
- **Monochrome Conversion SUMMARY**
  - **Diffusion/Halftoning:** Use on pictures. Image content dictates if error diffusion or halftoning would look best. For the majority of time, diffusion is better.
  - **Barcode:** Use on text, barcodes, line art, and simple graphics.
  - **Text Mode:** Use with black anti-alised text.
- **Printing Mode** - Sets the type of printing required:
  - **Print.**
  - **Encode Only** is used when magnetic encoding is the only function desired, printing will not occur.
  - **Print and Encode on same side** prints on the magnetic stripe side of the card.
- **Copies** - Sets the number of copies of cards printed.
- **Auto detect start of image for half panel ribbons** - Enabled only when a half-panel ribbon is installed. Automatically detects the edge of the color image to be printed; see [Appendix D](#) for setting the edge manually.
- **Single Feed options** (refer to [Appendix C](#) for details on the single-card feed mode)
  - **Card feeder:** The printer will attempt to pull a card from the Card Feeder. If the Card Feeder is empty, the printer will generate an *OUT OF CARDS* error message.
  - **Single feeder slot:** For each print job, the printer will generate an *INSERT CARD* message. Any cards in the Card Feeder will not be used.
  - **Auto feed:** The printer will attempt to feed cards from Card Feeder first. If Card Feeder is empty, the printer will generate an *INSERT CARD* message. No *OUT OF CARDS* error message will be generated.
- **Ribbon info and options**
  - **Ribbon type** displays the type of ribbon installed in the printer. Tagged ribbons (YMCKO) are detected and displayed automatically. Untagged ribbons (Black Monochrome and White Monochrome) must be selected from the dropdown menu. Note that the type of monochrome ribbon selected is critical -- white monochrome ribbon will not print acceptably with Black Monochrome selected.

Ribbon Description	Eco Cartridge Image Count
YMCKO	100
1/2 YMCKO	400
Black Monochrome	1000
White Monochrome	500

Depending on the printer model and ribbon combination selected, the **Black Panel Options** and **Overlay Varnish Options** buttons are enabled for color ribbons and disabled for monochrome ribbons; see [Page 55](#) and [Page 61](#) respectively.

## Black (K) Panel Options

The Black Panel Options window is available when using K panel ribbons; e.g., YMCKO. The figure below shows settings for the front side of the card.



To set how the printer prints the black areas of color images, several selections must be made:

- **Select black panel extraction type:**
  - **Disable black extraction** does not use the K panel for any part of the image. This selection will have the effect of rendering all black images as YMC composite.
  - **Print YMC composite and K black** uses both the K panel and the Y, M, and C panels to print the portions of the image that are identified as black. This selection will result in a dark, black image; but the edges will be smooth (due to YMC printed under the K), not the sharp edges typically desired for a barcode.
  - **Print all black data** uses only the K panel to print the portions of the image that are identified as being black. Note that the areas that are identified as black are based on the threshold selections made in the black level area in the black extraction from color images area; see [Page 57](#).

## 4: Printer Settings and Adjustments

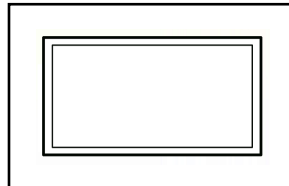
### Printing Preferences

- **Apply black extraction on:**

Option 1. **Black text** applies black extraction to areas of the image identified as text; e.g., company name, address.



Option 2. **Black graphics** applies black extraction to areas of the image identified as graphics primitives; e.g., lines, circles, rectangles, area fills, etc.



Option 3. **Black color bitmaps** applies black extraction to areas of the image identified as monochrome bitmap data contained in a color bitmap image.

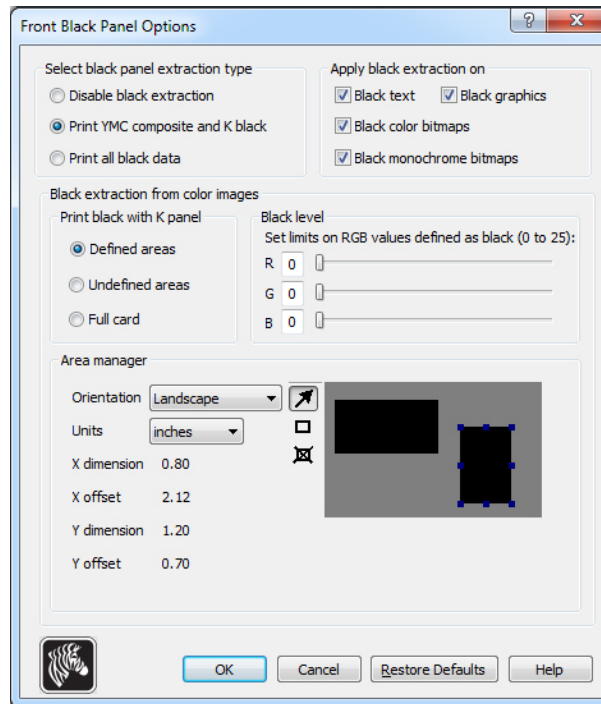


Option 4. **Black monochrome bitmaps** applies black extraction to areas of the image identified as monochrome data in a bitmap; e.g., logos.





- **Black extraction from color images:**



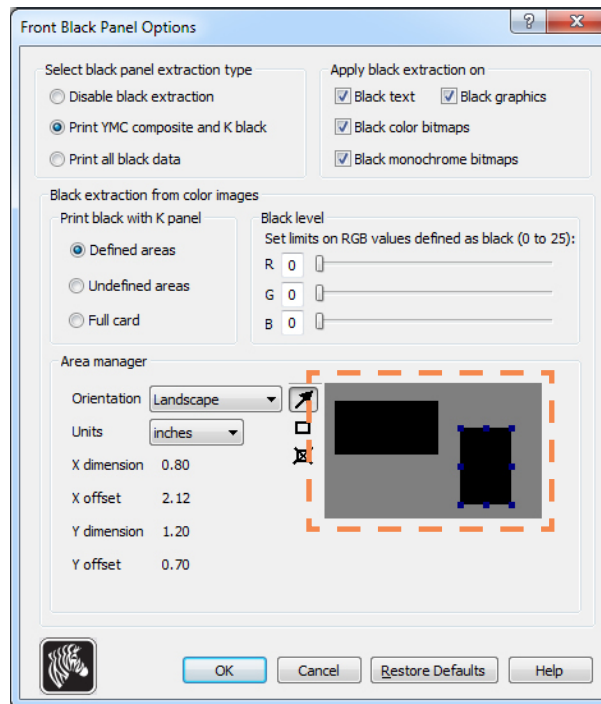
- **Print black with K panel:**

- **Defined areas** applies black extraction to areas of the image inside of the zones specified in the Area manager.
  - **Undefined areas** applies black extraction to areas of the image outside of the zones specified in the Area manager.
  - **Full card** applies black extraction to the entire image.
- **Black level:** Every dot of a printed image has an RGB color value that ranges from 0, 0, 0 (pure black) to 255, 255, 255 (pure white). The black level setting allows the user to specify the threshold value for any given dot to be treated as black. The maximum setting is R25, G25, B25.


## 4: Printer Settings and Adjustments


### Printing Preferences


- **Area manager:** This option is enabled when either the Defined areas (extract inside the zone) or the Undefined areas (extract outside the zone) radio button is selected.



- **Orientation:** The Orientation selection sets the image orientation to either Portrait or Landscape.
- **Units:** The Units selection sets the units to either inches or mm (millimeters). The X-dimension, X-offset, Y-dimension, and Y-offset reflect these units.

To create a zone: Select the rectangle icon , click on an area of the image to establish the first corner of the zone, drag the cursor until the zone is the desired size and shape, then release the mouse button. Note that multiple zones can be defined.

To select, move, or resize a zone: Select the arrow icon , click on a zone to select it, then drag it to move it, or drag on the edges to resize it.

To delete a zone: Select the rectangle icon with an "X" through it , then click on the zone that you want to delete.

## Black Panel Print Overview

This section covers special handling of black data specified on the “Black Panel (K)” tab and applies only to surfaces of the card on which both YMC (color) and K (black) are to be printed.



## Reasons and Behavior for Black Panel Extraction

To print black during the print process, equal amounts of process colors Y, M, and C (printer ribbon panels) are delivered, with maximum intensity, to create a near-black image.

- However, this “composite” image appears as a dark shade of gray and not machine readable. For example, a visually-black barcode printed with Y, M and C will not be detectable by most barcode readers and is not a true Visible Black color.
- The remedy for this is to “extract the black.” In other words, print the same text, graphics, or barcode, using the K (black) panel, on top of the YMC barcode. (You can also choose to print only in K, omitting YMC from that region.)

Depending on the application used to design the card layout, different elements of the card image may be identified in different ways to the printer driver. The printer driver needs to recognize four types of basic elements:

1. Black text
2. Black (monochrome) graphics -- lines, circles, rectangles, and area fills
3. Black color bitmap images
4. Black monochrome bitmap images

These elements may not always be sent to the driver as expected. For example, a barcode may be sent as black text, a series of black area fills, or a black monochrome bitmap. Results will depend on the application used to create the card design. Another variable, again controlled by the card design application, is the precedence (stacking order) of the various element types in the event that one or more of them overlap.

## 4: Printer Settings and Adjustments

### Printing Preferences

If the printer is set up to print both YMC and K on the same side, text, lines and pixels, area fills and monochrome bitmaps, if (and only if) designated black by the application, can be directed to the K panel. For this to happen, the graphic type in question has to be selected on the “Black Panel (K)” tab. For text, lines and pixels, area fills and monochrome bitmaps the designation “black” is set at RGB values of 0,0,0. This threshold can be adjusted up to 25,25,25, with the Black level slider adjustment. Near-black doesn’t qualify.

In the Black Panel (K) tab, the “element selection” portion is straightforward – simply designate any or all of the four graphic types to be printed in K, either K alone, or over process black (YMC).

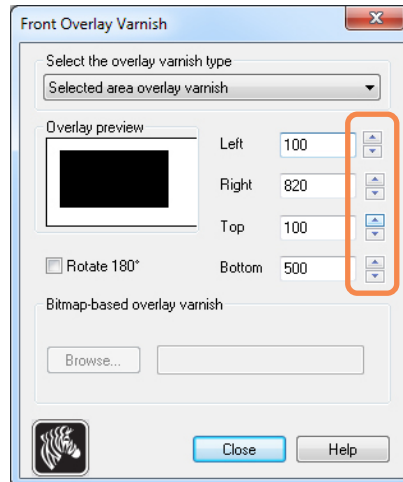
Black extraction is quite different. It applies only to the fourth graphic type – the color bitmap image. To perform black extraction, the driver generates a K image by looking for black features (pixels) in the color bitmap, that is, instances where all three YMC values are at, or close to, the maximum (full intensity). Each such true-black or near-black instance generates a corresponding cluster of black pixels in the extracted image, which will be printed with the K (black) panel either on top of the YMC image, or replacing it entirely – your choice.

A problem that can arise when K is extracted from an entire card image is over-emphasis of every black cluster; e.g., dark hair in a portrait photo or scenic background. K overprinting in such areas can be displeasing. To deal with this, set up exclusion zones within which no extraction is performed. Six such areas are provided for on each side of the card. In the default state, all areas are null (0,0 offsets, and zero size).

