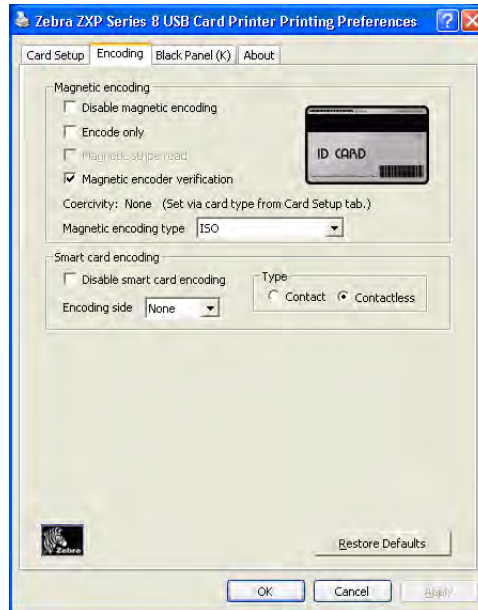


## Encoding Tab

The Encoding screen allows the user to set various magnetic and smart card encoding options.

To access the Encoding Tab, select *Start > Printers and Faxes*. Right click on the *Zebra ZXP Series 8 Card Printer* listing; and select *Printing Preferences > Encoding*.



Although these options are user-selectable, they are set automatically when the Card Type is selected in the [Card Setup Tab](#) on page 46.

The **Restore Defaults** button restores Encoding default values.



**Note** • For advanced settings, see [Section 5, ZXP Toolbox](#).

## Black Panel (K) Tab

The Black Panel (K) Tab allows for special handling of black.



**Note** • The Black Panel (K) Tab applies only to surfaces of the card on which both YMC (color) and K (black) are to be printed.

To access the Black Panel (K) Tab, select *Start > Printers and Faxes*. Right click on the *Zebra ZXP Series 8 Card Printer* listing; and select *Printing Preferences > Black Panel (K)*.



### Overview

Printing equal amounts of Y, M, and C dyes, at maximum intensity, deliver a near-black image, but one that may not be machine readable. For example, a bar code, printed from YMC, will be visible to the eye but will not be detectable by most bar code readers.

The remedy for this is to extract the black; which means printing the same bar code using the K panel on top of the YMC bar code. You can also choose to print only in K, omitting YMC from that region. The K panel is not a dye. It is more of a resin containing carbon black, which is highly visible to infrared-type readers and renders a pure black image.

### Black Extraction

When *Disable Black Extraction* is not selected (i.e., either *Print YMC black under K* or *Print all black data* is selected), Black Extraction is enabled.

With either *Print YMC black under K* or *Print all black data* selected, you can identify which elements are to be selected for black extraction: black text, black graphics, and/or black monochrome bitmaps.

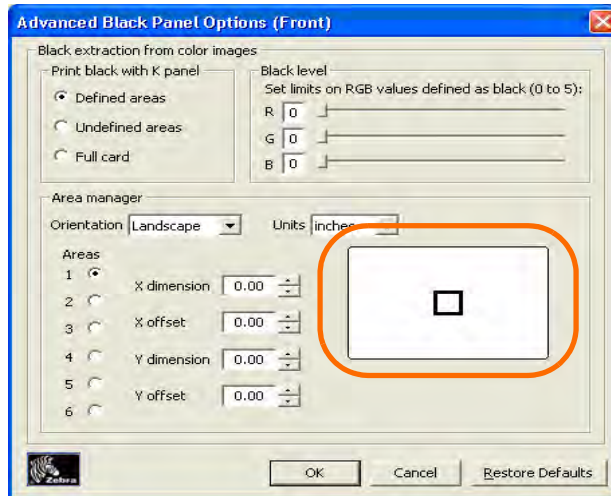
The **Restore Defaults** button restores Black Panel default values.

## Advanced Settings (Black Extraction)

The Advanced Settings tab allows you to manage Black Extraction.

To access the Advanced Settings Tab, select *Start > Printers and Faxes*. Right click on the *Zebra ZXP Series 8 Card Printer* listing; and select *Printing Preferences > Black Panel (K) > Advanced Settings*.

The figure below shows settings for the front side of the card; settings for the back side of the card are identical.



- **Print black with K panel:** Specify the zones as either *Defined areas*, *Undefined areas*, or *Full card*.
- **Black level:** Set the limits (0 to 5) on the RGB values defined as black.
- **Area manager:** Note that this option is enabled when either the *Defined areas* or the *Undefined areas* is radio button is selected.

Select an Area radio button (1 to 6), and then “drag” the cursor diagonally across the card outline (circled above) to identify location of the Zone. All dimensions are referenced to the upper-left corner of the card outline.

The **Restore Defaults** button restores Advanced Settings default values.

## About Tab

The About Tab shows the copyright and the driver version for the *Zebra ZXP Series 8 Card Printer*.

To access the About Tab, select *Start > Printers and Faxes*. Right click on the *Zebra ZXP Series 8 Card Printer* listing; and select *Printing Preferences > About*.





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# ZXP ToolBox

## Introduction

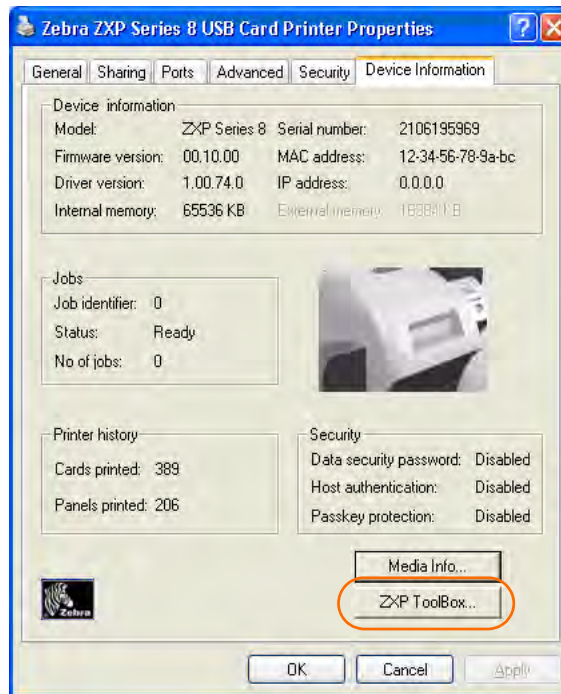


**Important** • Use of the ZXP Toolbox is intended only for advanced users and system administrators.

The ZXP Toolbox provides advanced configuration capabilities and tools to manage the operation of your printer. Note that the ZXP Toolbox is a separate application that works independently from the printer driver.

## ZXP Toolbox Access

To access the ZXP Toolbox from the printer driver, select *Start > Printers and Faxes*. Then right-click on the *Zebra ZXP Series 8 Card Printer* listing, and select *Properties > Device Information > ZXP Toolbox*.



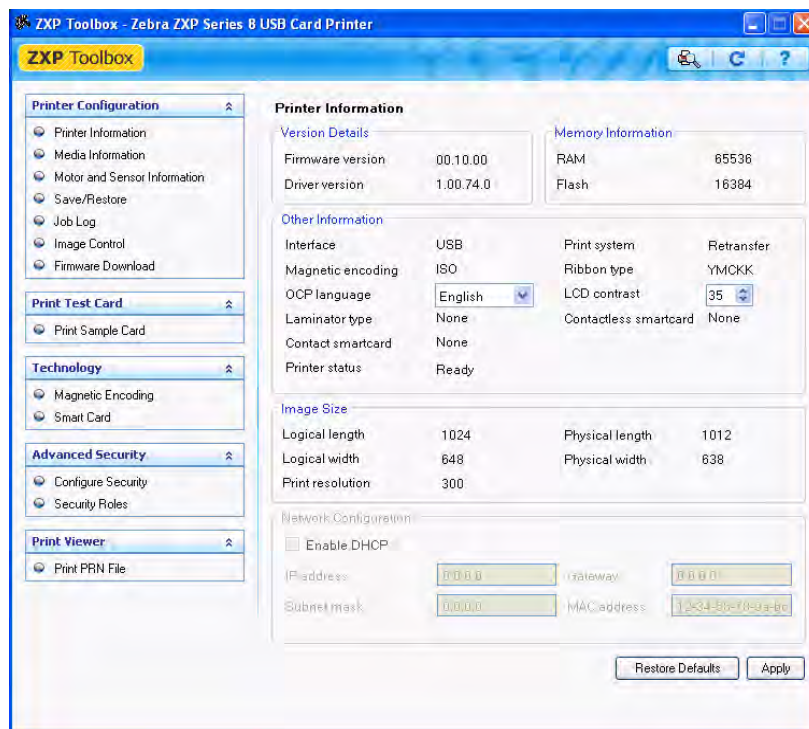
The ZXP ToolBox can also be accessed via *Start > All Programs > Zebra ZXP Series 8 Card Printer*.

## Printer Configuration

The Printer Configuration section provides information on the printer, media information, mechanical and power adjustments, motor and sensor information, a save and restore configuration capability, a print job log, image controls, and firmware downloads.

### Printer Information

- Version details include Firmware version and Driver version.



- Memory information includes RAM and Flash sizes (KB).
- Other information includes interface, print system, magnetic encoding, ribbon type, laminator type, printer status, contact smartcard, and contactless smartcard. Also included are a user-selectable OCP Language option (English, French, Spanish, German, Brazilian Portuguese, and Italian) and an Printer Panel LCD contrast adjustment capability.
- Image size details include logical length, physical length, logical width, and physical width in pixels; and print resolution in pixels per inch.
- Network configuration information includes an Enable DHCP checkbox, IP address, Gateway, Subnet mask, and MAC address.

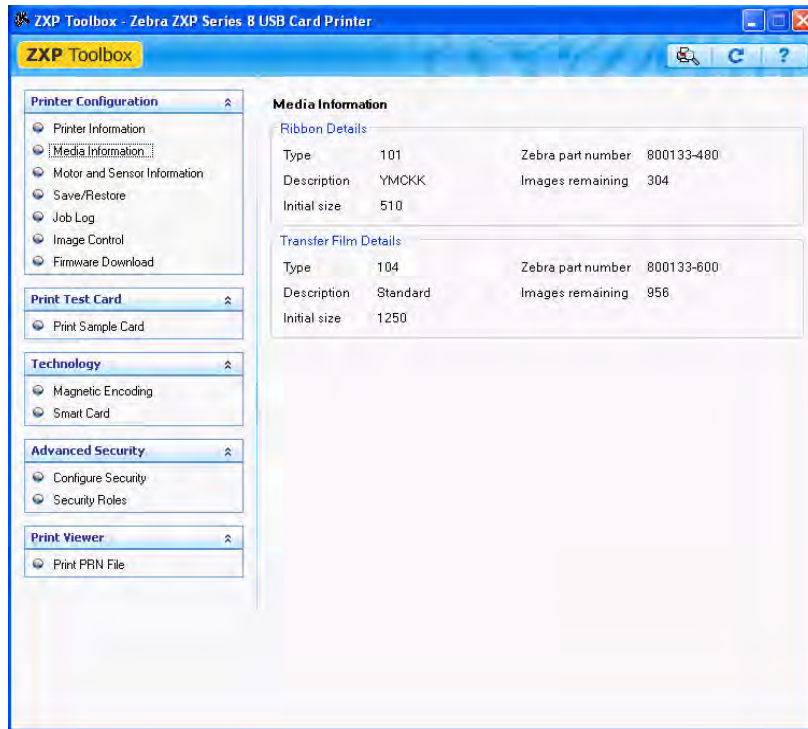
The **Restore Defaults** button restores default values.

