Installing the USB Printer Driver



Note • To install the Ethernet driver, see Page 40.

- **Step 1.** If not already done, connect power to the printer (see Page 30), and connect the USB port on the rear of the printer to the computer's USB port (see Page 31).
- **Step 2.** Turn the Printer on, and let it initialize until the READY LED on the front panel is lit.
- Step 3. Insert the User Documentation, Drivers, and Training CD into the CD drive of the host computer. The Select Language window will open.



Step 4. From the **Select Language** window, choose the appropriate language for your system.

Step 5. The Main Menu will open in the selected language (English shown below).

- Step 6. From the Main Menu, click Install Printer Driver.
- **Step 7.** If an older P630*i* or P640*i* Printer and Driver is installed on your computer, the following window will be displayed; otherwise go to Step 8.

If you are upgrading from a previous version always select the REMOVE button to uninstall to old drivers and then re-install the new drivers. Modify Select new program features to add or select currently installed features to remove. Bemove Remove all installed features. If you are upgrading to a newer version of the driver, you must Remove older installation first before installing this newer version	Welcome Modify, repai	;, or remove the program.
Modify Modify Select new program features to add or select currently installed features to remove. Bemove Remove all installed features. If you are upgrading to a newer version of the driver, you must Remove older installation first before installing this newer	If you are up old drivers ar	grading from a previous version always select the REMOVE button to uninstall the d then re-install the new drivers.
Select new program features to add or select currently installed features to remove.	O <u>M</u> odify	
Bemove Bemove all installed features. If you are upgrading to a newer version of the driver, you must Remove older installation first before installing this newer version.	1	Select new program features to add or select currently installed features to remove.
Remove all installed features. If you are upgrading to a newer version of the driver, your must Remove older installation first before installing this newer version	► ⊙ <u>R</u> emove	
Torona.	Ø	Remove all installed features. If you are upgrading to a newer version of the driver, you must Remove older installation first before installing this newer version.
	(nstells) ield	

Follow the screen prompts. At the end of the uninstall process, you will be asked to re-boot your computer. Re-boot your computer, and start over with Step 1. If the computer enters the Found New Hardware Wizard at this time, cancel this Wizard.

Step 8. The **InstallShield Wizard** window will open. To proceed with the installation, click the **Next** button.

Step 9. Select Install USB printer drivers, and click the Next button.

Select the feature	you want to install.	the
Please select the	feature that you want to install.	
	Install USB printer drivers. This is th	e default.
	Install ethernet printer drivers.	
Local and the second second		
instatonien.		Back Next Can

Step 10. At this point, turn off your printer; and then click the OK button.

Step 11. This will bring up the End User License Agreement. To proceed with the installation, select the *I accept the terms of the license agreement* option, and then click the Next button.

Step 12. This will bring up the **Choose Destination Location** window. If necessary, make any changes; and then click the **Next** button.

Step 13. This will bring up the **Select Program Folder** window. Select the desired Program Folder; and then click the **Next** button.

Setup will add program icons to the Program Folder listed below. You may type a new folder nam or select one from the existing folders list. Click Next to continue.
Brogram Folder: Zebra P630k-P540, Card Printera
 Existing Folders:
Accessories Administrative Tools
Adobe Adobe RoboHelp 7 Raam
Corel Ventura 10 CorelDRAW Graphics Suite X3
EPI Suite 6 Games
Ionita Applications Ionega Microsoft Office
I.H.J.S. Applications Tomega Microsoft Office

Step 14. This will bring up the Ready to Install the Program window. To continue, click the Install button.

Ready to Install the Progra The wizard is ready to begin in	m stallation.
	Click Install to begin the installation.
	If you want to review or change any of your installation settings, click Back. Dick Cancel to exit the wizard
InstallShield	< Back Install Cancel

Step 15. Observe the Setup Status window.

Step 16. When the Congratulations window appears, click the Next button.

Step 17. When the InstallShield Wizard Complete window appears, click the Finish button.

Zebra P630i/P640i Card Prin	ter 3.00.06 - InstallShield Wizard InstallShield Wizard Complete The InstallShield Wizard has successfully installed Zebra P630//P6401 Card Printer 3.00.06 Click Finish to exit the wizard Show the Readme file.
InstallShield	< Back Finish Cancel

Step 18. At this point, turn on your printer; and then click the OK button.

Step 19. This completes USB driver installation. To use the P630i or P640i Printer, you would select it just like you would any other printer connected to a Windows system.

Installing the Ethernet Printer Driver

Note • To install the USB driver, see Page 34.

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

Important • A valid static IP address must be assigned to the printer.

Important • See Section 7 for system-related troubleshooting issues.

- **Step 1.** If not already done, connect power to the printer (see Page 30), and connect the Ethernet Port on the rear of the printer to an Ethernet Network Port (see Page 31).
- **Step 2.** Turn the Printer on, and let it initialize until the READY LED on the front panel is lit.
- Step 3. Insert the User Documentation, Drivers, and Training CD into the CD drive of the host computer. The Select Language window will open.

Step 4. From the **Select Language** window, choose the appropriate language for your system.

Step 5. The Main Menu will open in the selected language (English shown below).

- Step 6. From the Main Menu, click Install Printer Driver.
- **Step 7.** If an older P630*i* or P640*i* Printer and Driver is installed on your computer, the following window will be displayed; otherwise go to Step 8.

