Card Printer Solutions

® Zebra

P420i Plastic Card Printer

Welcome to your new

P420i User's Manual

User's Manual No. 980457-001   Rev. A

Card Printer Solutions

P420i Plastic Card Printer

FOREWORD

This manual contains installation and operation information for the Zebra P420i by Zebra Technologies Corporation.

RETURN MATERIALS AUTHORIZATION

Before returning any equipment to Zebra Technologies Corporation for in-warranty or out-of-warranty repair, contact Repair Administration 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:

For USA, and Latin America
Zebra Technologies Corporation
Card Imaging Division
1001 Flynn Road
Camarillo, CA. 93012-8706. USA
Phone: +1 (805) 579 1800
Fax: +1 (805) 579 1808
Toll Free in US: (800) 452-4056

For Europe, Asia and Pacific:
Zebra Technologies France
Card Imaging Division
Zone Industrielle, Rue d'Amsterdam
44370 Varades, France
phone: +33 (0) 240 097 070
Fax: +33 (0) 240 834 745

COPYRIGHT NOTICE

This document contains information proprietary to Zebra Technologies Corporation. This document and the information contained within is copyrighted by Zebra Technologies Corporation and may not be duplicated in full or in part by any person without written approval from Zebra. While every effort has been been made to keep the information contained within current and accurate as of the date of publication, no guarante is given or implied that the document is error-free or that it is accurate with regard to any specification. Zebra reserves the right to make changes, for the purpose of product improvement, at any time.

TRADEMARKS

P420i is a service mark and Zebra is a registered trademark of Zebra Technologies Corporation. Windows and MS-DOS are registered trademarks of Microsoft Corp. All other marks are trademarks or registered trademarks of their respective holders.

PRODUCT WARRANTY STATEMENT

Printers

All Zebra Card Printers are warranted against defects in material or workmanship for twelve (12) months from the purchase date.

Proof of purchase or shipment date is required to validate the warranty period. The warranty becomes void if the equipment is modified, improperly installed or used, damaged by accident or neglect, or if any parts are improperly installed or replaced by the user.

Note: Products returned must be packaged in the original or comparable packing and shipping container. In the event equipment is not so packaged, or if shipping damage is evident, it will not be accepted for service under warranty. Surface transportation charges for return to customers in the continental United States is paid by Zebra. Otherwise, Zebra pays CPT (carriage paid to) nearest airport, customer pays customers, duties, taxes, and freight from airport to destination. If Zebra determines that the product returned for warranty service or replacement is not defective as herein defined, the customer will pay all handling and transportation costs.

Printheads

Since printhead wear is part of normal operation, the original printhead is covered by a twelve (12) month warranty. Warranty period begins on purchase date.

To qualify for this warranty, the printhead must be returned to the factory or to an authorized service center. Customers are not required to purchase Zebra supplies (media and/or ribbons) for warranty qualification. However, if it is determined that the use of other manufacturer supplies has caused any defect in the printhead for which a warranty claim is made, the user is responsible for Zebra's labor and material charges required to repair the defect. The warranty becomes void if the printhead is physically worn or damaged; also if it is determined that failure to follow the preventive maintenance schedule listed in the User's Guide has causes defect in the thermal printhead for which a warranty claim is made.

Spare Parts

All parts, maintenance kits, options kits, and accessories are warranted to be free of defects in material and workmanship for 90 days (except where otherwise denoted) from date of purchase. This warranty become void if the item is modified, improperly installed or used, or damaged by accident or neglect.

Card Printer Solutions

P420i Plastic Card Printer

DECLARATIONS OF CONFORMITY

C E

European Council Directive		Compliance to Standards	
89/336/EEC modified by 92/31/EEC and 93/68/EEC	EMC Directive	EN 55022-B	RF Emissions control
	EMC Directive	EN 500082-1,1992	Immunity to Electromagnetic Disturbances
73/23/EEC modified by 93/68/EEC	Low voltage Directive	EN 60950	Product safety

FC C

Model: P420**i** conforms to the following specification:
FCC Part 15, Subpart A, Section 15.107(a) and Section 15.109(a) Class B digital device

Supplemental Information:
This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference , and (2) this device must accept any interference received, including interference that may cause undesired operation.

Note:
This equipment has been tested and found to comply with the limits for a class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmfull 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 used in accordance with the instruction manual, may cause harmfull interference to radio communications. Operation of this equipment in a residential area is likely to cause harmfull interference in which case the user will be required to correct the interference at his own expense.

INDUSTRY CANADA NOTICE

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

INTRODUCTION

***Thank you for choosing the Zebra** P420**i** Plastic Card Printer.*

These printers produce cards ideal for personalized identification, access control, visitor, membership, promotion and luggage card, badges and tags.

This manual guides you to an efficient start up and operation of your new Card Printer.

P420i PRINTER MODELS

The Zebra Product Number tells a story:

Here is a quick review of the Zebra Card Printer Series numbering and lettering system to help you.

The P420**i** Plastic Card Printer employs Dye Sublimination and Resin Thermal Transfer Technologies. Model numbers include identifiers that specify options are shown using the following lettering conventions:

P 4 2 0**i** - X X X X X - X X X

Smart card :
    O = No
    E = Yes
Magnetic encoder:
    O = No
    M = Yes
Magnetic encoder option:
    O = No
    1 = Stripe Down HICO
    2 = Stripe Down LOCO
    3 = Stripe Up HICO
    4 = Stripe Up LOCO
Memory :
    O = Standard
Interface :
    P = Parallel (Centronics 36 broches)
    U = USB + Centronic Parallel

Software :
    O = Demo software
Languages :
    D = Drivers & Documentation CD's
Power cord:
    O = None
    I = 120 VAC - 220 VAC
    U = UK

ICONS Throughout this manual, different icons highlight important information, as follows:

Important general information.

Mechanical hazard, such as one associated with moving parts, capable of resulting in equipment damage or personal injury.

Electrical hazard, such as an exposed voltage point, capable of causing electrical shock and personal injury.

An area where electrostatic discharge (ESD) can cause component damage. Use a grounding wrist band.

Elevated temperature hazard, capable of producing a burn.

Keep Card Printer clean by minimizing cover open time.

Card Printer Solutions Zebra ®

P420i Plastic Card Printer

Table of contents

General information

Getting started

Operation

Printing a card

Cleaning

Troubleshooting

Specifications

Appendix A

Appendix B

Appendix C

P420i Plastic Card Printer

General information

Getting started

Operation

Printing a card

Cleaning

Troubleshooting

Specifications

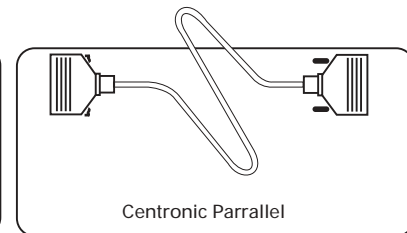Appendix A

Appendix B

Appendix C

GETTING STARTED

1•1 Unpacking your card printer

Your P420**i** printer ships in a carton and protective anti-static bag. Keep all packing material in case you need to move or re-ship the printer.

