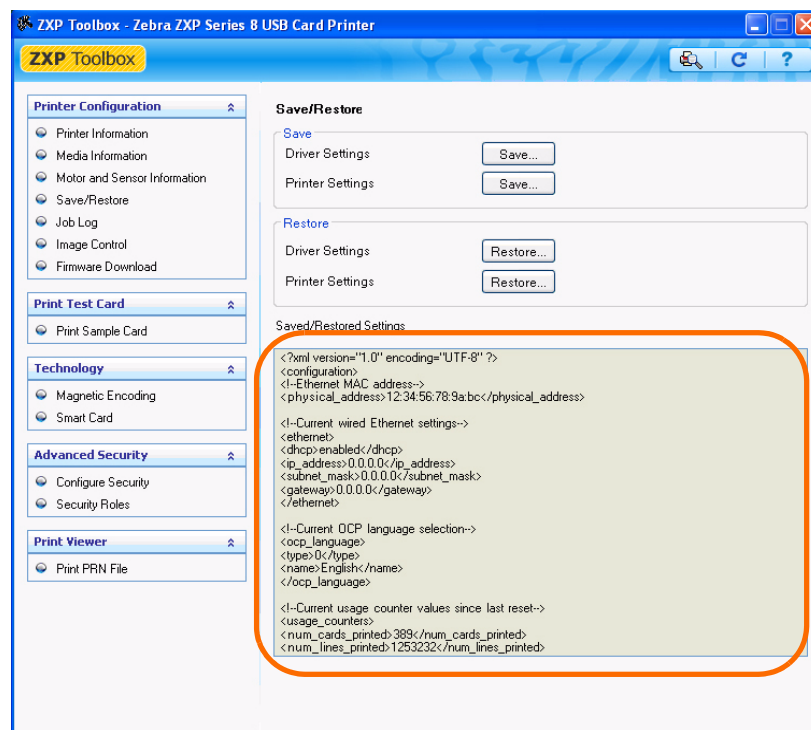## Save/Restore

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*.
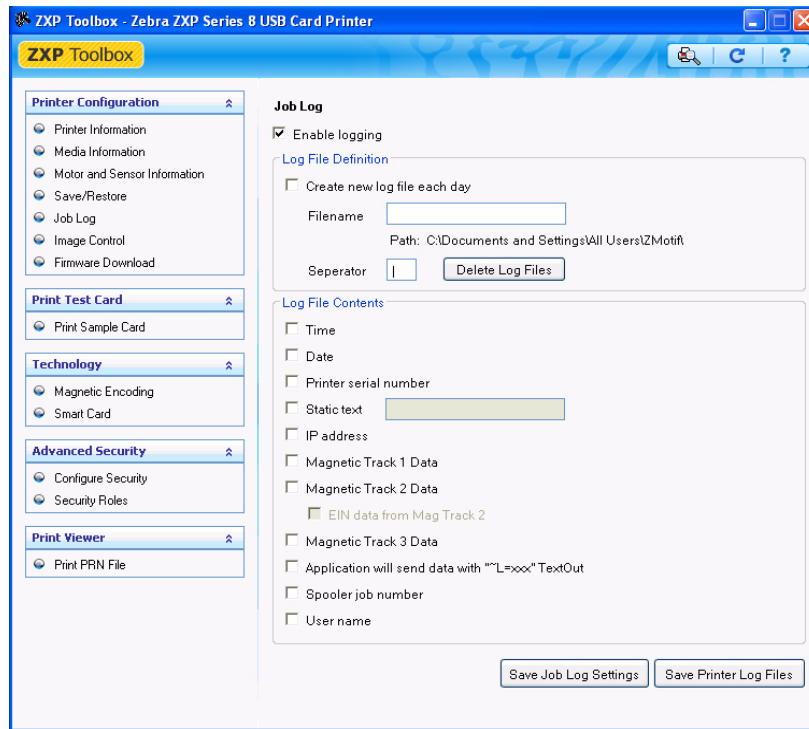
- **Enable Logging** - If this box is checked, the logging feature is enabled.

- **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.)
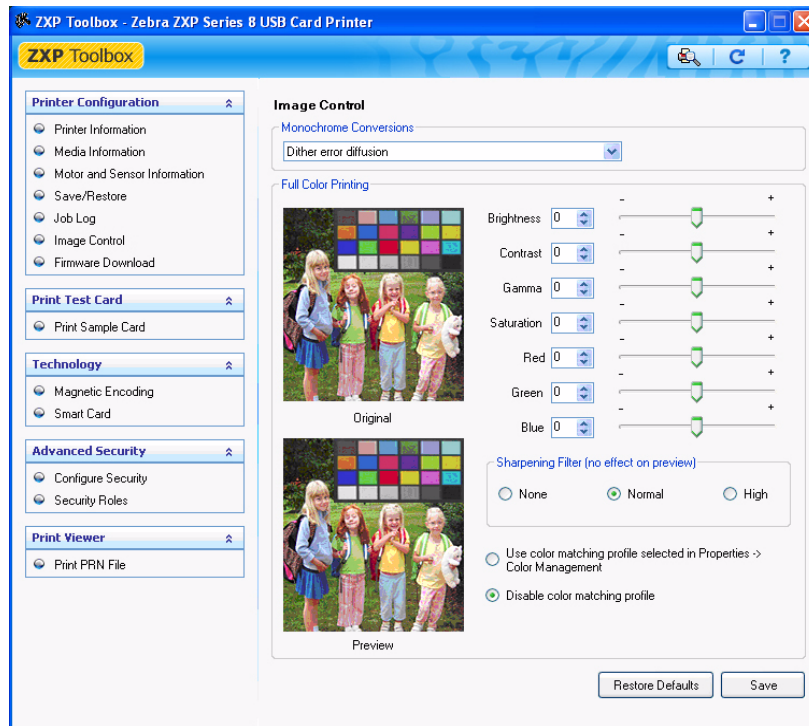
- The **Monochrome conversions** dropdown menu lets you select Dither error diffusion, dither halftoning, or Dither pure black on white.

- **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*.