₩elcome Modify, rep	bair, or remove the program.
If you are u old drivers	upgrading from a previous version always select the REMOVE button to uninstall the and then re-install the new drivers.
	 Select new program features to add or select currently installed features to remove.
© <u>R</u> emov	e
C2	Hemove all installed features. If you are upgrading to a newer version of the driver, you must Remove older installation first before installing this newer version.
hrstelfShield	

Follow the screen prompts. At the end of the uninstall process, you will be asked to re-boot your computer. Re-boot your computer, and start over with Step 1. If the computer enters the Found New Hardware Wizard at this time, cancel this Wizard.

Installing the Ethernet Printer Driver

Step 8. The **InstallShield Wizard** window will open. To proceed with the installation, click the **Next** button.

Step 9. Select Install ethernet printer drivers, and click the Next button.

Select the feature	s re you want to install.	(100
Please select th	e feature that you want to install.		
	Install USB printer drivers. This is t	ihe default.	
	Install ethemet printer drivers.		
-			
InstallShield			

Step 10. This will bring up the End User License Agreement. To proceed with the installation, select the *I accept the terms of the license agreement* option, and then click the Next button.

Step 11. This will bring up the **Choose Destination Location** window. If necessary, make any changes; and then click the **Next** button.

Step 12. This will bring up the **Select Program Folder** window. Select the desired Program Folder; and then click the **Next** button.

Select Program Folder Please select a program folder.		
	Setup will add program icons to the Program Folder listed below. You may type a new folder name or select one from the existing folders list. Click Next to continue.	3
	Erogram Folder: Facha BERIN Earl Printer:	
	Existing Folders:	Í
	Accessories Administrative Tools Adobe	9
	Adobe RoboHelp 7 Baan Corel Ventura 10	
	CoreDRAW Graphics Suite X3 EPI Suite 6	ļ
	I.R.I.S. Applications Iomega	
	Microsoft Office	
InstallShield	< Back Next > Cancel	

Step 13. This will bring up the Ready to Install the Program window. To continue, click the Install button.

onfigu	ure Ethernet	Port	
Printe	rInto		ΟΚ
Model MAC A	Name : Address :		Cancel
Serial	Number:		Configure Printe
Printe	r [P Address 0 . 0 .	. 0 . 0	Browse
Timed	iuts		
Timed	outs 20000	<u>R</u> ead Tim	neout (ms)

Step 14. This brings up the Configure Ethernet Port window. Click the Browse button.

Step 15. Any Zebra printers will be located. Select (highlight) the desired printer (for this procedure it is a P640*i*, but the steps would be the same for a P630*i*) and click the OK button.

Browse Printe	ers				2
IP Address	MAC Address	Model Number	Serial Number	Configured	Οκ
10.1.5.200	00:07:4d:00:00:00	P640i	0506082	Yes	
					Cancel
					<u>R</u> escan

Note • If the Printer is not found, check to make sure the Printer is powered on; and the Ethernet connector is engaged.

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

Step 16. The **Configure Ethernet Port** window will reappear, but now the information for the P640*i* printer selected in Step 15 will be displayed. Then click **OK**.

Configure Ethernet Port	
Printer Into	ОК
MAC Address : 00:07:4d:00:00:00	Cancel
Serial Number: 0506082	Configure Printer
	B.0.000
Thereich	
Timeouts 20000 <u>B</u> ead Timeou	it (ms)

Step 17. When the InstallShield Wizard Complete window appears, click the Finish button.

	InstallShield Wizard Complete
	The InstallShield Wizard has successfully installed Zebra P630/P640i Card Printer 3.00.06. Click Finish to exit the wizard.
	Show the Readme file.
InstallShield	< Back Finish Cancel

Step 18. This completes Ethernet driver installation. To use the P630i or P640i Printer, you would select it just like you would any other printer connected to a Windows system.

4 Settings and Adjustments

Introduction

This section describes settings and adjustments that can be made to your printer. This consists of four major topics:

Sensors and Interlock Switches	
Printer Properties	
Printing Preferences	,
Adjustments	

Sensors and Interlock Switches

These are of several different types of sensors and interlock switches, but they have one thing in common - they tell the printer's control logic what's happening and where, enabling it to continue with the process or, if a malfunction occurs, to light the appropriate indicator light and report a specific error condition on the host computer screen.

The figure below shows the *relative* locations of the sensors that track card and ribbon position and movement.

Access Printer Sensor Data

To access Sensor Data, select *Start* > *Printers (or Printers and Faxes)*. Right click *Zebra P630i* or *Zebra P640i*, then select *Properties* > *Device Settings* > *Control* > *Advanced Utilities* > *Show Sensor Data*.

ibbon		Temperature	
Ribbon Panel Detect:	171	Printhead Temp:	23 °C
Panel Threshold:	100	Controller Board Temp:	23 °C
Ribbon Encoder Count:	534	Top Heater Temp:	23 °C
- min - to		Bottom Heater Temp:	23 °C
Ton Laminate Sensor:	11	Lucia Olatar	
Bottom Laminate Sensor:	185	Hopper Door:	1
Lam. Present Threshold:	124	Main Door:	1
Lam. Absent Threshold:	140	Truck Near Hopper:	1
		Truck Home:	0
liscellaneous		Printhead Lift:	0
Card Presence Sensor:	247	Flip Station:	1
Printhead Voltage:	24.300 V	Card Lam Enter:	0
		Card Lam Exit:	0
AC Frequency:	60 Hz	0	
Assumed AC Voltage:	110 V	1 = blocked/pressed/cli	sea/open osed