The **Apply** button applies changed values.

## Media Information

This screen displays ribbon and transfer film details. This data is automatically read and updated from the installed media in the printer.

- Ribbon details include type, Zebra part number, description, initial size (total image count), and images remaining.



- Transfer film details include type, Zebra part number, description, initial size (total image count), and images remaining.

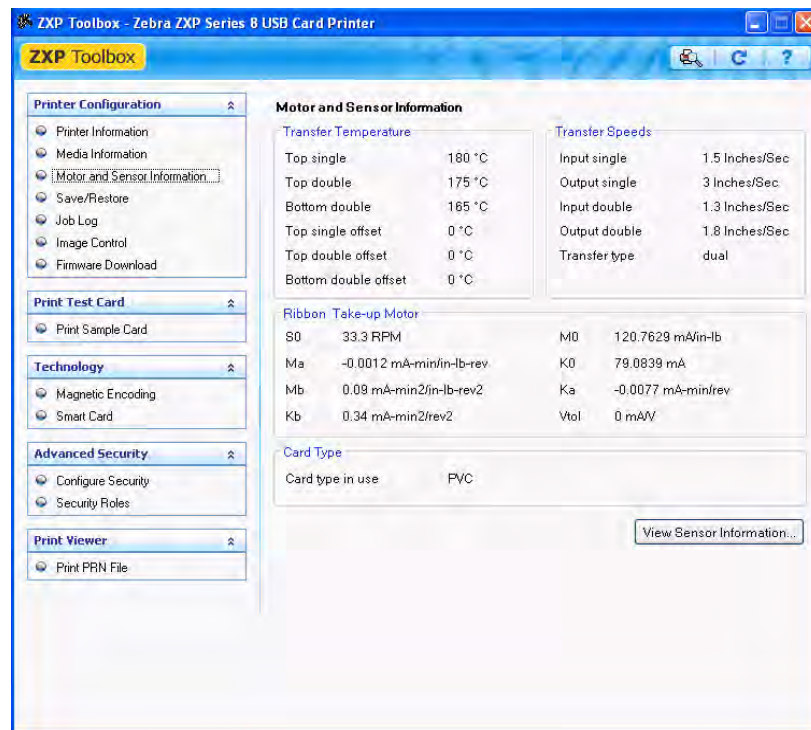


## Motor and Sensor Information

This screen displays the current status of the printer and provides standard printer information and sensor data.

This information cannot be edited or changed by the user; however, this information may be useful for Zebra trained and certified personnel in diagnosing or evaluating the status of the printer.

- *Transfer Temperature* details include top single, top double, bottom double, top single offset, top double offset, bottom double offset.



- *Transfer Speeds* details include input single, output single, input double, output double, and transfer type.
- *Ribbon Take-up Motor* lists various electrical characteristics of the motor. These characteristics are fixed settings/values.
- *Card Type* displays the card type in use.

The **View Sensor Information** button displays the Sensor Information screen; see next page.

## View Sensor Information

This screen displays “live” Sensor States and Sensor Values.

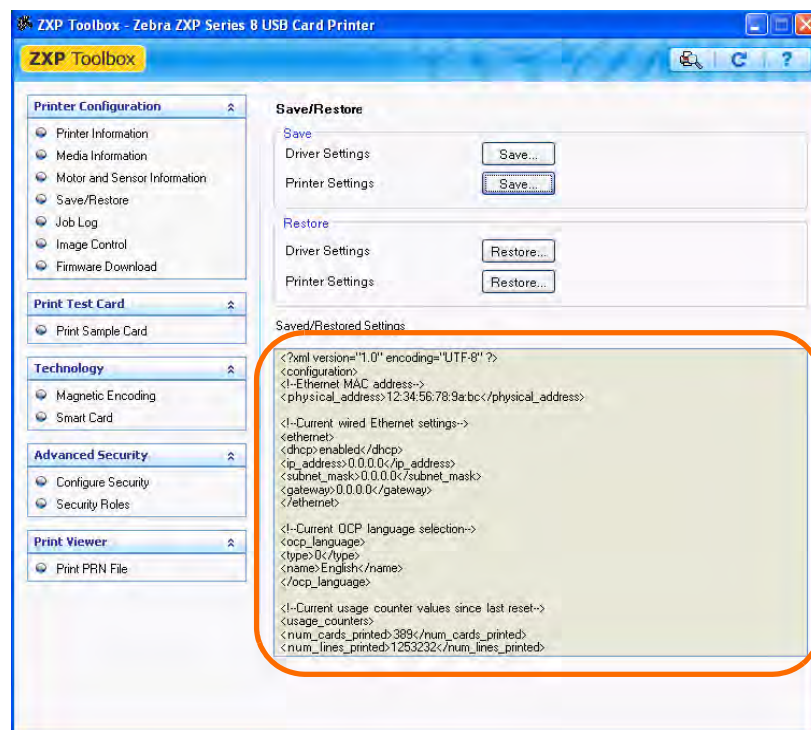


Click on the **Close** button to close this screen.

## Save/Restore

When you set up a printer, you can save the printer and driver configuration settings; then, when you restore or add additional printers, you can use the saved configuration to ensure configuration consistency.

Note that the Saved/Restored Settings (circled below) are for the Printer.



**Note** • The configuration files are stored in an XML format in the following default location:  
*C:\Documents and Settings\All Users\ZMotif\Config*

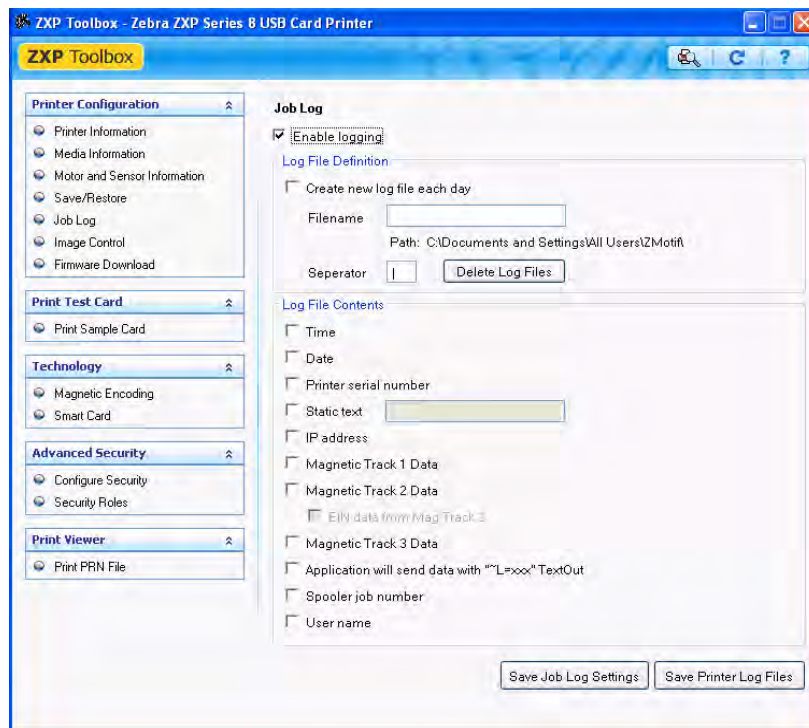
- The **Save** button saves the Driver Settings and/or Printer Settings in an XML file format.
  - The printer configuration settings are stored as P\_<filename>
  - The driver configuration settings are stored as D\_<filename>

The **Restore** button restores the Driver Settings and/or Printer Settings.

## Job Log

The Job Log is a utility that builds a database of card transactions in the printer's host computer. Job Log records 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 the card by comparing it with tamper-proof *real data*.



- **Enable Logging** - If this box is checked, the logging feature is enabled.
- **Logfile 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 *ZXPLog* with the day's date; e.g., *ZXPLog\_2009\_3\_4*.
  - 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.
- **Static text:** Adds to the record text in the box at right, 16 characters maximum.
- **IP address:** Logs the IP address of the PC that sent the card to the printer.
- **Magnetic Track 1, 2, 3 Data:** Logs the data sent to the printer to be encoded on the card's magnetic stripe.
- **EIN data from Mag Track 2:** Not implemented.
- **Application will send data with “~L=xxx” TextOut:** Allows third-party applications to send data to be logged in much the same way as they would send magnetic data.
- **Spooler job number:** Logs the number which the card print job was assigned in the Windows print spooler.
- **User name:** Logs the username of the person submitting the card print job.



- Note** • Job Logs and Printer Logs are stored in the following default location:  
*C:\Documents and Settings\All Users\ZMotif*

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

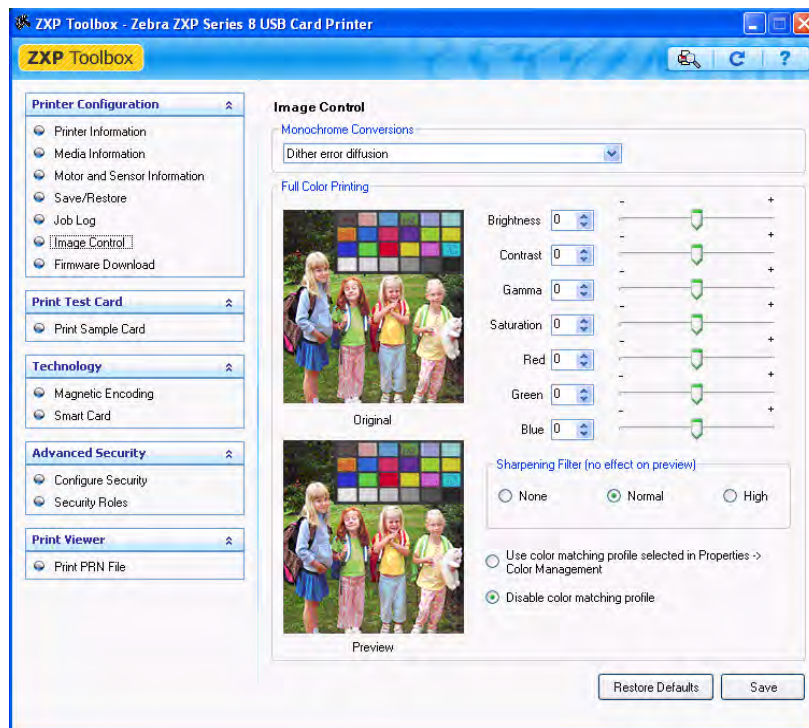
The **Save Printer Log** button creates the following XML Log Files:

- GetLogCleanHistory.xml
- GetLogErrors.xml
- GetLogEventHistory.xml
- GetLogServiceHistory.xml

## Image Control

The Image Control window lets you make color adjustments to compensate for camera or lighting conditions.

Keep in mind that these color adjustments modify how the pictures *print*. The adjustments do not affect the image files. (That type of adjustment would be made in an image processing application program.)



- The **Monochrome conversions** dropdown menu lets you select Dither error diffusion, dither halftoning, or Dither pure black on white.
- **Full color printing adjustments** (-25 to +25 range) include Brightness, Contrast, Gamma, Saturation, Red, Green, and Blue.
- **Sharpening filter** options are None, Normal, and High. Note that these adjustments have no effect on the preview image.

Depending on the radio button selected, you can use the color matching profile selected in Properties > Color Management or you can disable the color matching profile.

The **Save** button saves your image control settings.

The **Restore Defaults** button restores the image control default values.

