ZXP Series 1™
ZXP Series 3™

Mac OS X Driver

User's Guide

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ZXP Series 1 and 3 Mac OSX Driver User's Guide

Operation

Introduction

The purpose of this document is to describe how to use the Zebra ZXP Series 1 and ZXP Series 3 Card Printer driver on a computer running the Mac OS X operating system.

The Zebra ZXP Series 1 and ZXP Series 3 Card Printer driver for Mac OS X supports monochrome and color printing, single- and double-sided printing, mag encoding, and provides information about the printer and ribbon.

The Zebra ZXP Series 1 and ZXP Series 3 Card Printer driver for Mac OS X supports—and has been tested on—the following version of Mac OS X:
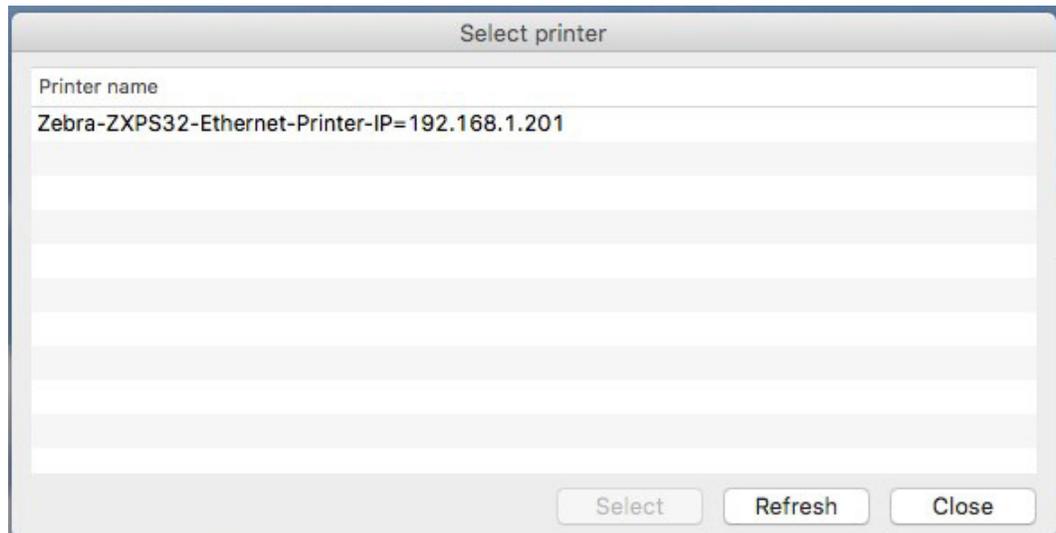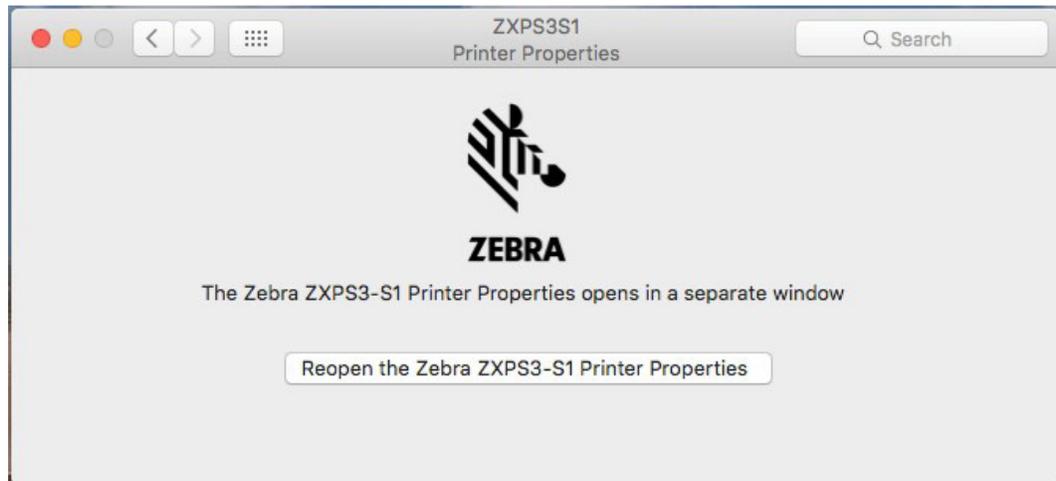
- Mac OS X Yosemite (Version 10.10) 64 bit OS