> ⚠️ **Caution •** Do not turn power OFF while the printer is downloading and configuring the new firmware.
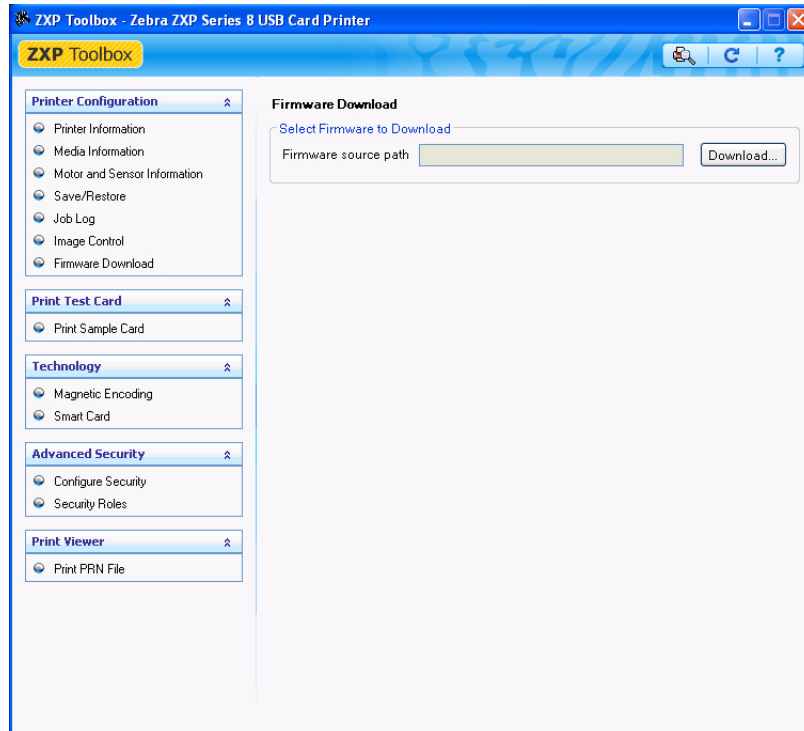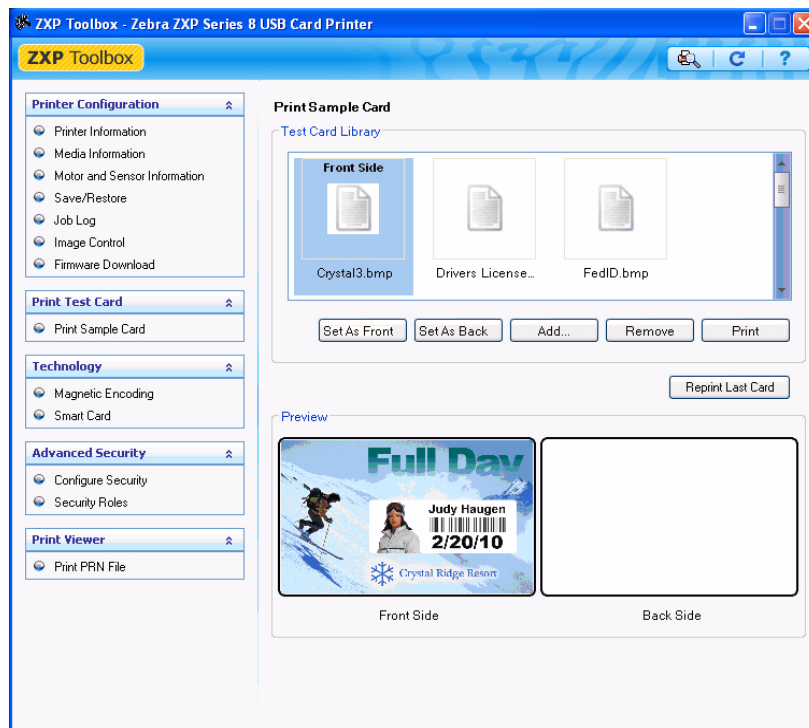
Print Test Card

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.
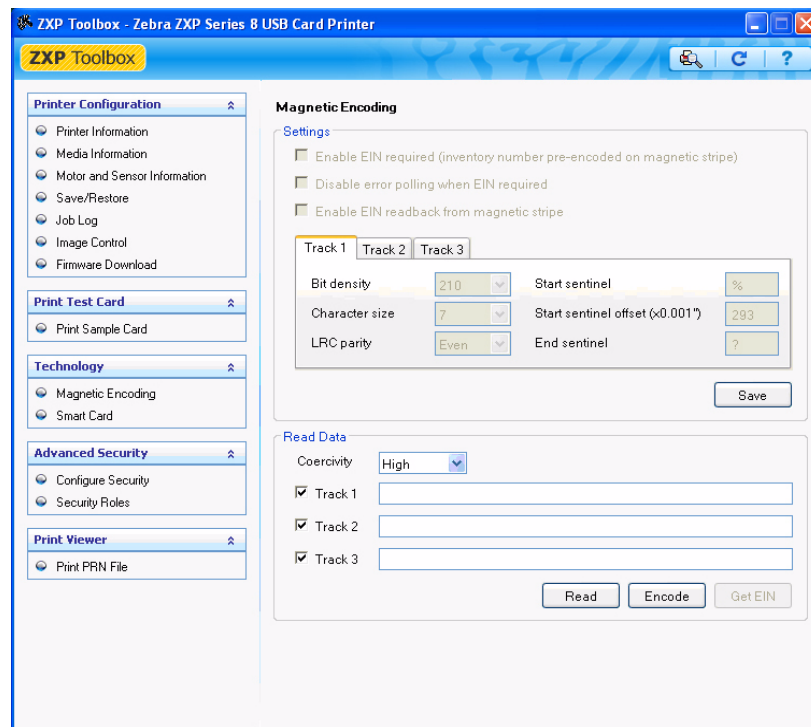
Technology

| Note • Magnetic Encoding and Smart Card default values are set via the *Card type in use* option in the Card Setup tab, see page 60) |

Magnetic Encoding

The Magnetic Encoding screen allows the user to test various magnetic encoding options. For more information on magnetic encoding, refer to Appendix C.


