

ZXP Series 7™

Card Printer



Linux User Guide



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Introduction



Important • The driver cannot be manually installed as a standard CUPS printer Driver. The Zebra ZXP Series 7 Card Printer Linux driver has specific unique CUPS Printer back-end filters that must be installed using the driver Installer to operate correctly.

This manual describes using the Linux printer driver on the following operating systems:

- Ubuntu 14.04.5 (64-bit)

This procedure supports the following Zebra card printers:

- ZXP Series 7

For support or product questions please contact your Zebra Reseller, Zebra Technical Support, or email CardLinux@zebra.com.

To verify that you have a supported Ubuntu Linux OS installation, open a terminal prompt and type the following command:

```
cat /etc/lsb-release
```

To verify that you have a 64-bit Linux OS, open the terminal window and enter the following command:

```
uname -m
```

The following text string will be returned:

- For a 32-bit OS:

```
i386 or i686
```

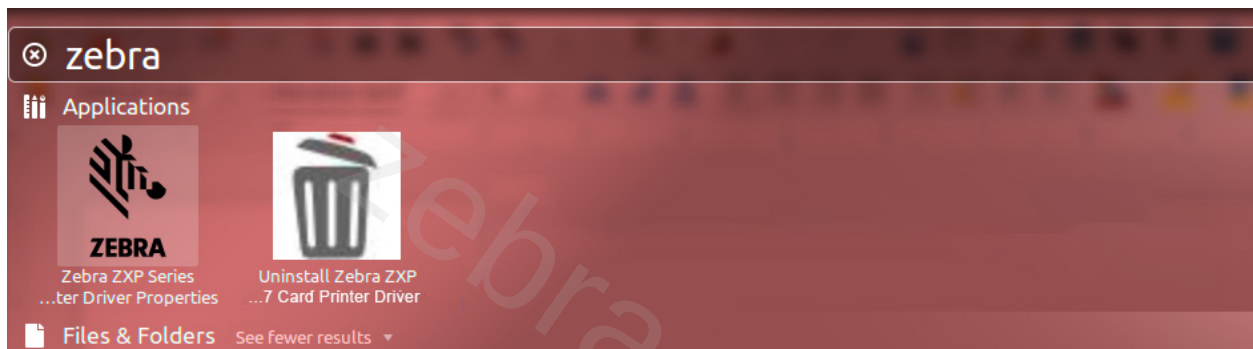
- For a 64-bit OS:

```
X86_64
```



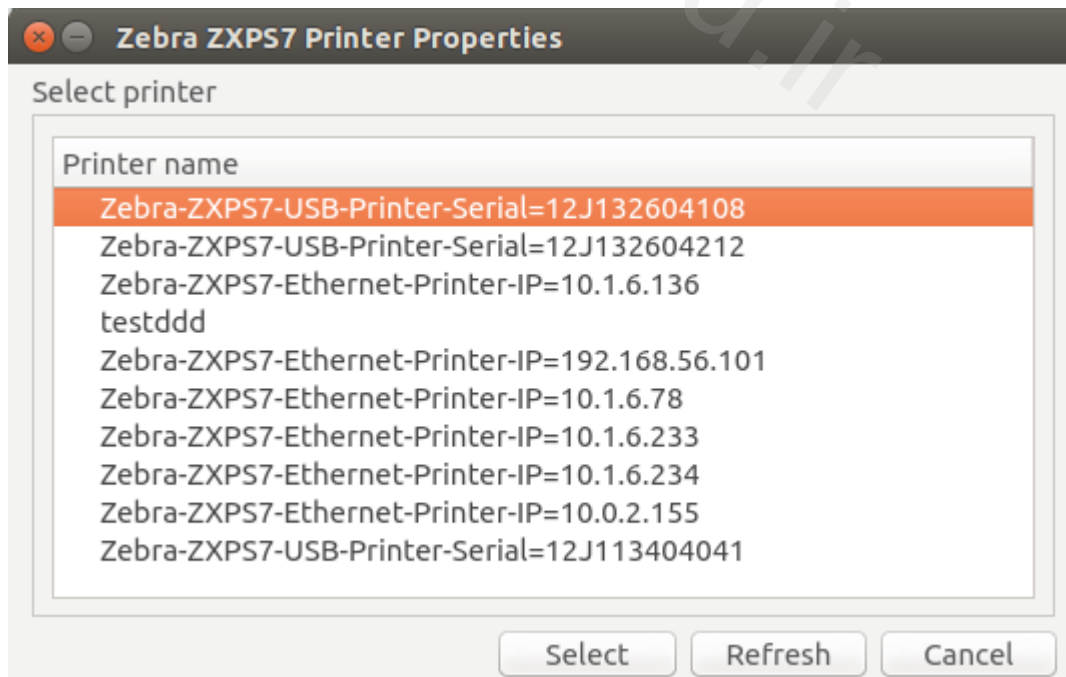
Printer Properties

Type “Zebra” in the Uninty Launcher (available in the top left corner of the screen by default or else use Window Key).