While unpacking, inspect the carton to ensure that no damage occurred during shipping.

Please ensure that you have a clean and nearly dust free environment for proper operation and storage of the printer.

Card Printer Solutions

P420i Plastic Card Printer

In addition to user documentation, make sure the following items are included with your P420**i** printer:

CLEANING KIT

CARD OUTPUT HOPPER

POWER CABLE

CLEANING CARTRIDGE

PRINTER DRIVER DISK (floppy or/and CD)
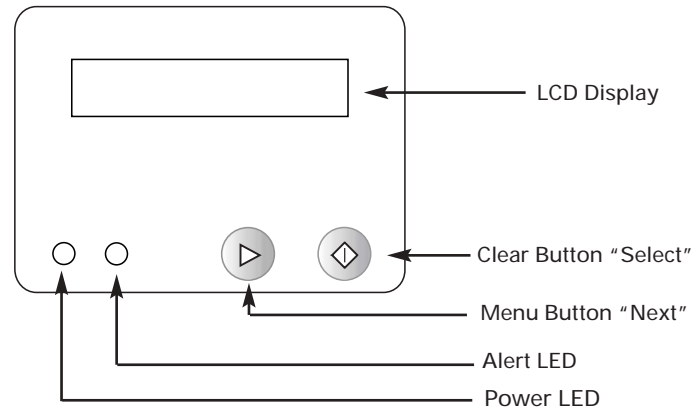
Centronic Parrallel
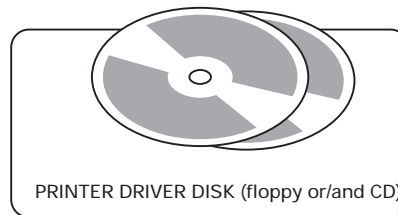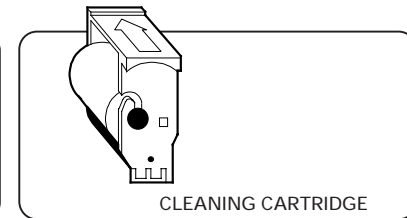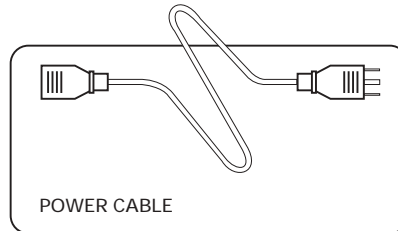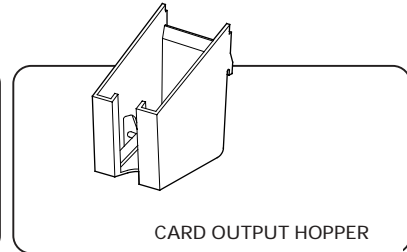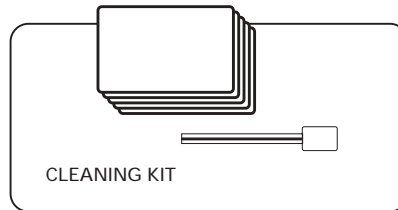
If any items are missing, please contact your dealer.

To reorder, please refer to Appendix C of this manual.

1•2 Indicators and Control

Your P720 printer has an LCD Display, two LED's and two Panel Buttons.

- LCD Display
- Clear Button "Select"
- Menu Button "Next"
- Alert LED
- Power LED

LCD Display: The 16 character LCD Display is used for:
• Showing the printer's current status
• Providing operator and service messages (chapter 5)

LEDs: The two LEDs are used for:
• Green: Power LED
• Amber: Alert LED (with Beeper)
This Alert LED is on when an error condition exists. The Beeper will sound three alert "Beeps" and the LCD Display will show the associated error message.

Panel Buttons: The Menu Button (left) is a push button used for:
• Bringing printer into Menu Mode when pressed with the printer showing READY on the LCD Display.
• Using in Menu Mode to scroll through Menu Options.

The Clear Button (right) is a push button used for:
• Clearing an error status (when LCD Display shows an error and Alert LED is on).
• Invoking automatic retry of the operation which gave the error.
• Selecting a Menu Option when in Menu Mode.

Note: The buttons beep when pressed.

1•3 Printer Installation

The following will guide you through the installation of your P420i printer.

CAUTION: Limit AC power supplied to the P420i Printer to 110 - 230 V AC, 60 - 50 Hz for an associated 680 mA - 310 mA. Limit excess current draw to 16 amps or less, using an associated circuit breaker or other such device. Never operate the printer in a location where operator, computer, or printer can get wet. Personal injury could result. The printer must be connected to an earthed electrical power supply and properly protected against electrical surges and grounding faults.
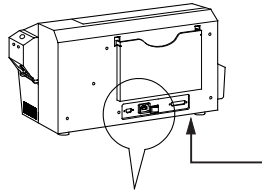
1.·Place the printer in a location that allows easy access to all sides. The printer should never be operated while resting on its side or upside down.
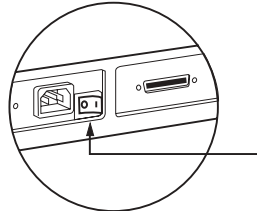
2.·Place the printer's power swith in the OFF (0) position.
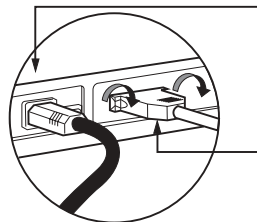
3.·Insert the power cable to the printer power socket and attach to grounded electrical socket of the proper voltage and type.

4.·Attach interface cable to printer and computer and then secure.

5.·Switch power on.

CAUTION: Intermittent or unpredictable operation may occur from unsecured connectors. If damaged, the power cable must be replaced by an exact equivalent. Use only Parallel Cable under 3 Meters in length.

OPERATION

2•1 Printer Features

The following shows the features found on your P420i Printer:
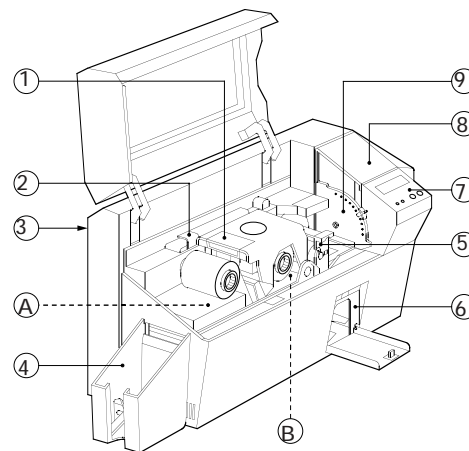
STANDARD FEATURES
1. Print Head
2. Print Head Unlock Lever
3. Manual Holder
4. Card Output Hopper
5. Card Cleaning Cartridge
6. Rejected Card Box
7. LCD Display & 2 Panel Buttons
8. Card Feeder + cover
9. Card Thickness Control Lever

OPTIONAL FEATURES
A. Magnetic Encoding Station
B. Smart Card Contact Station

PLEASE NOTE: Any blue items inside the printer can be operated by the user.