## Firmware Download

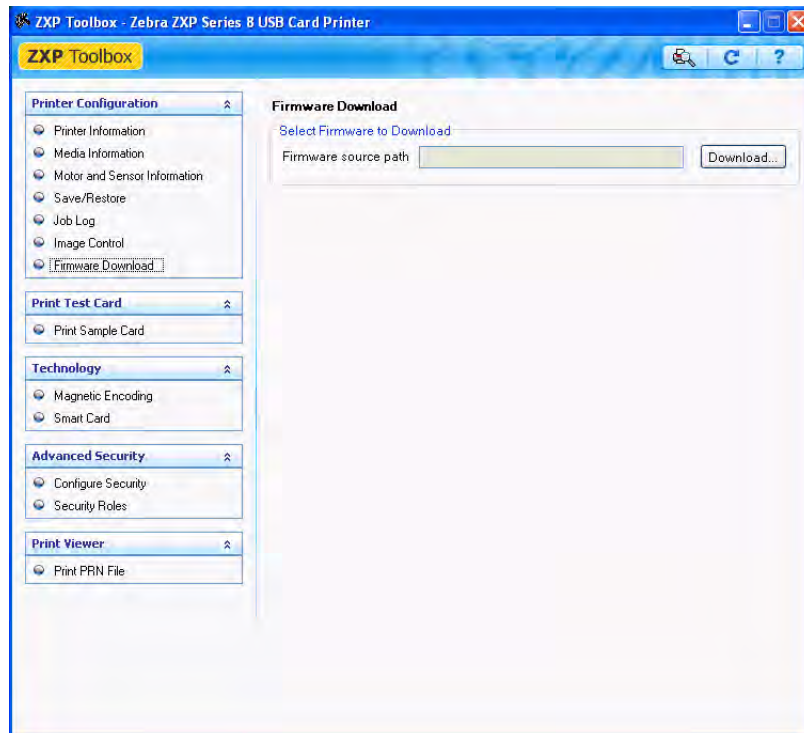
The Firmware Download screen allows you to download firmware and firmware updates. Note that firmware updates can be found at <http://zebracard.com> under *Drivers & Downloads*.



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**Caution** • Do not turn power OFF while the printer is downloading and configuring the new firmware.

---



## Print Test Card

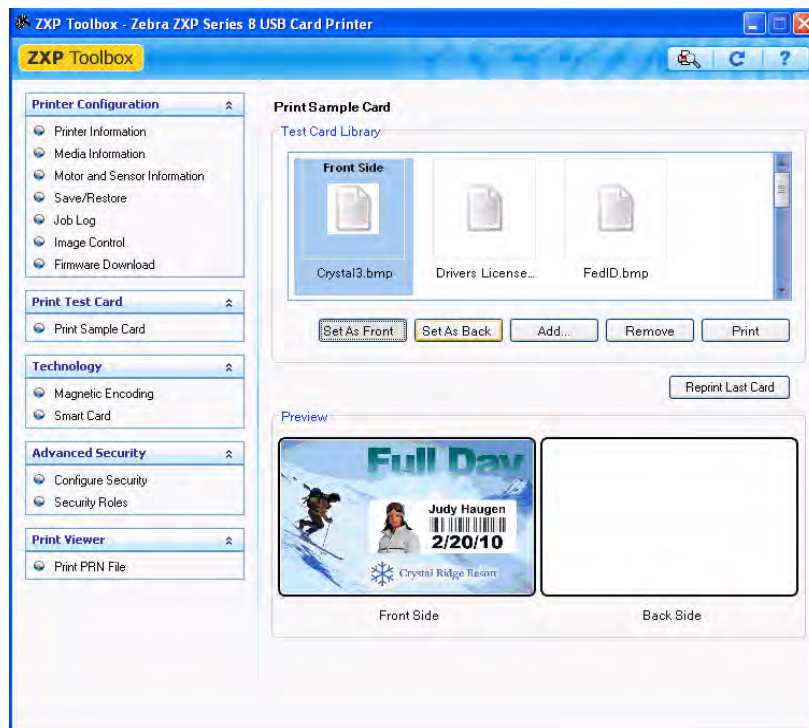
### Print Sample Card



**Note** • The sample cards in the Test Card Library are .bmp images stored in the following default location:

*C:\Documents and Settings\All Users\ZMotif\Library*

1. View the Test Card Library. Use the scrollbar to view all the selections.



2. Set the front side:
  - a. Select (click on) a card from the Test Card Library.
  - b. Click on the **Set As Front** button.
  - c. View the selected card in the Preview. Note that to remove the selected card from the Preview, click on the **Set As Front** button.
  - d. To change your selection, repeat steps **a** through **c**.
3. Set the back side: same as step **2**, except click on the **Set As Back** button.
4. When satisfied with your selection, click on the **Print** button to print the sample card.

The **Reprint last card** button sends a command to the printer to print the last card.



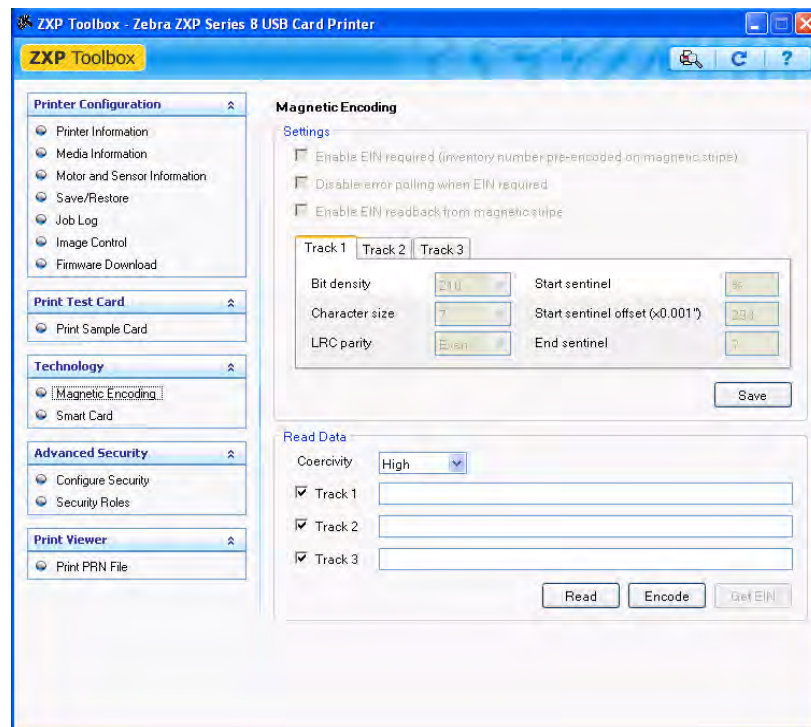
## Technology



**Note** • Magnetic Encoding and Smart Card default values are set via the *Card type in use* option in the Card Setup tab, [see page 46](#))

### Magnetic Encoding

The Magnetic Encoding screen allows the user to test various magnetic encoding options. For more information on magnetic encoding, refer to [Appendix B](#).



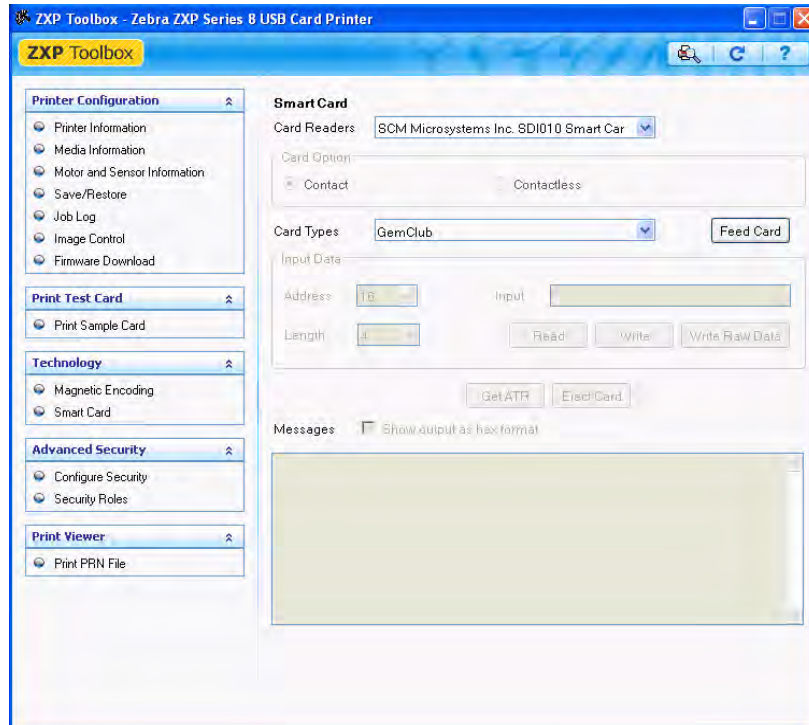
Settings: EIN options not implemented.

Read Data:

- Coercivity: Select either *High* or *Low*.
- Track selection:
  - For encoding: Click on the checkboxes to select *Track 1*, *Track 2*, and/or *Track 3*; enter the data to be written; and click on the **Encode** button.
  - For reading: Click on the checkboxes to select *Track 1*, *Track 2*, and/or *Track 3*; click on the **Read** button, and validate the data read.

## Smart Card

The Smart Card screen allows the user to test various smart card encoding options. For more information on smart card encoding, refer to [Appendix C](#).



- Card Readers: Select the card reader from the drop-down menu.
  - Card Option: Select either Contact or Contactless.
- Card Types: Select the card type from the drop-down menu.
  - The **Feed Card** button feeds the card into the printer.
  - Input Data includes address, length, and input.
    - Click on the **Read** button to read data from the card.
    - Click on the **Write** button to write data to the card.
    - Click on the **Write Raw Data** button to write “raw data” to a card.
- The **Get ATR** button returns the ATR (Answer To Reset) result from the card reader. This is useful to identifying the type of smart card inserted into the printer.

The **Eject Card** button ejects the card.

Click on the Messages checkbox to show the output in hex format.

## Advanced Security



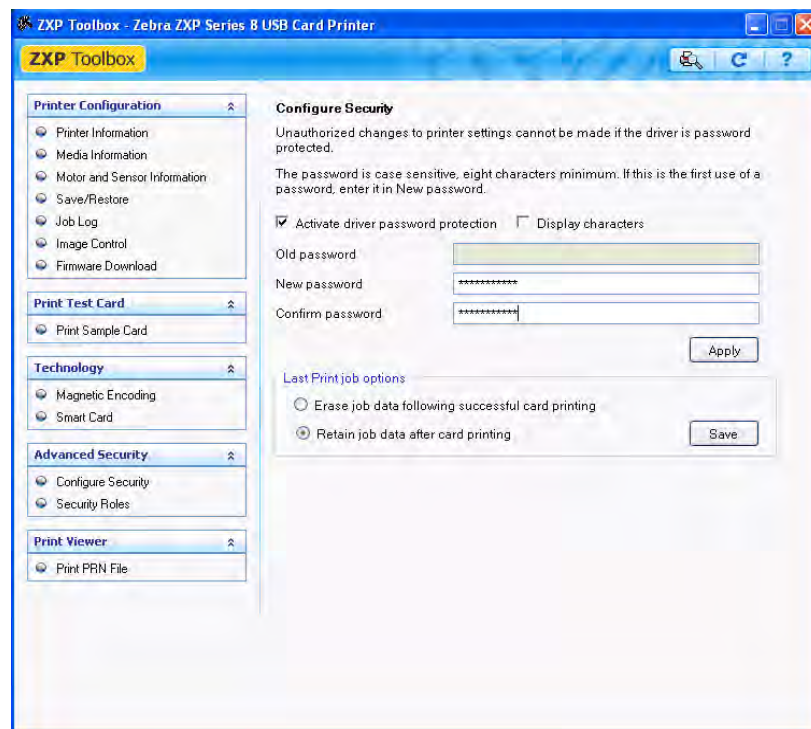
**Important** • To manage this Advanced Security section, you are required to be the administrator of the computer or have administrative privileges.