An authentication dialog will appear to confirm launching the printer properties, click **Yes** to continue.

At the Select printer window, highlight the desired printer and click **Select**. Otherwise, click **Cancel** to exit.



Device Info Tab

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



Device Information

- Model: Shows the model name of the printer.
- Main Board Fw: Shows the version of firmware.
- MAB Fw: Shows the version of firmware.
- Laminator Fw: Shows the firmware version of the laminator. If no laminator present, shows N/A.
- Driver Version: Shows the version of the installed driver.
- Printer S/N: Shows the printer serial number.
- Laminator S/N: Shows the serial number of the laminator. If no laminator present, shows N/A.
- Wireless IP: Shows the wireless IP address.

- **Printer Type:** Shows single-sided, or dual-sided.
- **Laminator Status:** Shows the current status of the laminator. If no laminator present, shows N/A.
- **Internal Memory:** Shows the internal memory configuration.
- **External Memory:** Shows the external memory configuration.
- **IP Address:** Shows the IP address.
- **Printer Status:** Shows the status of the selected printer.
- **MAC Address:** Shows the MAC address.
- **Wireless MAC:** Shows the wireless MAC address.

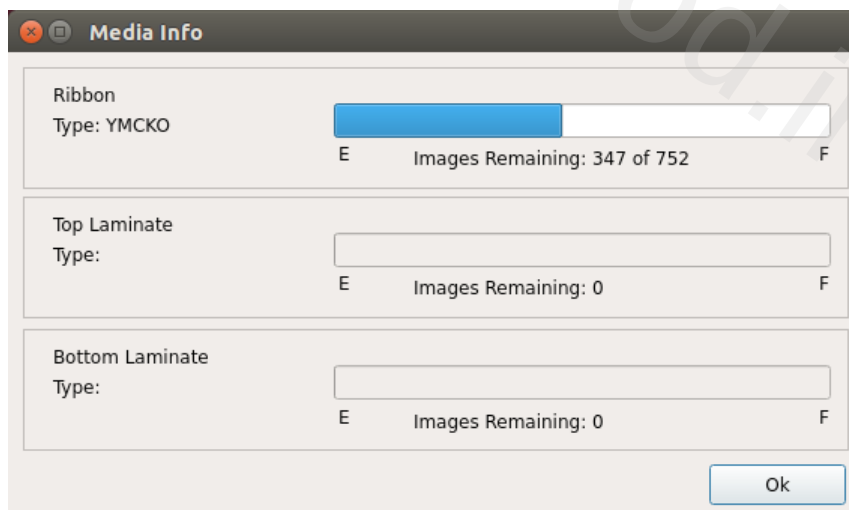
Security

- **Host Authentication:** Shows the status of the host authentication.
- **Data Security Password:** Shows the status of the data security password.
- **Passkey Protection:** Shows the status of the passkey protection.

Printer usage

- **Total no of Cards Printed:** Shows the total number of cards printed for the lifetime of the printer.
- **Total no of Cards Laminated:** Shows the total number of cards printed for the lifetime of the printer.

The Media Info button takes you to the Media Info screen.



Card Setup Tab

The Card Setup tab enables the user to adjust selected card and print job parameters, print test cards, and select options for the laminator (if installed).