There is a choice of black extraction within the defined areas or outside the defined areas.; see [Print black with K panel](#): on page 57 for details.



## Overlay Varnish Options

The Overlay Varnish Options window allows you to manage and configure the use of the Overlay when the selected ribbon shows the O panel (e.g. YMCKO).



**Select the overlay varnish type** - Option selection for applying overlay varnish ribbon to a card. Default setting is full edge-to-edge varnish.

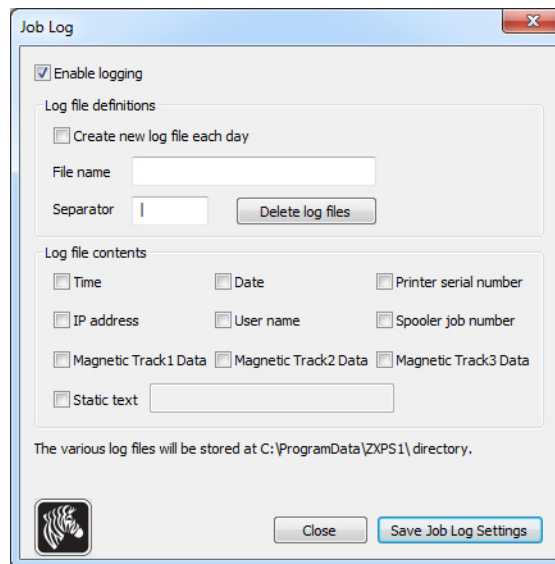
There are various varnish options. A preview pane is shown for each selection.

- Full overlay varnish - Applies an edge-to-edge overlay.
- No overlay - Does not apply any overlay.
- Selected area overlay varnish - Applies the overlay *inside* the area specified by the user. When this option is selected, position the Left, Right, Top, and Bottom overlay edges via the  buttons (circled above).
- Selected area blank - Applies the overlay *outside* the area specified by the user. When this option is selected, position the Left, Right, Top, and Bottom overlay edges via the  buttons (circled above).
- Bitmap-based overlay varnish - Applies a user-defined bitmap in the overlay panel. When selected, click the **Browse** button; in the browse window, find the desired monochrome bitmap (1 bpp); and click the **Open** button.
- Smartcard ISO - Does not apply overlay in the area of the ISO standard Smart Card contacts.
- Smartcard AFNOR - Does not apply overlay in the area of the AFNOR standard Smart Card contacts. AFNOR stands for Agence Française de Normalisation, a standardization organization based in France.
- Magnetic Stripe - Does not apply overlay in the area of the ISO standard Magnetic Stripe.

## Job Log

The Job Log is a utility that builds a database of card transactions in the printer's host computer. The Job Log records the data encoded on the card's magnetic stripe, together with date, time, and the printer's serial number.

The data set can be uploaded at any time to a central archive, thus providing a means for security officers to validate a card by comparing it with tamper-proof *real data*.



- **Enable logging** - If this box is checked, the logging feature is enabled.
- **Log File Definition** - Choose one of the following options:
  - If the "Create new log file each day" box is unchecked, the data is saved to a log file of your choice (Filename).
  - If the box is checked, the data is saved to log file with the day's date; e.g., ZXPLog\_2013\_8\_1.
  - In addition to the Filename, you may wish to enter a special field Separator Character. The default field Separator Character is "|".

- **Log File Contents** - The Log File Contents group selects the data to be logged in the file you specified above. The data will be logged in the order displayed on the screen, each field being separated by the character specified in the Logfile Definition, Separator.

Log File Contents selections include:

- **Time:** Logs the time a which the card was sent to the printer in the HH:MM:SS format. The 24-hour clock is used, so 13:00:00 = 1:00 pm, and 05:00:00 = 5:00 am.
- **Date:** Logs the date the card was sent to the printer in the MM/DD/YYYY format.
- **Printer serial number:** Logs the serial number of the printer that printed the card.
- **IP address:** Logs the IP address of the PC that sent the card to the printer.
- **User name:** Logs the username of the person submitting the card print job.
- **Spooler job number:** Logs the number which the card print job was assigned in the Windows print spooler.
- **Magnetic Track 1, 2, 3 Data:** Logs the data sent to the printer to be encoded on the card's magnetic stripe.
- **Static text:** Adds the text in the text box (16 characters maximum) to the record.



**Note** • The location of the log files depends on the Operating System; e.g., for Windows 7, *C:\ProgramData\ZXPSI\ directory*.

The **Delete log files** button deletes the log files.

The **Save Job Log Settings** button saves the Job Log settings.

## Image Control



**Note** • Printed colors can appear different than displayed colors; the following controls allow you to optimize the printed results.

Allows you to adjust the image colors; these adjustments apply to the entire card, not just photographic image.



- **Intensity** - increase or decrease the image intensity by moving the Black, Yellow, Magenta, and Cyan slider bars left or right. This will change the overall lightness or darkness of the image. Move the slider to the right (0 to 100) to increase the intensity and to the left (0 to -100) to decrease the intensity. Note that color ribbon wrinkling can be eliminated by reducing the *intensity*.

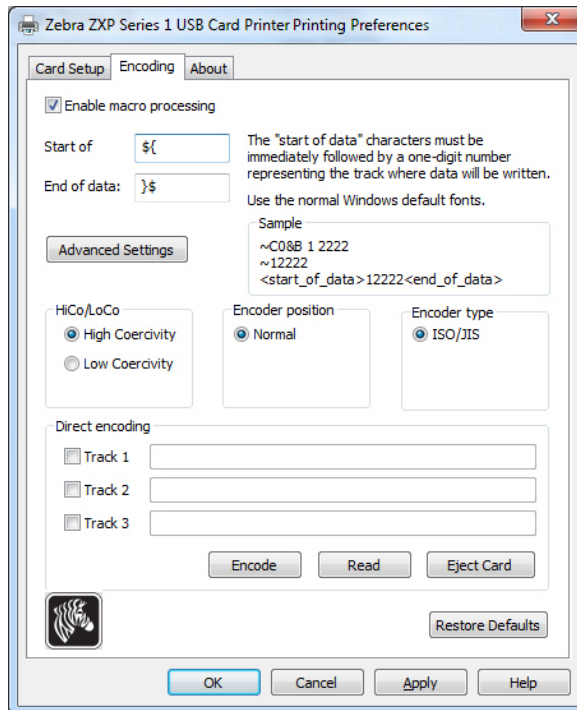
Use the **Restore Defaults** button to reset the settings to the driver defaults.



## Encoding Tab

The Encoding tab dialog box is for setting Magnetic Encoder parameters. This feature is not enabled if the printer does not have the magnetic encoder option.

To access the Encoding tab, select *Start > Devices and Printers*. Right click on the *Zebra ZXP Card Printer* listing, then select *Printing preferences > Encoding*.

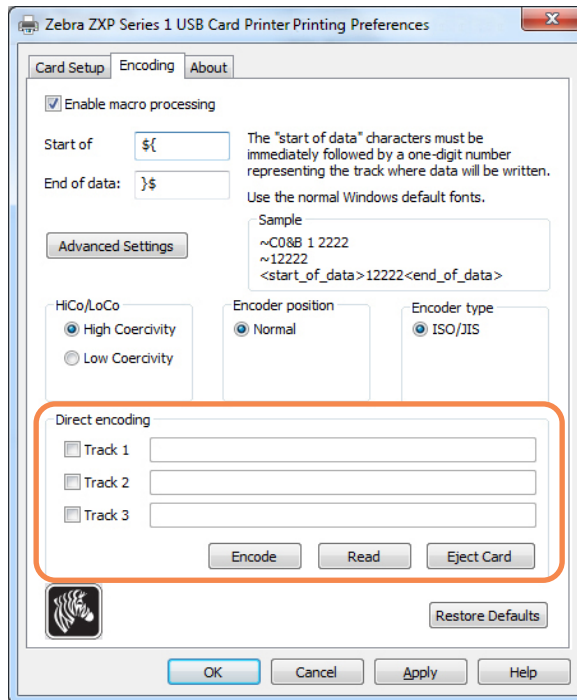


- **Enable macro processing** - This option is used to set the encoding preamble and other magnetic encoder parameters.
  - **Start of Data** - Beginning of the data string for the encoder. Note that Start of Data characters must be immediately followed by a one-digit number representing desired track where the data will be written. Use the normal Windows default fonts.
  - **End of Data** - Ending of the data string for the encoder.
- **Advanced Settings** - Click on the **Advanced Settings** button for additional encoding options; for details, see [Advanced Settings](#) on page 67.
- **HiCo/LoCo** - Select the type of coercivity of magnetic stripe cards to be used.
- **Encoder Position** - Select the printer encoder position: Normal.
- **Encoder Type** - Select the type of encoder: ISO/JIS. Note that JIS is not implemented.

## 4: Printer Settings and Adjustments

### Printing Preferences

- **Direct Encoding** - For writing data and reading encoded data.



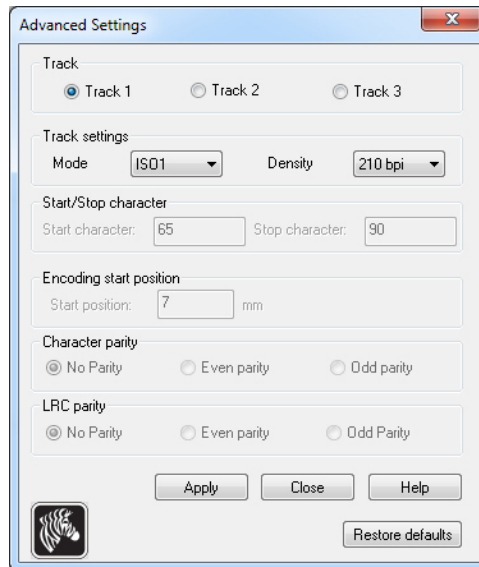
Track selection:

- To read encoded data: Click on the checkboxes to select the desired track(s), click on the **Read** button, and validate the data read.
- To write data: Click on the checkboxes to select the desired track(s), enter the data to be written, and click on the **Encode** button.
- To eject the card: Click on the **Eject Card** button to eject the card.

The **Restore Defaults** button to reset the settings to the original values.

## Advanced Settings

Advanced Settings provides advanced configuration capabilities and tools to manage magnetic encoder operation. This option is primarily used for Non-ISO encoding.



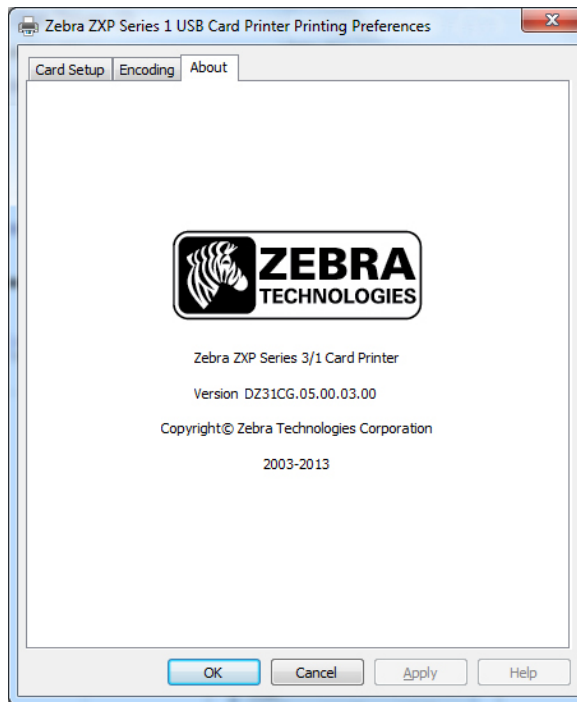
- **Track:** Select the track you want to configure.
- **Track Settings:**
  - *Mode:* Select ISO1, ISO2, ISO3, 3 bit, 4 bit, 5 bit, 6 bit, or 7 bit.
  - *Density:* Select 75 bpi or 210 bpi for the tracks.
- **Start/Stop Character** (For Non-ISO encoding only): Enter an ASCII value for the Start and Stop characters.
- **Encoding Start Position** (For Non-ISO encoding only): Enter the encoding start position in millimeters (mm).
- **Character Parity** (For Non-ISO encoding only): Choose the Character Parity you want to work with -- No parity, Even parity, or Odd parity.
- **LRC Parity** (For Non-ISO encoding only): Choose the LRC Parity you want to work with -- No parity, Even parity, or Odd parity.