2•2 Loading Ribbons

The P420**i** Printer requires approved ribbons (see Appendix C). The Resin Thermal Transfer and Dye Sublimation ribbons and Lamination are specifically designed for your P420**i** Printer. **i** Series printers require the use of **i** Series ribbons for full color printing

DO NOT TOUCH the print head or the electronic components on the print head carriage. Discharges of electrostatic energy that accumulates on the surface of the human body or other surfaces can damage the print head and other electronic components used in the device.
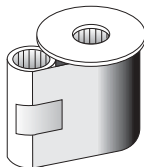
1.· Remove ribbon from packaging.
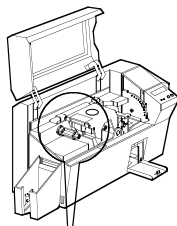
2.· With printer power ON and READY status, open cover and press down on the Print Head Unlock Lever to open the print head carriage. The print head carriage will pop open.
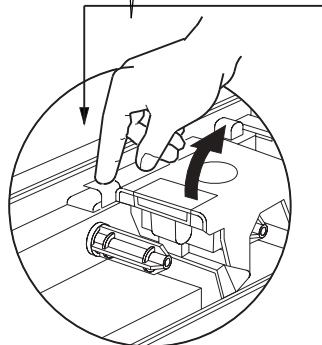
Continued on next page ....

SUPPLY SPINDLE
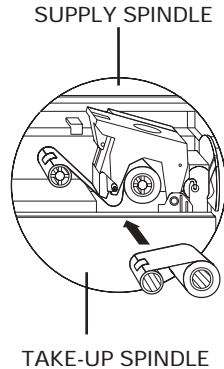
TAKE-UP SPINDLE

3. *Load ribbon onto the supply spindle (under print head carriage) and empty core (with tape attached) onto the take-up spindle. Make sure the ribbon comes off of the top of the supply spindle and feeds to the top of the take-up spindle.*
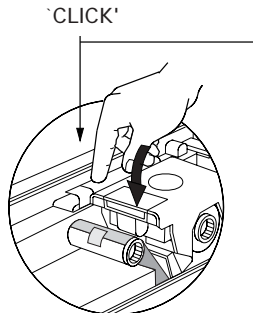
`CLICK'

4. *Push down on the Print Head Lock Lever until an audible 'click' signals the locked-down position.*

5. *Close Cover.*

Please note that the ribbon automatically synchronizes whenever the print head lock down occurs.

With **i** Series ribbons, the printer automatically detects the ribbon type inserted.

The card flipper will not operate and an error will be indicated if you try to flip a card when the cover is open.

2•3 Loading Cards

To help you load, print, and collect cards, the P420**i** has the following items:

A - CARD FEEDER
This items is used for loading cards.
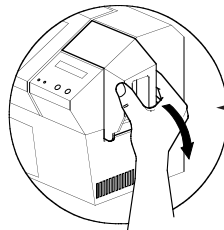
1.·*Open Card Feeder Cover by putting your fingers on both sides and rotating the cover in a clockwise direction to the open position.*
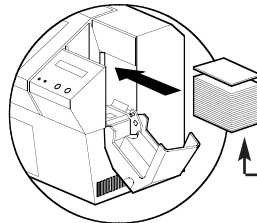
2.·*Install cards into Feeder* as shown.*
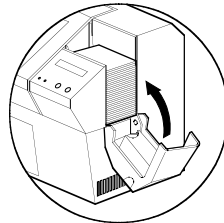
3.·*Close Card Feeder Cover.*

DO NOT bend cards or touch print surfaces as this can reduce print quality. The surface of the cards must remain clean and dust free. Always store cards in an enclosed container. Ideally, use cards as soon as possible. If cards stick together, carefully shuffle them.

* See Chapter 6, Technical Specifications, for card requirements and capacities.

B - **INSTALL CARD CLEANING CARTRIDGE**

This item is used to clean the cards entering the printer.
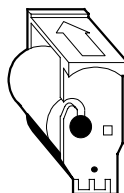
1.·Remove Card Cleaning Cartridge from packaging.
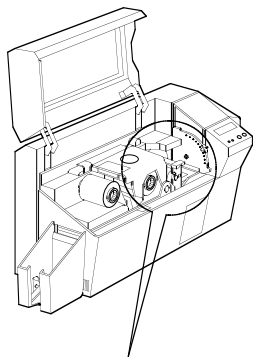
2.·Open Printer cover and remove the yellow reminder tape from the location for the Cleaning Cartridge.
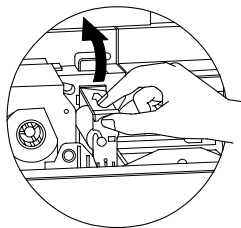
3.·Make sure the arrow on top of the assembly is facing toward the rear of the printer.
Hook assembly into slot on printer and rotate down.
Ensure the assembly locks in place.

C - CARD THICKNESS CONTROL LEVER

This item is operated by the user to prevent more than one card feeding into the printer at the same time and causing a jam.
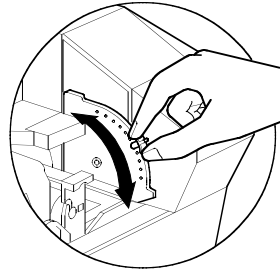
Open Cover, and adjust lever to correct position. Repeat for different card thickness.
(Factory setting is for 30mil (0.762mm) card thickness). See diagram below:

Card Thickness:
A - 60mil (1.524mm) to 50mil (1.27mm)
B - 40mil (1.016mm)
C - 30mil (0.762mm)
D - 20mil (0.508mm)
E* - Less than 20 mil (0.508mm)
* Start at lowest position and move lever up to match card thickness.

For other card thickness, start lever at lowest position and move up until cards feed.
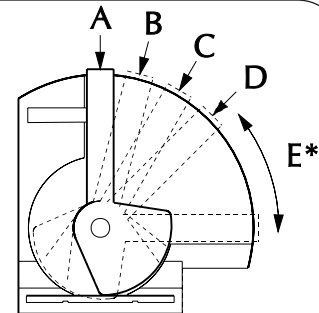
D - CARD OUTPUT HOPPER

This item is used for collecting printed cards.
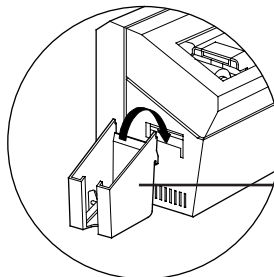
Install Card Output Hopper onto printer by hooking over bottom edge of card exit aperture.

2•4 *Rejected Card Box*

The P420**i** Printer is equipped with a Rejected card Box. When an encoding can not be completed, the card is ejected into the Rejected Card Box. The P420**i** Printer counts the number of cards which go into the Reject Card Box. After 20 cards the printer stops, the Amber LED Flashes and a LCD Message is displayed indicating the need to empty the reject box.