The screenshot shows the 'Card Setup' tab of the printer properties dialog. It includes sections for Card Options, Printing Options, Ribbon Info and Options, and Laminator Info and Options. The Card Options section has dropdowns for Card Source (Feeder Cartridge), Card Destination (Output hopper), and Image Size (Default size (1006 * 640)). The Printing Options section has dropdowns for Orientation (Landscape), Print on both sides (Yes), Rotate 180 (None), and Print front image on back side (No). It also features a 'Test Print' button and visual representations of the front and back of an ID card. The Ribbon Info and Options section has dropdowns for Ribbon Type (YMCKO) and Ribbon Combination (Front YMCKO / Back YMCKO), along with buttons for Front K extraction, Back K extraction, Front Overlay, and Back Overlay. The Laminator Info and Options section has dropdowns for Laminator (N/A), Laminator Mode (Any), Top Laminate (None), and Bottom Laminate (None), and a checkbox for 'Laminate only'. The Zebra logo is at the bottom left, and 'Restore Defaults' is at the bottom right. At the very bottom are 'OK', 'Cancel', and 'Apply' buttons.

Card Options

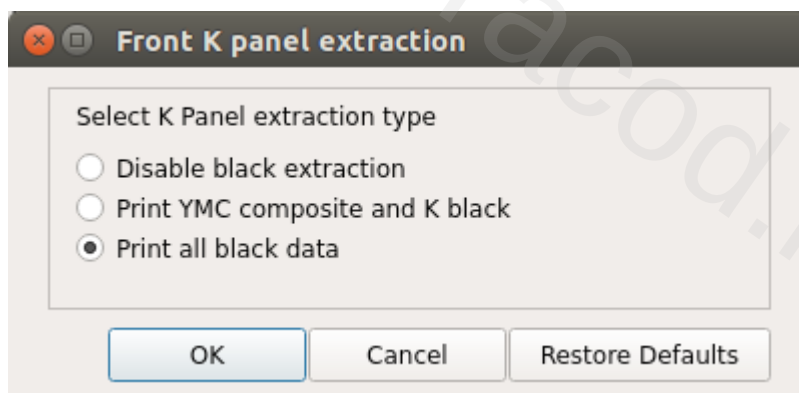
- Card Source: Enables the user tell the printer where to take the card from.
- Card Destination: Enables the user tell the printer where to send the finished cards.
- Image Size: Enables the user to specify how much of the card to be printed on.

Printing Options

- Orientation: Tells the printer to print in either Landscape (horizontal) or in Portrait (vertical) depending on the design or the desired use of the card.
- Print on both sides: Tells the printer to print double-sided.
- Rotate 180°: Tells the printer to rotate the image on the card 180° (degrees).
- Print front image on back side: Tells the printer to put the image that is printed on the front of the card, on the back of that card as well.
- Test Print:

Ribbon Info and Options

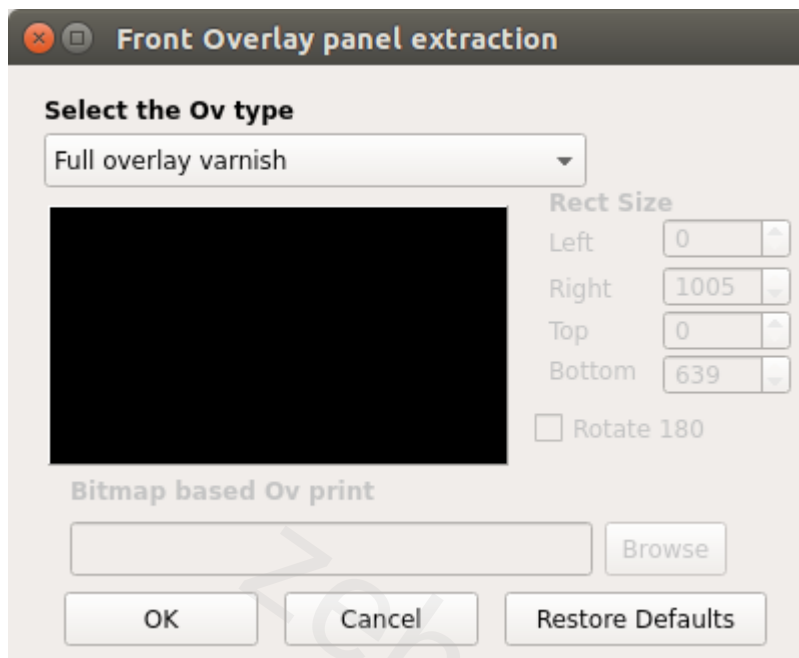
- Ribbon Type: The printer will recognize the type of print ribbon installed and display it in the Ribbon type field, and will make available the ribbon combinations from the Ribbon combinations drop-down menu. Additionally, selecting Yes or No (double- or single-sided, respectively) from the Print on both sides drop-down list will affect the available ribbon combinations.
- Ribbon Combination: Displays the available ribbon panel combinations for the installed ribbon.
- Front K Extraction: The Front K extraction and Back K extraction buttons will become active when the ribbon type and ribbon combination supports a black (K) panel for both the front and back (e.g., a YMCKK ribbon type and a YMCK Front/ K Back ribbon combination).