Click the **Restore Defaults** button to reset the settings to the original values.

## About Tab

This tab specifies the Printer Model, the Driver Version, and the Zebra Technologies Corporation Copyright.

To access the About tab, select *Start > Devices and Printers*. Right click on the *Zebra ZXP Card Printer* listing, then select *Printing preferences > About*.



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# Cleaning

## Cleaning the System



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**Caution • PROTECT YOUR FACTORY WARRANTY!**

The recommended maintenance procedures must be performed to maintain your factory warranty. Other than the recommended cleaning procedures described in this manual, allow only Zebra authorized technicians to service the ZXP Series 1 Card Printer.

**NEVER** loosen, tighten, adjust, or bend, etc., a part or cable inside the printer.

**NEVER** use a high-pressure air compressor to remove particles in the printer.

---

Your Printer includes a simple cleaning system using pre-saturated cleaning cards. The regular use of these cards will clean and maintain important parts of your printer that cannot be reached: including the Printhead, the Transport Rollers, and the Magnetic Encoder Station (optional feature).

To order ZXP Series 1 cleaning supplies, go to [www.zebra.com/supplies](http://www.zebra.com/supplies) for details.

## When to Clean

Clean the Printer when:

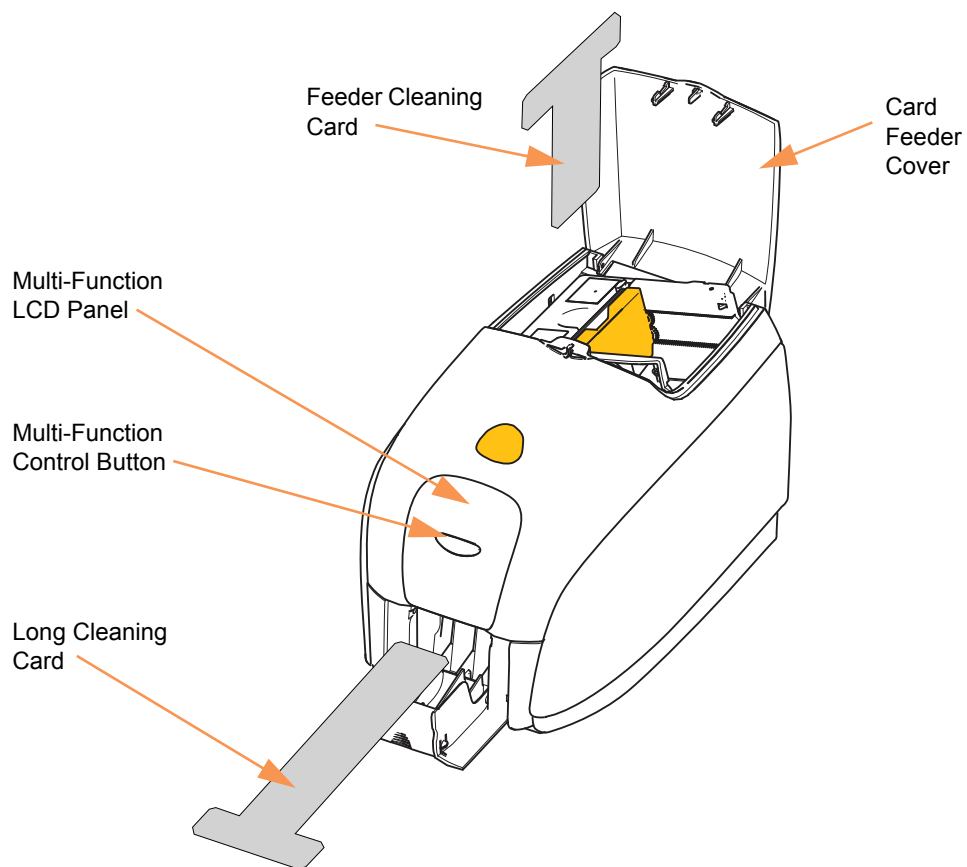
- Print quality has been degraded.
- The LCD panel displays the message **CLEAN PRINTER**.
- You experience mag encoding failures.

## How to Clean



**Note** • Cleaning can also be performed via the Tools dialog box; see [Tools](#) on page 49.

- Step 1.** Place the printer power switch in the ON ( | ) position.
- Step 2.** When the printer LCD shows **READY**, hold down the Multi-Function Control Button for five seconds.
- Step 3.** When the cleaning cycle is initiated, the LCD message **REMOVE RIBBON THEN CLOSE LID** will display. Open the lid, remove the ribbon, and close the lid.



- Step 4.** Once the ribbon is removed and the lid is closed, the firmware will eject any card inside the printer; then the message **EMPTY FEEDER THEN CLOSE COVER** will display. Open the cover, remove the cards, and close the cover.
- Step 5.** Once the cards are removed and the cover is closed, the LCD will display **INSERT LONG CLEANING CARD**. Insert the long cleaning card.

- Step 6.** When the presence of the cleaning card is sensed, the rollers will take the card into the printer; and the cleaning process will begin.
- Step 7.** When the cleaning process is completed, the printer will eject the cleaning card.
- Step 8.** The message **INSERT FEEDER CLEANING CARD** will display. Open the feeder cover, and insert the feeder cleaning card.
- Step 9.** When the feeder cleaning card has been sensed by the feeder card sensor, the message **CLOSE COVER** will display. Close the feeder cover.
- Step 10.** When feeder cleaning is complete, the message **REMOVE FEEDER CLEANING CARD** will display. Open the feeder cover, remove the cleaning card, and close the feeder cover.
- Step 11.** After the cleaning card is removed and the feeder cover is closed, the LCD will display **CLEANING DONE**.
- Step 12.** You may now reload the ribbon and cards and continue printing.

## Cleaning the Printhead

Use of the cleaning cards will normally do an adequate job of cleaning the printer. However, a separate Printhead cleaning, using swabs, can remove more stubborn deposits when print anomalies persist. To avoid deposits, only use foam-tipped swabs.

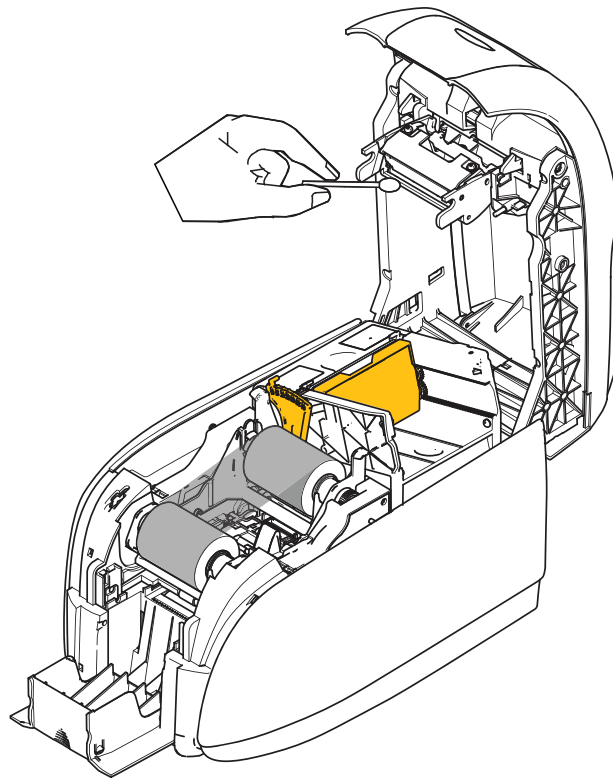


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**Caution** • Never use a sharp object to scrape deposits from the printhead. Permanent damage to the printhead will result

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- Step 1.** Place the printer power switch in the OFF (O) position.
- Step 2.** Open the printer lid to fully to reveal the printhead mounted on the inside the cover.



- Step 3.** Clean the printhead by moving an alcohol-moistened swab tip side-to-side across the printhead elements. Only use moderate force.
- Step 4.** Allow two to three minutes for the printhead to dry before closing the lid and placing the printer power switch in the ON (I) position.



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# Troubleshooting

## Introduction

The objective of troubleshooting is to relate a problem to an associated assembly or system function, in order to most efficiently isolate and repair the problem. Typically, this involves determining the failure symptom and then checking one or more possible causes of the failure.

In general, for a given failure symptom one or more possible causes are listed, with suggested corrective action to take. These causes should be checked and corrective actions taken in the order given; they are listed in order of likelihood and complexity.

## Troubleshooting Procedures

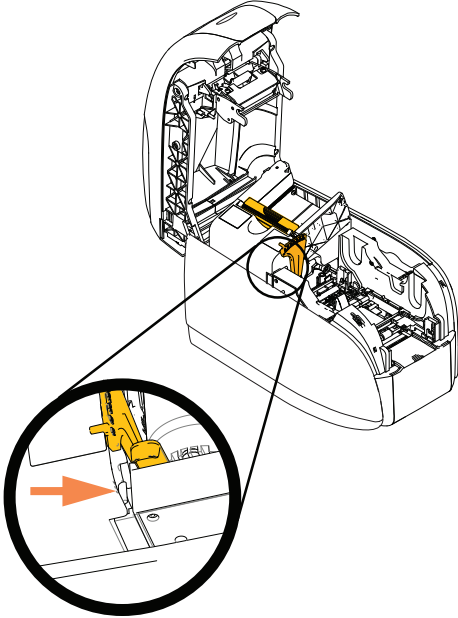
### LCD Panel Warnings and Error Messages

The following tables show causes and solutions to symptoms related to improper operation. Check the table when experiencing any loss of operation or print quality.

<b>PANEL WARNINGS (printer will still operate)</b>		
<b>Problem / Symptom</b>	<b>Description or Cause</b>	<b>Possible Solution<sup>Note</sup></b>
CHECKING RIBBON	Printer is determining type of ribbon installed.	No action required -- status message only.
CLEAN PRINTER	Printer cleaning required.	Refer to <i>Cleaning the System</i> on page 69.
CLOSE LID	The lid is open.	Make sure that the lid is completely and securely closed.
ENCODING ERROR	May be incorrect card type.	Check that you are using the correct magnetic card type (for low or high coercivity encoding).
INVALID MAGNETIC DATA	The magnetic data may be invalid.	Check data format.