- Mac OS X El Capitan (Version 10.11) 64 bit OS

Launching Printer Properties

Open **System Preferences** and double-click on the Zebra Printer Icon.
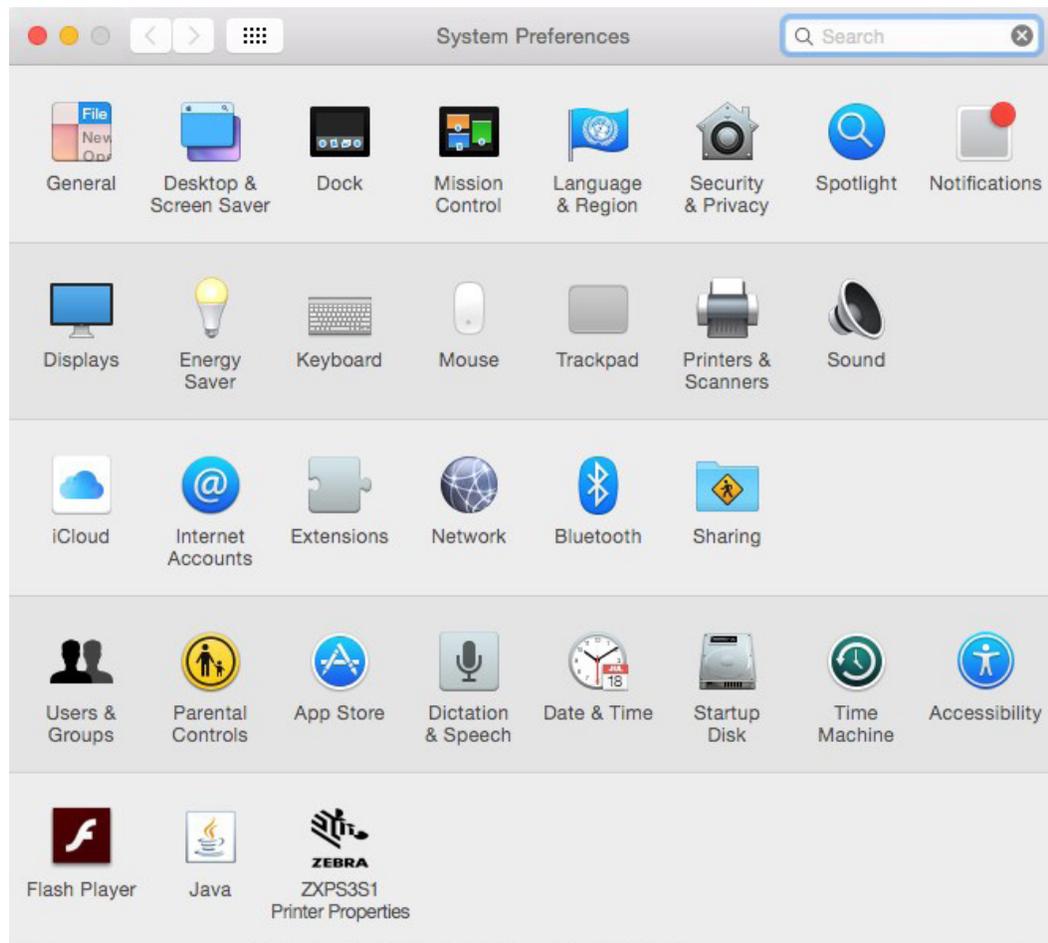
The printer selection window will be displayed; select the desired printer from the list window.

The **Printer Properties** window is displayed.