- Disable black extraction – does not use the K panel for any part of the image. This selection will have the effect of rendering all black images as YMC composite.
 - Print YMC composite and K black – uses both the K panel and the Y, M, and C panels to print the portions of the image that are identified as black. This selection will result in a dark, black image; but the edges will be smooth (due to YMC printed under the K), not the sharp edges typically desired for a barcode.
 - Print all black data – uses only the K panel to print the portions of the image that are identified as being black. Note that the areas that are identified as black are based on the threshold selections made in the black level area in the black extraction from color images area
- Back K Extraction: The Black Panel Options for the front and back are the same.

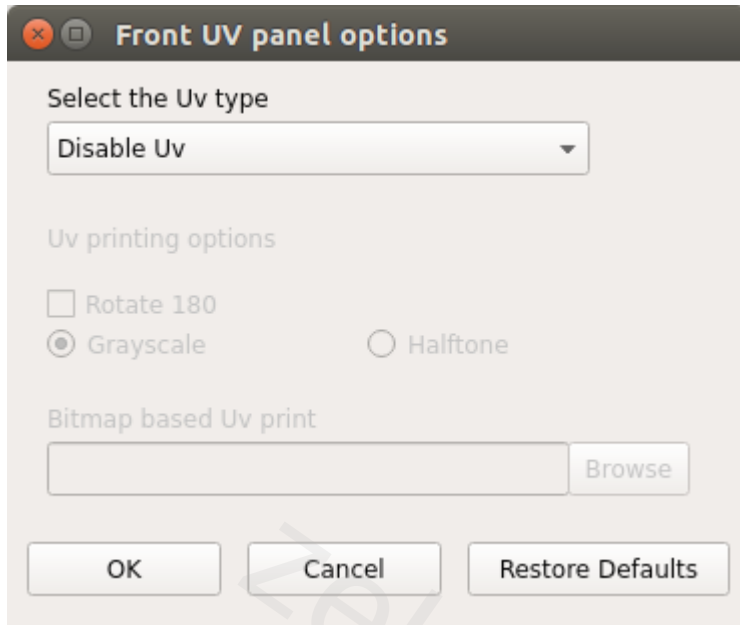
Printer Properties: Card Setup Tab

- Front Overlay: Overlay varnish is a durable layer of film applied to printed cards that reduces fading by protecting the image from UV exposure.



- Disable overlay - Disables the overlay option; i.e., does not apply any overlay.
 - Full overlay varnish (default) - Applies an edge-to-edge overlay.
 - Selected area blank - Applies overlay only outside the area selected by user.
 - Selected area overlay varnish - Applies overlay only in the area selected by user.
 - Bitmap based overlay varnish - Applies a user-defined 1-bit monochrome bitmap as an overlay.
 - Smartcard ISO - Does not apply overlay on the area of the smartcard chip.
 - Smartcard AFNOR - Does not apply overlay on the area of the smartcard chip.
 - Magnetic Stripe - Does not apply overlay on the area of the magnetic stripe.
- Back Overlay: The Overlay Panel Options for the front and back are the same.

- **Front UV Panel:** A UV Panel is used to print images (text or graphics) that will glow in the visible spectrum when exposed to a UV Light. The UV Panel pop-up window is only available when using UV ribbons (e.g., YMCUVK).



- **Back UV Panel:** The UV Panel Options for the front and back are the same.

Laminator Info and Options

- **Laminator:** Shows the type of laminator (single- or dual-sided).
- **Top Laminate:** Shows the type of laminate installed.
- **Laminator Mode:**
 - **Any:** Any combination of laminate can be installed; i.e., top, bottom, or both (default).
 - **Top:** Top laminate only must be installed.
 - **Bottom:** Bottom laminate only must be installed.
 - **Top and bottom:** Both top and bottom laminate must be installed.
 - **Pass through:** Top and bottom laminate must be removed. This option allows a card to pass through the laminator without having laminate applied.
- **Bottom Laminate:** Shows the type of laminate installed.

The Restore Defaults button resets the settings to the default configuration.