### Configure Security

Enabling driver password protection prevents unauthorized persons from changing the printer configuration settings. Access to various printer screens can be selectively disabled based on the Windows User Login.

To activate Driver Password Protection:

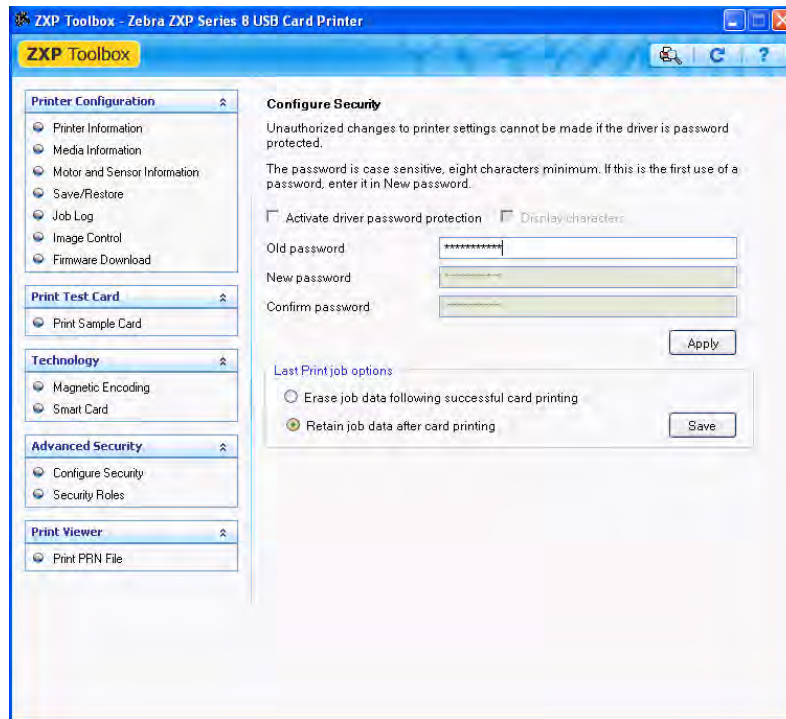
1. Click on the *Activate driver password protection* checkbox.



2. Enter the new password on the *New password* field. The password is case sensitive, eight characters minimum.
3. Repeat the password in the *Confirm password* field.
4. Click on the **Apply** button.

To deactivate Driver Password Protection:

1. Click on the *Activate driver password protection* checkbox to remove the checkmark.



2. Enter your password in the *Old password* field.
3. Leave the *New password* and the *Confirm password* fields blank.
4. Click on the **Apply** button. This will bring up a ZXP Toolbox pop-up screen. To deactivate the the printer driver password, click on *Yes*. This will bring up another ZXP Toolbox pop-up screen. Click on *OK*.

**Last Print job option:**

- The *Erase job data following successful card printing* option erases the print job after successful card printing.
- The *Retain job data after card printing* option allows the print job to remain in memory for multiple prints via the OCP.

The **Save** button saves your selection.

## Security Roles

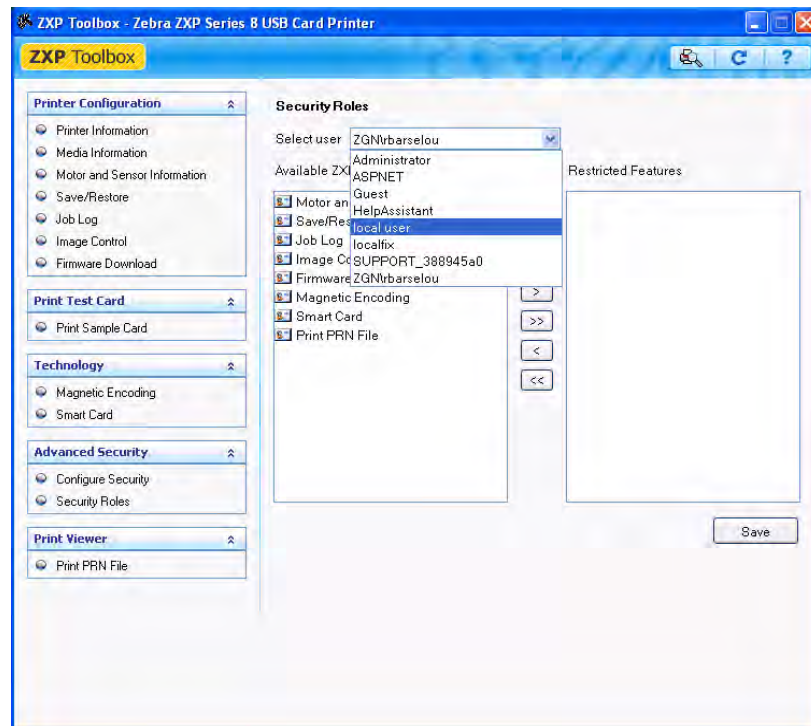
Use this section used to establish security roles; i.e., grant and restrict access to various ZXP ToolBox screens.



**Note** • The list of users in the drop-down menu (e.g., Guest, HelpAssistant, Local User, localfix, etc.) is derived from the list of users on the system.

To set security access roles:

1. Select a user from the drop-down menu.



2. Use the arrow buttons (>, >>, <, and <<)) to make specific features available to or restrict specific features from the selected user role.
3. When satisfied with the selection, click on the **Save** button.

At the next log in, the user will only see or have access to the features previously granted.

## Print Viewer

When you print a PRN file, you print directly to the printer, bypassing computer applications and associated printer drivers. This utility can be used to ensure that your printer is working properly by isolating it from driver-related and communication-related issues.

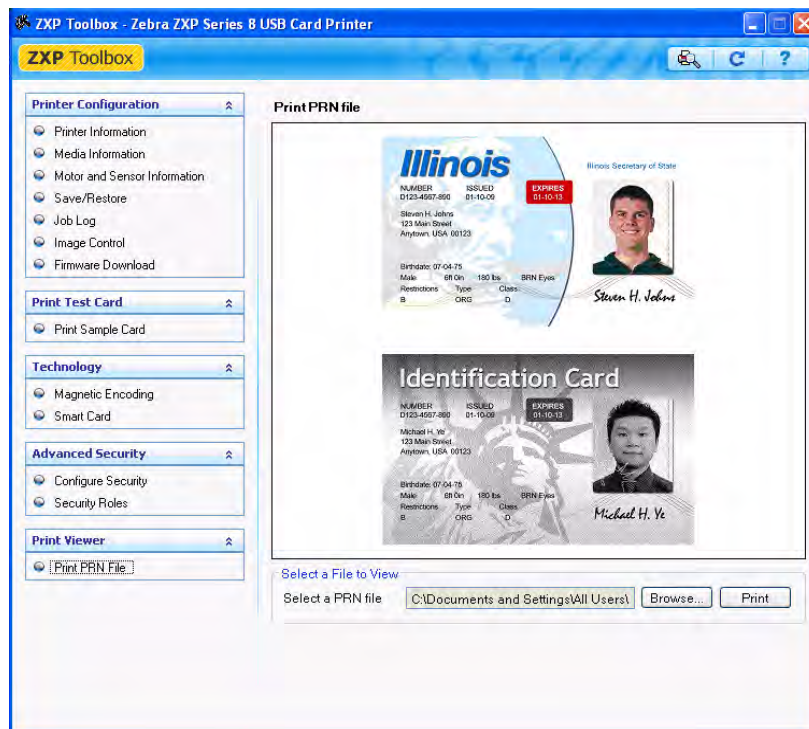
### Print PRN file



**Note** • Sample PRN files are stored in the following default directory/folder:  
*C:\Documents and Settings\All Users\ZMotif\Library*

To send a PRN file to the printer:

1. Click on the **Browse** button.



2. From the Browse window, locate and select a PRN file.
3. Click on the **Open** button.
4. View the PRN file.
5. When satisfied with the selection, click on the **Print** button.

Successfully printing the PRN file indicates that the printer and data communications to the printer are set up and configured properly.



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# Cleaning

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**Caution • PROTECT YOUR FACTORY WARRANTY!**



The recommended cleaning 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 Printer.

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

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

---

## Cleaning the Printer

Clean your Printer using the Cleaning Cards provided. The regular use of these cards will clean and maintain important parts of your printer that cannot be reached, including the Printhead, Transport Rollers, and optional Magnetic Encoder Station.

### When to Clean

- X-Roller and Y-Roller cleaning should occur every 5,000 cards.
- Heated Roller cleaning should occur every 20,000 cards. Note that a Heated Roller Cleaning Card is not supplied with the printer; order Zebra Cleaning Card Kit P/N 105999-001.

## Cleaning the Rollers



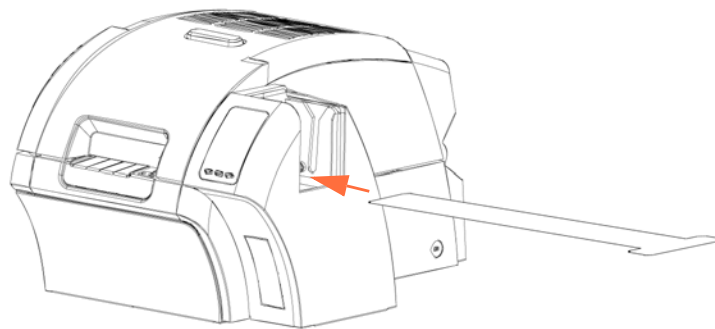
**Note** • Do not use previously used cleaning cards.

**Step 1.** Initiate the cleaning process.

- a. Press the MENU button on the Operator Control Panel (OCP). The OCP will display the Main Menu.
- b. Scroll through the Main Menu, and select Advanced Settings. The OCP will display the Advanced Settings Menu.
- c. Scroll through the Advanced Settings Menu, and select Clean Printer. The OCP will display the Clean Printer Menu.

**Step 2.** Clean the X-Drive Rollers.

- a. Select *Clean Card Side Path* to run the X-Roller Cleaning Routine.
- b. Use X-Path Cleaning Card P/N 211973-001.
- c. Follow the OCP instructions.

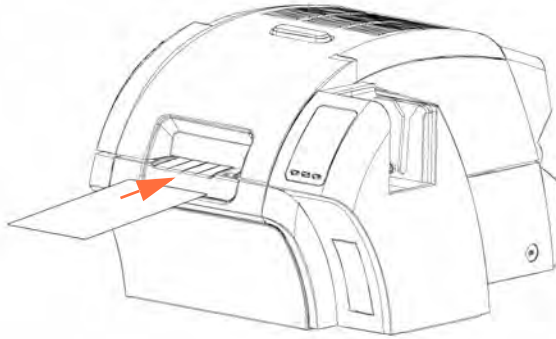


- d. When complete, the OCP will return to the Clean Printer Menu.