REJECT BOX FULL

WHEN TO MAINTAIN
When the LCD screen reports message
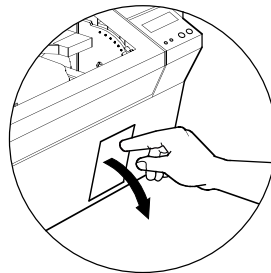
HOW TO MAINTAIN
1. Press the top of the Rejected Card Box Door as shown. Allow the door to swing down and open.
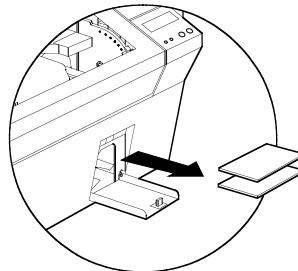
2. Remove all cards from the Rejected Card Box.
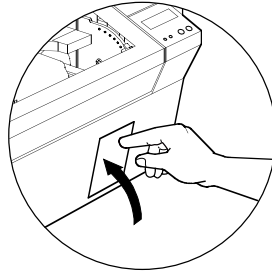
3. Swing the Rejected Card Box Door and press the top. An audible "click" signals the locked position.
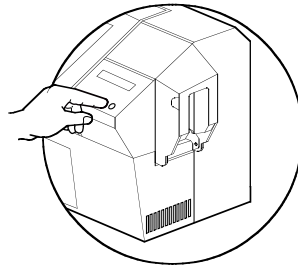
4. Press the Clear Button on the front panel to re-start the current printer job and to clear the rejected cards counter.

2•5 Feeding one card at a time

A Manual Feed Slot is avalable on the side of the Card Feeder cover for feeding single cards. Cleaning Cards are fed manually through this slot.
The Feeder must be empty for manual card feeding to work properly.
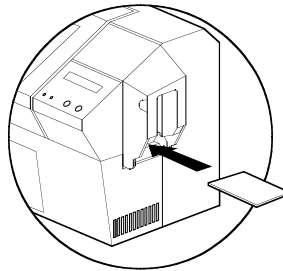
For one-at-a-time printing, feed cards through slot on side of Feeder.

Do not feed more than one card at a time.

2•6 *Printing a Test Card*

With ribbon and cards loaded, your P420i printer is ready to print. To check the operation of the printer you should print a test card.
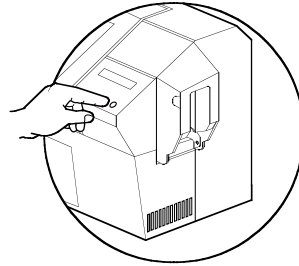
1. *When the printer displays READY, press the "Next" button (left) on your Control Panel to "SELF TEST CARD MENU", then the "Select" button (right).*

2. *Press "Next" to the SELF TEST CARD Print parameters, and then "Select".*
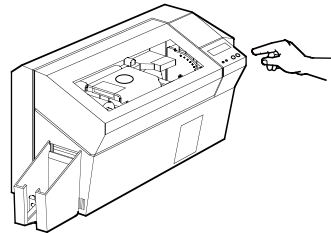
3. *A test card will print after a few seconds. LCD display will show printing status. Test Card is printed on both sides of the card.*

This is an example of the test card.

PLASTIC CARD PRINTER
PRINTER: P420 CEM
Serial Number 23666
Firmware: 4.00
300 dpi

TEST CARD

Head resistance: 1234
Offset: X12 - Y12
EC: 12
Printing Counter: 123456

Front Side

PLASTIC CARD PRINTER
PRINTER: P420 CEM
Serial Number 23666
Firmware: 4.00
300 dpi

TEST CARD

Head resistance: 1234
Offset: X12 - Y12
EC: 12
Printing Counter: 123456
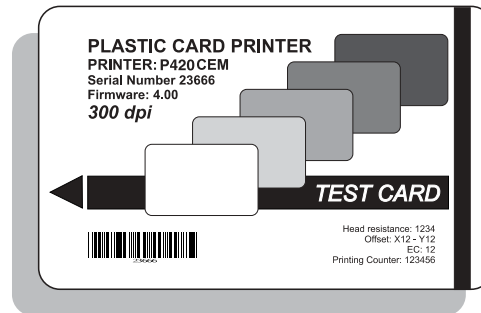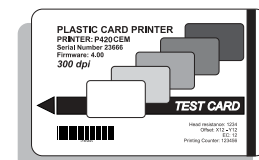
Back Side

2•7 *Printer Menu Information*

The printer is equipped with a LCD Display and two key buttons which gives access to printer menus.
Press the Menu button to enter the Menu Mode
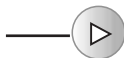
Menu Button ⎯⎯⎯ ▷   ◇ ⎯⎯⎯ **Clear Button**
[NEXT]   [SELECT]

The top line display shows menu information. The second line of display clarifies the function of the two [NEXT] and [SELECT] key buttons relative to the current menu item.

The printer will return to READY Mode if either of the two key Buttons is not pressed within ten seconds of entering Menu mode.

See next page:

P420**i** *LCD Menu Tree*

If the printer is equiped with a Magnetic Stripe Encoder

N: NEXT
S: SELECT

READY

N

PRINTER INFO — S →

N

- **Printer Model number** ← N
- **Printer Firmware Version**
- **Number of Impressions**
- **Reject Box status**
  To show the number of cards remaining in the reject box — N

GO TO MAIN MENU — S →

CLEANING MENU — S →

N

- **CLEAN PRINT HEAD**
  To clean the Thermal Print Head and card transport system — S →
- **CLEAN MAG. HEAD***
  To clean the magnetic Encoder Head — S →

To run cleaning

GO TO MAIN MENU — S → N

SELF TEST MENU — S →

N

- **TEST PATTERN**
  To print a printer test card — S →
- **PRINT PARAMETERS**
  To print a test card showing the operating parameter settings of the printers — S →
- **MAG PARAMETERS***
  To print a test card showing the operating parameter settings of magnetic encoder. — S →

To run printing

GO TO MAIN MENU — S → N

PRINTER DEFAULT

…/…

PRINTER DEFAULT (Condt.)

S →

N

Ribbon Type
To show the type of ribbon installed.
It may not match the ribbon physically
installed until the installed ribbon has been
selected through the driver.

Offset X: aa-Y:bb
To show the X print
location offset value in pixels (aa)
To show the Y print
location offset value in pixels (bb)

Mag. Option: cccc
To show the setting of the magnetic
encoder as (cccc), which can be:
-HICO (high coercivity)
-LOCO (low coercivity)
-NONE (no encoder present)

Color Parameters
To show the intensity values of yellow (Y),
Magenta (M) and Cyan (C) panels and
contrast value of black Resin (K) panel.