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 D.
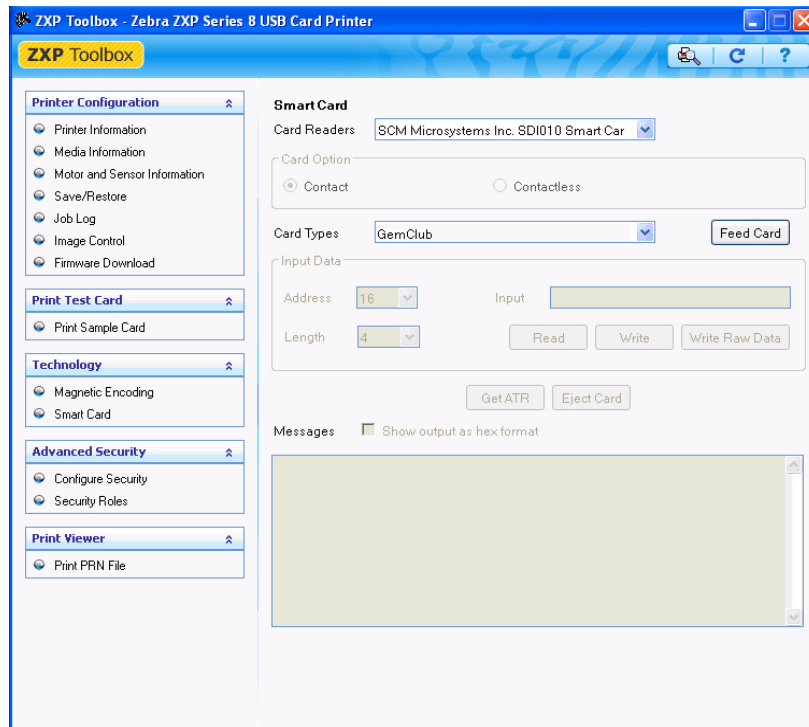
- Card Readers: Select the card reader from the drop-down menu.

    - 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.
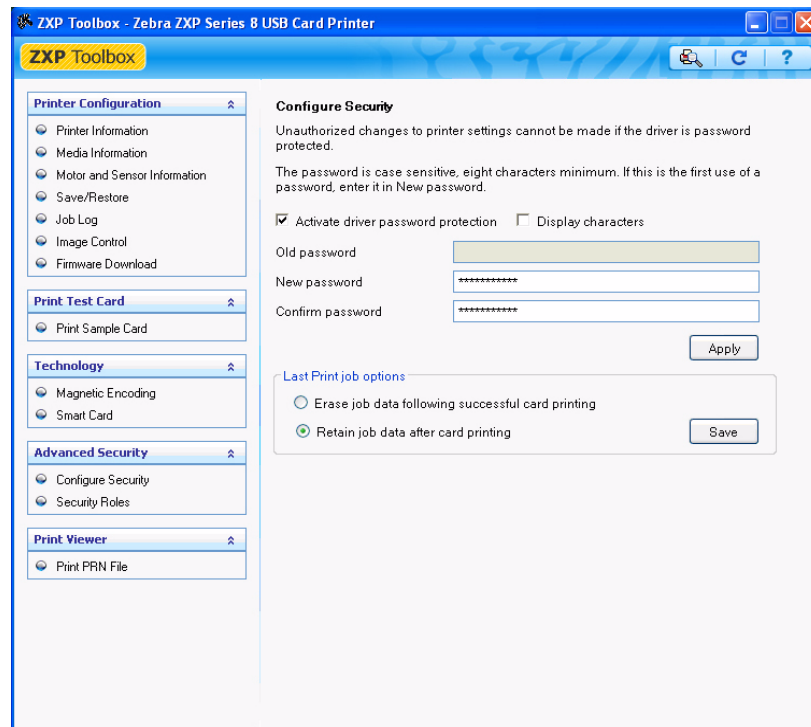
2. Enter the new password on the *New password* field. The password is case sensitive, eight characters minimum.

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.
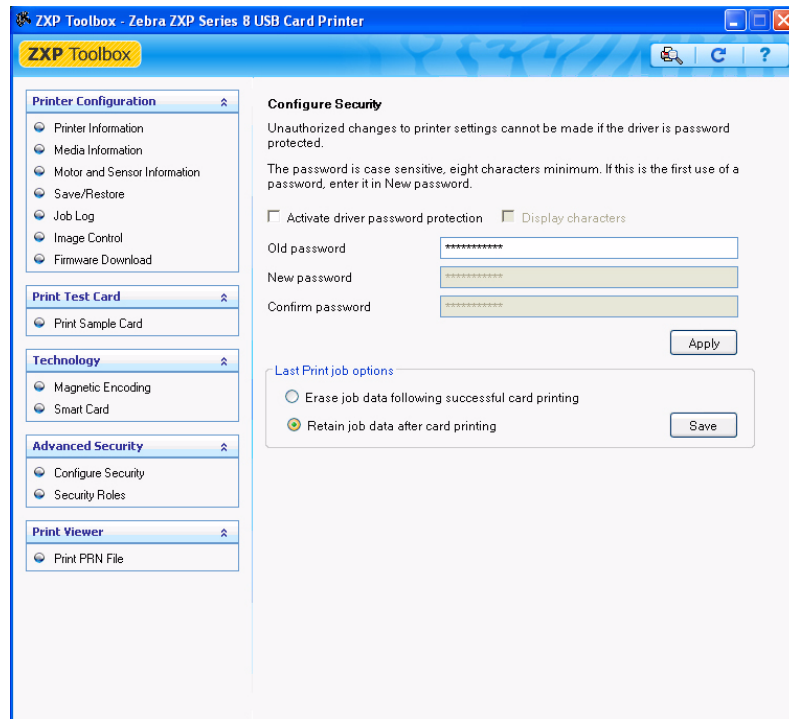
2. Enter your password in the *Old password* field.

3. Leave the *New password* and the *Confirm password* fields blank.

4. Click on the **Apply** button. This will bring up a ZXP Series Toolbox pop-up screen. To deactivate the the printer driver password, click on *Yes*. This will bring up another ZXP Series 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.

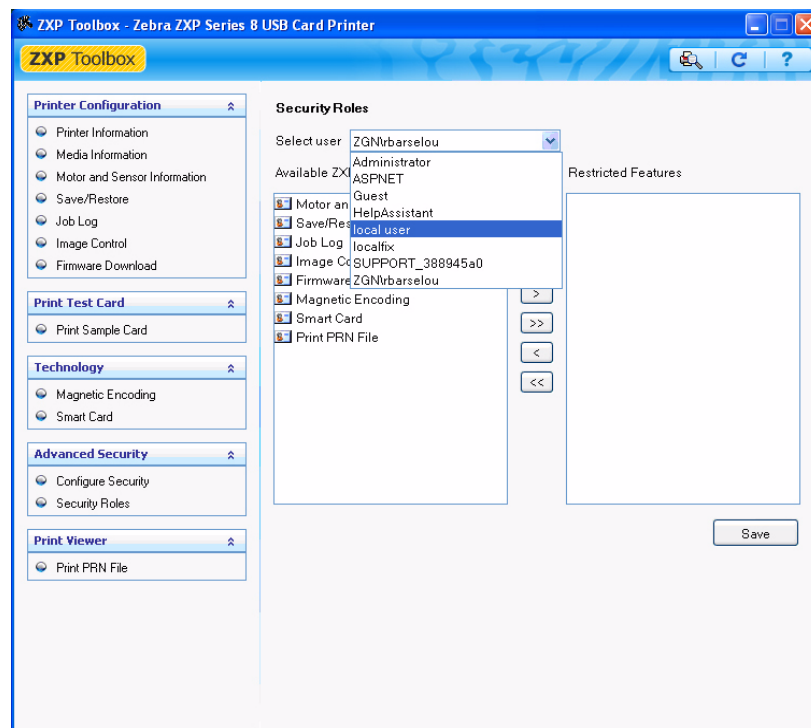The **Save** button saves your selection.