**Step 3.** Clean the Y-Drive Rollers.

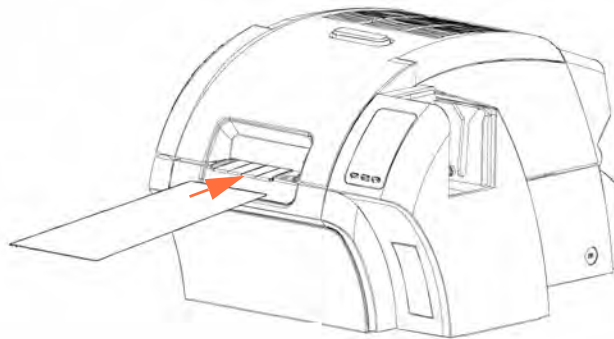
- a. Select *Clean Card Front Path* to run the Y-Roller Cleaning Routine.
- b. Use Y-Path Cleaning Card P/N 211974-001.
- c. Follow the OCP instructions.



- d. When complete, the OCP will return to the Clean Printer Menu.

**Step 4.** Clean the Heated Rollers.

- a. Select *Clean Heated Roller Path* to run the Heated Roller Cleaning Routine.
- b. Use Heated Roller Cleaning Card P/N 211975-001.
- c. Peel the protective film from the card.
- d. Follow the OCP instructions.



- e. When complete, the OCP will return to the Clean Printer Menu.
- f. Then use the Heated Roller Cleaning Card to clean the Platen; see [page 72](#).

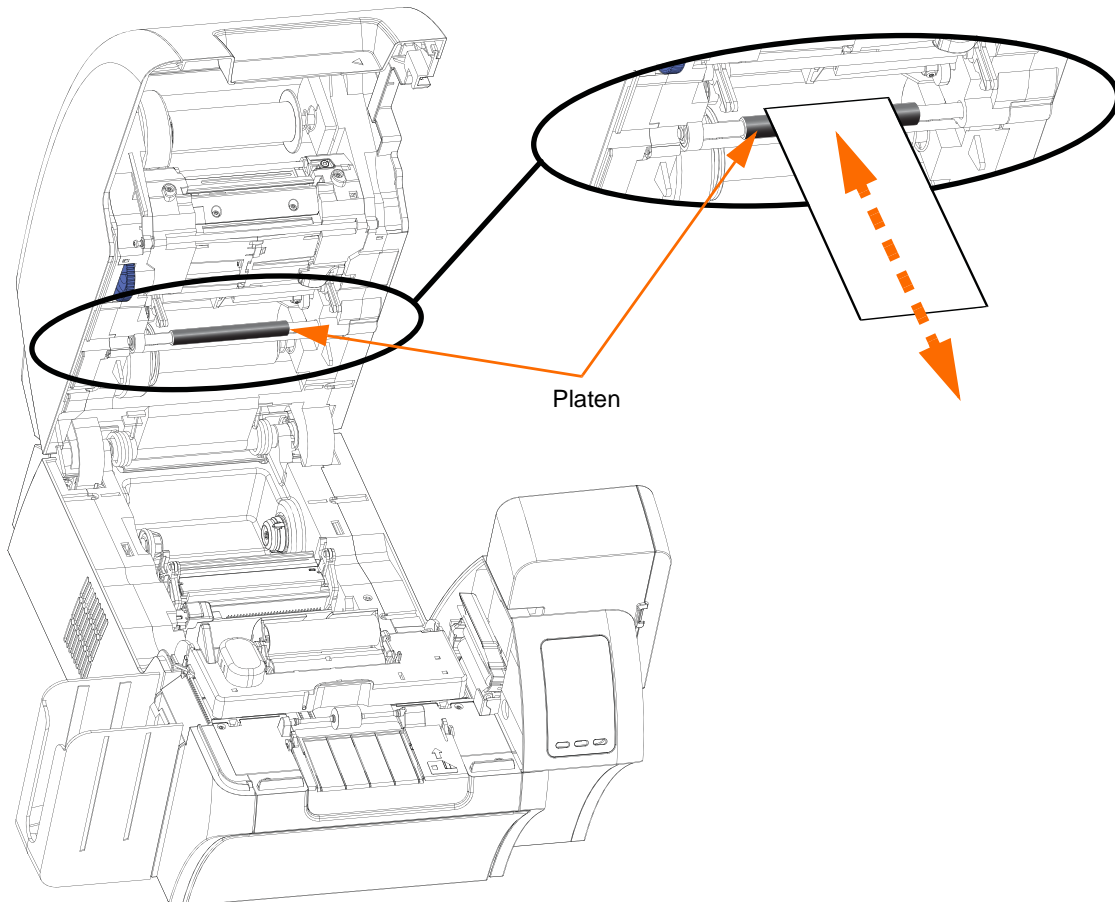
Exit the Printer Menus by selecting RETURN at each menu level (Clean Printer Menu, Advanced Settings Menu, and Main Menu).

## Cleaning the Platen

**Step 1.** Open the printer Door.

**Step 2.** Remove the Transfer Film.

**Step 3.** Manually run the Heated Roller Cleaning Card (P/N 211975-001) over the Platen.



**Step 4.** Re-install the Transfer Film.

**Step 5.** Close the printer Door.

## Cleaning the Printhead

Printhead cleaning removes deposits when print anomalies persist. To clean, only use foam-tipped swabs.



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**Caution** • Never use a sharp object or any abrasive to scrape deposits from the Printhead. Permanent damage to the Printhead will result.

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**Caution** • Do not touch the Printhead if the printer has been in service in the last 10 minutes. It could be very hot and cause a burn.

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- Step 1.** Place the printer power switch in the OFF (  ) position.
- Step 2.** Open the Door, and remove the print ribbon.
- Step 3.** Bend the Cleaning Swab to release the cleaning fluid.
- Step 4.** Clean Printhead by moving Cleaning Swab tip side-to-side across the Printhead elements. Only use moderate force. To re-order Cleaning Swabs, see the Media List on the **User Documentation and Drivers CD** supplied with this printer.
- Step 5.** Reinstall the print ribbon, and close the Door.
- Step 6.** Place the printer power switch in the ON (  ) position.

## Card Cleaning Cartridge

The Card Cleaning Cartridge cleans the cards entering the printer through the card feeder. To ensure print quality, the card cleaning roller requires periodic replacement. New card cleaning rollers are included with each print ribbon or may be purchased separately. (To reorder, refer to the Media List on the **User Documentation and Drivers CD** supplied with this printer.)

Installation of the Card Cleaning Cartridge is described in [Section 2](#) and is not repeated in detail here.



**Note** • Before replacing the Card Cleaning Cartridge or its adhesive roller, clean the Printer using the Cleaning Cards as described earlier in this chapter.

## Card Cleaning Roller

The Card Cleaning Roller cleans the cards entering and exiting the Transfer Station. To ensure print quality, the card cleaning roller requires periodic replacement. A new card cleaning roller is included with each print ribbon or may be purchased separately. (To reorder, refer to the Media List on the **User Documentation and Drivers CD** supplied with this printer.)

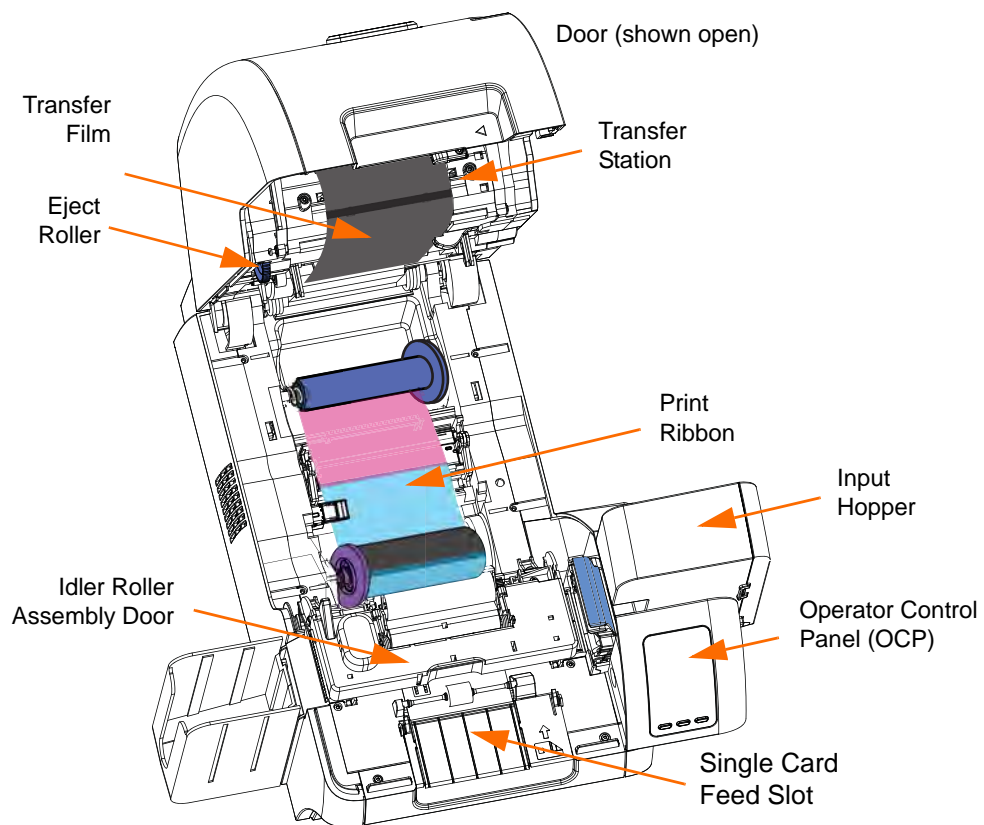
Installation of the Card Cleaning Roller is described in [Section 2](#) and is not repeated in detail here.

# Troubleshooting



The table on the next page offers causes and solutions to symptoms related to improper operation. Check the table when experiencing any loss of operation or print quality.

Use the following figure in conjunction with the table to help locate the possible cause and effect a solution.