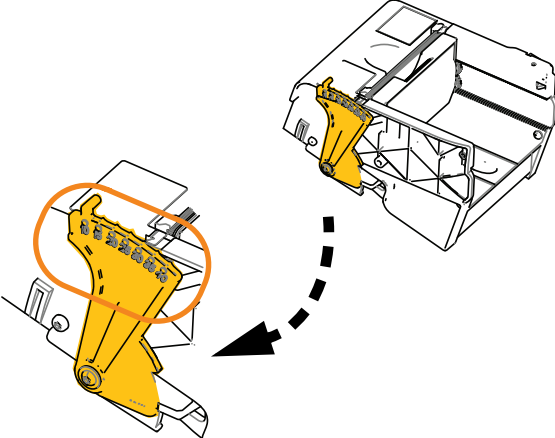
Note: If the problem persists, contact Technical Support; see *Worldwide Support* on page 117.

ERROR MESSAGES (printer will not operate)		
Problem / Symptom	Description or Cause	Possible Solution <sup>Note</sup>
CHECK RIBBON	<p>Wrong type of ribbon may be installed. Ribbon for P1XX or ZXP3 will not work.</p> <p>Ribbon may be improperly installed.</p>	<p>Install proper ribbon.</p> <p>Reload ribbon cartridge. Refer to <i>Loading Ribbon Cartridge</i> on page 32.</p>
COMMAND ERROR	A command error occurred.	Reset the Printer, and try printing the card again.
COVER OPEN	The cover is open.	Make sure that the cover is completely and securely closed.
LID OPEN	The lid is open.	Make sure that the lid is completely and securely closed.
MECHANICAL ERROR	<p>Check that you are using the correct card type.</p> <p>Check that the ribbon is loaded correctly.</p> <p>Check for a card jam in the card feed module.</p>	<p>See <i>Technical Specifications</i> on page 83.</p> <p>Refer to <i>Loading Ribbon Cartridge</i> on page 32 for details.</p> <p>Power off the printer, open the lid, release the card feeder by pressing the finger tab lever to the left of the card thickness adjustment (arrow below), lift up the card feeder, and remove any jammed cards from the card transport module. Note that you may need to rotate the card transport module by hand to access the jammed cards.</p>



The diagram shows a top-down view of the printer's internal card transport module. A circular callout provides a magnified view of a specific component: a finger tab lever. An orange arrow points to the right, indicating the direction in which this lever should be moved to release the card feeder.

Note: If the problem persists, contact Technical Support; see *Worldwide Support* on page 117.

<b>ERROR MESSAGES (printer will not operate)</b>		
Problem / Symptom	Description or Cause	Possible Solution <sup>Note</sup>
MECHANICAL ERROR (continued)	<p>The card feeder feeds two cards completely onto the card feed module.</p> <p>The card feeder partially feeds the second card, thereby blocking card feed module operation.</p> <p>The card feeder does not feed a card. This may be because two cards are stuck together or a leading edge is damaged.</p> <p>The card feeder does not feed a card; and it is not due to stuck-together cards, damaged cards, or cards that were not fanned.</p>	<p>Calibrate the Card Load Sensor via the !SAP 1 command. For command implementation, refer to <i>Tools</i> on page 49.</p> <p>The card thickness adjustment (arrow below) should be closed one or two clicks, one click at a time.</p> <p>Remove the card, fan the card stack, and return the cards to the card feeder.</p> <p>The card thickness adjustment (circled below) should be opened one or two clicks, one click at a time.</p>
OUT OF CARDS	<p>Check for cards in the card feeder.</p> <p>Card did not feed.</p>	<p>If no cards present, load cards; then press the Panel Button for 1 second. The printing job will restart.</p> <ol style="list-style-type: none"> <li>1. Verify that the card thickness adjustment is set to the thickness of the cards being used.</li> <li>2. Fan the card stack to ensure that cards are not stuck together.</li> <li>3. Remove the first card in the stack, and check if the edge is damaged; discard if it is.</li> <li>4. Open the card thickness adjustment one or two detent clicks.</li> </ol>
		
OUT OF RIBBON	<p>Check ribbon. May be defective or entirely used.</p>	<p>Load a new ribbon cartridge. Refer to <i>Loading Ribbon Cartridge</i> on page 32 for details.</p>

Note: If the problem persists, contact Technical Support; see *Worldwide Support* on page 117.

## Print Quality Issues

This section will help you resolve print quality problems.

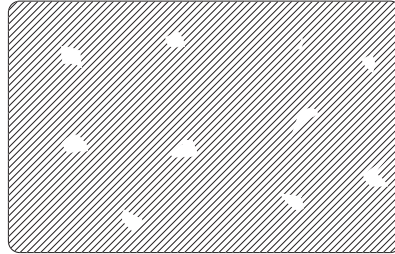
The print quality is dependent on several factors. The two most important factors that will increase your print quality are cleanliness and card stock.

To diagnose and fix print quality problems, follow the troubleshooting procedures below:

Small spots - - - - -	78
Non-printing horizontal lines (white) - - - - -	79
Pale or inconsistent results - - - - -	80
Blurry printed image - - - - -	81
No printing - - - - -	82

**Example • Small spots**

Small spots appear on the printed card with a non-printed area or a different color.



**Possible Cause:**

- Contamination on the card surface.

**Solutions:**

- Check that cards are stored in a dust free environment.
- Use a different supply of cards.

**Possible Cause:**

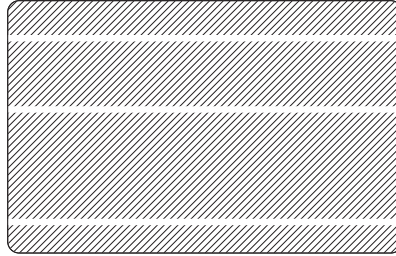
- Dust inside the printer and/or dirty Cleaning Roller.

**Solutions:**

- Clean the printer. Refer to *Cleaning the System* on page 69.
- Check that the protective cover was removed from the ribbon cartridge cleaning roller. Refer to *Loading Ribbon Cartridge* on page 32.

**Example • Non-printing horizontal lines (white)**

There are non-printing horizontal lines (white) on the card surfaces.



**Possible Cause:**

- Ribbon cartridge is not correctly positioned.

Solutions:

- Ensure that the ribbon is properly rolled onto the ribbon cores of the cartridge and that there are no wrinkles in the ribbon.
- Replace ribbon cartridge. Refer to *Loading Ribbon Cartridge* on page 32.

**Possible Cause:**

- Printhead is dirty.

Solutions:

- Clean the Printhead. Refer to *Cleaning the Printhead* on page 72.

**Possible Cause:**

- Printhead elements are damaged (e.g., scratched or burnt).

Solutions:

- Call Zebra Customer Service for Printhead replacement information; see *Worldwide Support* on page 117.

**Possible Cause:**

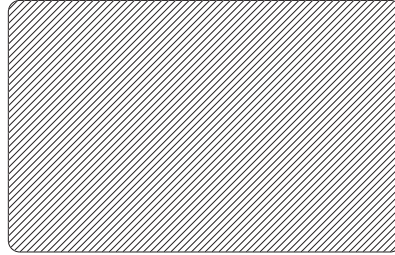
- Loose printhead data cable connection.

Solutions:

- Ensure that the cable connection at the Printhead is secure.

**Example •** Pale or inconsistent results

Printing shows very pale or inconsistent results.



**Possible Cause:**

- Ribbon cartridge have been stored improperly or is damaged.

Solution:

- Change ribbon cartridge, and print again. Refer to *Loading Ribbon Cartridge* on page 32.

**Possible Cause:**

- Cards may not meet specifications. Refer to *Technical Specifications* on page 83.

Solution:

- Use a different supply of cards.

**Possible Cause:**

- Dust or embedded contamination on elements of the Printhead.

Solution:

- Clean the Printhead. Refer to *Cleaning the Printhead* on page 72.

**Possible Cause:**

- Printing on wrong side of writable back cards.

Solution:

- Reverse direction of cards in feeder.

**Possible Cause:**

- Improperly adjusted print intensity/density.

Solution:

- Adjust the print intensity/density. Refer to *Image Control* on page 64.



**Example •** Blurry printed image

Printing shows blurry printed image.



**Possible Cause:**

- Ribbon cartridge may not be correctly positioned.

Solution:

- Check that the ribbon is properly rolled onto the ribbon cores of the cartridge, with no wrinkles.
- Replace ribbon cartridge, making sure it locks in place, and print again. Refer to *Loading Ribbon Cartridge* on page 32.

**Possible Cause:**

- Ribbon may not be synchronized on the correct color panel position.

Solution:

- Open lid, then close lid to synchronize ribbon.

**Possible Cause:**

- Cards may not meet specifications. Refer to *Technical Specifications* on page 83.

Solution:

- Use a different supply of cards.

**Possible Cause:**

- Dust or embedded contamination inside the printer.

Solution:

- Clean the Rollers and the Printhead. Refer to *Cleaning the System* on page 69 and *Cleaning the Printhead* on page 72 respectively.

**Example • No printing**

No printing on the card.



**Possible Cause:**

- Ribbon cartridge may not be installed in the printer.

Solution:

- Check for ribbon cartridge in the printer. Refer to *Loading Ribbon Cartridge* on page 32.

**Possible Cause:**

- Cards may not meet specifications. Refer to *Technical Specifications* on page 83.

Solution:

- Use a different supply of cards.

**Possible Cause:**

- Cable on Printhead may be disconnected.
- Printhead elements may be scratched or burnt.

Solution:

- Call Service for Printhead repair or replacement information; see *Worldwide Support* on page 117.

---

# Technical Specifications

## Specifications

Specifications are provided for reference and are based on printer tests using Zebra brand consumables. Results may vary in actual application settings or when using other than recommended Zebra supplies. Zebra recommends always qualifying any application with thorough testing.

### Standard Features

- Eco-Friendly Load-N-Go™ drop-in ribbon ZXP Series 1 cartridges
- ZRaster™ host-based image processing
- Auto calibration of ribbon
- USB connectivity
- Microsoft Certified Windows drivers
- Print Touch NFC tag for online Printer documentation access
- 100 card covered feeder (30 mil)
- 50-card capacity integrated flip-out card output hopper (30 mil)
- 16-character LCD operator control display
- 300 dpi (11.8 dots/mm) print resolution
- Two-year warranty on printer
- Two-year (unlimited passes) original printhead
- One-year hot swap (U.S. only)

### Printing Specifications

- Dye-sublimation thermal transfer direct to card
- Full color or monochrome printing
- Single-sided printing
- 500 cph monochrome single-sided
- 120 cph single-sided YMCKO
- Edge-to-edge printing on standard CR-80 media

### Printing Throughput

Printing throughput (cards per hour) based on click to drop printing, average print coverage, with USB connectivity. Times may vary depending on the computer and other configurations.

- 500 cph monochrome single-sided
- 120 cph single-sided YMCKO

### Encoding Options and Specifications

- Magnetic stripe encoder – ISO 7811 (new and re-encoded; tracks 1, 2, and 3; high and low coercivity; stripe down; 30 mil card only; factory install only)

### Optional Features

- CardSense™ Single-Card Feed Kit, field upgradable
- ZebraCare™ extended product warranty programs

### Communications Interfaces

- USB V2.0 (cable included) - standard
- Built-in 10/100 Ethernet - optional, field upgradable

### Card Compatibility

NOTE: For optimum print quality and printer performance, use of Zebra genuine supplies is recommended.