Security Roles

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

6

Cleaning

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.
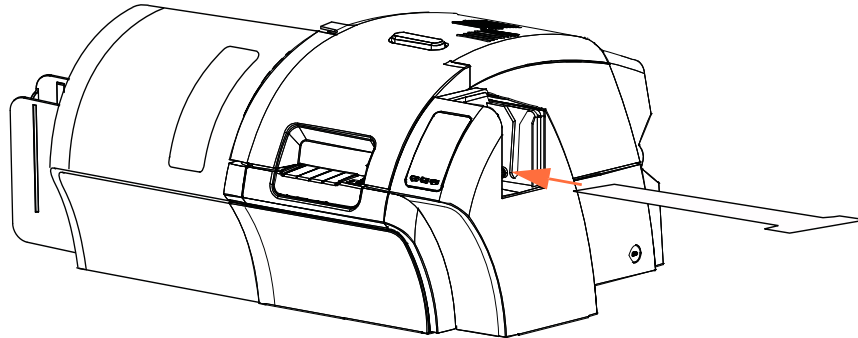
Cleaning the Rollers

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 Side Card Path* to run the X-Roller Cleaning Routine.

   b. Use X-Path Cleaning Card 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 Front Card Path* to run the Y-Roller Cleaning Routine.

    b. Use Y-Path Cleaning Card 211974-001.

    c. Follow the OCP instructions.
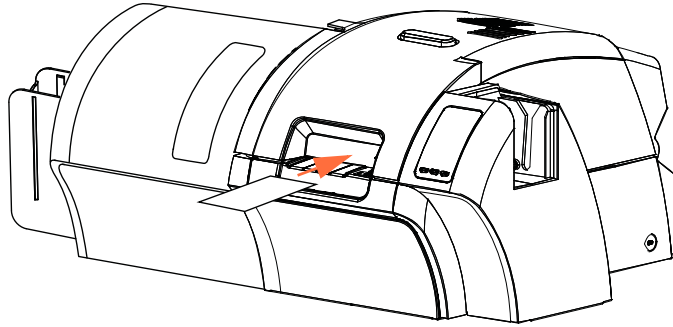
    d. When complete, the OCP will return to the Clean Printer Menu.

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.
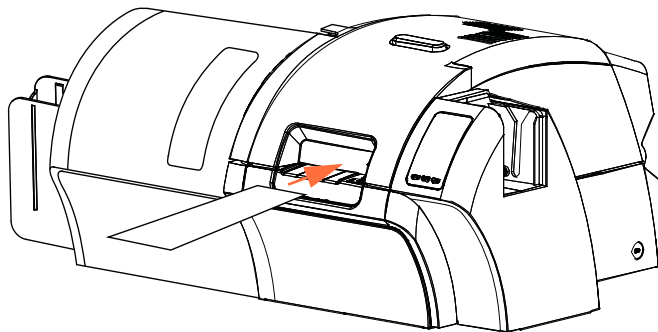
   **e.** When complete, the OCP will return to the Clean Printer Menu.

    f. Then use the Heated Roller Cleaning Card to clean the Platen; see .

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.

Platen
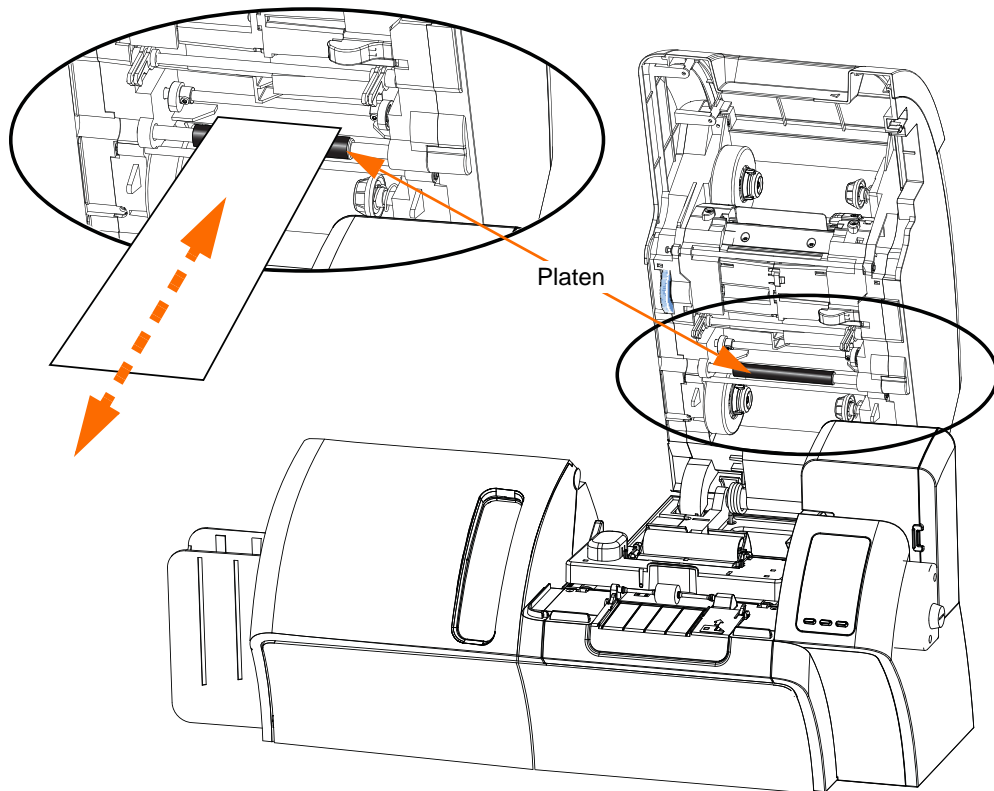
Step 4. Re-install the Transfer Film.

Step 5. Close the printer Door.

Cleaning the Printhead

A cleaning using the Cleaning Cards usually suffices; however, a separate Printhead cleaning can remove more stubborn deposits when print anomalies persist. To avoid deposits, only use foam-tipped swabs.