## OCP Error Messages

ERROR MESSAGE	POSSIBLE CAUSE	POSSIBLE SOLUTION
CARD CLEAN ERROR	Faulty Card Cleaning Roller (if error during single card feed) or Card Cleaning Cartridge (if cards fed from Input Hopper)	Replace the Card Cleaning Roller or Card Cleaning Cartridge, as appropriate
CARD FEED ERROR	Card is jammed in Input Hopper	<ol style="list-style-type: none"> <li>Clear the card jam in the Input Hopper, and re-seat the Input Hopper</li> <li>Ensure that cards are not stuck together and that they are the correct thickness (30 - 40 mil)</li> </ol>
CARD JAM	Card is jammed in Card Transport or Transfer Station	<p>Check the card path:</p> <ol style="list-style-type: none"> <li>Idler Roller Assembly (open door)</li> <li>Transfer Station (rotate the eject roller CCW)</li> </ol>
CARD NOT DETECTED	Card did not reach card sensor or is jammed in Input Hopper or Card Transport	<ol style="list-style-type: none"> <li>Clear the card jam in the Input Hopper, and re-seat the Input Hopper</li> <li>Ensure that cards are not stuck together and that they are the correct thickness</li> <li>Check Idler Roller Assembly (open door)</li> </ol>
CARD NOT INSERTED	Card was not fed into Single Card Feed Slot within nominal 30-second period	Retry and feed card into the Single Card Feed Slot, or cancel the operation
COVER OPEN	Door is ajar	Verify the Door is completely closed
EP SCRIPT ERROR	Internal logic error	<ol style="list-style-type: none"> <li>Power cycle the printer</li> <li>Contact Zebra Technical Support</li> </ol>
FILM JAM	The Transfer Film is jammed	<ol style="list-style-type: none"> <li>Check the Transfer Film</li> <li>Reinstall the Transfer Film</li> <li>Repair the break in the Transfer Film and reinstall</li> </ol>
FILM MOTION ERROR	Transfer Film not correctly responding to motion commands	<ol style="list-style-type: none"> <li>Check the Transfer Film</li> <li>Reinstall the Transfer Film</li> <li>Power cycle the printer</li> <li>Contact Zebra Technical Support</li> </ol>
FW UPGRADE ERROR	Invalid firmware version selected	Verify the version, and retry updating the firmware
GENERAL MEMORY ERROR	There is a problem when accessing memory	<ol style="list-style-type: none"> <li>Power cycle the printer</li> <li>Contact Zebra Technical Support</li> </ol>
HCB BULB ERROR	The Heater Controller Board (HCB) is unable to pulse the upper and lower heaters to bring the upper and lower rollers to the proper temperature	Contact Zebra Technical Support
HCB SENSOR ERROR	The Heater Controller Board (HCB) is unable to detect temperature of the upper or lower rollers	Contact Zebra Technical Support


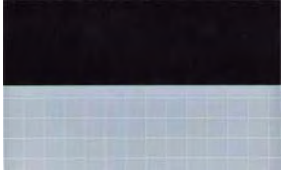

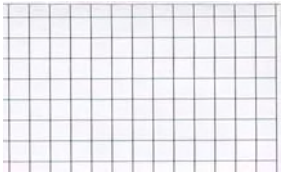












ERROR MESSAGE	POSSIBLE CAUSE	POSSIBLE SOLUTION
INVALID CARD TYPE	Encoding error	<ol style="list-style-type: none"> <li>a. Ensure that you are using the correct card type</li> <li>b. In the Encoding tab of the driver Printing Preferences, check that the settings are correct for the cards you are using</li> <li>c. Ensure that the data conforms to ISO Specifications</li> <li>d. Retry writing and reading</li> </ol>
INVALID FILM	Transfer Film does not match the printer	<ol style="list-style-type: none"> <li>a. Verify the part number of the Transfer Film is correct on OCP</li> <li>b. Power cycle the printer</li> </ol>
INVALID RIBBON	Print ribbon does not match the printer	<ol style="list-style-type: none"> <li>a. Verify the part number of the print ribbon is correct on OCP</li> <li>b. Power cycle the printer</li> </ol>
MAG MOTION ERROR	Mag card positioning error encountered	Retry writing and reading
MAG READ ERROR	<ul style="list-style-type: none"> <li>• Encoding error</li> <li>• Defective magnetic stripe</li> </ul>	<ol style="list-style-type: none"> <li>a. Ensure that you are using the correct card type</li> <li>b. Check that the cards are loaded with the magnetic stripe in the correct orientation (normally this will be with the stripe down and toward the rear of the printer)</li> <li>c. Ensure that the cards are set-up correctly in the printer driver (coercivity setting)</li> <li>d. Ensure that the data conforms to ISO Specifications</li> <li>e. Retry reading</li> </ol>
MAG WRITE ERROR	<ul style="list-style-type: none"> <li>• Encoding error</li> <li>• Defective magnetic stripe</li> </ul>	<ol style="list-style-type: none"> <li>a. Ensure that you are using the correct card type</li> <li>b. Check that the cards are loaded with the magnetic stripe in the correct orientation (normally this will be with the stripe down and toward the rear of the printer)</li> <li>c. Ensure that the cards are set-up correctly in the printer driver (coercivity setting)</li> <li>d. Ensure that the data conforms to ISO Specifications</li> <li>e. Retry writing</li> </ol>
MISSING HCB ERROR	There is a problem with the Heater Controller Board (HCB)	<ol style="list-style-type: none"> <li>a. Power cycle the printer</li> <li>b. Contact Zebra Technical Support</li> </ol>
MISSING MAB	An error occurred when reading the RFID Tag by the MAB (Media Authentication Board)	<ol style="list-style-type: none"> <li>a. Check print ribbon orientation</li> <li>b. Verify part number of the print ribbon</li> <li>c. Power cycle the printer</li> <li>d. Contact Zebra Technical Support</li> </ol>

ERROR MESSAGE	POSSIBLE CAUSE	POSSIBLE SOLUTION
MOTOR VOLTAGE ERROR	Incorrect voltage detected at one or several motors in the unit	a. Power cycle the printer b. Contact Zebra Technical Support
NO MAG STRIPE	Mag stripe not detected	a. Ensure that you are using the correct card type b. Check that the cards are loaded with the magnetic stripe in the correct orientation (normally stripe down and toward the rear of the printer)
OUT OF CARDS	<ul style="list-style-type: none"> <li>The Input Hopper is empty</li> <li>Card is stuck in Input Hopper</li> </ul>	a. Load cards in the Input Hopper b. Re-seat the Input Hopper
OUT OF FILM	The Transfer Film has run out	Load new roll of Transfer Film
OUT OF RIBBON	The print ribbon has run out	Load a new roll of print ribbon
PRINTHEAD MOTION ERR	Printhead did not move to proper position during initialization	a. Power cycle the printer b. Contact Zebra Technical Support
PRINTHEAD TOO COLD	Printhead temperature out of proper range (COLD)	Contact Zebra Technical Support
PRINTHEAD TOO HOT	Printhead temperature out of proper range (HOT)	Contact Zebra Technical Support
REJECT ERROR	A problem during the reject process	Contact Zebra Technical Support
RIB COLOR DETECT ERR	Print ribbon is not installed correctly	Reinstall the print ribbon
RIBBON ADC ERROR	Possible hardware issue	Contact Zebra Technical Support
RIBBON BEMF ERROR	Problem with the Back EMF (BEMF) of the ribbon motors	Contact Zebra Technical Support
RIBBON JAM	The print ribbon is jammed	a. Check the print ribbon b. Reinstall the print ribbon c. Repair the break in the print ribbon and reinstall
RIBBON MOTION ERROR	Ribbon not correctly responding to motion commands	a. Check the print ribbon b. Reinstall the print ribbon c. Repair the break in the print ribbon and reinstall
ROLLERS OVER TEMP	Heated Rollers (used to transfer the image from the Transfer Film to the Card) are too hot for proper operation	Turn off power, and contact Zebra Technical Support
ROLLERS UNDER TEMP	Heated Rollers (used to transfer the image from Transfer Film to Card) are not hot enough for proper operation	Turn off power, and contact Zebra Technical Support
SYSTEM ERROR	Internal logic error	a. Power cycle the printer b. Contact Zebra Technical Support
SYSTEM NOT READY	A problem was detected during printer start-up	a. Power cycle the printer b. Contact Zebra Technical Support
TRANSFER ERROR	A problem was detected during the transfer process (print ribbon to film)	Contact Zebra Technical Support



# OCP Test Card Images

See detailed Test Card descriptions on the following page.

		
Mid Gray	Grid On Gray	Cyan Stripes
		
2 Pixel Grid	Mid +	Dark Cyan
		
Max Gray	Offset Dots	Smear
		
Min Magenta	White Max-Gray	Max-Gray White
		
Motion & Registration	Gradient Boxes	Density Setup
		
Grid On Gray 2		

## Test Card Descriptions

Image	Description	Print artifacts to look for with this image
Mid Gray	Flat uniform gray	Motion artifacts, banding, platen defects, transfer artifacts, dirt, overall density level
Grid On Gray	Solid black on top, gray grid underneath	Colored ribbon wrinkles in the black area, or clear/white transfer film wrinkles in the gray area
Cyan Stripes	Horizontal cyan stripes alongside vertical lighter cyan box	Non-uniformity or horizontal banding within cyan box on right of card
2 Pixel Grid	2 pixel wide grid lines on white	Mis-registration between color planes
Mid Magenta	Flat uniform mid-density magenta	Motion artifacts, banding, platen defects, density level, uniformity
Dark Cyan	Maximum cyan only density image	Motion artifacts, transfer artifacts, scratches, dirt
Max Gray	Maximum CMY (black) density image	Wrinkles, snapping noise during printing, ribbon / transfer-film tears or breaks, flash, card positioning
Offset Dots	Individual C, M, and Y dots spaced at regular intervals	Motion artifacts on specific color planes, mis-registration
Smear	Gray with full density YMCK blocks near top	Color smear artifacts
Min Magenta	Flat uniform low-density magenta	Motion artifacts, banding, platen defects, density level, uniformity, bead position
White Max-Gray	Max-density areas on sides with tilted white center	Ribbon wrinkle
Max-Gray White	Same as above with slant direction changed	Ribbon wrinkle
Motion & Registration	Uniform cyan with registration marks on sides	Banding, mis-registrations, motion artifacts
Gradient Boxes	3 sets of light-to-dark grayscale ramps	Used to create color calibration look-up table
Density Setup	Used to measure mid and max densities	Density level of mid-gray and black
Grid On Gray 2	Less stressful version of the grid-on-gray target	Colored ribbon wrinkles in the black area, or clear/white transfer film wrinkles in the gray area




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# Technical Specifications

## Standard Features

- Thermal transfer and dye diffusion to transfer film
- Full color or monochrome reverse transfer printing
- Single- and dual-sided printing
- Maximum print speed (batch mode; i.e., the same image repeatedly)
  - Single-sided (Front Only)
 

YMC	190 cph
YMCK 16	0 cph
  - Dual-sided (Front and Back)
 

YMCK (YMC Front, K Back)	170 cph
YMCKK (YMCK Front, K Back)	150 cph
- Photo quality image
- Over-the-edge printing on standard CR80 media
- Microsoft Windows Certified drivers
- Single-card feed capability
- 150 card capacity feeder (30 mil)
- 15 card reject hopper (30 mil)
- 100 card output hopper (30 mil)
- i Series™ intelligent media technology
- Auto calibration of media
- 21-character soft menu LCD text operator display
- 304 dpi (12.0 dots/mm) print resolution
- 64MB memory standard
- 2-year unlimited warranty on printer, lifetime limited warranty on printhead with Genuine Zebra Supplies

## Specifications

### Encoding Options

- Smart card contact encoder – ISO 7816, PC/SC Compliant
- Magnetic stripe encoder – ISO 7811 and JIS-II (new and re-encoded; tracks 1, 2, and 3; high and low coercivity; stripe down; 30 - 40 mil card thickness)
- Contact smart card encoder – EMV level 1 certified
- ISO 14443 MIFARE (13.56 MHz) and ISO 7816 contact encoder combo

### Communications Interfaces

- USB V2.0 / 1.1 protocol
- USB supports plug-n-play printer identification
- USB and internal 10/100 Ethernet (Standard) \*

\* The 10/100 Ethernet functionality requires a firmware upgrade to be activated. This firmware is pending release and will be available for download at [www.zebracard.com](http://www.zebracard.com). Check our website occasionally for this and other upgrades.