S

GO TO MAIN MENU

N
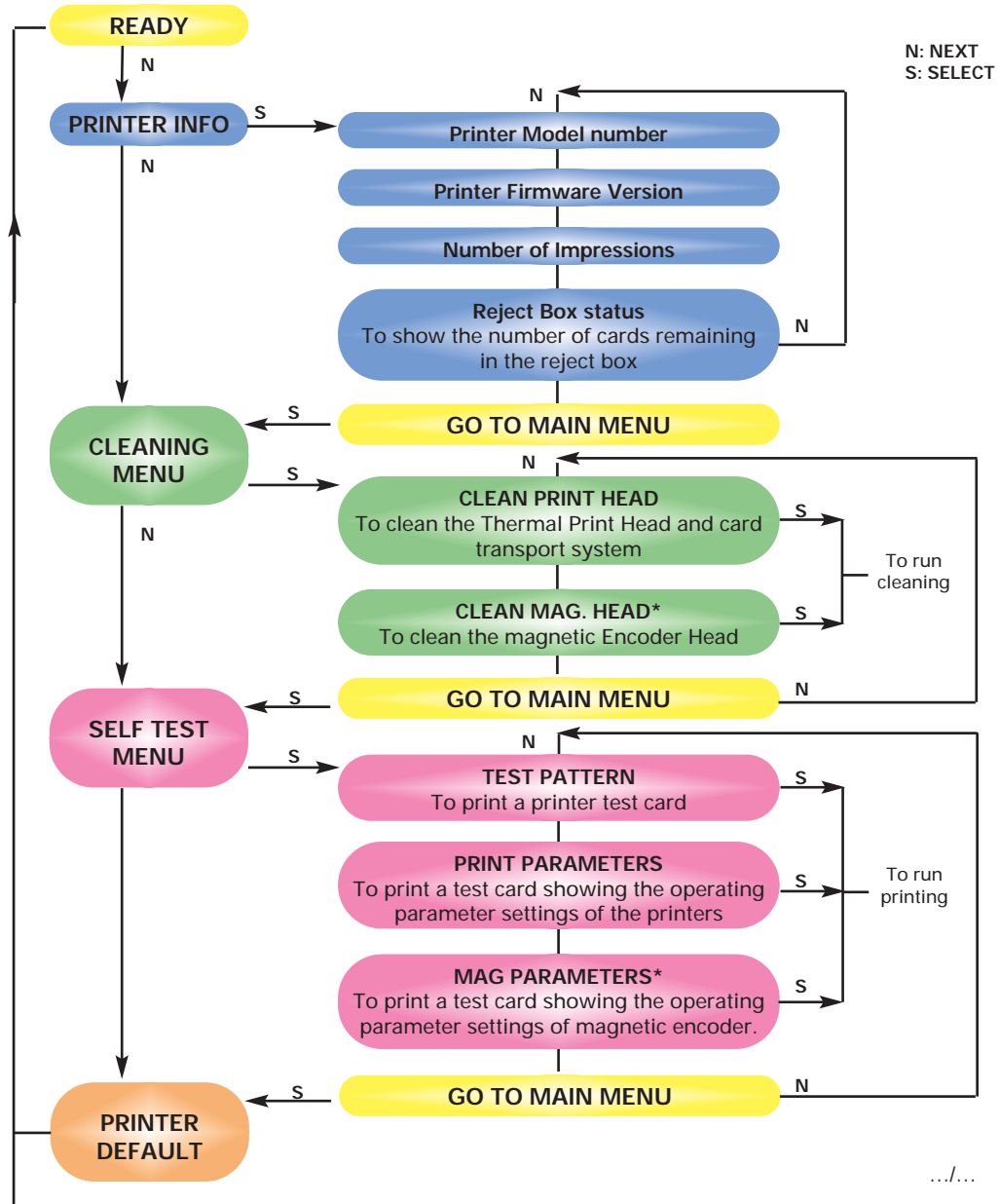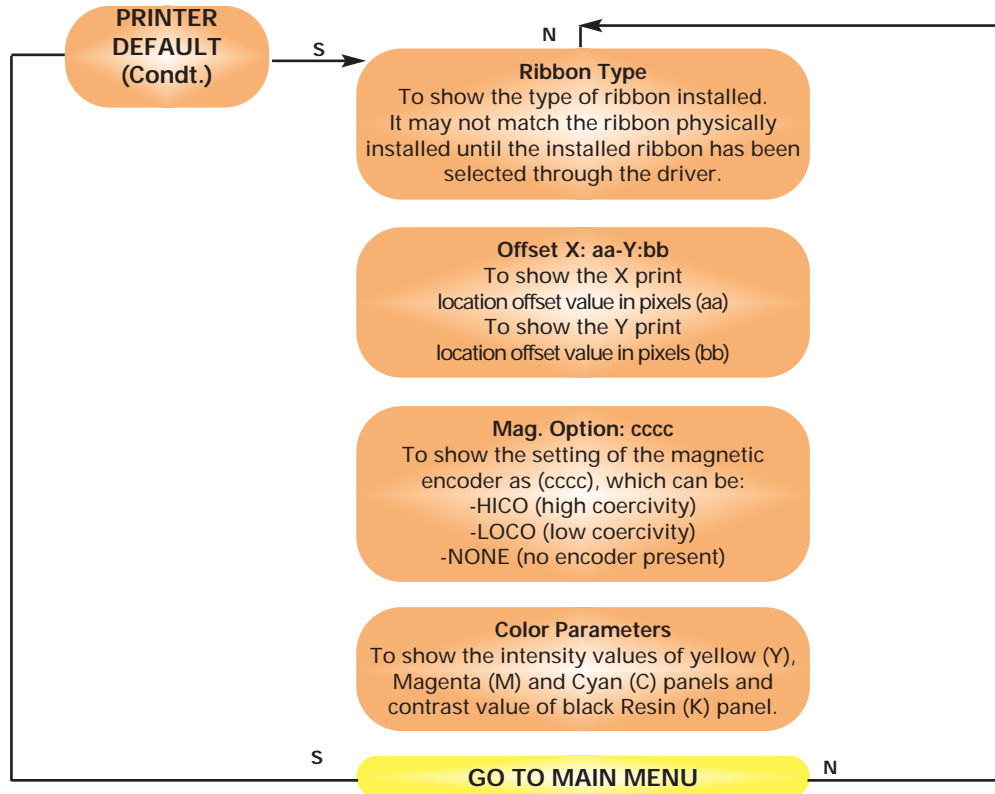
PRINTING A SAMPLE CARD

Printing with the P420**i** Printer requires the Windows Printer Driver, your card design/issuing Windows software or printer command level programming through the printer interface.

The P420**i** Card Printer can be used with any Windows 95/98/ME/XP/Win 2000, Windows NT 4.0 software application program, using the drivers provided on CD with the printer.

This section contains information on the printing of a dual-sided card in color (using the 6-Panel color ribbon YMCKOK) and the Windows Printer Driver.

BEFORE installing updated printer driver versions, always delete the existing printer driver version from your computer.

3 • 1. To install the P420i Printer Driver automatically on all Operating systems, use the install wizard.

The wizard will:

- Automatically launch when the driver CD is inserted.

- Check to see which operating system you are using

- Delete previous versions of the driver and clean up any necessary Reistry entries.

- You must select "Remove" from he install options to remove any previous driver versions.

- Shut down of PC if necessary.