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

> **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.

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.

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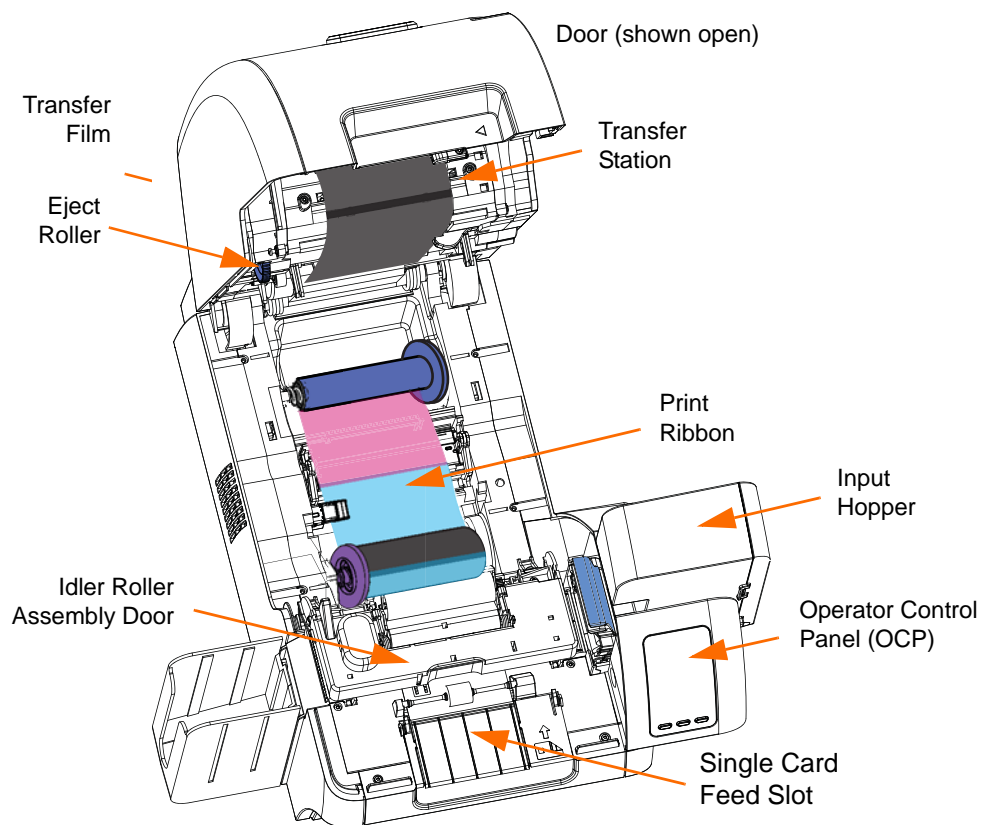
Installation of the Card Cleaning Roller is described in Section 2 and is not repeated in detail here

7

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

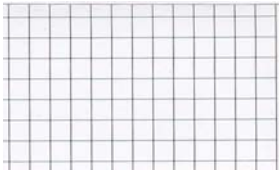| ERROR MESSAGE	POSSIBLE CAUSE	POSSIBLE SOLUTION
BOTTOM CUTTER FAIL	17020	
BOTTOM CUTTER STALL	17018	
BOTTOM HEATER FAIL	17014	
BOTTOM LAMINATE FEED	17006	
BOTTOM OVER TEMP	17016	
BOTTOM SENSOR FAIL	17022	
CARD CLEAN ERROR	Faulty Card Cleaning Roller (if error during single card feed) or Card Cleaning 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	a. Clear the card jam in the Input Hopper, and re-seat the Input Hopper b. Ensure that cards are not stuck together and that they are the correct thickness (30 - 40 mil)
CARD JAM	Card is jammed in Card Transport or Transfer Station	Check the card path: a. Idler Roller Assembly (open door) b. Transfer Station (rotate the eject roller CCW)
CARD NOT DETECTED	Card did not reach card sensor or is jammed in Input Hopper or Card Transport	a. Clear the card jam in the Input Hopper, and re-seat the Input Hopper b. Ensure that cards are not stuck together and that they are the correct thickness c. Check Idler Roller Assembly (open door)
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
EARLY CARD JAM	17009	
EEPROM PARAMS CORRUPT	17024	
EMI TEST	17039	
EP SCRIPT ERROR	Internal logic error	a. Power cycle the printer b. Contact Zebra Technical Support
ETHERNET COMM ERROR	18001	
FAN FAIL	17023	
FILM JAM	The Transfer Film is jammed	a. Check the Transfer Film b. Reinstall the Transfer Film c. Repair the break in the Transfer Film and reinstall
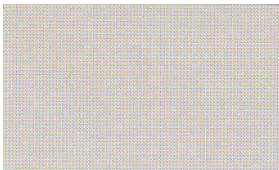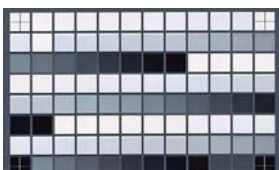
ERROR MESSAGE	POSSIBLE CAUSE	POSSIBLE SOLUTION
FILM MOTION ERROR	Transfer Film not correctly responding to motion commands	a. Check the Transfer Film b. Reinstall the Transfer Film c. Power cycle the printer d. Contact Zebra Technical Support
FW UPGRADE ERROR	Invalid firmware version selected	Verify the version, and retry updating the firmware
GENERAL MEMORY ERROR	There is a problem when accessing memory	a. Power cycle the printer b. Contact Zebra Technical Support
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
INVALID BOT LAMINATE	17030	
INVALID CARD TYPE	Encoding error	a. Ensure that you are using the correct card type b. In the Encoding tab of the driver Printing Preferences, check that the settings are correct for the cards you are using c. Ensure that the data conforms to ISO Specifications d. Retry writing and reading
INVALID FILM	Transfer Film does not match the printer	a. Verify the part number of the Transfer Film is correct on OCP b. Power cycle the printer
INVALID RIBBON	Print ribbon does not match the printer	a. Verify the part number of the print ribbon is correct on OCP b. Power cycle the printer
INVALID TOP LAMINATE	17029	
LAMINATE REGSITRATION	17007	
LAMINATOR COVER OPEN	17038	
LAMINATOR FAILED INIT	17002	
LAMINATOSTANDBY	17037	
LAMINATOR WARMING	17036	
LATE CARD JAM	17011	
MAG MOTION ERROR	Mag card positioning error encountered	Retry writing and reading