- Ribbon Panel Detect The current reading of the Color Sensor.
- **Panel Threshold** The current value of the detection threshold for the color ribbon. Above this value is termed "black," below this value is termed "not black."
- Laminate Sensors Reflective sensor that detect the presence of laminate on the transfer rollers: below 124 = laminate present, above 140 = laminate absent.
- **Card Presence Sensor** The reflective sensor to the right of the card hopper: High = no card, Low = card present
- **Printhead Voltage** Should be about 24V.
- AC Frequency 50 or 60 Hz.
- Assumed AC Voltage 110V assumed for 60 Hz.
- **Printhead Temperature** Temperature ceiling 70°C (above that temperature, printing is stopped until the head cools).
- Controller Board Temperature Should be about 5° above ambient.
- Heater Temperature Temperatures at the top and bottom laminate heater cores.
- Logic States Summarizes all two-state interlocks and photo sensors -- a very useful diagnostic tool. For example: opening/closing the doors will result in the logic states to commute from 1 to 0; and if not, it is a clear indication the sensor (switch) is faulty.

Printer Properties

To access the various Printer Properties, select *Start* > *Printers (or Printers and Faxes)*. Right click *Zebra P630i* or *Zebra P640i*, then select *Properties*

Color Management	Security	Device Settings
General Sharing	Ports	Advanced
Zebra P640		
ocation:		
Comment:		
Model: Zebra P640i		
Features		
Color: Yes	Paper available:	
Double-sided: Yes Staple: No	CR-80 Standard CR-80 Oversize CR-80 Oversize	(578x952 pixels) (600x952 pixels) (610x968 pixels)
Speed: Unknown Maximum resolution: 300 dpi		-
Printing	Preferences	Print Test Page

- **General Tab** Displays printer information of a general nature, includes selection for Printing Preferences and Print Test Page (i.e., the standard Windows test page).
- Sharing Tab Operating System (OS) feature where the printer can be shared with other clients on a network.
- Ports Tab OS feature displays available communication ports.
- Advanced Tab OS feature to select printer availability and spooling options.
- Color Management Tab Allows user to define color profile(s) with color printers.
- Security Tab OS feature where permissions to printers can be defined.
- **Device Settings Tab** Allows user to make basic printer adjustments and access advanced printer controls.

General Tab

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

To access the General tab, select *Start* > *Printers and Faxes*. Right click on the *Zebra P630i* or *Zebra P640i* printer listing. Select *Properties* > *General*.

General Sharing	Ports	Advancer
Zabra PC40		
Second F040		
ocation:		
jomment:		
Agdel: Zebra P640i		
Features		
Color: Yes	Paper available:	
Double-sided: Yes	CR-80 Standard (5	78x952 pixels
Staple: No	CR-80 Oversize (6	10x952 pixels) 10x968 pixels)
Speed: Unknown		
Maximum resolution: 300 dpi		-

- **Printing Preferences** Changes the card settings; see Printing Preferences on page 62.
- **Print Test Page** Prints the standard Windows test page.

Sharing Tab

On the Sharing tab (Sharing Property Page), you can choose to share the printer over the network and install additional drivers to accommodate different operating systems.

To access the Sharing tab, select *Start > Printers and Faxes*. Right click on the *Zebra P630i* or *Zebra P640i* printer listing. Select *Properties > Sharing*.

Color Manag	gement	Se	curity	Device Setting:
General	Shar	ing	Ports	Advance
enable Do not st <u>Share name</u>	e sharing for i	eni	r, click Share ti	ns printer.
Drivers If this prin Windows, users do r	ter is shared , you may wa not have to fi	with users nt to insta nd the pri	running differe Il additional dri nt driver when	ent versions of vers, so that the they connect to
the share	d printer.		_	

This is sharing according to the Microsoft Windows definition. In a network environment, it allows other computers to send jobs to the printer that is connected to your computer.

Ports Tab

Use the Ports tab to specify the computer port to which the P630*i* or P640*i* is connected. This will have been established at the initial installation of the printer, and will not normally require attention.

To access the Ports tab, select *Start* > *Printers and Faxes*. Right click on the *Zebra P630i* or *Zebra P640i* printer listing. Select *Properties* > *Ports*.

Color Mar	nagement	Security	Device Settings
General	Sharing	Ports	Advanced
int to the fo	bra P640i ollowing port(s). Do	cuments will print to t	he first free
hecked por	Description	Printer	
	Serial Port	T In Rea	
	Serial Port		
СОМЗ:	Serial Port		
Сом4:	Serial Port		
G FILE:	Print to File		
ATL	Zebra USB Print	er Zebra P640i	
ATL	Zebra USB Print	er	- 1
Add Po	directional support	Delete Port	Configure Port
Enable pri	nter pooling		

An exception to this is if you wish to use *printer pooling*, the ability to distribute print jobs to multiple printers. To enable printer pooling, check the "Enable Printer Pooling" box, then check multiple ports. Each port should have a single Zebra printer installed on it. All the pooled printers must be identical models with the same configuration (for example: all with YMC front, K back).

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

Advanced Tab

Determines the spooling (queuing) of print jobs, and how spooled jobs are handled relative to the most recent job. Printing Defaults allows the system administrator to establish selected default settings.