- Card Thickness: 10-40 mil
- Card Size: CR-80, ISO 7810 format, Type ID-1, 2.12” (54 mm) x 3.38” (86 mm)
- Card Material: PVC and PVC composite
- Spot Color or monochrome print only on < 20 mil card thickness

### Physical Specifications (standard model)

Printer		
Height	9.3"	(236 mm)
Width	7.9"	(200 mm)
Depth	13.0"	(330 mm)
Weight	11.6 lbs	(5.3 kg)

### Electrical Specifications

- Auto-switching single-phase AC power
- Operating range: 90-132VAC and 190-264VAC RMS.
- Frequency range : 47-63 Hz.
- Power requirement is 100W max continuous and 607W peak (for 450  $\mu$ sec) output power
- FCC Class A

### Supplies Specifications

NOTE: The ZXP Series 1 printer is designed to work only with Zebra True Colours ix Series, ZXP Series 1 ribbons.

- Zebra ix Series intelligent technology automatically detects and authenticates ribbon.
- Integrated cleaning roller included on each ribbon.
- Media Starter Kit – 1 YMCKO ribbon, 100 30-mil PVC cards
- Cleaning Kit: 4 print engine cleaning cards and 4 feeder cleaning cards, 1000 images/card

### True Colours ix Series ZXP Series 1 Ribbon Options

Ribbon Description	Eco Cartridge Image Count
YMCKO	100
1/2 YMCKO	400
Black Monochrome	1000
White Monochrome	500

### Preventative Maintenance

Zebra recommends cleaning the printer on a regular basis using standard Zebra cleaning supplies and parts. Go to [www.zebra.com/supplies](http://www.zebra.com/supplies) for details.

### Environmental Specifications

- Operating Temperature: 60° F to 86° F (15° C to 30° C)
- Storage Temperature: 23° F to 131° F (-5° C to 55° C)
- Operating Humidity: 20% to 65% non-condensing
- Storage Humidity: 20% to 70% non-condensing
- Media Storage:
  - Temperature: 41° F to 77° F (5° C to 30° C)
  - Humidity: 35% to 65% non-condensing
  - Store in dark location

### Agency Approvals

Zebra ZXP Series 1 Card Printer complies with following applicable directives and standards for the ITE: Residential, Commercial & Light Industry environments

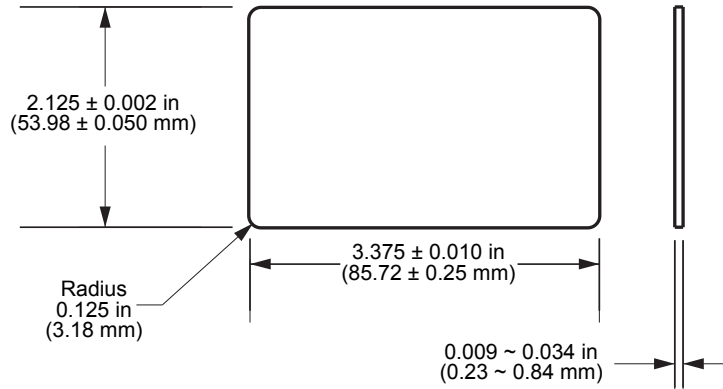
- For US/Canada/Mexico/Australia&NZ
  - FCC Class A, cfr47, Part 15 Subpart J
  - FCC 15.257 2008, Part 15 Subpart C
  - Canadian STD RSS-210
  - NOM-ETL (Mexico)
  - IEC 60950-1:2005+A1:2009 Safety Standard (TUV & NRTL)
  - C-Tick (Australia) Electromagnetic Radiation Standard
- For Europe:
  - Applicable Directives and Supporting Standards:

2004/108/EC EMC Directive, EN55022:2010 Class A,  
EN55024:2010, EN61000-3-2:2006+A2:2009,  
EN61000-3-3:2008, 2006/95/EC LVD Directive,  
EN60950-1:2006+A11:2009+A1:2010+A12:2011, CB Scheme
  - RFID Enabled  
Applicable Directives and Supporting Standards:

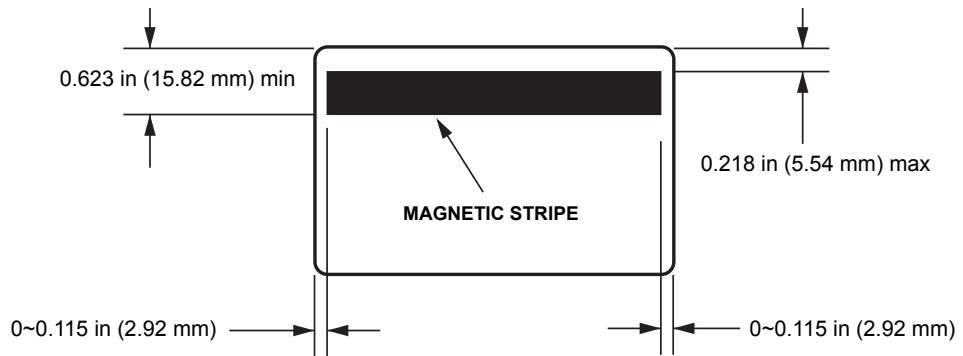
99/5/EC R&TTE Directive, EN 301 489-3 V1.4.1,  
EN 300 330 V1.5.1

## ISO Standard Card Dimensions

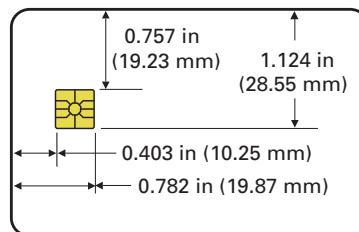
### Dimensions for Plain Card ISO Standard 7810



### Dimensions for Magnetic Stripe Card ISO Standard 7811



### Contact Location for Smart Card ISO Standard 7816



## Compliance Information

### FCC Compliance Statement

This device complies with Part 15 rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for Class A Digital Devices, pursuant to Part 15 of the 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 and, if not installed and used in accordance with the product manuals, 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 his own expense.

The user is cautioned that any changes or modifications not expressly approved by Zebra Technologies could void the user's authority to operate the equipment. To ensure compliance, this printer must be used with Shielded Communication Cables.

### FCC Radiation Exposure Statement (RLAN)

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment.

#### Important

1. The radio must be installed with a minimum 20cm separation between the user and the antenna.
2. The radio must not be co-located or used in simultaneous transmitting condition with another radio.
3. The host system shall have a label to indicate that the system contains a certified module. An example is "Contains FCC ID : XXXXX , IC ID: YYYYYY".

### Canadian DOC Compliance Statement

Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.


This Class A digital apparatus complies with Canadian ICES-003.



## European Union and EFTA

The Class 2 RLAN may be operated in the following countries with the restrictions and limitations indicated below.

AT	BE	BG	CY	CZ	DK	EE
FI	FR	DE	GR	HU	IE	IT
LV	LT	LU	MT	NL	PL	PT
RO	SK	SI	ES	SE	GB	
IS	LI	NO	CH			


	<p><b>Important Notice:</b></p> <p>Operation in band 5150 – 5350 MHz shall be restricted to indoor use.</p>
---	---

## Japanese Notification

<p>日本：総務省(MIC) 認証マーク</p> <p>本製品は MIC の認証を受けています。</p> <p>RFID 認証番号は No. FC-10003 です。</p> <p>この機器は、無線周波数エネルギーを生成および使用し、それらを放射する可能性があります。したがって、ユーザー・マニュアルに従って設置および使用しなかった場合、無線通信あるいはペースメーカーなどの医療機器に有害な干渉を引き起こすことがあります。</p>
---

## NCC Warning Message

<p>經型式認證合格之低功率射頻電機，非經許可，公司、商號或使用者均不得擅自變更頻率、加大功率或變更原設計之特性及功能。低功率射頻電機之使用不得影響飛航安全及干擾合法通信；經發現有干擾現象時，應立即停用，並改善至無干擾時方得繼續使用。前項合法通信，指依電信法規定作業之無線電通信。低功率射頻電機須忍受合法通信或工業、科學及醫療用電波輻射性電機設備之干擾。</p>
---

 <p><b>ANATEL</b> Agência Nacional de Telecomunicações</p>	<p><b>Brasil - Aviso da Anatel</b></p> <p>Este equipamento opera em caráter secundário, isto é, não tem direito a proteção contra interferência prejudicial, mesmo de estações do mesmo tipo, e não pode causar interferência a sistemas operando em caráter primário.</p> <p>“Este produto está homologado pela ANATEL, de acordo com os procedimentos regulamentados pela Resolução 242/2000, e atende aos requisitos técnicos aplicados”</p> <p>Para maiores informações, consulte o site da ANATEL <a href="http://www.anatel.gov.br">www.anatel.gov.br</a></p>
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# APPENDIX A



---

## Advanced Sharing

### Printer Sharing Configurations

This section covers:

Microsoft Driver Support Matrix .....	92
Client / Server Printer sharing support Matrix .....	93

## Microsoft Driver Support Matrix

Supported Windows Drivers Microsoft OS <sup>1</sup>	One-to-One	One-to-Many	Many-to-One	Many-to-Many	Printer Pooling <sup>2</sup>
	1 Printer - 1 Host	1 Host - Many Printers	Multiple Hosts (Drivers) - One Printer	Multiple Hosts (Drivers) - Many Printers	
Windows 8 (32-bit)	Yes	Yes	Yes	Yes	Yes
Windows 8 (64-bit)	Yes	Yes	Yes	Yes	Yes
Server 2008 (64-bit)	Yes	Yes	Yes	Yes	Yes
Server 2008 (32-bit)	Yes	Yes	Yes	Yes	Yes
Server 2003	Yes	Yes	Yes	Yes	Yes
Windows 7 (64-bit)	Yes	Yes	Yes	Yes	Yes
Windows 7 (32-bit)	Yes	Yes	Yes	Yes	Yes
Vista (64-bit)	Yes				
Vista (32-bit)	Yes				
Windows XP	Yes	Yes	Yes	Yes	Yes

## Client / Server Printer sharing support Matrix

The following Matrix shows the tested configurations between various Microsoft OS in a shared Client / Server print environment.

Sharing Matrix	Windows OS Driver Clients				
	Win 8 (32-bit)	Win 8 (64-bit)	Win 7 (32-bit)	Win 7 (64-bit)	Win XP
Windows OS Server (Driver Host)					
Windows 8 (32-bit)	Yes		Yes	Yes	Yes
Windows 8 (64-bit)	Yes	Yes	Yes	Yes	Yes
Server 2012	Yes	Yes	Yes	Yes	Yes
Server 2008 (64-bit)	Yes	Yes	Yes	Yes	Yes
Server 2008 (32-bit)	Yes	Yes	Yes	Yes	Yes
Server 2003	Yes		Yes		Yes
Windows 7 (64-bit)			Yes	Yes	Yes
Windows 7 (32-bit)			Yes		Yes
Windows XP (All Editions) SP 2 and above					Yes

1 Driver installed on individual Client PC's

2 Printer Pooling Sharing not supported.

## Advanced Sharing Settings

This section covers the following Advanced Sharing Settings:

Installing and setting up a Windows 2008 Server-----	94
Advanced Sharing Settings for Server R2 2008-----	95
Home or Work Network Settings: -----	95
Public Network Settings: -----	96
Advanced Sharing Settings for Server 2008 -----	97
Advanced Sharing Settings for Windows 7-----	98
Home or Work Network settings: -----	98
Public Network Settings: -----	99

### Installing and setting up a Windows 2008 Server

1. Install a new server OS, Windows 2008 Server 64 bit.
2. Log in as Admin user with password.
3. Check the following services by running the command “Services.msc” from the Start->Run menu, and make sure the following services are started/running:
  - a. SSDP Discovery –
  - b. Function discovery resource publication.
  - c. UPnP device host-
  - d. DNS Client.
4. The services mentioned above should be running to ensure that the following network settings are saved and take effect.