- Install the new driver files and Registry entries to their correct locations.

- Shutdown of PC is not required, but it is advised.

The install Wizard will walk you through the appropriate steps.

⚠	Do not power the printer with USB attached.
	The driver will prompt you for USB installation.

3•2 Set Printer Driver Options:

To open the P420**i** Printer screen, right mouse click on your driver icon and select Properties.

Change the options as follows:

1• On the **Device Settings** tab the magnetic encoder feature is automatically enabled. If you need to change ettings for a Magnetic Encoder, select **Encoder** settings button.

2• On the **General** tab select card orientation:
Landscape or portrait - Select **"Landscape".**
(in NT, this is located under Document Defaults when you right mouse click from your driver icon. In Windows 2000 and XP, it is located under Print preferences.)

3• In the **Ribbon section,** the ribbon type is automatically detected and enabled for you.

3a• You can click on "ribbon Info" and see how many panels are left.

4• In the same tab, go to Black Panel area and select Text Only. This option allows the text printing using the Black Resin Panel from the Color Ribbon.

5• Close the Zebra P420**i** Printer screen.
Now that you have loaded media and set up the printer driver, the P420**i** Printer is ready to print.

3•3. Printing a sample card:

Follow the steps to print your first card

- Go to the Microsoft Word Software.

- If the printer was not selected as the default printer, go to the **File** menu and Select **Printer** and choose **Zebra** P420**i Card Printer** or **i** Series parallel card printer in the printer names list. Then **Close** the print dialog box.

- Come back to **File** menu and choose **Page Setup**.

- Select **Paper Size** tab and in **Paper Size** choose **Card**. Then select the orientation: "landscape".

- Go to **Margins** tab, put the Top, Bottom, Left and Right margins with O values.

- Press **OK** to close **Page Setup** window.

- The card appears on the screen.

- Design a card with 2 sides as follow:

Front Side

SAMPLE CARD

M. CHRIS JONES
SALES DIRECTOR

Buld the World with us!
Http://@artworld.com

If found return to:
Http:/atrworld.com

Back Side

- Once you are ready to print, go to **File** and point **Print**

- The printer will feed in a card and start printing (the data download time will vary depending on the complexity of the card design and the processing speed of your computer).

- Once the printing job is achieved the card is ejected from the printer.

CLEANING

⚠️ **PROTECT YOUR FACTORY WARRANTY!**
The recommended maintenance 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 P420**i** Printer.
NEVER loosen, tighten, adjust, or bend, etc. a part or cable inside the printer.
NEVER use a high pressure air compressor to remove particles in the printer.

4•1 Cleaning System

Your P420**i** Printer includes a simple cleaning system using the Pre-Saturated Cleaning Cards provided. The regular use of these cards will clean and maintain important parts of your printer: including the Print Head, and Transport Rollers.

CLEAN PRINTER ———— **WHEN TO CLEAN**
When LCD screen reports message.

HOW TO CLEAN
1. Leave power on.
Open Cover and release Print Head Bracket to remove ribbon.
Close Print Head bracket.
Close Cover. Remove cards from Card Feeder.
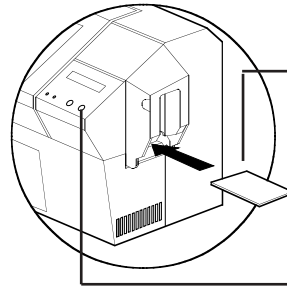
2. Insert one Pre-Saturated Cleaning Card (provided) through slot on the side of the Card Cartridge.

3. Press the right Panel Button for a few seconds. The card will feed into printer and carry out the cleaning process. Repeat the process with a new Cleaning Card if necessary.

Note: *For a printer cleaning prior to the WHEN TO CLEAN signal, press the Left Panel Button until the LCD screen shows "CLEANING MENU". Press the right Panel Button to select and one more time again to run the cleaning process (Repeat first steps 1 & 2 above).*

Although the CLEAN PRINTER message is displayed until the cleaning process has been performed, the printer will continue to operate.

4•2 *Cleaning the Print Head*

A cleaning using the Cleaning System with cards usually suffices. However, a separate Print Head cleaning using swabs can remove more stubborn deposits when print anomalies persist. To avoid deposits, only use foam-tipped swabs.
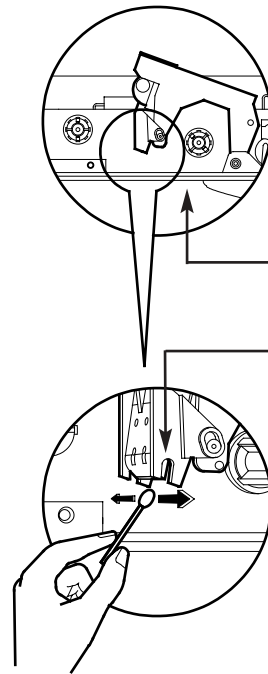
1. Raise Print Head and remove the Ribbon.

2. Clean Print Head by moving alcohol-moistened swab tip side-to-side across Print Head elements. Only use moderate force. (To reorder swabs see Appendix C).

⚠️ Never use a sharp object to scrape deposits from the print head. Permanent damage will result.

4•3 *Card Cleaning Cartridge*

Your P420**i** Printer also has a Card Cleaning Cartridge. This item cleans the cards entering the printer. To ensure print quality, the cleaning roller requires periodic replacements.

CLEAN PRINTER

WHEN TO MAINTAIN
When LCD screen reports message.
Run a printer cleaning first .
(see 4.1 Cleaning System for more instructions.)

HOW TO MAINTAIN
1.·*Open Cover and locate Cleaning Cartridge.*
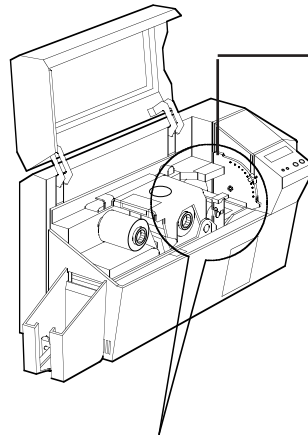
2.·*Gently remove Cleaning Cartridge by rotating up and away from printer.*
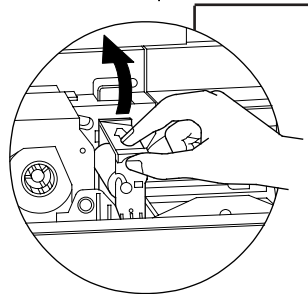
Continued on next page...
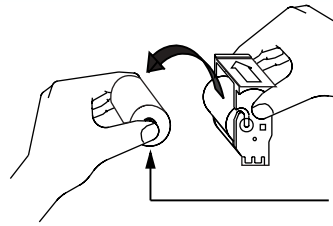
3. Remove Cleaning Roller from Cartridge and discard.
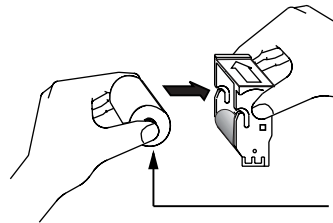
4. Install new Cleaning Roller into Cartridge*. To avoid contamination, always hold the Cleaning Roller assembly by the ends.
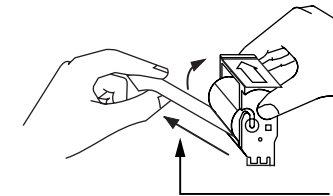
5. Carefully peel off wrapper from new Cleaning Roller while in Cartridge.
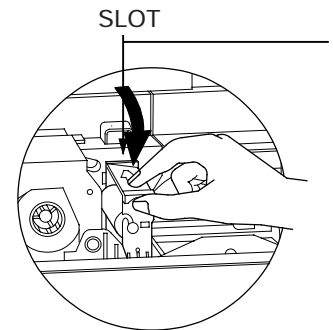
SLOT

6. Replace Cartridge into printer. Make sure the arrow on top of the assembly is facing toward the rear of the printer. Hook assembly into slot on printer and rotate down. Ensure the assembly locks in place.