To access the Advanced tab, select *Start > Printers and Faxes*. Right click on the *Zebra P630i* or *Zebra P640i* printer listing. Select *Properties > Advanced*.

	r Managemen		Secu	rity		Device Settings
Gen	eral	Sharing	1	Ports		Advanced
Alwa	ays available					
Avai	la <u>b</u> le from	12/00/4	AM	1	0. 1	2:00.AM
Priority:	1 *					
					-	
Driver:	Zebra P640i				*	New Driver
) Print	directly to the	printer				
○ Print □ <u>H</u> olc ☑ Print □ <u>K</u> eej	directly to the I mismatched c spooled docu	printer locuments ments first ments				
 Print Hold Print Keep Enal 	directly to the mismatched of spooled docu printed docur ple advanced p	printer documents ments first ments printing feal	tures			
Print	directly to the I mismatched of spooled docu o printed docur ole advanced p ing Defaults	printer documents ments first ments printing feal Pring	tures t Proces	:sor	Se	eparat <u>o</u> r Page
 ○ Print ○ Print ○ Print ○ Keep ○ Enal ○ Print 	girectly to the I mismatched of spooled docu o printed docur ole advanced p ing Defaults	printer documents ments first ments printing feat	tures t Proces	:501	Se	sparat <u>o</u> r Page
 ○ Print ○ Hold ☑ Print ○ Keep ☑ Enal ○ Print 	glirectly to the mismatched of spooled docu o printed docu ole advanced p ing Defaults	printer documents ments first ments printing feat	tures t Proces	:sor	Se	sparator Page
 ○ Print □ Hold ☑ Print □ Keep ☑ Enal ○ Print 	glirectly to the I mismatched of spooled docu o printed docu ole advanced j ing Defaults	printer documents ments first ments printing feal	tures t Proces	:50[Se	sparat <u>o</u> r Page

Color Management Tab

Color Management settings allow you to associate color profiles on the printer based on the type of media being used and printer configuration. The **Add** button allows the operator to add additional profiles to the color profile list.

To access the Color Management tab, select *Start* > *Printers and Faxes*. Right click on the *Zebra P630i* or *Zebra P640i* printer listing. Select *Properties* > *Color Management*.

General	Sha	ing	Ports	Advanced
Color Mana	agement	Se	curity	Device Settings
A These printe type of	e settings let y r. Color profile of media being	ou associa s control ti i used and	ate color profile ne color on you the printer co	e(s) with your color ur printer based on the nfiguration.
Automatic	Windows w the list of a	ill automat sociated (ically select th color profiles (F	e best color profile fron Recommended]
◯ <u>M</u> anual:	Manually se this device	elect the d	efault color pro	file for all output from d color profiles
	Default col	or profile:	<none></none>	
	Add) -	lemove	Sel On Default

- Automatic Allows Windows to select the best color profile (default).
- **Manual** Allows the operator to select the desired profile from the list shown in the Color Profile Window.

Security Tab

This is the standard Windows security screen, showing user access to various printer control options. Both Print and Manage Printers *must* be checked for full functionality of the printer.

To access the Security tab, select *Start* > *Printers and Faxes*. Right click on the *Zebra P630i* or *Zebra P640i* printer listing. Select *Properties* > *Security*.

General Sharing	Ports		Advanced
Color Management	Security	De	vice Settings
roup or user names:			
Administrators (01WXPRRI	NGWALD\Admir	istrators)	
CREATOR OWNER			
🗱 Everyone			
	NGWALD FOWER	Oseisj	
	L A	dd]	Bemove
		<u>ga</u>]	Tieniove
ermissions for Administrators		Allow	Deny
Print		1	
Manage Printers		4	
		4	
Manage Documents			
Manage Documents Special Permissions			
Manage Documents Special Permissions or special permissions or for adv	vanced settings,	ſ	Advanced
Manage Documents Special Permissions or special permissions or for adv ick Advanced.	vanced settings,	[Advanced

Device Settings Tab

The Device Settings screen allows you to access various adjustment and calibration screens.

To access the Device Settings tab, select *Start* > *Printers and Faxes*. Right click on the *Zebra P630i* or *Zebra P640i* printer listing. Select *Properties* > *Device Settings*.

General	Sharing	Ports	Advanced
Color Manager	ment 9	Security	Device Settings
Maintenance		_	
These maintena printers at the fa undesirable resu	nce screens are u: ctory. Modifying th lts.	sed primarily to o nese values cou	alibrate the Id cause
	Printer Adju	stment	
	Color Calib	ration)	
Status			
			CONTRACTOR OF A DOMESTIC
The status scree is updated every	en displays the cur v few seconds.	rent state of the	printer, which
The status scree is updated every	en displays the cur i few seconds. <u>S</u> tatus	ient state of the	printer, which
The status scree is updated every Control	m displays the cur I few seconds. <u>S</u> tatus		printer, which
The status scree is updated every Control The control scree These functions printer.	en displays the cur few seconds. Status en allows manual o are similar to the b	control over the tuttons on the fro	printer, which

•	Printer Adjustment.	58
•	Color Calibration	59
•	Status	60
•	Control	61

Printer Adjustment

To access the Printer Adjustment screen, select *Start* > *Printers and Faxes*. Right click on the *Zebra P630i* or *Zebra P640i* printer listing. Select *Properties* > *Device Settings* > *Printer Adjustment*

nter Adjustment			
Print Station Adjust		-	ок
Laminate Station Adjust		-	Cancel
Laminate Station Adjust		_	<u>H</u> elp
Flip Station Adjust			
Advanced Adjust			
Card Hopper			
Pick Position Adjust (Pixels) :	3	÷	
Cleaning Station			
Clean Frequency: Every	10		Cards