## Advanced Sharing Settings for Server R2 2008

### Home or Work Network Settings:

#### Change sharing options for different network profiles

Windows creates a separate network profile for each network you use. You can choose specific options for each profile.

Home or Work 

Network discovery

When network discovery is on, this computer can see other network computers and devices and is visible to other network computers. [What is network discovery?](#)

- Turn on network discovery
- Turn off network discovery

File and printer sharing

When file and printer sharing is on, files and printers that you have shared from this computer can be accessed by people on the network.

- Turn on file and printer sharing
- Turn off file and printer sharing

Public folder sharing

When Public folder sharing is on, people on the network, including homegroup members, can access files in the Public folders. [What are the Public folders?](#)

- Turn on sharing so anyone with network access can read and write files in the Public folders
- Turn off Public folder sharing (people logged on to this computer can still access these folders)

Password protected sharing

When password protected sharing is on, only people who have a user account and password on this computer can access shared files, printers attached to this computer, and the Public folders. To give other people access, you must turn off password protected sharing.

- Turn on password protected sharing
- Turn off password protected sharing

## Public Network Settings:

Public (current profile) \_\_\_\_\_ 

Network discovery \_\_\_\_\_

When network discovery is on, this computer can see other network computers and devices and is visible to other network computers. [What is network discovery?](#)

- Turn on network discovery
- Turn off network discovery

File and printer sharing \_\_\_\_\_

When file and printer sharing is on, files and printers that you have shared from this computer can be accessed by people on the network.

- Turn on file and printer sharing
- Turn off file and printer sharing

Public folder sharing \_\_\_\_\_

When Public folder sharing is on, people on the network, including homegroup members, can access files in the Public folders. [What are the Public folders?](#)

- Turn on sharing so anyone with network access can read and write files in the Public folders
- Turn off Public folder sharing (people logged on to this computer can still access these folders)

Password protected sharing \_\_\_\_\_







When password protected sharing is on, only people who have a user account and password on this computer can access shared files, printers attached to this computer, and the Public folders. To give other people access, you must turn off password protected sharing.

- Turn on password protected sharing
- Turn off password protected sharing



## Advanced Sharing Settings for Server 2008

 <b>Network</b> (Public network) <span style="float: right;"><a href="#">Customize</a></span>	
Access	Local only
Connection	Local Area Connection <span style="float: right;"><a href="#">View status</a></span>

 <b>Sharing and Discovery</b>		
Network discovery	<input checked="" type="radio"/> Custom	
File sharing	<input checked="" type="radio"/> On	
Public folder sharing	<input checked="" type="radio"/> On (password required)	
Printer sharing	<input checked="" type="radio"/> On (password required)	
Password protected sharing	<input checked="" type="radio"/> On	

[Show me all the files and folders I am sharing](#)

[Show me all the shared network folders on this computer](#)

## Advanced Sharing Settings for Windows 7

### Home or Work Network settings:

#### Network discovery

---

When network discovery is on, this computer can see other network computers and devices and is visible to other network computers. [What is network discovery?](#)

- Turn on network discovery
- Turn off network discovery

#### File and printer sharing

---

When file and printer sharing is on, files and printers that you have shared from this computer can be accessed by people on the network.

- Turn on file and printer sharing
- Turn off file and printer sharing

#### Public folder sharing

---

When Public folder sharing is on, people on the network, including homegroup members, can access files in the Public folders. [What are the Public folders?](#)

- Turn on sharing so anyone with network access can read and write files in the Public folders
- Turn off Public folder sharing (people logged on to this computer can still access these folders)

#### Media streaming

---

When media streaming is on, people and devices on the network can access pictures, music, and videos on this computer. This computer can also find media on the network.

Media streaming is on.  
[Choose media streaming options...](#)

#### File sharing connections

---

Windows 7 uses 128-bit encryption to help protect file sharing connections. Some devices don't support 128-bit encryption and must use 40- or 56-bit encryption.

- Use 128-bit encryption to help protect file sharing connections (recommended)
- Enable file sharing for devices that use 40- or 56-bit encryption

### Password protected sharing

---

When password protected sharing is on, only people who have a user account and password on this computer can access shared files, printers attached to this computer, and the Public folders. To give other people access, you must turn off password protected sharing.

- Turn on password protected sharing
- Turn off password protected sharing

### HomeGroup connections

---

Typically, Windows manages the connections to other homegroup computers. But if you have the same user accounts and passwords on all of your computers, you can have HomeGroup use your account instead. [Help me decide](#)

- Allow Windows to manage homegroup connections (recommended)
- Use user accounts and passwords to connect to other computers

## Public Network Settings:

### Network discovery

---

When network discovery is on, this computer can see other network computers and devices and is visible to other network computers. [What is network discovery?](#)

- Turn on network discovery
- Turn off network discovery

### File and printer sharing

---

When file and printer sharing is on, files and printers that you have shared from this computer can be accessed by people on the network.

- Turn on file and printer sharing
- Turn off file and printer sharing

### Public folder sharing

---

When Public folder sharing is on, people on the network, including homegroup members, can access files in the Public folders. [What are the Public folders?](#)

- Turn on sharing so anyone with network access can read and write files in the Public folders
- Turn off Public folder sharing (people logged on to this computer can still access these folders)

### Media streaming

---

When media streaming is on, people and devices on the network can access pictures, music, and videos on this computer. This computer can also find media on the network.

[Choose media streaming options...](#)

### File sharing connections

---

Windows 7 uses 128-bit encryption to help protect file sharing connections. Some devices don't support 128-bit encryption and must use 40- or 56-bit encryption.

- Use 128-bit encryption to help protect file sharing connections (recommended)
- Enable file sharing for devices that use 40- or 56-bit encryption

### Password protected sharing

---

When password protected sharing is on, only people who have a user account and password on this computer can access shared files, printers attached to this computer, and the Public folders. To give other people access, you must turn off password protected sharing.

- Turn on password protected sharing
- Turn off password protected sharing

# Appendix B

---

## Magnetic Encoder Option



### Introduction

This section contains information on the additional operations of the ZXP Series 1 Card Printer with an optional Magnetic Encoder.

This section covers:

Encoder Settings (Driver) .....	102
Media Loading Orientation .....	102
Magnetic Encoder Cleaning .....	102
Magnetic Encoding Type .....	103

## Encoder Settings (Driver)

The Encoder Settings dialog box is used for setting various Magnetic Encoder parameters. This feature is not enabled if the printer does not have the magnetic encoder option.; see [Encoding Tab](#) on page 65 for details.

## Media Loading Orientation



---

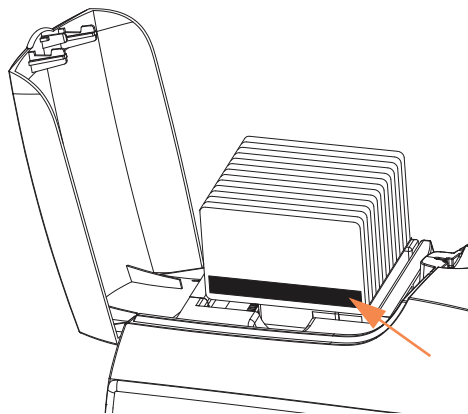
**Caution** • ONLY USE cards that comply with ISO 7810 & 7811 standards for magnetic stripe cards. The magnetic stripe must be flush to the surface of the card to work properly. Never use cards which have taped-on magnetic stripes.

---



**Note** • Zebra-approved HiCo & LoCo PVC cards are available; see <http://www.zebra.com/supplies> for details.

When loading cards with magnetic stripes into the card feeder, please ensure that the magnetic stripe is facing the left side of the printer, and closest to the bottom edge of the card feeder; see [Loading Cards](#) on page 34 for details.



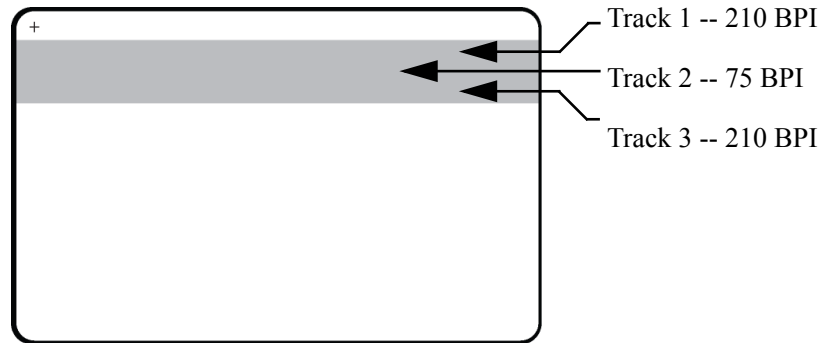
## Magnetic Encoder Cleaning

Use the standard cleaning card process as described in [Section 5, Cleaning](#). This cleans the most important parts of the printer; including the Printhead, Transport Roller, and Magnetic Stripe Encoder.

## Magnetic Encoding Type

### ISO (Default)

The encoder reads and writes standard ISO track data formats in standard ISO track locations. The following shows the three standard ISO tracks.



Each track can be encoded and decoded with ASCII characters in the standard default ISO data formats:

Track	Density (BPI)	Bits per character	Character parity	Length (characters)	LRC parity	Start sentinel	End sentinel	Start sentinel offset
1	210	7	Odd	76	Even	%	?	0.293" (7.4 mm)
2	75	5	Odd	37	Even	;	?	0.293" (7.4 mm)
3	210	5	Odd	104	Even	;	?	0.293" (7.4 mm)

The magnetic encoder can read or encode up to 3 tracks of digital information onto CR-80 cards incorporating a HiCo or LoCo magnetic stripe in the ISO 7811 format.

Encoding for the three tracks uses the ISO 7811 format.

- Track 1 uses 210 BPI (bits per inch) encoding in the International Air Transport Association (IATA) format of 79 alphanumeric characters, at 7 bits per character.
- Track 2 uses 75 BPI encoding to store 40 numeric characters at 5 bits per character in American Banking Association (ABA) format.
- Track 3 uses 210 BPI encoding of 107 numeric characters at 5 bits per character in THRIFT format.

The ISO data formats include a preamble (all zeros), a start character, data (7-bit or 5-bit as specified by ISO), a stop character, and a longitudinal redundancy check (LRC) character. The 7-bit data format has 6 bits of encoded data and a parity bit. The 5-bit data format has 4 bits of encoded data and a parity bit.

The ISO data formats include a data field separator (or delimiter) that allows parsing of the encoded track data. An example of separate data fields would be the ABA data format (Track 2) that includes a Primary Account Number (PAN) field and an account information field (for expiration date, country code, etc.).





# Appendix C

---

## CardSense Single-Card Feed Mode

### Introduction

For operating the ZXP Series 1 Card Printer in single-card feed mode, the printer requires that the operator install an optional CardSense Single-Card Feed Kit.

In the single-card feed mode, the printer will accept cards through the front slot.