ERROR MESSAGE	POSSIBLE CAUSE	POSSIBLE SOLUTION
MAG READ ERROR	• Encoding error • Defective magnetic stripe	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 this will be with the stripe down and toward the rear of the printer) c. Ensure that the cards are set-up correctly in the printer driver (coercivity setting) d. Ensure that the data conforms to ISO Specifications e. Retry reading
MAG WRITE ERROR	• Encoding error • Defective magnetic stripe	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 this will be with the stripe down and toward the rear of the printer) c. Ensure that the cards are set-up correctly in the printer driver (coercivity setting) d. Ensure that the data conforms to ISO Specifications e. Retry writing
MID CARD JAM	17010	a.
MISSING HCB ERROR	There is a problem with the Heater Controller Board (HCB)	a. Power cycle the printer b. Contact Zebra Technical Support
MISSING LAMINATOR	17001	a.
MISSING MAB	An error occurred when reading the RFID Tag by the MAB (Media Authentication Board)	a. Check print ribbon orientation b. Verify part number of the print ribbon c. Power cycle the printer d. Contact Zebra Technical Support
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	• The Input Hopper is empty • Card is stuck in Input Hopper	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

ERROR MESSAGE	POSSIBLE CAUSE	POSSIBLE SOLUTION
OUT OF RIBBON	The print ribbon has run out	Load a new roll of print ribbon
POLL TIMEOUT	17012	
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
STAGING	17008	a.
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
TOP CUTTER FAIL	17019	
TOP CUTTER STALL	17017	
TOP HEATER FAIL	17013	
TOP LAMINATE FEED	17005	
TOP OVER TEMP	17015	
TOP SENSOR FAIL	17021	
TRANSFER ERROR	A problem was detected during the transfer process (print ribbon to film)	Contact Zebra Technical Support
WIFI COMM ERROR	19001	

OCP Test Card Images

See detailed Test Card descriptions on the following page.

Mid Gray	Grid On Gray	Cyan Stripes
2 Pixel Grid	Mid Magenta	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

Ethernet Issues

If both LEDs are off, the printer has not detected the presence of a network cable. To solve the problem:

- Verify that the network cable is appropriate and has an RJ-45 connector.

- Remove the network cable from the printer. Plug the network cable back in until you hear a positive click. Check the other end of the cable in the same manner. If the printer still does not detect a cable, then continue.

- Connect the printer to a known good network. If the printer is still unable to detect the network cable, contact Technical Support for assistance.

8

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	160 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)

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 driver 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 & Light Industry environments

- For US/Canada/Mexico/Australia&NZ

    - 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

Printer

- Height (printer only)   11.9" (303 mm)

- Height (with card feeder)   13.2" (336 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)

Laminator

- Height   11.6" (295 mm)

- Width   11.76" (299 mm)

- Depth   13.15" (334 mm)

- Weight   TBD

Environmental

- Operating Temperature   59º to 95ºF (15º to 35ºC)

- Storage Temperature   23º to 131º F (-5º to 55ºC)

- Operating Humidity   20% to 80% non-condensing

- Storage Humidity   10% to 90% non-condensing

- Shipping Temperature   -40º to 140ºF (-40º to 60ºC)

- Shipping Humidity   10 to 90% non-condensing

Declarations of Conformity

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+AD2:2003EN, 61000-3-2:2006, 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)

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.
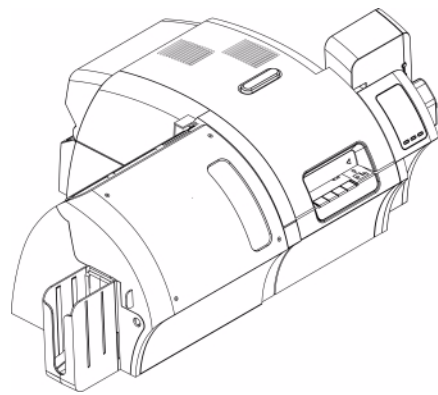
APPENDIX A

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 _	**Base Unit**
_ _ 3 - _ _ _ _ _ _ _ _ _ _ _ _ _ _ 4 - _ _ _ _ _ _ _ _ _ _ _ _	Dual-sided printing with single-sided lamination Dual-sided printing with dual-sided lamination

_ _ _ - 0 _ _ _ _ _ _ _ _ _ _
_ _ _ - A _ _ _ _ _ _ _ _ _ _
_ _ _ - E _ _ _ _ _ _ _ _ _ _
	Smart Card Options
	    None
	    Contact Encoder + Contactless MIFARE
	    Contact Station

_ _ _ - _ 0 _ _ _ _ _ _ _ _ _
_ _ _ - _ M _ _ _ _ _ _ _ _ _
	Mag Encoders
	    None
	    ISO HiCo/LoCo Mag S/W Selectable

_ _ _ - _ _ 0 _ _ _ _ _ _ _ _
_ _ _ - _ _ A _ _ _ _ _ _ _ _
	Security Options
	    None
	    Enclosure Lock

_ _ _ - _ _ _ C _ _ _ _ _ _ _	**Interface** USB and 10/100 Ethernet

_ _ _ - _ _ _ _ 0 _ _ _ _ _ _
_ _ _ - _ _ _ _ D _ _ _ _ _ _
	Software/Kit
	    None
	    Media Starter Kit (includes: 1 YMCK ribbon kit, 1 roll of InTM, 200 PVC cards)

_ _ _ - _ _ _ _ _ 0 0 0 _ _ _ _
_ _ _ - _ _ _ _ _ 0 0 A _ _ _ _
	Miscellaneous
	    None
	    Made in America

_ _ _ - _ _ _ _ _ _ _ _ 0 0 _ _	**Custom Code** Reserved for future options
_ _ _ - _ _ _ _ _ _ _ _ _ _ 0 0	**Custom Code** Reserved for future options

Appendix B

Connecting to a Network

Card printers can be connected to an Ethernet network in three ways.