The following procedures can be performed via the Printer Adjustment screen:

- Print Station Adjust ... : Provides controls for print station adjustment.
- Laminate Station Adjust ... : Provides controls for accurate positioning of the laminate.
- Flip Station Adjust ... : Provides controls for flip station adjustment.
- Advanced Adjust ... : Provides controls for magnetic encoding and smart card position adjustments.
- **Card Hopper** (Pick Position Adjust (Pixels): Adjusts the position of the truck when picking a card from the hopper.
- **Cleaning Station** (Clean Frequency): Runs clean cycle will be run after the specified number of cards have been printed. The clean frequency range is from 1 to 20, the default = 10.

Color Calibration

The Color Calibration screen allows manual control over printer color parameters. For details, see Adjustments: Color Calibration on page 69.

To access the Color Calibration screen, select *Start* > *Printers and Faxes*. Right click on the *Zebra P630i* or *Zebra P640i* printer listing. Select *Properties* > *Device Settings* > *Color Calibration*

Yellow	OK
Gain:	100 %
Offset:	90 % Lancel
Preheat:	90 % <u>H</u> elp
Magenta	Reset to Default
3ain:	100 %
Diffset:	90 %
Preheat:	90 %
Cyan	
3ain:	100 %
Offset:	90 %
Preheat:	90 %
ack Black Panel Density: —	100 %
ack Panel Preheat: —	15 %
ont Plack Panal Donaitur	100 %

Settings and Adjustments Printer Properties

Status

The Status screen displays the current state of the printer and provides standard printer information and sensor data, which is updated every few seconds.

To access the Status screen, select *Start* > *Printers and Faxes*. Right click on the *Zebra P630i* or *Zebra P640i* printer listing. Select *Properties* > *Device Settings* > *Status*

Vendor Name: ZEBRA Modet P640i Firmware Version: V5.20 Driver Version: 2.22.00 Serial Number: 0711132 Carde Britstet 1250	Media Images Left:	<u>H</u> elp 410
Model: P640i Firmware Version: V5.20 Driver Version: 2.22.00 Serial Number: 0711132 Carde Private: 1250	Media Images Left:	<u>H</u> elp 410
Firmware Version: V5.20 Driver Version: 2.22.00 Serial Number: 0711132 Carde Printed: 1.250	Media Images Left:	410
Driver Version: 2.22.00 Serial Number: 0711132	Images Left:	410
Serial Number: 0711132		
Cards Brinted: 1250		
caras minea.	Memory Configuration	ø
Print Jobs	DRAM Size:	8 MB
Next 1	Receive Buffer Size:	4449 K
In Receive Buffer: 0	Enabled Features	
In Print Buffer: 0	Uv Printing:	Yes
Firer Conditions	ID/Code:	No
No error detected	ID/Key:	Yes

Control

The Control screen allows manual control over the printer. Some of these functions are similar to the buttons on the front of the printer.

To access the Control screen, select *Start* > *Printers and Faxes*. Right click on the *Zebra P630i* or *Zebra P640i* printer listing. Select *Properties* > *Device Settings* > *Control*

rinter Control	
Advance Ribbon	Close
Advance Laminate	Help
Run Clean Cycle	
Print Test Card	
Clear Error	
Print Control Reprint Last Card Copies: 1 +	
Zero Buffer Count	
Receive Print	
A designed (1676)	

The following procedures can be performed from the Control screen (note that #1, #2 and #6 perform the same functions as the front panel buttons):

- Advance Ribbon: Advances the print ribbon to the next set of panels. Use this after a ribbon jam or when you load a new ribbon.
- Advance Laminate: Advances the Laminate onto the rollers, under the flex guides. If the laminate chips are already loaded, this will have no effect.
- Run Clean Cycle: Activates the clean cycle to clean the sticky roller.
- Print Test Card: This will print a test card containing driver configuration information
- Clear Error: Clears some error conditions within the printer to allow printing to resume.
- **Print Control** (Reprint Last Card and Copies): Activate a reprint of a card. You can also set the number of copies to print.
- Zero Buffer Count:
 - **Receive**: If an error occurred, there may be a card image stuck in the receive buffer. This clears the receive buffer if you do not want to print it.
 - **Print**: If an error occurred, there may be a card image stuck in the print buffer. This clears the print buffer if you do not want to print it.
- Advanced Utilities...:

Printing Preferences

The Preferences screens the operator may be asked by Service Personnel to refer to and/or modify are Card Setup, Image Adjustment, YMC (Color) Printing, and K (Black) Panel.