Card Setup
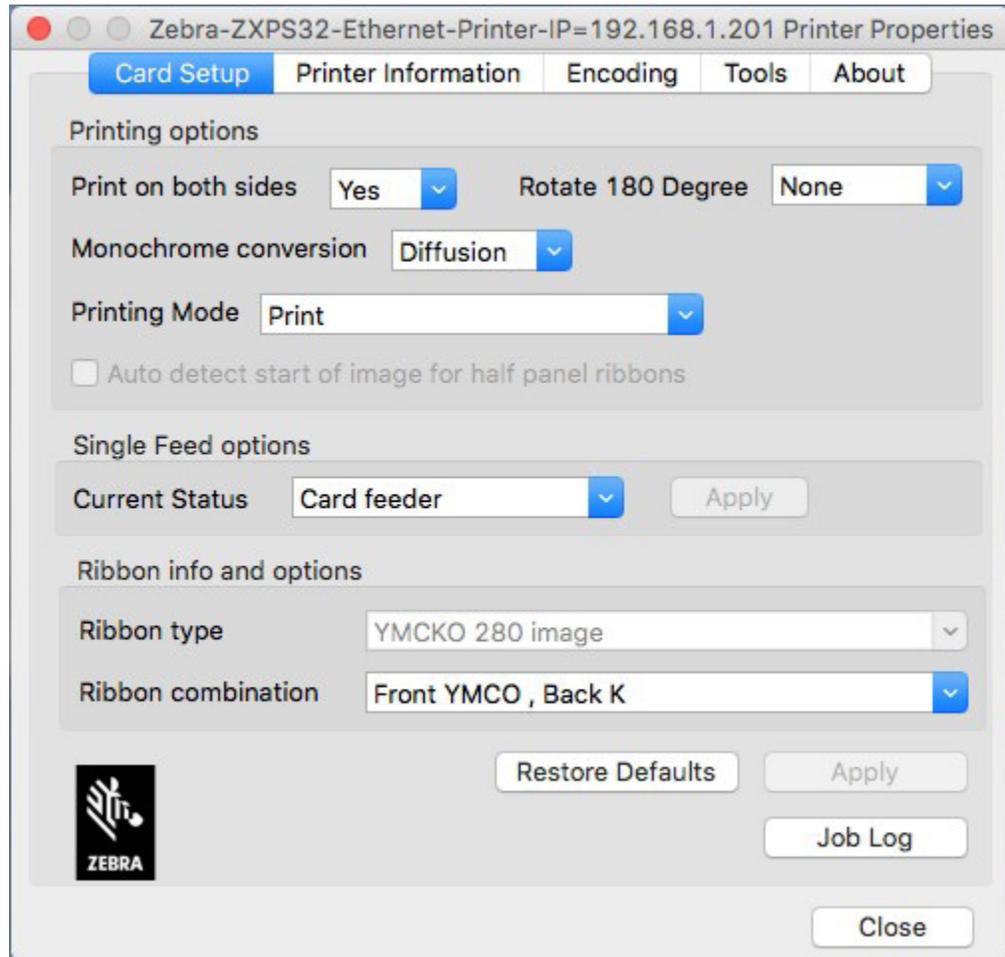
The Card Setup tab is used to adjust selected card and print job parameters.

Printing options:

- **Print on both sides**: Selection for single-sided or dual-sided printing. The options are No (single-sided) and Yes (dual-sided).

- **Rotate 180°**: Selection for rotating the image 180 °. The options are None, Front, Back, and Front & Back. (Note: Back and Front & Back are only available when Print on both sides is set to Yes).

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

• Diffusion: Error diffusion is used primarily where you have a full color (RGB with 8 bits per pixel) or full gray (single color but still 8 bits per pixel) image that you need to print with binary printing (can only print full-on or full-off; i.e., 1 bit per pixel). Typically preferred over halftoning (see below) for most images.
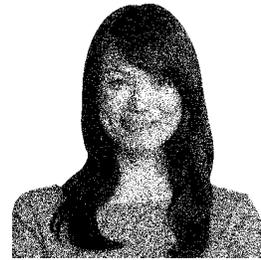
• Halftone: To simulate gray in graphics, halftones are printed. Halftones are arrays of dots arranged in a grid (e.g., 6x6 or 8x8) to represent each image pixel as a shade of gray. For dark gray, more grid dots are black. For light gray, more grid dots are white. As the grid size goes up so does the number of possible output levels; 6x6 cell has 36 possible output levels while 8x8 has 64. However, as cell size increases, there is a corresponding decrease in resolution.
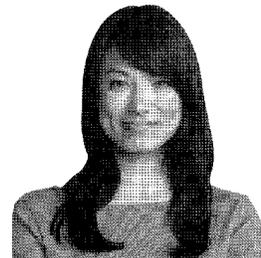
• Barcode: This is the simplest method for converting from 8 bits per pixel to 1 bit per pixel. For example, the input pixel can be a value from 0 to 255. If the threshold is 128, any pixel over 128 becomes full on (1), and any pixel that is less than 128 becomes full off (0). This mode works best for large text, barcodes, line art, logos -- everything except continuous-tone pictures.

• Text: This mode is similar to Barcode mode, except lines appear thicker. Thus, it is best for small text and anti-aliased text. Anti-aliased text is typically black in the center; but on the edges, it has shades of gray that get lighter as you move out form the center of the text. Anti-aliased text will have a softer looking edge that is less sharp than non anti-aliased text. The thicker lines of Text mode will make the black center of anti-aliased text appear larger, making the text more legible. Conversely, Text mode is not recommended for barcodes, as thicker bars often bleed into each other and make the barcode unreadable.
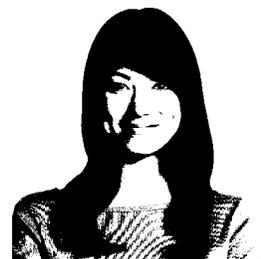
• **Printing Mode**: Sets the type of printing required. The options are Print (which allows printing as well as printing with magnetic encoding), Encode Only (which allows magnetic encoding only; printing will not occur), and Print and Encode on Same Side (which prints on the same side as the magentic encoding stripe). (note: the Print and Encode on Same Side option only appears when Print on both sides is set to No).