DO NOT touch the roller surface that contacts the cards.

7. Close Cover.

See Appendix C for replacement Cleaning Rollers.

Although the CLEAN PRINTER message is displayed until maintenance has been performed, the printer will continue to operate.

TROUBLESHOOTING

This section offers solutions to potential problems you may experience with your P420i printer. The table below lists the screen messages that will be displayed on the printer's LCD, both during normal operation and to alert operator of any error conditions. There is also some additional information dealing with quality issues concerning printing onto cards.

5•1 Interpreting LCD Display messages

SCREEN MESSAGE	MEANING	ACTION
INITIALIZING	The printer is performing an internal test before use	Wait for the ready message
READY	Ready for use	
WAIT TEMPERATURE	Print Head cool down mode	Wait for READY message
SELF TEST	Self test card printing	Wait for test card
DOWNLOADING DATA	The card data is being transmitted	Wait for card printing to start
PRINTING YELLOW	The yellow panel is being printed	
PRINTING MAGENTA	The magenta panel is printing	
PRINTING CYAN	The cyan panel is printing	

P420i Plastic Card Printer

SCREEN MESSAGE	MEANING	ACTION
ENCODING ERROR	Data cannot be written or read from the card's magnetic stripe	Check that the cards are loaded with the magnetic stripe in the correct orientation. Check whether high or low coercivity cards have been specified. Check that the data conforms to ISO specifications. See Appendix A of this manual for further information.
READING ERROR	Data cannot be read from the card's magnetic stripe	Check that the cards are loaded with the magnetic stripe in the correct orientation. Check whether high or low coercivity cards have been specified. Check that the data conforms to ISO specifications. See Appendix A of this manual for further information.
REJECT BOX FULL	The reject box is full	Empty the reject card box and press the right panel button
MAGNETIC ERROR	The printer cannot detect a magnetic stripe on the card	Check the card orientation
FLASH ERROR		Contact your dealer for technical support
NO ACCESS		

Ribbon Errors: Check that the print ribbon has not 'run out'. Lock and then unlock the print head assembly; this resynchronises the ribbon automatically. When using a color ribbon, it should advance automatically so that the leading edge of the Yellow panel is beneath the print head. Ensure that the correct ribbon type has been specified in the Windows driver.

Card Feed & Mechanical Errors: Ensure that the card thickness adjustment has been set-up correctly to allow one card to feed.

Magnetic Encoding Errors: Check that the cards are inserted correctly in the printer. Ensure that the cards are low or high coercivity as required, and are set-up correctly in the printer driver.

Cleaning Alert: The printer has counted the number of cards printed and has automatically flagged that a cleaning routine needs to be carried out. (See Chapter 4).

5•2 Print Quality Issues

This section will help you resolve print quality problems. The print quality is dependent on several factors. The two most important factors that will increase your print quality are cleanliness and card stock. To diagnose and fix print quality problems, follow the troubleshooting procedure below:

• Small spots appear on the printed card with a non-printed area or a different color.
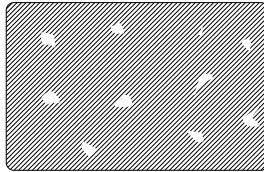
Possible Cause
A • Contamination on the card surface.
B • Dust inside the printer and/or dirty Cleaning Roller.

>> Solution
A 1 • Check that cards are stored in a dust free environment
A 2 • Use a different supply of cards.

B 1 • Perform a Cleaning of the printer (see Cleaning section).
B 2 • Replace Cleaning Roller (see Cleaning section)

• There are non-printing horizontal lines (white) on the card surfaces.
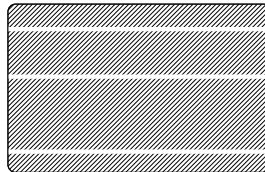
Possible Cause
A • Ribbon is not correctly positioned.
B • Print Head may be dirty.
C • Print Head elements may have been damaged (e.g. scratched or burnt).

>> Solution
A 1 • Open cover and press down the Print Head Unlock Lever to open the Print Head carriage. The Print Head will move up.
A 2 • Check that the ribbon is properly rolled onto the ribbon cores and there are no wrinkles in the ribbon.
A 3 • Push down on the Print Head Lock Lever until an audible "click" signals the locked-down position.
A 4 • Ribbon will automatically synchronize.
A 5 • Print again.

B 1 • Perform a Cleaning of the Print Head (see 4•2 Cleaning the Print Head).

C 1 • Call service for Print Head replacement information.

• Printing shows very pale or inconsistent results.
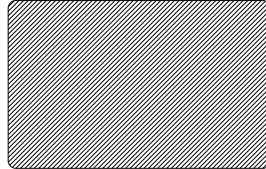
Possible Cause

A · Ribbon may have been stored improperly or is damaged.
B · Cards may not meet specifications.
C · Contrast and/or Intensity may be set to values which are too high.
D · Dust or embedded contamination on elements of the Print Head.

>> Solution
A 1 · Change ribbon and print again.
B 1 · Use a different supply of cards.
C 1 · Adjust Contrast and/or Intensity values in software.
D 1 · Perform a Cleaning of the Print Head (see 4 • 2 Cleaning the Print Head

• Printing shows blurry printed image.
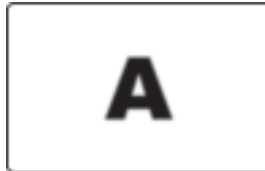
Possible Cause

A · Ribbon may not be correctly positioned.
B · Ribbon may not synchronized on the correct color panel position.
C · Cards may not meet specifications.
D · Dust inside the printer and/or dirty Cleaning Roller.

>> Solution
A 1 · Open cover and press down the Print Head Unlock Lever to open the Print Head carriage. The Print Head will move up.
A 2 · Check ribbon is properly rolled onto the ribbon cores.
A 3 · Push down on the Print Head Lock Lever until an audible "click" signals the locked-down position.
A 4 · Ribbon will automatically synchronize.
A 5 · Print again.