To access the Printing Preferences screens, select *Start* > *Printers and Faxes, then* right click *Zebra P630i* or *Zebra P640i* printer and select *Printing Preferences*.

	nt Magnetic Encoding ID/Log Advanced Abou
Card Setup	YMC (Color) Printing K (Black) Panel
Image Size:	CR-80 Standard (578x952 pixels)
Cards:	Zebra Card
Ribbon	
Туре:	Color 5 Planel MMCL KL80001 A-980 -
	YMC (Color) K (Black)
Front:	ন্দ 'ন্দ
Back:	지 기
T Disable	Laminator Sleep Mode
Disable Orientation Front:	Laminator Sleep Mode Back:
Disable	Laminator Sleep Mode Back: ortrait
Disable Drientation Front: C Ec	Laminator Sleep Mode Back: ortrait andscape age 180°
Disable	Laminator Sleep Mode Back: ortrait andscape age 180°
☐ Disable Orientation Front: ☐ Potete Inr ☐ Rotate Inr	Laminator Sleep Mode Back: ortrait andscape page 180° TRotate Image 180°
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☐ Disable Orientation Front: 	Laminator Sleep Mode Back: entrait andscape bage 180° T Rotate Image 160°

- Card Setup Tab Allows user to adjust selected card parameters.
- **Image Adjustment Tab** Allows user to adjust the brightness and contrast of the images printed on the cards.
- YMC (Color) Printing Tab Allows user to adjust selected color printing parameters.
- K (Black) Panel Tab Displays available options for Black Extraction.

Card Setup Tab

Card Setup allows the user to adjust selected card parameters.

To access the Card Setup screen, select *Start* > *Printers and Faxes*. Right click on the *Zebra P630i* or *Zebra P640i* printer listing. Select *Printing Preferences* > *Card Setup*.

Card Setup	nt Magnet	ic Encoding ID/Lo MC (Color) Printing	og Advance Kißla	d Abor
Incase Circu		MC (COOJ) Thriting		
maye size.	LH-au stand	ard (ovexaoz pixels)		
Cards:	Zebra Card		-	
Ribbon	-			
Type:	Eolor 5 Plane	[N/MC1 K.1,80001 #-980	-	
	YMC (Color)	K (Black)		
Front:	P	R		
Back:	F	R		
T Disable	Front CF	Front and Back p Mode		
T Disable	Front CF	Front and Back		
Disable	Front CF	Front and Back p Mode Back:		
Crientation Front:	Front C F Laminator Sleep ortrait	Front and Back. p Mode Back:		
Disable	Front C F Laminator Sleep ortrait andscape	Front and Back. p Mode Back:		
Disable Orientation Front: E C Rotate Irr	Front C F Laminator Sleep ortrait andscape nage 180°	Front and Back p Mode Back: P Rotate Image 18	0+	
Disable Orientation Front: Pro	Front C F Laminator Sleep ortrait andscape lage 180°	Front and Back D Mode Back: Back: Rotate Image 18	D.	
Disable Orientation Front:	Front C F Laminator Sleep ortrait andscape rage 180*	Front and Back D Mode Back: Back: Rotate Image 181	0*	
Crientation Front: C Boable	Front C F Laminator Sleep ortrait andscape lage 180*	Front and Back D Mode Back: Back: Rotate Image 181	0.	
Crientation Front: Crientation Front: C Botate In	Front C F Laminator Sleep ortrait andscape lage 180*	Front and Back D Mode Back: Back: Rotate Image 18	0*	
Crientation Front Cont Crientation Front Crientation Crientation Crientation Crientation Crientation Crientation Crientation Crientation Front Front F	Front C F	Front and Back D Mode Back: PRotate Image 18	Q*	

- Image Size Sets the image area for both front and back of the card (1 inch = 300 pixels).
- Cards Specifies the type of card loaded in the hopper. "Zebra Card" is the only option.
- **Ribbon** This is the color ribbon installed in the printer. This is not user selectable but is setup by the RFID. For most applications, two types are available: YMCK = 3 color panels + 1 black panel, and YMCKK = 3 color panels + 2 black panels. For secure applications, a third type is available: YMCUvK ("Uv" is a panel of ultraviolet responsive resin). When using a printer with RFID, this option is not selectable.
- **Front/Back** Allows you to apply color or black, or both, to either side of the card. For example, with a 4-panel YMCK ribbon the usual arrangement is YMC (Color) on the front, K (Black) on the back. If you check both YMC and K on one side, this sets up a special condition known as black extraction.
- **Laminate** Allows you to choose whether laminate will be applied to the front side, to both sides (P640*i* Printer only), or to neither side. This option will automatically turn on the heaters.
- **Orientation** Allows you to set up the front and back images, independently, for landscape or portrait orientation. By checking the *Rotate* box, you can also flip either image upside down. The following combination is not available: Front landscape and Back portrait.

Image Adjustment Tab

From the Image Adjustment screen, the operator can adjust the brightness and contrast of the images printed on the cards.

To access the Image Adjustment screen, select *Start* > *Printers and Faxes*. Right click on the *Zebra P630i* or *Zebra P640i* printer listing. Select *Printing Preferences* > *Image Adjustment*.

Lard Setup	YMC (Color) Printing K (Black) Panel
Image Adjustment	Magnetic Encoding ID/Log Advanced About
	Brightness:
1	50
L	Contrast
	Contrast.
Berry	Dishawa Casharda Data ha
Heset	Dinitration Countrate in Distantics

Brightness and Contrast: Controls on the Image Adjustment screen have same effect on the printed image as do similar controls on typical office color printers. Move the slide bars to adjust the brightness and contrast of the cards being printed.

Click the **Reset Brightness/Contrast to Defaults** button to restore the default conditions; i.e., Brightness (50) and Contrast (50).

Here are some sample prints to illustrate the effects of changing the brightness and contrast settings:

YMC (Color) Printing Tab

YMC (Color) Printing allows the user to adjust selected color printing parameters.