Printer Sharing

In printer sharing, the printer is connected locally to the host computer and configured to be shared to other client computers. Client computers connect to the printer over the network through the host computer.
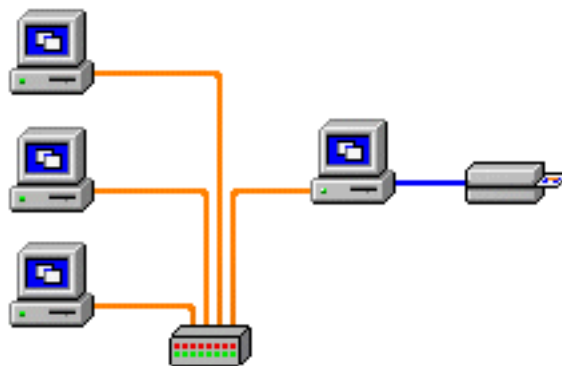
External Print Server

A stand alone device that acts as a server on the network specifically for receiving print jobs and passing them to the printer. Client computers connect to the print server over a network.
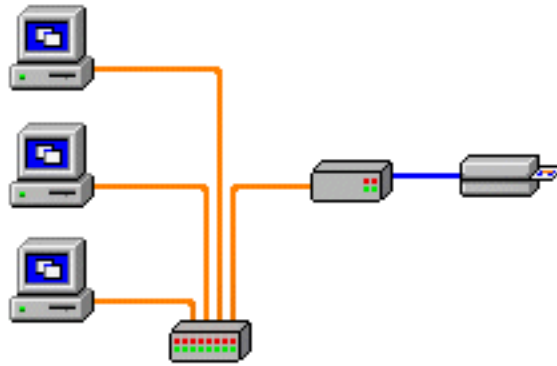
Internal Print Server

Similar to an external print server, except the print server is integrated into the printer. This removes the need for a separate power supply and separate device drivers. This is the simplest way to network a printer.
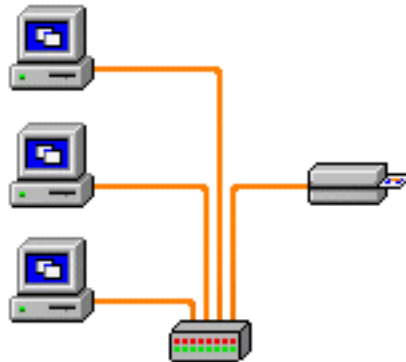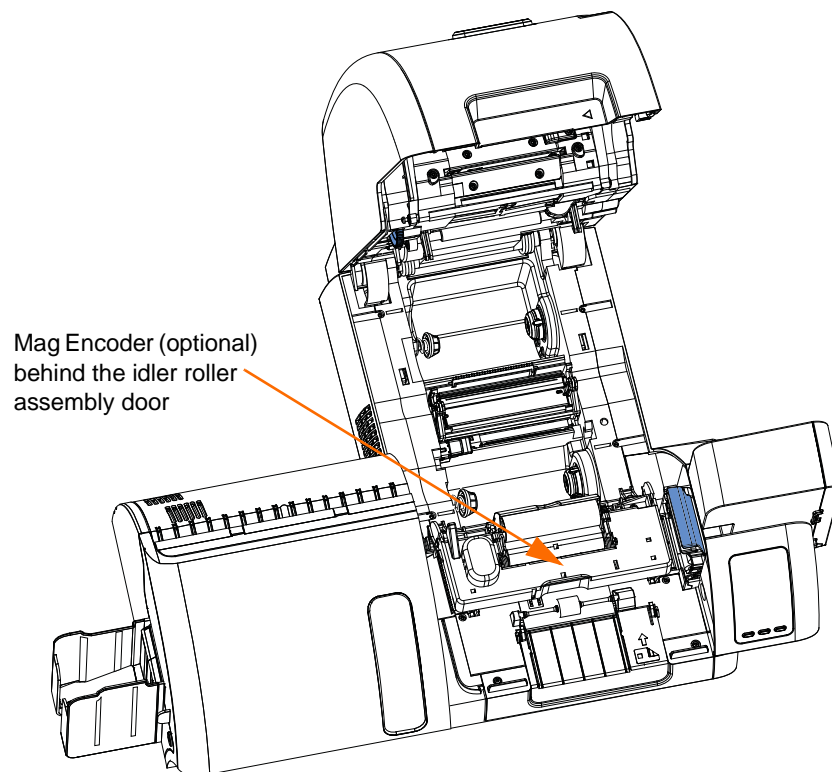
Appendix C

Magnetic Card Encoder

Introduction

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

Mag Encoder (optional) behind the idler roller assembly door

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*.
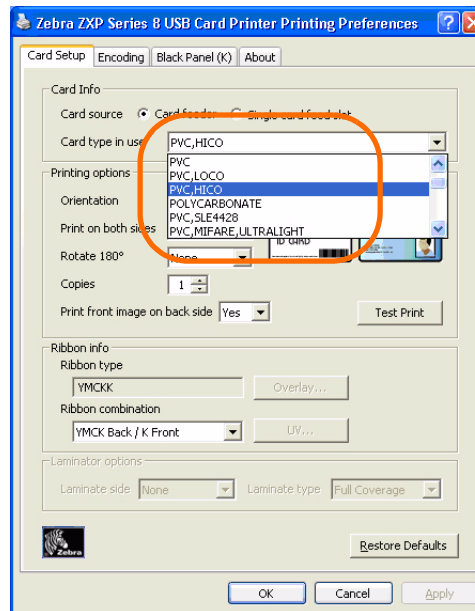

• Make the appropriate Magnetic Encoder Card Type selection.

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.

Place the cards in the Input Hopper in the correct orientation as shown (with the magnetic stripe down and facing to the rear). Ensure that the cards are seated properly the hopper.
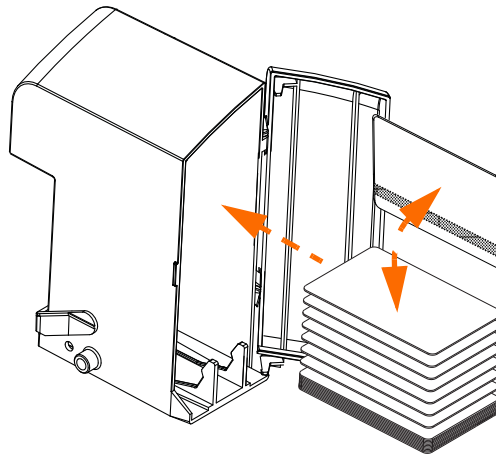
Magnetic Encoder Cleaning

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 cleans, only use foam-tipped swabs.