## Software

### Microsoft Windows Certified Printer Drivers Supported

- Windows XP\*, Windows Vista\*, Windows Server 2003\*
- \*32-bit and 64-bit certified

### Driver Features

- Graphical card orientation setting to visualize card printing setup and configuration
- Card type setting eliminates unnecessary setup and configuration settings
- Complete graphical control over area and element selection of black extraction parameters insures true black and color printing exactly where you want it on the card
- Auto sensing of print ribbon type
- Optional driver password protection setting to prevent accidental or unauthorized printer configuration changes

### ZXP Toolbox

- Printer configuration tools and utilities for complete control over all printer functions and features
- User role-based features enables true security printer operations
- Complete technology card management enables setup and testing of all printer and encoder features and functionality
- Printer test cards and diagnostics utilities ensure error free printing and fast troubleshooting capabilities

## Card Compatibility

- Card Thickness: 30 – 40 mil
- Card Size: ISO 7810 format, Type ID-1, CR-80
- Card Material: ABS; PVC, Composite; TESLIN, Composite; PET; PETG; Polycarbonate; PVC

## Agency Approvals

Zebra ZXP Series 8 Card Printer complies with following applicable directives and standards for the ITE: Residential, Commercial and Light Industry environments

- For US/Canada/Mexico/Australia and New Zealand
  - FCC Class A, cfr47, Part 15 Subpart J
  - FCC 15.257 2008, Part15 Subpart C
  - Canadian STD RSS-210
  - NOM-ETL (Mexico)
  - EN60950: 2000 Safety Standard (TUV & RTL)
  - C-Tick (Australia) Electromagnetic Radiation Standard
- For Europe:
  - Applicable Directives and Supporting Standards:  
2004/108/EC EMC Directive, EN55022:2006 Class A, EN55024:1998+AD1:2001+AD2:2003, EN61000-3-2:2006, EN61000-3-3:1995+AD1:2001, 2006/95/EC LVD Directive, EN60950-1:2001, CB Scheme
  - WLAN Enabled  
Applicable Directives and Supporting Standards:  
99/5/EC R&TTE Directive, EN 301 489-17 V1.2.1 (2002-08), EN 300 328 V1.7.1 (2006-10)
  - RFID Enabled  
Applicable Directives and Supporting Standards:  
99/5/EC R&TTE Directive, EN 301 489-3 V1.4.1 (2002-08), EN 300 220-2 V2.1.2 (2007-06)

## Electrical

- Auto-switching Single-phase AC power
- 90V~264V AC RMS and 47-63 HZ (50-60 Hz nominal)
- Power consumption:

Idle	100 W
Printing	150 W
Initializing / Warm-up	300 W
Sleep	20 W

## Physical

- Height (printer only) 11.9" (303 mm)
- Height (with card feeder) 13.2" (334 mm)
- Width 14" (356 mm)
- Width (with card feeder) 14.9" (379 mm)
- Depth 20.4" (519 mm)
- Weight (printer only) 27.5 lbs (12.5 kg)

## Environmental

- Operating Temperature 59° to 77°F (15° to 25°C)
- Storage Temperature 23° to 131°F (-5° to 55°C)
- Operating Humidity 20% to 80% non-condensing
- Storage Humidity 10% to 90% non-condensing
- Shipping Temperature -40° to 140°F (-40° to 60°C)
- Shipping Humidity 10 to 90% non-condensing

The device complies with Part 15 of the FCC rules.

Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference
- (2) This device must accept any interference received including interference that may cause undesired operation.

IC Caution Statement Operation is subject to the following two conditions:

- (1) this device may not cause interference, and
- (2) this device must accept any interference, including interference that may cause undesired operation of the device.

## Declarations of Conformity



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### ZEBRA TECHNOLOGIES CORPORATION

Declares that the following Information Technology Equipment

#### Zebra ZXP Series 8 Card Printer

complies with following applicable directives and standards for the  
ITE: Residential, Commercial & Light Industry environments

#### Applicable Directives and Supporting Standards:

2004/108/EC EMC Directive, EN55022:2006 Class A,  
EN55024:1998+AD1:2001+AD2:2003EN61000-3-2:2006, EN61000-3-3:1995+AD1:2001,  
2006/95/EC LVD Directive, EN60950-1:2001, CB Scheme

#### RFID Enabled

Applicable Directives and Supporting Standards:  
99/5/EC R&TTE Directive, EN 301 489-3 V1.4.1 (2002-08), EN 300 220-2 V2.1.2 (2007-06)

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For a formal certificate, please contact the Compliance Office at Zebra's Camarillo facility.

**EUROPE:** Norway Only: This product is also designed for IT power system with phase to phase voltage 230V. Earth grounding is via the polarized, 3-wire power cord.

FI: "Laite on liitettävä suojamaadoitus koskettimilla varustettuun pistorasiaan"

SE: "Apparaten skall anslutas till jordat uttag"

NO: "Apparatet må tilkoples jordet stikkontakt"

## FCC Regulations

The Zebra ZXP Series 8 Card Printer has been tested and found to comply with the limits for a Class A digital device, 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 operated in accordance with the Zebra ZXP Series 8 Card Printer User's Manual, 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.

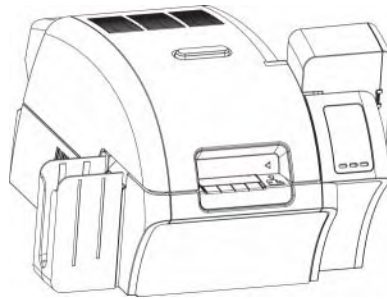
Pursuant to Part 15.21 of the FCC Rules, any changes or modifications to this equipment not expressly approved by Zebra may cause harmful interference and void the FCC authorization to operate this equipment.

### FCC Radiation Exposure Statement (applicable to 15.247 device only)

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum 20 cm between the radiator and your body. This transmitter must not be collocated or operating in conjunction with any other antenna or transmitter unless authorized to do so by the FCC.

## Industry Canada Notice

This device complies with Industry Canada ICES-003 class A requirements.  
Cet équipement est conforme à l'ICES-003 classe A de la Norme Industrielle Canadienne.





# APPENDIX A



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## Printer Configurations

### Introduction

The Part Number of a particular printer is shown on a label affixed to the bottom of the printer; that Part Number identifies the specific configuration for that printer. The chart on the following page shows the configurations that are available.

## Part Numbers

PART NUMBER	DESCRIPTION
Z 8 _	<b>Base Unit</b>
_ _ 1 - _ _ 2 -	Single-Sided Printing Dual-Sided Printing
_ _ _ - 0 _ _ _ _ _ _ _ _ _ _ _ - A _ _ _ _ _ _ _ _ _ _ _ - E _ _ _ _ _ _ _ _	<b>Smart Card Options</b> None Contact Encoder + Contactless MIFARE Contact Station
_ _ _ - _ 0 _ _ _ _ _ _ _ _ _ _ _ - M _ _ _ _ _ _ _ _	<b>Mag Encoders</b> None ISO HiCo/LoCo Mag S/W Selectable
_ _ _ - _ _ 0 _ _ _ _ _ _ _ _ _ _ _ - A _ _ _ _ _ _ _ _	<b>Security Options</b> None Enclosure Lock
_ _ _ - _ _ _ C _ _ _ _ _ _ _ _	<b>Interface</b> USB and 10/100 Ethernet * * The 10/100 Ethernet functionality requires a firmware upgrade to be activated. This firmware is pending release and will be available for download at <a href="http://www.zebracard.com">www.zebracard.com</a> . Please check our website occasionally for this and other upgrades.
_ _ _ - _ _ _ _ 0 _ _ _ _ _ _ _ _ _ _ _ - _ _ _ _ D _ _ _ _ _ _ _ _	<b>Software/Kit</b> None Media Starter Kit (includes: 1 YMCK ribbon kit, 1 roll of InTM, 200 PVC cards)
_ _ _ - _ _ _ _ _ 0 0 0 _ _ _ _ _	<b>Miscellaneous</b> None
_ _ _ - _ _ _ _ _ _ X X _ _	<b>Country Code</b> Country Code
_ _ _ - _ _ _ _ _ _ _ 0 0	<b>Custom Code</b> Reserved for future options

# Appendix B

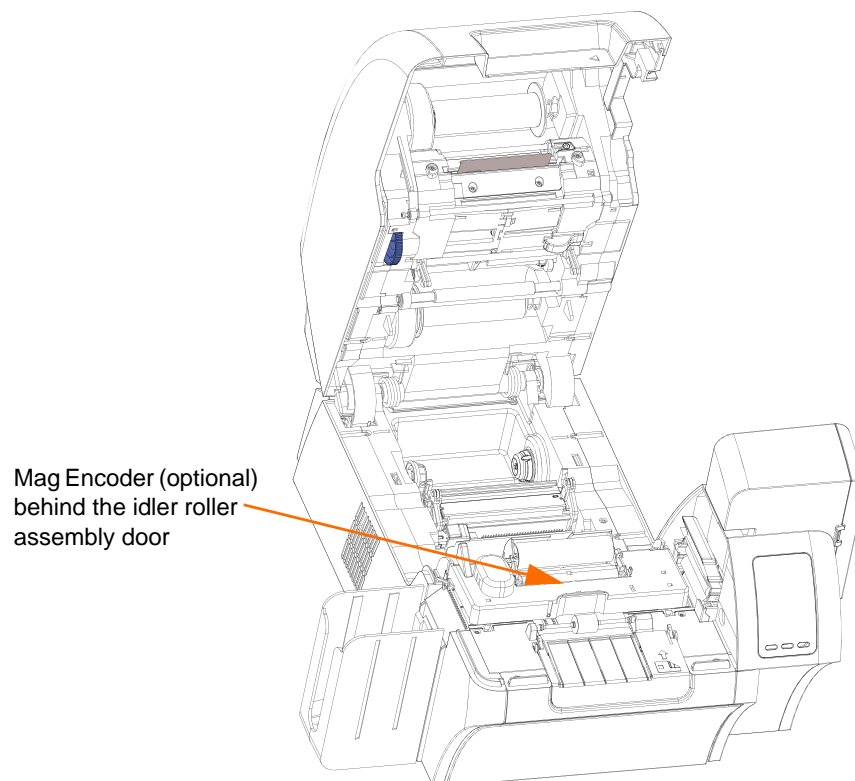


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## Magnetic Card Encoder

### Introduction

This Appendix includes operation and maintenance requirements for Printers with the optional magnetic card stripe encoder.



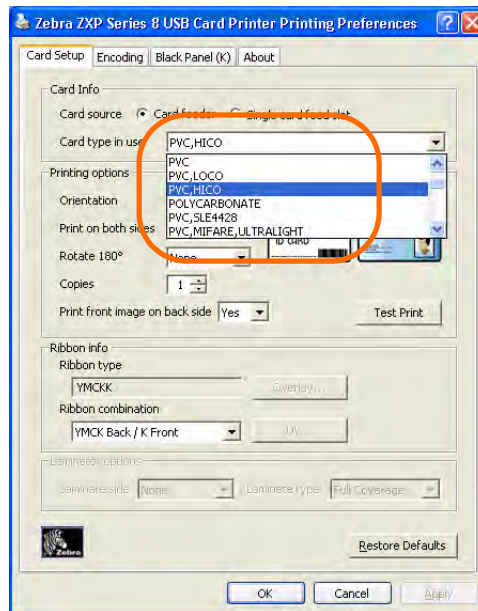
The magnetic encoder can be set for either high or low coercivity. Use the printer driver to change the encoder setting.

## Driver Setting

The **Card Setup** tab allows the user to specify the Magnetic Encoder Card Type in use. Based on your selection, the printer automatically adjusts various printer properties for optimum performance.

If your card type is not listed in the drop-down menu, select *Custom* and fill out the Card Specifications pop-up screen.

To access the Card Setup Tab, select *Start > Printers and Faxes*. Right click on the *Zebra ZXP Series 8 Card Printer* listing; and select *Printing Preferences > Card Setup*.