To access the YMC (Color) Printing screen, select *Start* > *Printers and Faxes*. Right click on the *Zebra P630i* or *Zebra P640i* printer listing. Select *Printing Preferences* > *YMC (Color) Printing*.

Image Adjustment	Magnetic Encoding ID/Log	Advanced Abou
Card Setup	YMC (Color) Printing	K (Black) Panel
 High Quality (24 Low Quality (16 	bits per pixel] aits per pixel)	

The printer accepts 24-bit color images, meaning that each of the colors (Y, M and C) is represented by 8 bits per pixel.

- In High Quality, the default setting, all 24 bits are processed.
- In Low Quality, the printer driver transmits a smaller amount, 16 bits, of color information, the effect being a slight degradation of the printed image.

With a USB Connection (standard interface configuration), there will be no noticeable difference.

K (Black) Panel Tab

When the Card Setup screen is set for YMC and K on the same side of a card, a process called Black Extraction is enabled. The K (Black) Panel screen displays available options for Black Extraction.

To access the K (Black) Panel screen, select *Start* > *Printers and Faxes*. Right click on the *Zebra P630i* or *Zebra P640i* printer listing. Select *Printing Preferences* > K (*Black*) *Panel*.

	Magnetic Encoding	ID/Log	Advanced	Abou
Card Setup	YMC (Color) Pri	inting	K (Black) Panel
I o enable these sel configured in Card Sel Element Selection ↓ Test ↓ Ines and Pix ↓ Area Fills ↓ Monochrome ↓ Color Bitmaps Print Dye Black ↓ Do Not Print Dye	ections the printer must I etup to print Front K els Bitmaps (Black Portions Only) Jinder K Black Black Under K Black	be		

Black Extraction

Black extraction has to do with the way the printer driver handles the K (black) panel. The term applies *only* to the surfaces of the card on which *both* YMC (color) *and* K (black) are to be printed.

Equal amounts of Y, M, and C dyes, at maximum intensity, deliver a near-black image, but one that is not machine readable. 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 paint containing carbon black, which is highly visible to infrared-type readers.

Elements Selection - Depending on the program used to create the card layout, elements of the design may be identified in different ways to the printer driver. This printer driver recognizes five types of elements:

- Text is text which is sent explicitly as such to the printer driver.
- Lines and pixels are lines and dots (pixels) sent as such to the printer driver.
- Area fills are color-filled geometric shapes.
- Monochrome bitmaps are 1-bit bitmaps (every pixel either black or white).
- Color bitmaps (black portions only) are full color un-compressed pixel maps.

The above elements may not always be sent to the driver as expected. For example, a bar code may be sent as text, a series of area fills, or a monochrome bitmap. Results will vary by application used to create the card design.

Any of the above five elements may be selected for black extraction when the ribbon is set up to apply YMC (color) and K (black) to the same surface of the card. In this condition, the driver generates an extracted K image by looking for "true-black" features in the selected element types, that is, instances where all three YMC values are at the maximum (full intensity). Each such true-black instance generates a corresponding cluster of black pixels in the extracted image, which will be printed with the K (black) panel either on top of the YMC image, or replacing it entirely – your choice.

Adjustments

Color Calibration

To access the Color Calibration screen, select *Start* > *Printers and Faxes*. Right click on the *Zebra P630i* or *Zebra P640i* printer listing. Select *Properties* > *Device Settings* > *Color Calibration*.

Color rendering in the printer can be described in terms of a curve, which determines how much power is put into the printhead for a given shade.

The Y, M and C color curves can be separately modified by the Gain and Offset parameters. Click Restore Defaults if you are not satisfied with adjustments made.

The following procedures can be performed from the Color Calibration screen:

in a state of the		Ĩ.
Yellow		ОК
Gain:	90 %	Cancel
Preheat:	90 %	<u>H</u> elp
Magenta		Reset to Defaults
Gain:	100 %	
Offset:	90 %	
Preheat:	90 %	
Cyan		
Gain:	100 %	
Offset:	90 %	
Preheat:	90 %	
lack Black Panel Density:		- 100 %
Ilack Panel Preheat:		- 15 %
ront Black Panel Density:		- 100 %
Contract Adjust		1 100 *

	3
K)

Note • The values shown above are the default values; recommended settings (different from the default values) are shown on the next page.

Note • The values shown on the previous page are the default values; recommended settings (different from the default values) are given in the following descriptions.

Note • Typically, the set of values (Gain, Offset, and Preheat) should be the same for each color.

- Gain Adjusts steepness of the curve. Lighter shades will remain unchanged, but darker shades will get darker or lighter as the number is increased or decreased. Recommended setting = 95%.
- **Offset** Shifts the color curve up (darker) and down (lighter). Recommended setting = 95%.
- **Preheat** Adjusts how much the head is preheated before each print line (every three hundredths of an inch). A larger value darkens (sharpens) the leading edges of colored areas. A lower value may result in "feathering" starting light, then darkening over the following few pixels as the head heats up. Recommended setting = 90%.
- **Back Black Panel Density** This controls the amount of heat energy applied to any pixel required to be black. A higher value gives darker printing, but can cause undesirable blooming (indefinite edges). Recommended setting = 100%.
- **Black Panel Preheat** Temperature offset applied across the entire head, specifically for K panel printing. A higher value results in better resin transfer on the leading edge of graphics and text than you would get with a cold start, but it may lead to undesirable blooming (indefinite edges) overall. Recommended setting = 15%.
- Front Black Panel Density This controls the amount of heat energy applied to any pixel required to be black. A higher value gives darker printing, but can cause undesirable blooming (indefinite edges). Recommended setting = 100%.
- **Contrast Adjust** A subtle color printing control, allows the user to shape the printer's lightness curve. This means the ability to control how the printer resolves, or differentiates, the lighter and darker shades.