- **Auto detect start of image for half panel ribbons**: When half panel ribbon is installed in the printer, this option is used to automatically detect the location on the card to start printing with the color panels. When this option is unchecked, the user should enter the HALF command in the command line on the Tools page along with a location parameter (from 0 to 568), that tells the printer a specific location on the card (in number of pixels from the leading edge) to start printing with the color panels.

Single Feed options:

- **Current Status**: Selection for the location where the card is taken from. The options are Card feeder, Single feeder slot, and Auto feed. Card feeder is accessed via a door on the top of the printer. Single feeder slot requires the user to insert a card into the slot at the front of the printer, either before sending the print job, or when prompted after sending the print job. Auto feed is a combination of the previous two options. It allows the user to insert a card into the single feeder slot before sending the print job, otherwise the card will be taken from the Card feeder.

Ribbon info and options

- **Ribbon type**: Selection for the type of ribbon installed in the printer. For all ribbons with a SIM chip (typically ribbons with multiple panels), the selection is automatic. For monochrome ribbons (which do not typically have a SIM chip), the options are Standard Black Monochrome (1000 image capacity), Standard White Monochrome (850 image capacity for ZXP3, 500 image capacity for ZXP1), High Capacity Black Monochrome (2000 image capacity), and High Capacity White Monochrome (1400 image capacity). (note: High Capacity selections are only available for ZXP3).

- **Ribbon combination**: Available selections are based on ribbon type. For example, for YMCKO ribbon, when Print on both sides is set to No:

  - Front YMCKO

  - And when Print on both sides is set to Yes:

  - Front YMCO, Back K

  - Front YMCKO, Back YMCKO

  - Front YMC, Back KO

The Job Log button is used to create and manage a database of card transactions.

The database created by the Job Log resides on the printer's host computer. The Job Log records data such as what is encoded on the card's magnetic stripe, together with date, time, and the printer's serial number.

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

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

- **Log File Definition**: Choose one of the following options:

  - If the "Create new log file each day" box is unchecked, the data is saved to a log file of your choice (Filename).

  - If the box is checked, the data is saved to log file ZXPLog with the day's date; e.g., ZXPLog_2012_6_4 .

  - In addition to the Filename, you may wish to enter a special field Separator Character. The default field Separator Character is "|".

  - The Delete log files button deletes the log files.

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

Log File Contents selections include:

- **Time**: Logs the time a which the card was sent to the printer in the HH:MM:SS format. The 24-hour clock is used, so 13:00:00 = 1:00 pm, and 05:00:00 = 5:00 am.

- **Date**: Logs the date the card was sent to the printer in the MM/DD/YYYY format.

- **Printer serial number**: Logs the serial number of the printer that printed the card.

- **IP address**: Logs the IP address of the PC that sent the card to the printer.

- **User name**: Logs the username of the person submitting the card print job.

- **Spooler job number**: Logs the number which the card print job was assigned in the Windows print spooler.

- **Magnetic Track 1, 2, 3 Data**: Logs the data sent to the printer to be encoded on the card's magnetic stripe.

- **Static text**: Adds to the record text in the box at right, 16 characters maximum.