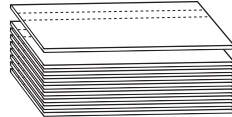
- Make the appropriate Magnetic Encoder Card Type selection.

## Media Loading Orientation



**Note** • ONLY USE cards that comply with ISO 7810 and 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.

When loading cards with magnetic stripes into the card feeder, ensure that the magnetic stripe is down and to the rear of the printer.



## Magnetic Encoder Cleaning

The Magnetic Encoder is cleaned as part of the printer cleaning process; see [Section 6](#). If the frequency of encoding errors increases, the head may need additional cleaning. To clean, only use foam-tipped swabs.

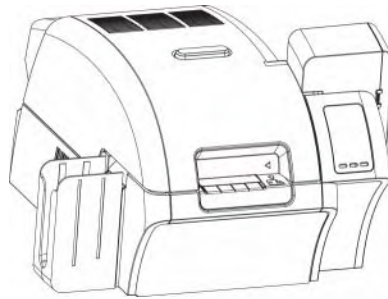


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**Caution** • Never use a sharp object or any abrasive to scrape deposits from the Magnetic Encoder. Permanent damage to the Magnetic Head will result.

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- Step 1.** Open the Door.
- Step 2.** Open the idler roller assembly door.
- Step 3.** Bend the Cleaning Swab to release the cleaning fluid.
- Step 4.** Clean the Magnetic Encoder by moving Cleaning Swab tip side-to-side across the head elements. To re-order Cleaning Swabs, see the Media List on the **User Documentation and Drivers CD** supplied with this printer.
- Step 5.** Close the idler roller assembly door.
- Step 6.** Close the Door.



# APPENDIX C



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## Smart Card Options

### Introduction

This section contains information on the additional operations of a Printer equipped with one or more of the available Smart Card options.

Smart Cards can have a built-in microcomputer and/or memory to store fingerprints, voice recognition patterns, medical records, and other such data. All other printer operations remain the same as the standard models.

## Encoding and Reading Smart Cards

Encoding data onto Smart Cards and reading the data previously encoded on them is totally under control of the application software; no operator action is required.

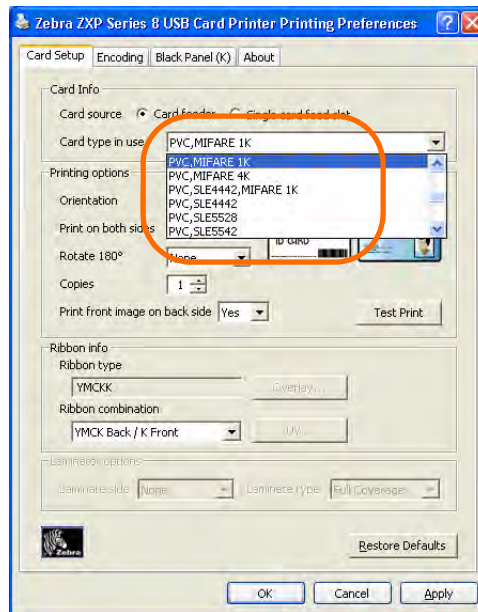
If you experience any problems with encoding or reading data, refer to the users manual or other documentation for the application software.

## Driver Setting

The **Card Setup** tab allows the user to specify the Smart Card Type in use. Based on your selection, the printer automatically adjusts various printer properties for optimum printer performance.

If your card type is not listed in the drop-down menu, select *Custom* and fill out the Card Specifications pop-up screen.

To access the Card Setup Tab, select *Start > Printers and Faxes*. Right click on the *Zebra ZXP Series 8 Card Printer* listing; and select *Printing Preferences > Card Setup*.



- Make the appropriate Smart Card Type selection.

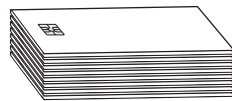


## Contact Smart Cards

Contact Smart Cards have a pad of contacts on the surface of the card that connect to the circuitry embedded into the card. The printer responds to commands that position the card at the contact location, where the printer connects to the contacts on the Smart Card. Data to be encoded onto the Smart Card, and data read from the Smart Card, can interface via a connector on the printer's rear panel ("Contact Station"), or encoding/decoding can be performed by logic on the printer's Main PCBA ("Contact Encoder"). All other printer operations remain the same as the standard models.

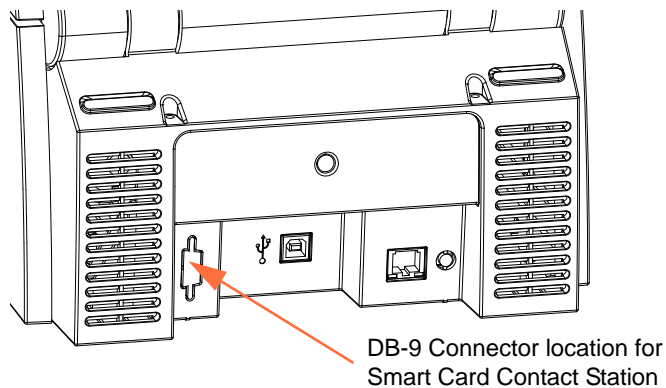
### Media Loading Orientation for Contact Smart Cards

Orient the cards with the gold-plated Smart Card contacts at the top surface of the card and facing to the left.



### Contact Station Smart Card Interface

When a command to the printer interface sends a card to the Smart Card Contact Station, the printer connects the Smart Card Contact Station to the female DB-9 connector on the rear of the printer.



An attached external Smart Card Programmer can be used to program Smart Card chips. The following table shows the Smart Card Contact Points.

Pin	Smart Card Contact Points	DB-9	Smart Card Contact Points
1	C1 (VCC)	6	C6 (Vpp)
2	C2 (Reset)	7	C7 (I/O)
3	C3 (Clock)	8	C8 (RFU)
4	C4 (RFU)	9	(GND when chip is at station)
5	C5 (GND)		

## **Contactless Smart Cards**

Rather than using a contact pad, Contactless Smart Cards use various short-range radio technologies to “connect” to the printer. The printer moves the card to an antenna location on the card path, and the encoding or decoding occurs. All other printer operations remain the same.

### **Media Loading Orientation for Contactless Smart Cards**

For Contactless Smart Cards, orientation is not a consideration.

### **Printing on Contactless Smart Cards**

With reverse transfer printing technology, there are no restrictions when designing material to be printed on Contactless Smart Cards.

# Appendix D



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## Packing the Printer for Shipment

### Introduction

If the printer is to be shipped, it is important to use the original packing and shipping material to prevent damage to the Printer.

If the original material is lost, a replacement Shipping Kit can be ordered from Zebra; refer to the Media List on the **User Documentation and Drivers CD** supplied with this printer.

### Procedure



**Note** • The specifics of the shipment and the printer's condition may influence which of the following steps are followed; common sense should prevail.

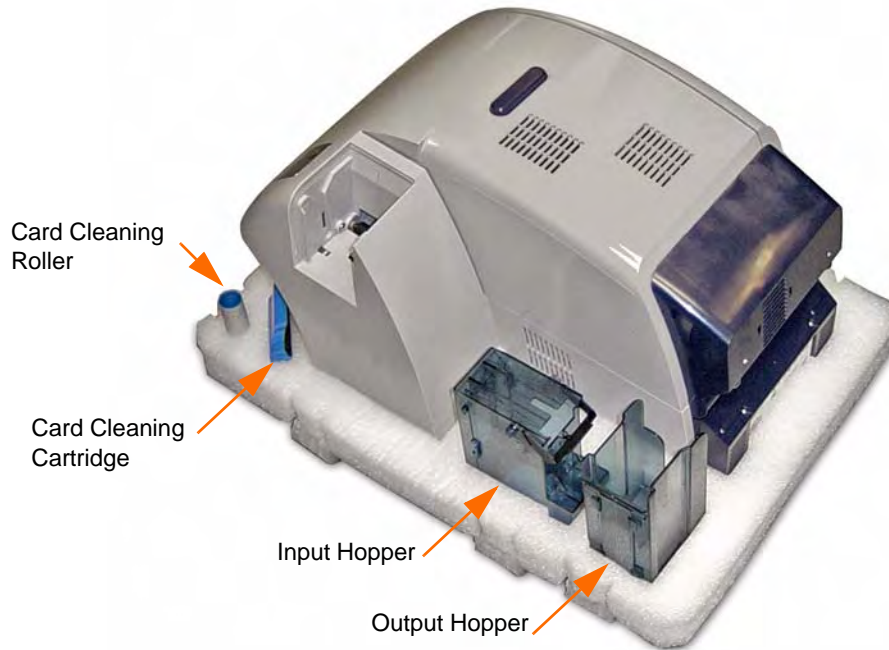
- Step 1.** Remove any cards from the Input and Output Hoppers.
- Step 2.** If the printer still has power applied and is turned on and is still connected to the host computer, set the printer's power switch (on the back of the printer) to the OFF (  ) position; and disconnect the interface and power cables to the printer.
- Step 3.** Open the printer Door.
- Step 4.** Remove the Print Ribbon and Transfer Film. (If you wish to save the print ribbon and film for future use, you may want to put them in a plastic bag for storage.)
- Step 5.** Remove the Card Cleaning Cartridge and Card Cleaning Roller, and place them in the foam insert.
- Step 6.** Close the printer Door.

## Packing the Printer for Shipment

**Step 7.** Remove the Input and Output Hopper, and place them in the foam insert.



**Note •** In the figure below, the printer and accessories are shown in the bottom foam insert, out of the shipping carton for clarity.



**Step 8.** Place the Printer in its protective plastic bag.

**Step 9.** Place the lower foam insert in the Shipping Carton.

**Step 10.** Use both hands to carefully place the Printer into the recess in the lower foam insert.

**Step 11.** Place the upper foam insert onto the Printer, and gently press it down so it makes a snug fit on the Printer -- the top of the upper foam insert should be even with the upper edge of the Shipping Carton.

**Step 12.** Close the Shipping Carton.

**Step 13.** Tape the Shipping Carton securely.

# Appendix E



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## Worldwide Support

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

### **North America and Latin America - Technical Support**

Zebra Technologies Card Printer Solutions  
1001 Flynn Road  
Camarillo, CA 93012-8706 USA

Phone: +1 800 511 9909 (when calling from within the U.S.)  
+1 805 577-7002, option 1 (when calling from Latin America)  
email: techsupport@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 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 Card Printer Solutions  
1001 Flynn Road  
Camarillo, CA 93012-8706 USA

Phone: +1 800 452 4034  
+1 805 578 1201  
email: repair-ca@zebra.com

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

Phone: 1-877 -275-9327  
email: repair@zebra.com  
webform: [www.zebra.com/repair](http://www.zebra.com/repair)

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

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

Phone: +44 (0) 1628 556 000  
FAX: +44 (0) 1628 556 001  
e-mail: [cardts@zebra.com](mailto: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 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 the address listed below:

Zebra Technologies Card Printer Solutions  
Pittman Way  
Fulwood, Preston  
Lancashire PR2 9ZD, UK

Phone: + 44 (0) 177 2 69 3069  
FAX: + 44 (0) 177 2 69 3046  
email: [ukrma@zebra.com](mailto:ukrma@zebra.com)

## **Asia Pacific - Technical Support and 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 the address listed below:

Zebra Technologies Card Printer Solutions  
120 Robinson Road  
#06-01 Parakou Building  
Singapore 068913

Phone: + 65 6885 0833  
e-mail: [esoh@zebra.com](mailto:esoh@zebra.com)

## **Website**

[www.zebracard.com](http://www.zebracard.com)