Tools Tab

The Tools tab includes functions that are used for printer operation and / or maintenance.

Firmware Download

The Firmware Download sub-tab enables the user to update the firmware of the printer. Go to www.zebra.com/zxp7-info for firmware update files.



Print PRN File

The Print PRN File sub-tab enables the user to 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.

The screenshot shows the 'Zebra-ZXPS7-USB-Printer-Serial=12J162200173 Printer Properties' window. The 'Tools' tab is selected, and within it, the 'Print PRN File' sub-tab is active. The interface includes a 'Select PRN File' section with a text input field, 'Browse', and 'Print' buttons. Below this is a 'Preview' section with 'Front Side' and 'Back Side' image placeholders. The 'PRN File Settings' section contains two tables for configuration. The Zebra logo is visible in the bottom left, and 'OK', 'Cancel', and 'Apply' buttons are at the bottom right.

Select PRN File

Preview

Front Side Back Side

PRN File Settings

Source	
Destination	
Double side	
Delete	
Front on back	

Orientation	
Image width	
Image height	
Copies	

	Front Side	Back Side
Sharpness		
Rotation		
Print Type		

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Job Log

The Job Log sub-tab enables the user to save a log that records certain attributes of each job printed, as well as other printer logs.

Zebra-ZXPS7-USB-Printer-Serial=12J162200173 Printer Properties

Device Info | Card Setup | **Tools** | Encoding | Image Optimizations | About

Firmware Download | Print PRN File | **Job Log**

☐ Enable Job Log

Log File Definition

☐ Create new log file each day

Log filename:

Separator:

Log File Contents

☐ Time ☐ Magnetic Track1 Data

☐ Date ☐ Magnetic Track2 Data

☐ Printer Serial Number ☐ Magnetic Track3 Data

☐ Static Text ☐ IP Address

☐ ZMJ Job id ☐ Username

The various log files are stored at

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Log Files Location

Zebra ZXPS37Printer Linux Driver creates the various log files in the below locations

Log File Name	Log File Path
Zebra CUPS Filter Log File	/tmp/ZXPS7Filter.log and /tmp/ZXPS7PreFilter.log*
Zebra Custom USB Backend File (Only for USB Printer)	/var/spool/cups/tmp/ZXPS7USB.log *
CUPS Error Log File	/var/log/cups/error_log*

* Root Permission is needed to view the Log Files.

Encoding Tab

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



- Disable magnetic encoding: Prevents the printer from encoding a card, whether the job has magnetic encoding data in it or not.
- Encode only: Disables printing, whether the job has an image to be printed or not.
- Magnetic encoder verification ON: Verifies the data that is written to the card before declaring the encoding action to be successful.
- Coercivity: Selections are High and Low to match the card type.
- Magnetic encoding type: Selections are ISO, AAMVA, CUSTOM, and BINARY.
- ISO is the default. Custom settings are adjusted using the ZXP Series Toolbox.
- Use Hex format to encode tracks: Select this option to encode the tracks using hexadecimal format.