## Installing the CardSense Single-Card Feed Kit

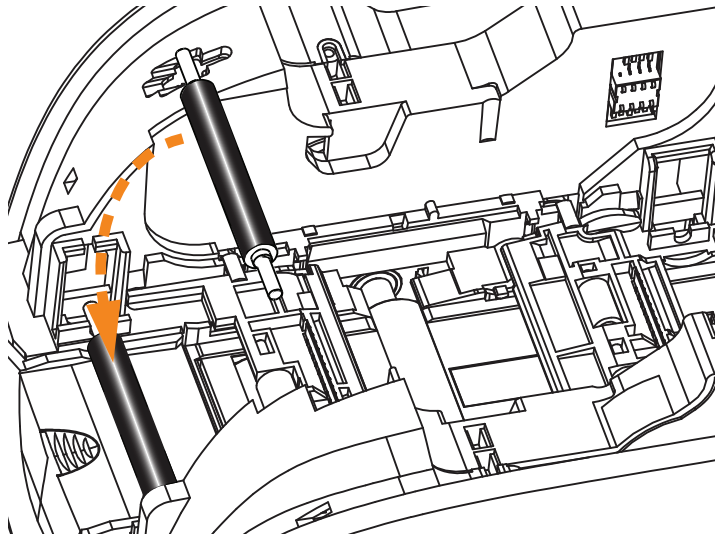
**Step 1.** Turn printer power OFF.

**Step 2.** Open the lid, and remove the ribbon cartridge.



**Important** • Make sure the Card Output Hopper remains closed.

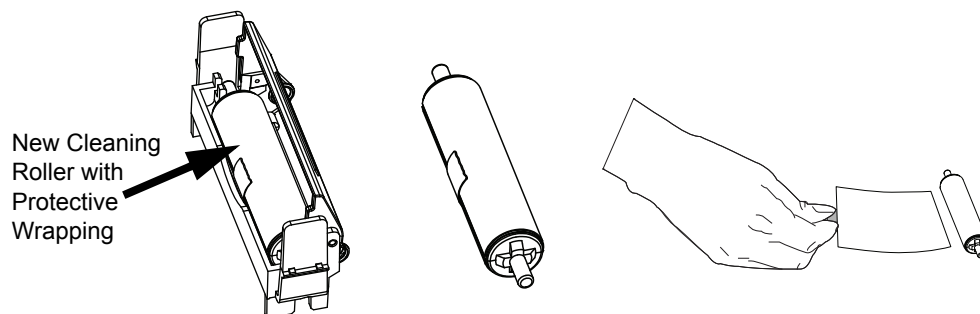
**Step 3.** Install the black roller. Place it between the blue clips just behind the card entry slot, and press the roller straight down so it is fully seated.



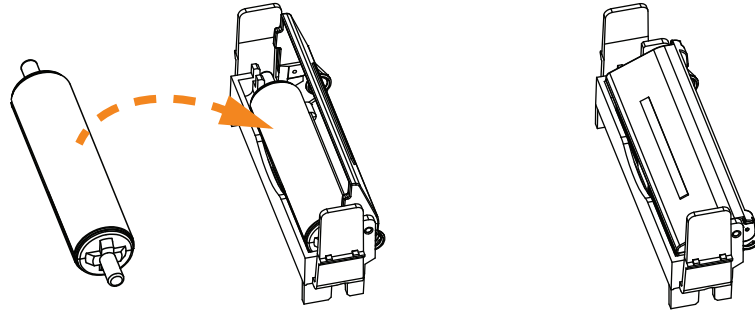
**Step 4.** While holding the roller down, turn power ON. You will hear a loud click as the clips secure the roller.

**Step 5.** At this point, let go of the roller, and then turn printer power OFF.

**Step 6.** Open the Cleaning Cartridge. The new Cleaning Cartridge will contain a Cleaning Roller with its protective wrapping.



- Step 7.** Remove the Cleaning Roller from the Cleaning Cartridge, and then remove the protective wrapper from the Cleaning Roller,
- Step 8.** Place the Cleaning Roller in the Cartridge, and close the lid.



- Step 9.** The Cleaning Cartridge is held in place by two clips. While gently squeezing the clips inward, press the cartridge into place. It will seat with a click.

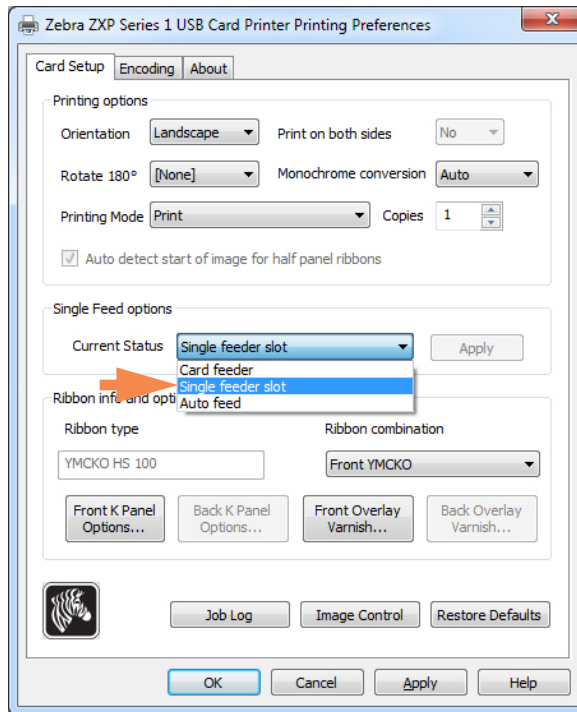


- Step 10.** Insert the Ribbon Cartridge with the cleaning roller facing down, so the gears on the ends of the rollers fit into the appropriate slots.
- Step 11.** Close the printer lid, and push down until you hear an audible click. If you can not close the lid, the cleaning cartridge or the ribbon cartridge may be installed wrong.
- Step 12.** Place the printer power switch in the ON (|) position.

## Setting Up the Printer Driver

Card Setup tab allows the user to set the single-card feed mode.

To access the Card Setup tab, select *Start > Devices and Printers*. Right click on the *Zebra ZXP Card Printer* listing, then select *Printing preferences > Card Setup*.



**Step 1.** Make the appropriate Single Feed option selection from the Current Status dropdown menu:

- **Card feeder:** The printer will attempt to pull a card from the Card Feeder. If the Card Feeder is empty, the printer will generate an *OUT OF CARDS* error message.
- **Single feeder slot:** For each print job, the printer will generate an *INSERT CARD* message. Any cards in the Card Feeder will not be used.
- **Auto feed:** The printer will attempt to feed cards from Card Feeder first. If Card Feeder is empty, the printer will generate an *INSERT CARD* message. No *OUT OF CARDS* error message will be generated.

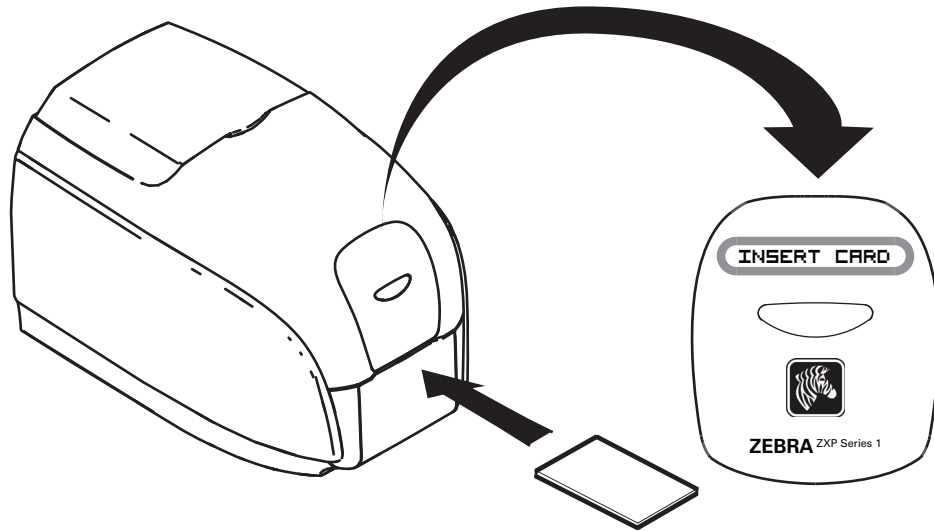
**Step 2.** Click the **Apply** button, then click the **OK** button.



**Important** • You do not have to remove the components of the Single-Card Feed Kit in order to operate in normal mode (printing cards from the Card Feeder).

## Printing a Single Card

- Step 1.** Cards are inserted one at a time into the slot on the front of the printer. Do not feed more than one card at a time. Note that the card must be fully inserted before printer turns on and accepts the card.



- Step 2.** The card is printed.

- Step 3.** The printed card is ejected out through the same (input) slot.



**Note** • If single-card feeding will be the normal mode of operation, you may select that mode through the driver software. In single-card feed mode, the card will not be printed until the print job has been sent to the printer and the card to be printed has been inserted into the single-card feed slot



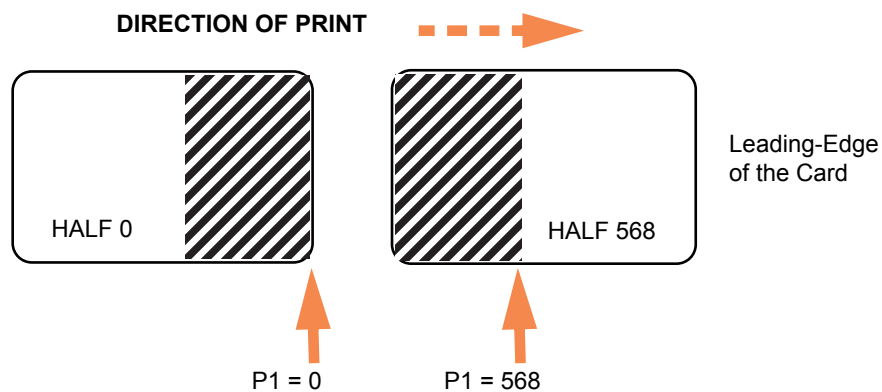
# Appendix D

## Half-Panel Ribbon Operation

### Introduction

Half-Panel YMCKO Color Ribbons are used if you do not need full color printing over the entire surface of a card. These ribbons have half panels of YMC for ID pictures, logos, etc., for printing a 38mm wide window on the front of the card. The remaining panels are full-size black resin and clear overlay so black text and protection can be applied over the entire surface of the card. The position of the half panel is adjustable.

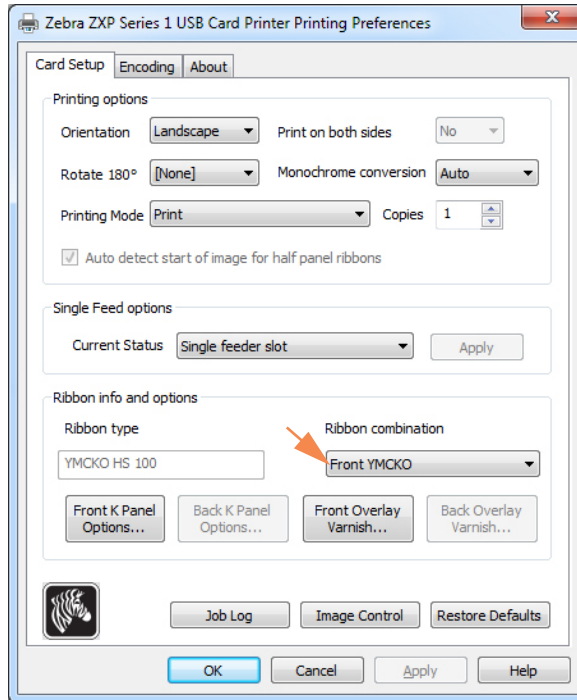
The command is **HALF p1** where p1 sets the start position of the print window. The position of the window is with respect to the leading edge of the card; i.e., the edge of card which exits the printer first. To reset the driver, the command is simply **HALF** without the p1 parameter.