Note • Log files are stored in the /Library/Caches/ZXPS3S1Log/ directory.
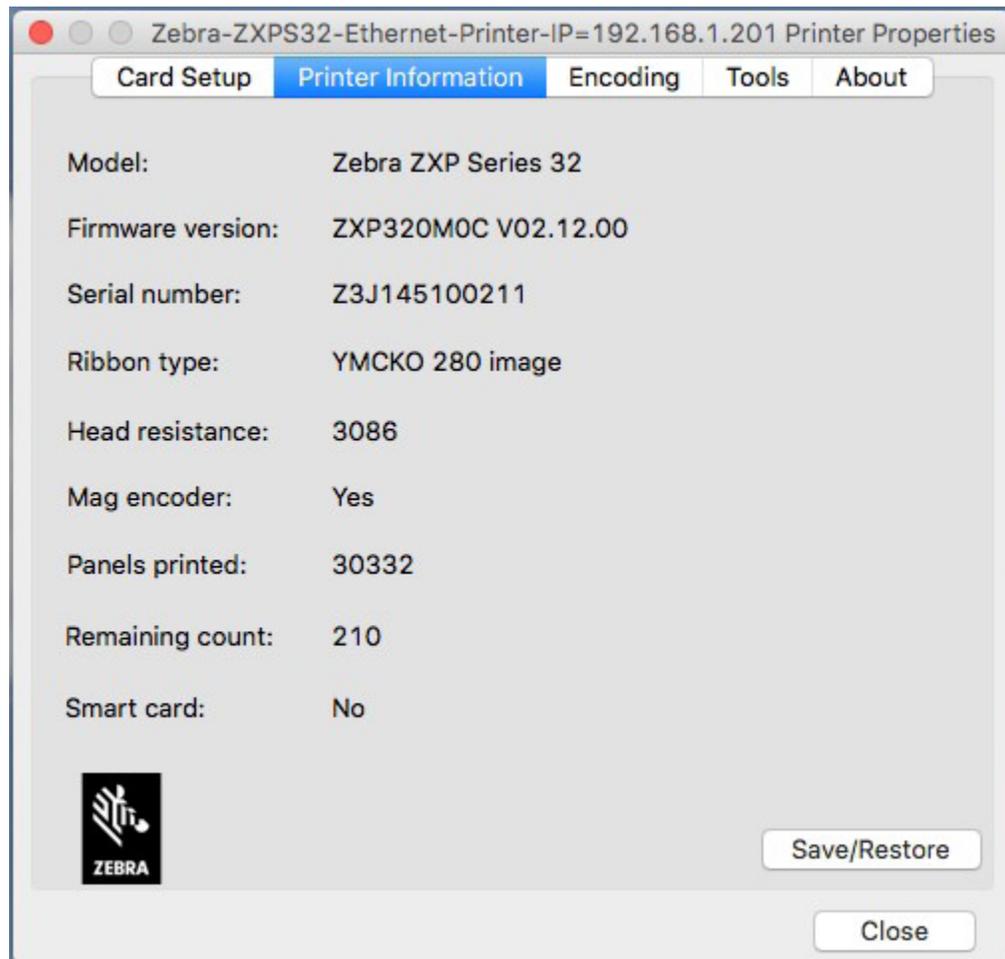
- The **Save Job Log Settings** button saves the Job Log settings.

- The **Close** button closes the page without saving any changes.

The **Restore Defaults** button restores the defaults for all of the settings.

The **Apply** button applies any changes that have been made to the settings.

The **Close** button exits Printer Properties without saving any changes.

Printer Information

The Printer Information tab contains the following information about the printer:

•   **Model**: Specifies the printer model number.

•   **Firmware version**: Specifies the installed firmware version.

•   **Serial Number**: Specifies the printer serial number.

•   **Ribbon type**: Specifies the ribbon installed in the printer.

•   **Head resistance**: Specifies the printhead resistance value.

•   **Mag encoder**: Specifies if this option is present.

•   **Panels**: Shows the total number of panels printed for the lifetime of the printer.

•   **Remaining Count**: Shows the remaining card count for the ribbon installed. For monochrome ribbons, this will display Unknown.

•   **Smart card**: Specifies if a smart card encoder is present and type of encoder.

Click **Save/Restore** to save your printer and/or driver settings; these settings can be restored later.
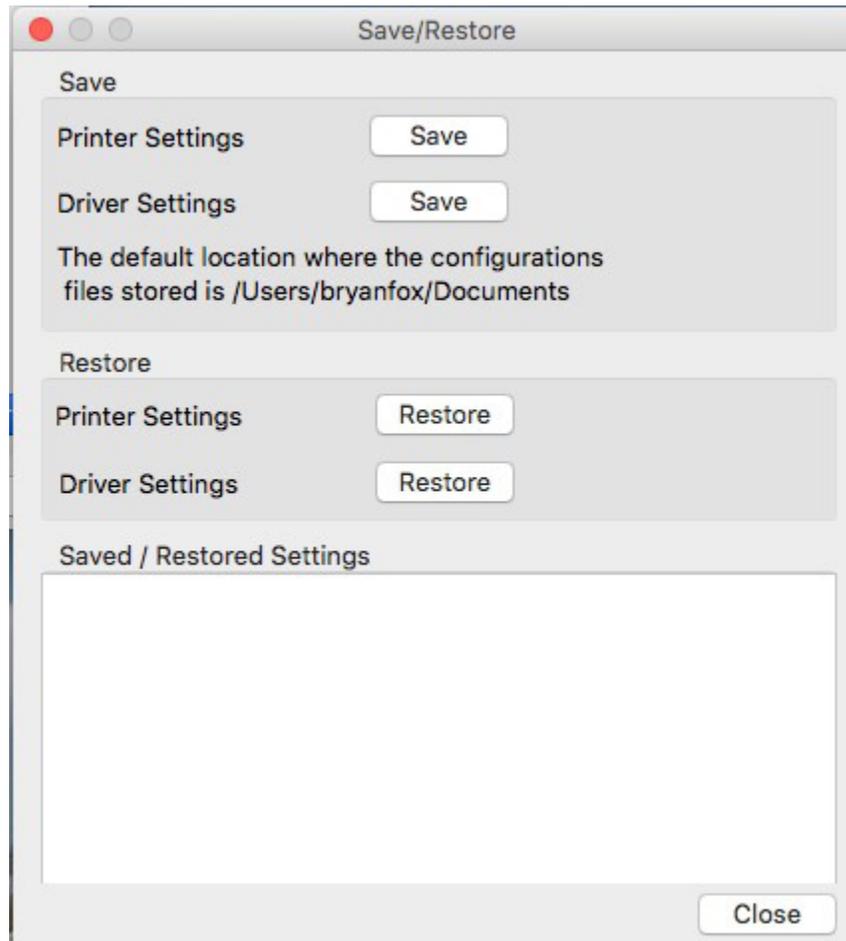
To save settings:

Step 1. Click on the desired Save button (Printer Settings or Driver Settings).

Step 2. The Save window is displayed showing the default file save location: /Users/<home folder>/Documents. Files can be saved in any folder that the user selects.

Step 3. Enter file name and click **Save**. Note that a prefix (P_ or D_) will be added to the file to denote printer or driver settings, respectively.

To restore settings:

Step 1. Click on the desired Restore button (Printer Settings or Driver Settings).

Step 2. Navigate to the folder where the configuration files are saved.

Step 3. Select the desired file, and click **Open**. Note that prefixes P_ and D_ indicate printer or driver settings respectively.

Encoding

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

- **Track (1, 2, or 3) Settings**: Select the Mode (ISO1, ISO2, ISO3, 3 bit, 4 bit, 5 bit, 6 bit, or 7 bit) and Density (75bpi or 210 bpi) for the tracks.

- **HiCo/LoCo**: Select the type of coercivity of magnetic stripe cards to be used.

- **Encoder Position**: This selection is not enabled at this time.

- **Encoder Type**: This selection is not enabled at this time.

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

Track selection:

- **To read encoded data**: Click on the checkboxes to select Track 1, Track 2, and/ or Track 3; click on the Read button, and validate the data read.

- **To write data**: 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.

- **To eject the card**: Click on the Eject Card button to eject the card.

The **Restore Defaults** button restores the defaults for all of the settings.

The **Apply** button applies any changes that have been made to the settings.

The **Close** button exits Printer Properties without saving any changes.

Tools
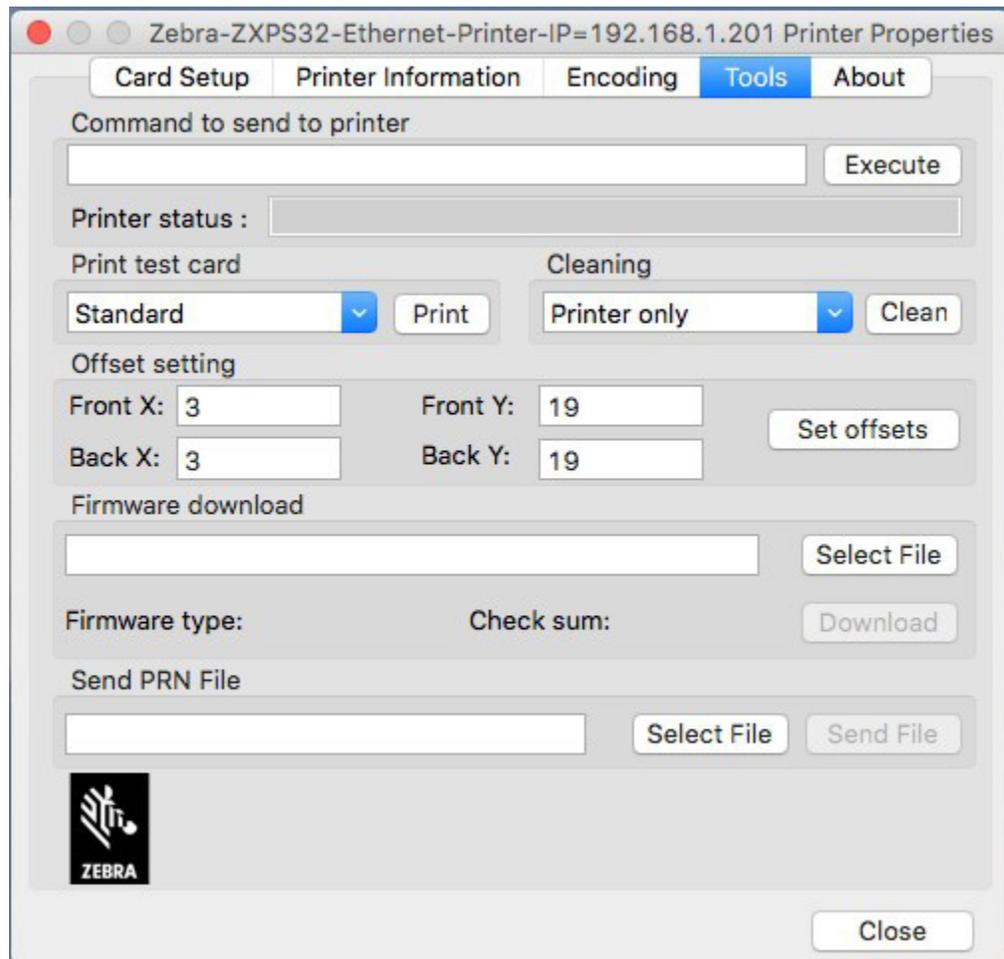
The Tools tab is used to send commands to the printer, print test cards, clean the printer, set offsets, download firmware, and send PRN files to the printer.