Image Optimizations Tab

K Optimization

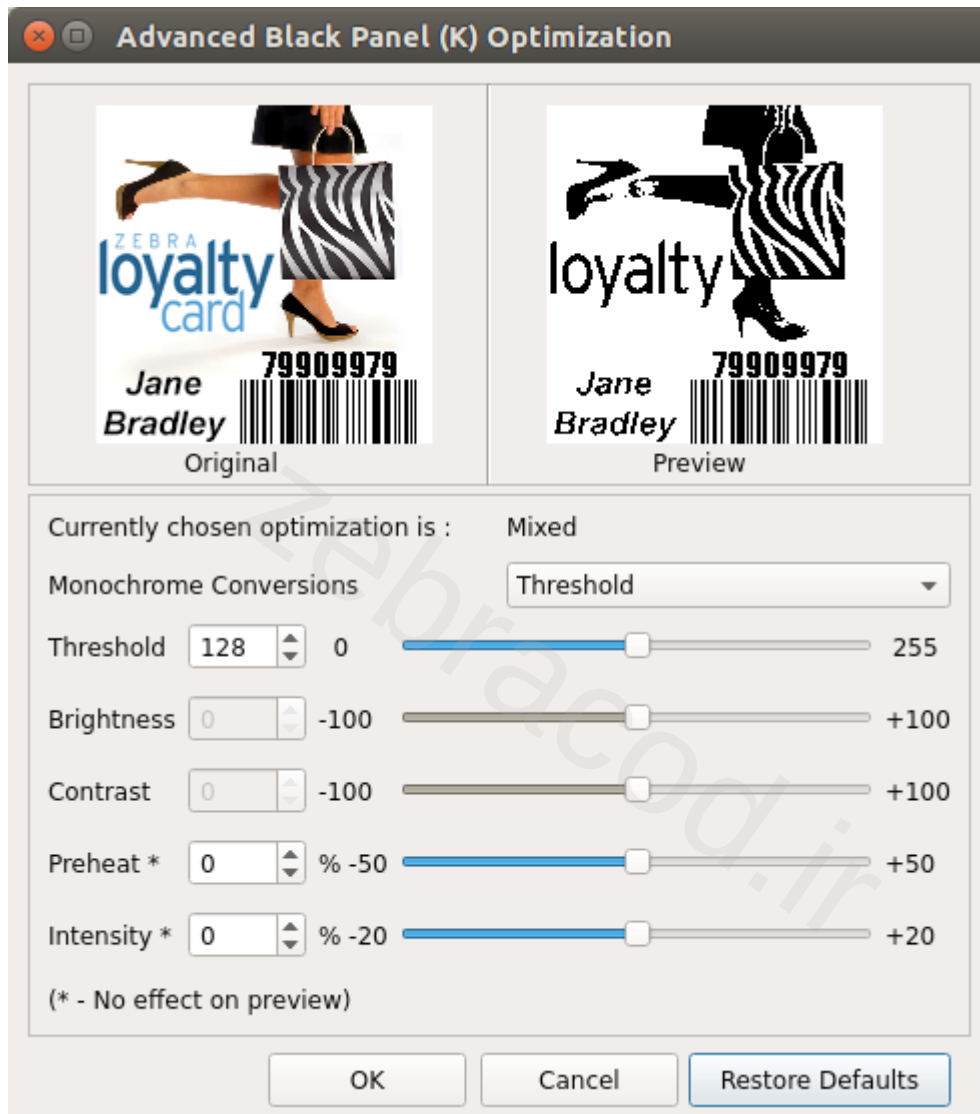
The Black Panel (K) Optimization tab displays two identical adjustment sections (Front and Back) to optimize black panel printing for the type of image being printed. The front side and back side options are enabled based on the availability of K panel in the ribbon combination or the presence of a monochrome ribbon.



- Text sharpens the edges of fonts. This setting will make barcodes appear darker.
- Barcode sharpens fine lines to improve barcodes for scanning. This setting will make text and graphics appear lighter.
- Mixed combines the optimum settings for text, barcode, and graphics printing in most applications.

Advanced Black

The Advanced Black Panel (K) Optimization tab optimizes black panel printing for the type of image being printed; i.e., text, barcode, or mixed.



- Monochrome conversions: This section is used to control multi-tone printing when using a monochrome ribbon or K Panel.

Options are Dither error diffusion, Dither 6x6 halftoning, and Threshold (also known as Dither pure black on white); see next page for details.