Between contrast settings of 0 and 100, the lightness curve transitions from linear to sinusoidal. Linear (0%) tends to result in a low contrast, muddy looking image. Sinusoidal (100%) gives mostly good results, but tends to sacrifice the lightest and darkest shades. Recommended setting = 80%.

Important • The printer must be power cycled for any adjustments to take effect.

Flip Station Routines

To access the Advanced Utilities screen, select *Start* > *Printers (or Printers and Faxes)*. Right click on the *Zebra P640i* or *Zebra P640i* printer listing. Select *Properties* > *Device Settings* > *Control* > *Advanced Utilities*.

Advanced Utilities	
Tests Flip Test 1 Flip/Pause Flip Test 2 Eject Card	Close <u>H</u> elp
	Password Protection
	Use Password Set Password
Move Catriage	ID/Code Status: DisabledSet ID/Code
Calibration Mag Position Adjust Mag Amplitude Adjust	 Disable Printer's Print Button Disable Printer's Other Buttons
Show Sensor Data Flip Station Calibration	Status Polling Frequency
Smart Card Calibration Set Ribbon OEM	Normal Reduced None
PH Pressure Cal Update Backup Config	Number of Times to Retry: 3
Upgrade Firmware	
Send Features File	

- **Tests**: Activate various flip tests, used to troubleshoot flip station problems; and activate a card eject cycle.
 - **Flip Test 1** Picks up a card, runs it to the flip station, flips it, raises it to the laminator infeed, then ejects it through the laminator. The sequence repeats until the PRINT button is pressed and released.
 - Flip Test 2 Picks up a card, runs it to the flip station, flips it, returns it to the Platen, then backs it out to the card sensor (by the mag head). The sequence repeats until the PRINT button is pressed and released.
 - **Flip/Pause** Picks up a card, runs it to the flip station, raises it to the laminator infeed, then holds this position (termed the Insertion Height in the flip station dialog) until the user presses the PRINT button (at which point the flip carrier descends, and the truck returns the card to the hopper).
 - **Eject Card** Picks up a card, runs it to the flip station, raises it to the laminator infeed, then ejects it through the laminator. Like Flip Test 1, but done once only, and without flipping.
- Move Carriage: Use this button to move the card carrier to the desired position. This is useful when adjusting the mechanical settings on the printer.

Laminator Station Adjustments

To access the Laminate Station Adjustment screen, select *Start > Printers and Faxes*. Right click on the *Zebra P630i* or *Zebra P640i* printer listing. Select *Properties > Device Settings > Printer Adjustment > Laminate Station Adjust...*

Top Laminate	n Adjustment			
rop commute	Length Adjust (mils) :	35	÷	ОК
	Horizontal Offset (mils) :	-100		Cancel
LENGTH	Heater Temperature (C) :	165	-	<u>H</u> elp
			_	Line Voltage
Bottom Lamina	e	[ar		🔎 Auto
	Length Adjust (mils) :	35	世	C 110V
- OFFSET +	Horizontal Offset (mils) :	-110	-	C 220 V
	Heater Temperature (C):	165	÷	

- Length Adjust (mils) This is the length of the laminate *patch*. If the patch is too long, decrease this number, and vice versa.
- Horizontal Offset (mils) Adjusts laminate placement on the card.
- Heater Temperature This is the set point temperature (i.e., the temperature desired) not the actual temperature. For actuals, see Access Printer Sensor Data on page 49.

Note • Temperatures are monitored by thermocouples at the *core* of the heated rollers. Surface temperatures may differ significantly.

• Line Voltage - If Auto is selected, the printer guesses line voltage based on line frequency, assuming that 110V will be @ 60Hz and 230V @ 50Hz. If this is not the case in your locality, the printer will guess wrong; and you should set the voltage manually.

Caution • Running the printer at 220V, 60Hz in Auto mode may cause premature failure of the heaters. Running the printer at 110V, 50Hz in Auto mode may cause abnormally long heat-up time and poor temperature control. Either will result in a heater error message in the printer status screen.

The standard laminate patch length is 3.25" (82.55mm). Accurate positioning of the laminate is important for practical and aesthetic reasons. The laminate must cover the entire image as printed at the time of issuance, thus protecting critical data with a tamper-deterrent film. Additionally, because even the smallest amount of overhang can compromise the card's integrity, the patch should be symmetrically positioned on the card.

If there is no magnetic stripe on the underside, a full-width laminate should be used.

When using smart card or registered laminates and the length is too long or too short, use the **Length Adjust (mils)** option to make length adjustments as required.

op Laminate	(lor		OK
+ OFFSET -	Length Adjust (mils) : Horizontal Offset (mils) :	35	=	Cancel
LENGTH	Heater Temperature (C) :	165		<u>H</u> elp
				Line Voltage
ottom Lamina	ate	-	-	Auto
	Length Adjust (mils) :	35	-	C 110V
- OFFSET + LENGTH	Horizontal Offset (mils) :	-110	3	C 220 V
	Heater Temperature (C) :	165	÷	