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

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.
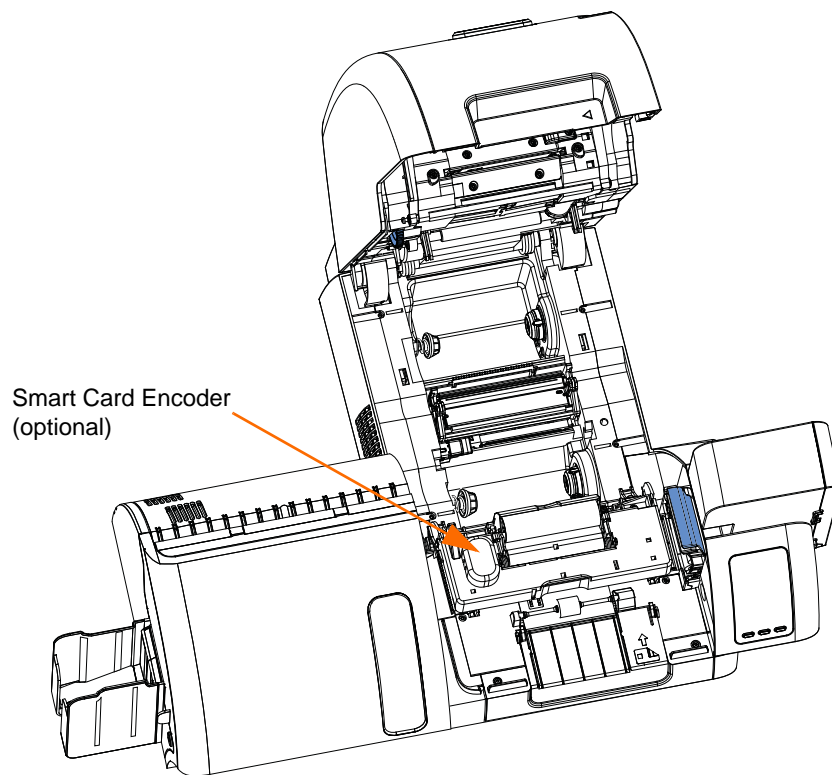
Step 6. Close the Door.

APPENDIX D

Smart Card Options

Introduction

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

Smart Card Encoder (optional)

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.*
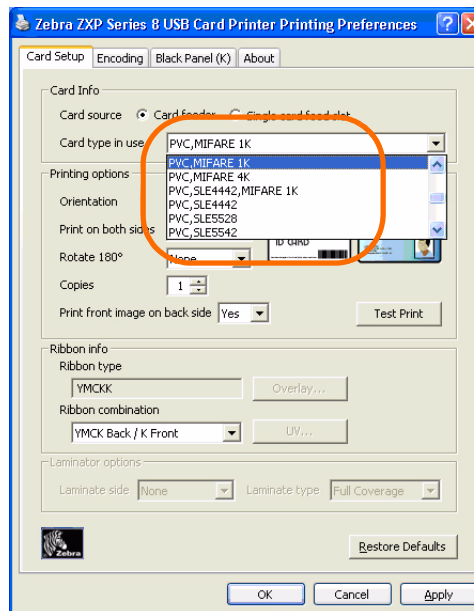
• Make the appropriate Smart Card Type selection.
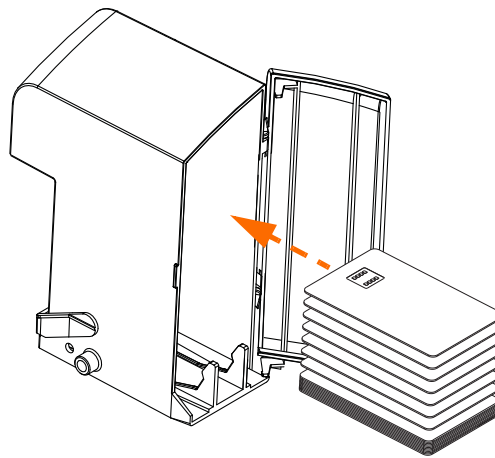
Contact Smart Cards

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

Place the cards in the Input Hopper in the correct orientation as shown (with the gold-plated Smart Card contacts at the top surface of the card and facing to the left). Ensure that the cards are seated properly the hopper.

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.
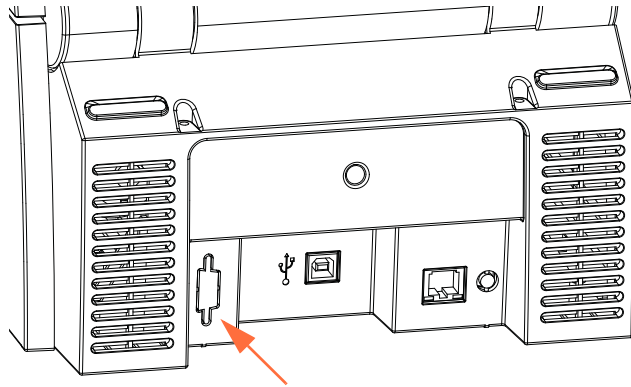
DB-9 Connector location for
Smart Card Contact Station

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.
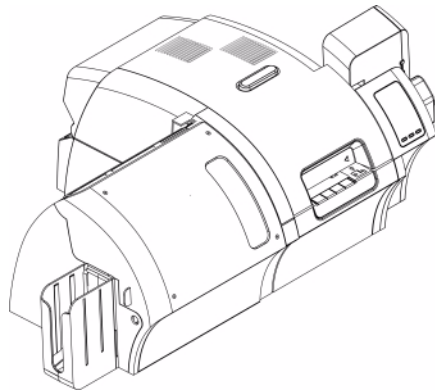
Appendix E

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 Cleaning Cartridge and Cleaning Roller, and place them in the foam insert.

Step 6. Close the printer Door.

> **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.

Cleaning Roller

Cleaning Cartridge

Input Hopper

Output Hopper
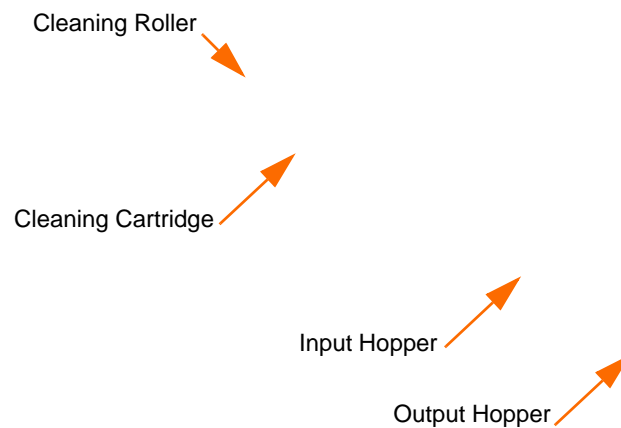
> **Step 8.** Place the Printer in its protective plastic bag.
>
> **Step 9.** Place the lower foam insert in the Shipping Carton.
>
> **Step 10.** Use both hands to carefully place the Printer into the recess in the lower foam insert.
>
> **Step 11.** Place the upper foam insert onto the Printer, and 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 F

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

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

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

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

Website

www.zebracard.com