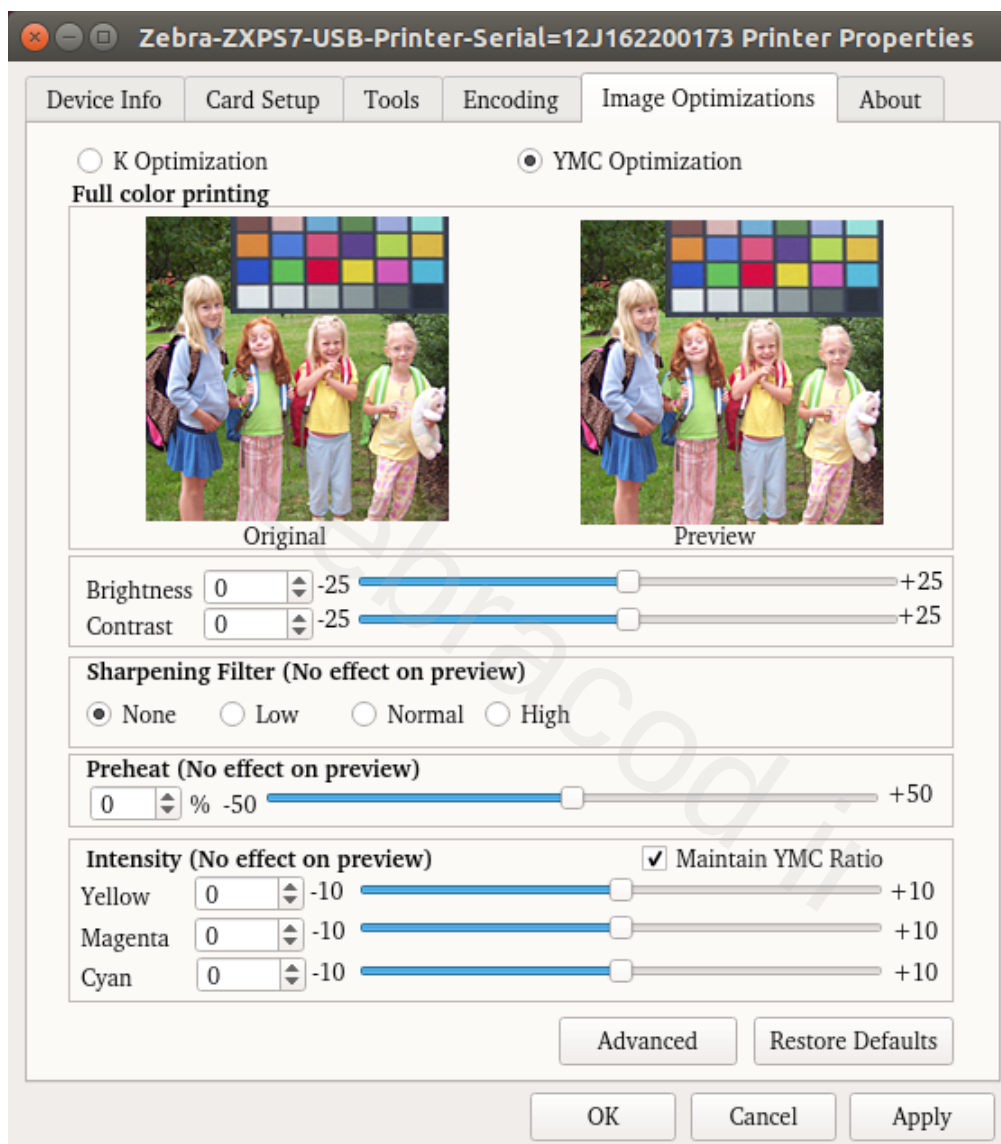
The conversion option selected determines which of the controls is enabled; i.e., selecting Threshold enables the Threshold, Preheat, and Intensity controls.

- Threshold sets the transition point between black (0) and white (255); i.e., pixel values less than the threshold value would be black, and pixel values greater than the threshold value would be white. Default is 128.
- Brightness controls overall the brightness of the image. Move the slider to the right to lighten the image or to the left to darken the image.
- Contrast controls the difference between the light and dark areas of the image. Move the slider to the right to increase the contrast and vice versa.

- Preheat affects the edges of the printed image. Adjustments range from -50 to +50, default = 0.
- Intensity adjusts the lightness or darkness of the image. Adjustments range from -10 to +10, default = 0.

YMC Optimization

The YMC Optimization selection enables the user to adjust how the color images print—it does not affect the color images.



- Brightness and Contrast adjustments range from -25 to +25, default = 0. Changes are reflected in the preview image.
- Sharpening filter options are None, Low, Normal (default), and High. Adjustments are not reflected in the preview image.

By default, the image file is automatically sharpened; i.e., edges are enhanced within the image. If sharpening has already been done, this function can be turned off (None). The Low and High options are available if additional sharpening adjustment is required.

- Preheat adjustment ranges from -50 to 50, default = 0. Increasing the preheat value will darken up edges of fonts, fine lines, and color edges that are against a white or very near white background.

In some cases, increasing the preheat value too much can cause the white or near white images to print with a light color cast. Increasing the preheat might also improve color-to-color mis-registration that may occur.

Printer Properties: Image Optimizations Tab

- Intensity adjustments for Yellow, Magenta, and Cyan range from -10 to +10.