Parameters **p1** ranges from -38 to 1024. Values below 0 will move the window off the leading edge of the card, and values over 568 will move the window off the trailing edge of the card. Note that 12 points = 1mm.

## Setup and Operation

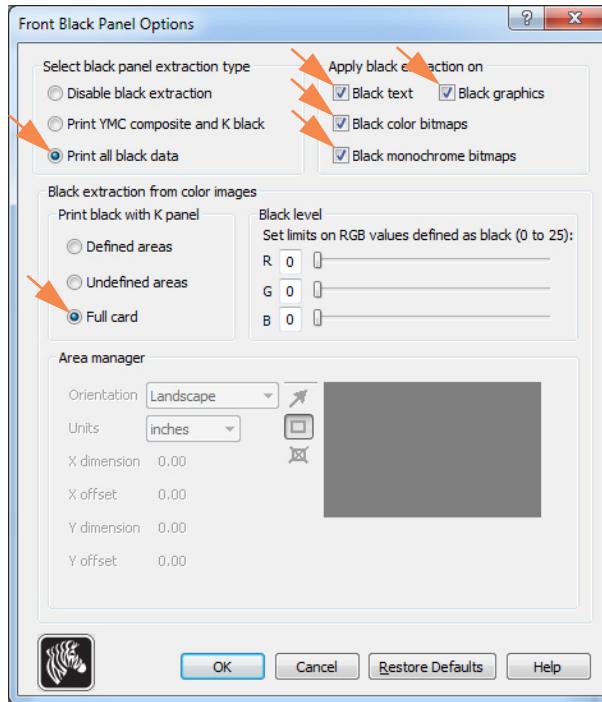
- Step 1. Install a Half-Panel YMCKO Ribbon Cartridge; see [Loading Ribbon Cartridge](#) on page 32.
- Step 2. Configure Driver Printing Preferences:
  - a. Select *Start > Devices and Printers*. Right click on the *Zebra ZXP Card Printer* listing. Select *Printing preferences > Card Setup*.



- b. Click on the **K Panel Options** button (arrow above).



- c. From the Black Panel Options dialog box, make the following selections (arrows below).

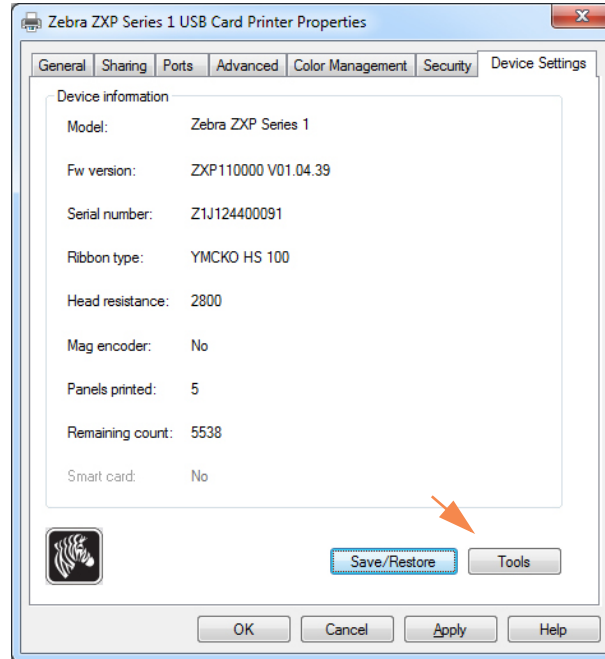


- d. Click the **OK** button to close the Black Panel Options dialog box.
- e. Click the **OK** button to exit Printing Preferences.

## D: Half-Panel Ribbon Operation

### Step 3. Set Driver Printer Properties:

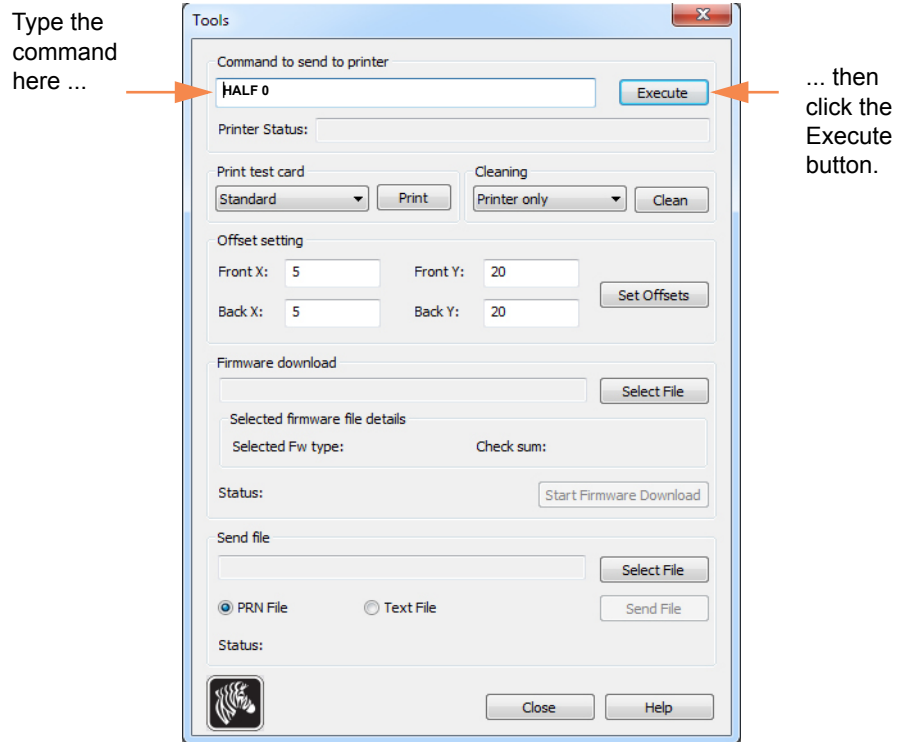
- a. Select *Start > Devices and Printers*. Right click on the *Zebra ZXP Card Printer* listing. Select *Printer properties > Device Settings*.



- b. Click the **Tools** button (arrow above). This will bring up the Tools dialog box.

Step 4. Enter the half-panel command.

- a. From the Tools dialog box, type the command in the “Command to send to printer” field to position the print window on the card; e.g., HALF 0.



- b. Click the **Execute** button. If successful the printer will respond with <ACK> in the Printer Status field directly under the “Command to send to printer” field.
- c. Click the **Close** button to close the Tools dialog box.
- d. Click the **OK** button to exit the Printer Properties.

Step 5. From your card printing application, print your card(s).



# Appendix E

## Worldwide Support

For Technical Support or Repair Services, contact the appropriate facility listed below.

### North America and Latin America - Technical Support

T: +1 877 ASK ZEBRA (877 275 9327)  
+1 847 913 2259  
E: [ts1@zebra.com](mailto:ts1@zebra.com)

### North America and Latin America - Repair Services

Before returning any equipment to Zebra Technologies Corporation for in-warranty or out-of-warranty repair, contact Repair Services for a Repair Order (RO) number. Mark the RO number clearly on the outside of the box. Ship the equipment, freight prepaid, to the address listed below:

Zebra Technologies Repair Services  
333 Corporate Woods Parkway  
Vernon Hills, IL 60061

webform: [www.zebra.com/repair](http://www.zebra.com/repair)  
T: +1 877 ASK ZEBRA (877 275 9327)  
E: [repair@zebra.com](mailto:repair@zebra.com)

## Europe, Middle East, and Africa - Technical Support

Language	Phone	Email
Arabic	+971 (0)46058220	zebraCareUAE@zebra.com
Dutch	+31 (0)33 450 50 48	ZebraCareBNL@zebra.com
English (UK)	+44 (0)1628 556 225	zebraCareUK@zebra.com
(Sweden)	+46 (0)8 594 709 88	zebraCareUK@zebra.com
(South Africa)	+27 (0)11 201 7712 / 0860 393272	zebracareSA@zebra.com
French	+33 (0) 1 53 48 12 74	zebraCareFR@zebra.com
German	+49 (0) 2159 676 870	zebraCareDE@zebra.com
Hebrew	+97 236 498 140	ZebraCareIL@zebra.com
Italian	+39 0 2 575 06388	ZebraCareIT@zebra.com
Polish	+48 223 801 980	zebraCarePL@zebra.com
Russian	+7 495 739 5993	ZebraCareRU@zebra.com
Spanish	+34 (0) 917 992 896	zebraCareES@zebra.com
Turkish	+90 212 314 1010	zebraCareTR@zebra.com

### For further assistance, contact:

Zebra Technologies Card Printer Solutions  
 Dukes Meadow  
 Millboard Road, Bourne End  
 Buckinghamshire SL8 5XF, UK

T: +44 (0) 1628 556 025  
 F: +44 (0) 1628 556 001  
 E: cardts@zebra.com

## Europe, Middle East, and Africa - Repair Services

Before returning any equipment to Zebra Technologies Corporation for in-warranty or out-of-warranty repair, contact your supplier for a Return Materials Authorization (RMA) number, or contact one of the following repair centers for support and instructions:

Type of repair and location	Phone	Email
Depot Repair in Germany, Austria, Switzerland	+49 (0) 2159 676 870	zebracareDE@zebra.com
Depot Repair in France	+33 (0) 1 53 48 12 74	zebracareFR@zebra.com
Depot and On-Site Repair in UK and Ireland	+44 (0) 1628 556 225	zebracareUK@zebra.com
Depot Repair in South Africa	+27 (0) 11 201 7777	-
Depot Repair in Middle East	+971 (0) 46058220	support_dxb@emitac.ae

### For further assistance, contact:

For assistance anywhere in the EMEA, contact After Sales Customer Services at:

T: + 44 (0) 177 2 69 3069  
E: ukrma@zebra.com

## **Asia Pacific - Technical Support**

Zebra Technologies Asia Pacific Pte. Ltd.  
120 Robinson Road  
#06-01 Parakou Building  
Singapore 068913

T: +65 6858 0722  
F: +65 6885 0838  
E: [tsasiapacific@zebra.com](mailto:tsasiapacific@zebra.com)

## **Asia Pacific - Repair Services**

Before returning any equipment to Zebra Technologies Corporation for in-warranty or out-of-warranty repair, contact Repair Services for a Return Materials Authorization (RMA) number. Repack the equipment in the original packing material, and mark the RMA number clearly on the outside. Ship the equipment, freight prepaid, to either address listed below:

Zebra Technologies Asia Pacific Pte. Ltd.  
No.5 Changi North Way Level 3  
Singapore 498771  
Agility Building

T: +65 6546 2670 ext 3203 and 3204  
F: +65 6546 5328  
E: [APACRepair@zebra.com](mailto:APACRepair@zebra.com)

## **Zebra Website**

<http://www.zebra.com>

[km.zebra.com](http://km.zebra.com) (Knowledge Base)