- **Command to send to printer**: Enter an EPCL command, often with one or more parameters, and press the Execute button to set or return information from the printer. The printer response is shown in the Printer Status field.

- **Print test card**: Select a test card, and press the Print button. Settings from the Card Setup tab will be used (i.e., if the ribbon is YMCKO and the ribbon combination is Front YMCO, Back K, then the test card will be printed with this combination of panels). Included test cards are Standard, Printer Parameters, and Encoder Parameters. (Note: Encoder parameters is not included if the printer does not have an encoder).

- **Cleaning**: Select a type of cleaning, and press the Clean button. Types of cleaning are Printer only (feeder and card path are both cleaned) and Magnetic Encoder (only the card path is cleaned).

- **Offset setting**: The front and back offsets can be adjusted if the printed image is not centered on the card. Press the Set offsets button to save the adjustments.

- **Firmware download**: This option is used to install the ZXP Series 3 firmware, downloaded from the Zebra website at http://zebra.com under Drivers & Downloads.

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

Step 1. Download the firmware from the Zebra web site (http://www.zebra.com), and save it to the computer.

Step 2. Click **Select File**.

Step 3. From the Browse window, navigate to the saved firmware file (.bin) and click **Open**.

Step 4. Click **Download** to install the firmware.

Send PRN File: This option is used to send a PRN file to the printer.
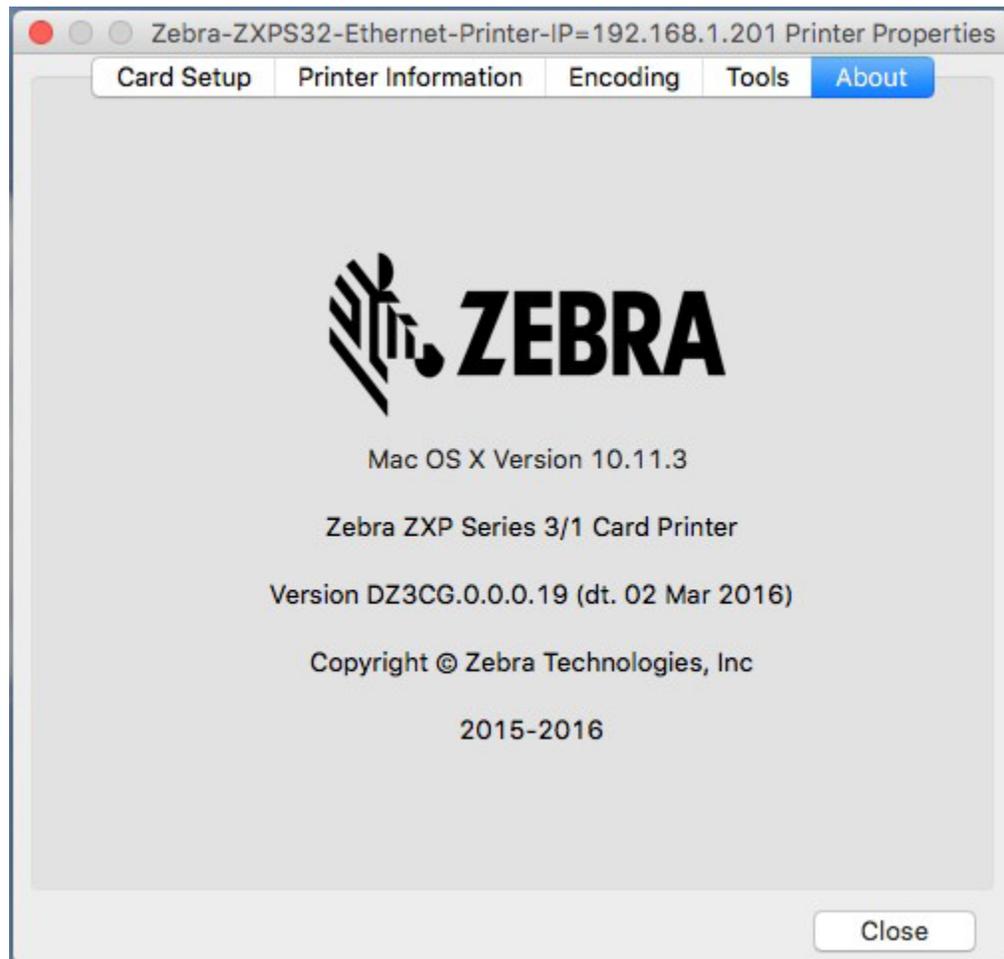
Step 1. Save the PRN file to the computer.