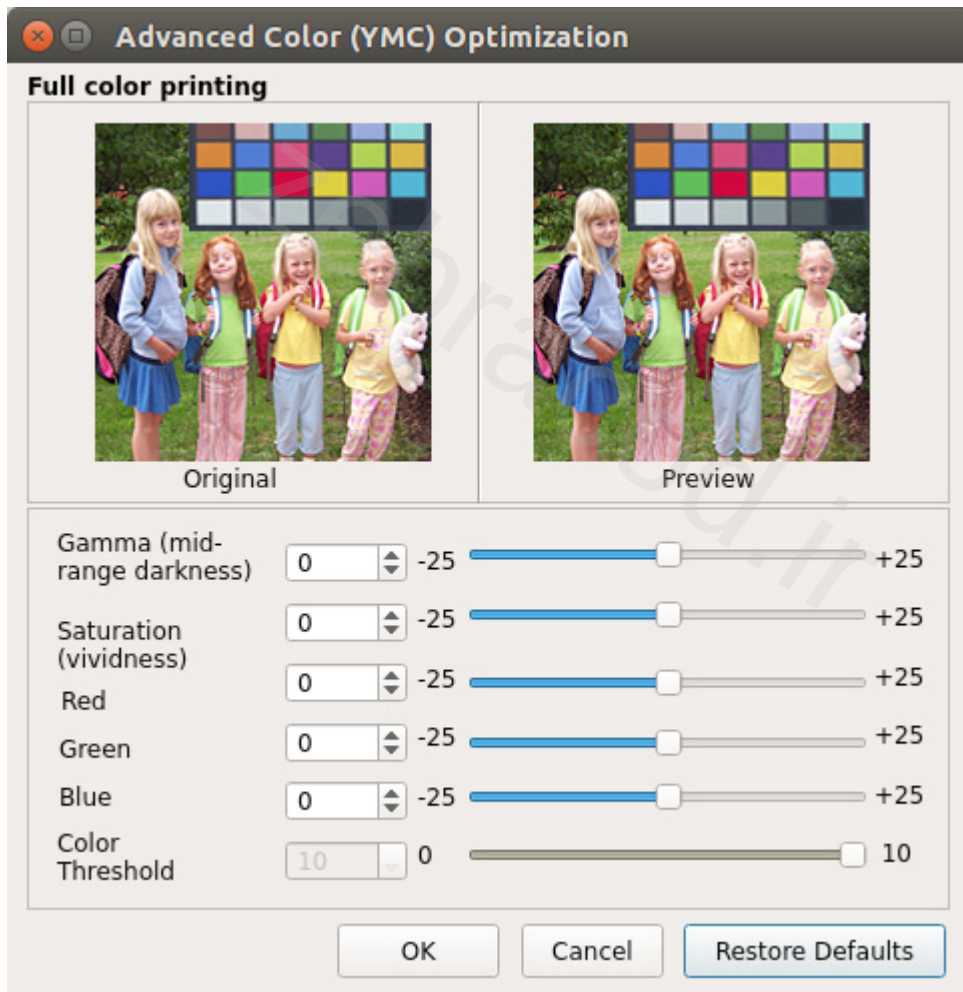
By default, the Maintain YMC ratio checkbox is selected; so all three sliders move at the same time. With the checkbox unselected, the sliders move independently. Note that by moving the sliders independently the tones of the image will shift.

Intensity can be used to lighten or darken the entire printed color image. It can be used to eliminate ribbon wrinkling or ribbon sticking/ripping in hot or humid environmental conditions.

Note that the Intensity setting has no effect on the preview image but is applied to the image during the printing process. These adjustments remain set until changed.

Advanced Color

Click the Advanced button to access to the Advanced Color (YMC) Optimization popup window.



Full color printing adjustments range from -25 to +25 and are reflected in the preview image.

All the changes to the image are only done to the image that gets sent to the printer and are not saved to the image on the host computer. So the original input image bitmap is not permanently changed.

- The Gamma slider adjusts the mid-range darkness of the image.
- The Saturation slider controls the vividness. of the image
- The Red, Green, and Blue sliders adjust their associated color levels. The boxes show the amount of each color, -25 to +25, that is added to or subtracted from the image while you move the sliders.

- Move the Red slider to the right to add red to the image. Note that as red is increased, cyan (red's complement) is decreased and vice versa.
- Move the Green slider to the right to add green to the image. Note that as green is increased, magenta (green's complement) is decreased and vice versa.
- Move the Blue slider to the right to add blue to the image. Note that as blue is increased, yellow (blue's complement) is decreased and vice versa.

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About Tab

The About Tab shows the driver version, the supported operating systems, and the copyright





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