Step 2. Click **Select File**.

Step 3. From the Browse window, navigate to the saved file (.prn) and click **Open**.

Step 4. Click **Send File** to print the PRN file.

The **Close** button exits Printer Properties.

About

The About tab shows the Printer Model, the Driver Version, and the Zebra Technologies Corporation Copyright.

The **Close** button exits Printer Properties.

Printing from an Application

To print a card from any application, first set up the printer using Printer Properties. Then follow these steps:

Select File > Print to open the Print window.
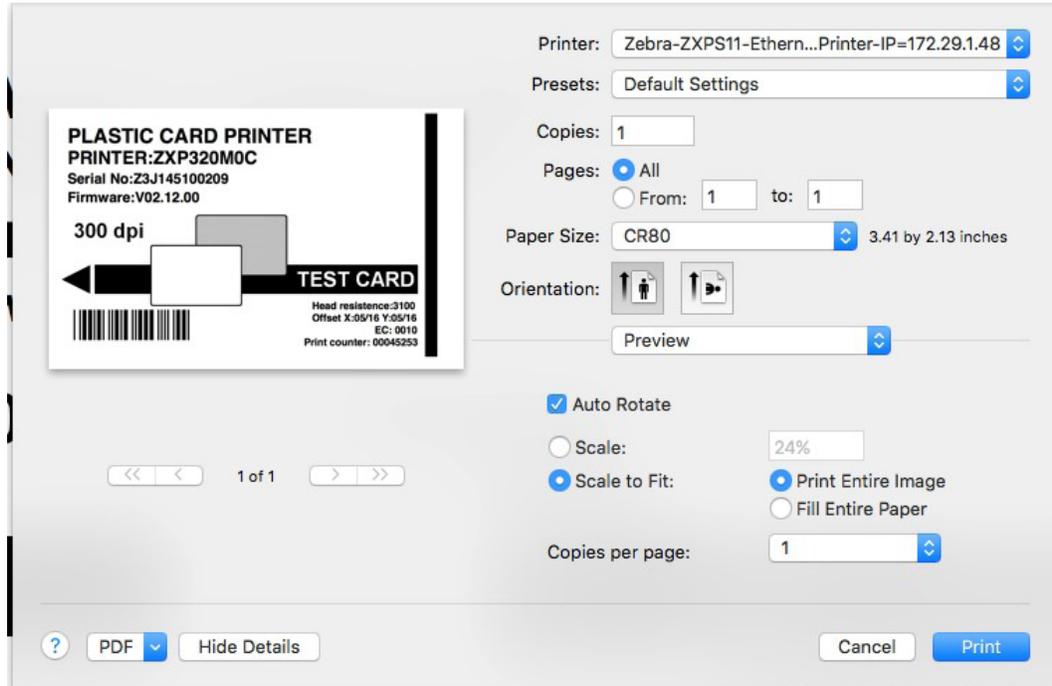
- **Printer**: Select the printer from the drop-down list.

- **Presets**: Leave set to Default Settings.

- **Copies**: Enter the number of cards to be printed.

- **Pages**: Select All, or enter a Range.

- **Paper Size**: Select CR80 as the paper size.

- **Orientation**: Select the desired orientation. The preview should look correct.

- Click **Print** to print the card.