B 1 · Open cover and press down the Print Head Unlock Lever to open the Print Head carriage. The Print Head will move up.
B 2 · Push down on the Print Head Lock Lever until an audible "click" signals the locked-down position.
B 3 · Ribbon will automatically synchronize.
B 4 ·Print again.

C 1 · Use a different supply of cards.

D 1 · Perform a cleaning of the Print Head (See 4 • 2 Cleaning the Print Head).
D 2 · Replace Cleaning Roller (See 4 • 3 Cleaning Cartridge).

• **No printing on the card.**

Possible Cause
A • Ribbon may not be installed in the printer.
B • Cards may not meet specifications.
C • Cable on Print Head may be disconnected.
D • Print Head elements may be scratched or burnt.

> > **Solution**
A 1 • Check for ribbon in the printer.

B 1 • Use a different supply of cards.

C 1 • Power off the printer and check the Print Head cable connections.

D 1 • Call Service for Print Head replacement information.

⚠ For optimum print quality, always keep cover of the printer closed except during ribbon loading and card thickness control procedures.

The card flipper will not operate and an error will be indicated if you try to flip a card with the cover open.

Card
Printer
Solutions
® Zebra

P420i Plastic Card Printer

TECHNICAL SPECIFICATIONS

General	• High speed printing, over 102 cards/hour edge to edge in full color (YMCKOK) throughput • Small footprint • Windows Drivers for 98 and NT 4.0, Win 2000,XP,ME • One year printer warranty • One year print head warranty
Color Printing	• Color dye sublimation or monochrome thermal transfer printing • 35 seconds per card 2 sides (YMCKOK) throughput • 300 dpi (11.8 dots/mm) print resolution • Edge to edge printing standar
Bar Codes	• Code 39 • Code 128 B & C with & without check digit • 2 of 5 & 2 of 5 industrial • UPCA • EAN8 &EAN13 • PDF 417 2D bar code and other symbologies available via WindCard Classic utility tool (option)
Fonts	• True Type fonts available via Windows Driver

⚠ *Use only Zebra-approved card and ribbon media. Using non-approved card or ribbon media can void your warranty.

Refer to the accessories section for more information about Card and Ribbon Media available from Zebra Technologies corp.

CARD DIMENSIONS

ISO STANDARD DIMENSIONS FOR PLAIN CARD

2.125 ± 0.002in
(53.98 ± 0.050mm)

3.375 ± 0.010in
(85.72 ± 0.25mm)

Radius
0.125in
(3.18mm)

0.009 ~ 0.034in
(0.23 ~ 0.84mm)
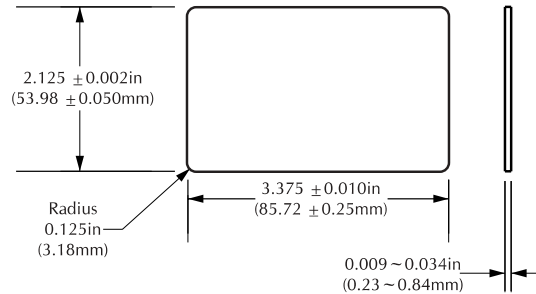
ISO STANDARD DIMENSIONS FOR MAGNETIC STRIPE CARD

0.623in (15.82mm) min

MAGNETIC STRIPE

218in (5.54mm) max

0 ~ 0.115in (2.92mm)

0 ~ 0.115in (2.92mm)
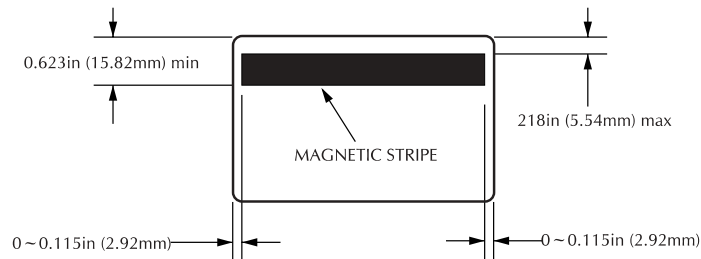
CHIP POSITION FOR SMART CARD
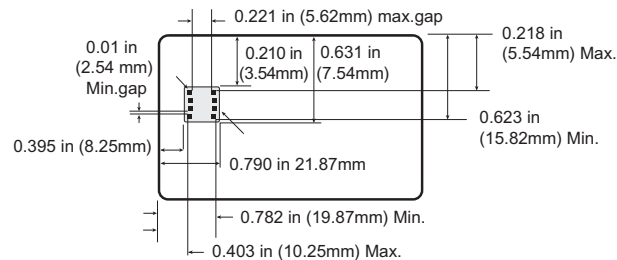
0.221 in (5.62mm) max.gap

0.01 in
(2.54 mm)
Min.gap

0.210 in
(3.54mm)

0.631 in
(7.54mm)

0.218 in
(5.54mm) Max.

0.395 in (8.25mm)

0.623 in
(15.82mm) Min.

0.790 in 21.87mm

0.782 in (19.87mm) Min.

0.403 in (10.25mm) Max.

P420i Plastic Card Printer

Cards*
- Types PVC, Composite
- Card width/length: ISO CR-80 - ISO 7810, 2.125″ (54mm) by 3.375″ (86mm)
- Option: Magnetic Stripe - ISO 7811
- Option: Smart Card - ISO 7816-2
- Card thickness: 0.25mm to 1.524m
- Card Feeder capacity: up to 300 cards (10mil), up to 100 cards (30mil)
- Card Output Hopper capacity: 300 cards (10mil), up to 100 cards (30mil)

Ribbons*
- Monochrome: 1500 cards/roll
- Monochrome colors: back, red, blue, green, yellow, silver, gold, white.
- K-resin + O: 800 cards/roll
- K-dye + O: 800 cards/roll
- YMCKO: 330 cards/roll
- YMCKOK: 170 cards/roll

Overlay Varnish
- Thermal transfer
- 4 microns thick
- Clear and holographic options:
  - Clear
  - Genuine/Secure Hologram
  - Custom Hologram

Interfaces
- Centronics Parallel Standard
- RS-232C Serial (Optional)
- USB port (Optional)

Mechanical
- Width: 20.9″ (523mm†)
- Depth: 10.17″ (254.3mm†)
- Height: 10.76″ (269mm†)
- Weight: 27.5 lbs (12.5 kg)

Electrical
- 110 ~ 230 Volts AC, 60 ~ 50 Hz
- FCC Class A, CE, UL, and CUL approved

Environmental

- Operating Temperature: 60 to 86°F (15 to 30°C)
- Operating Humidity: 20 to 65% non condensing
- Storage Temperature: -23 to 158°F (-5 to 70°C)
- Storage Humidity: 20 to 70% non condensing
- Ventilation: Free air

* Thermal transfer (Resin) ribbons offer more durability than dye sublimation, with greater resistance to scratches and UV-induced fading.

Dye sublimation printing requires dye sublimation ribbons,with either black or cyan, magenta, and yellow (plus black resin) panels.

† Measured without card output hopper.

APPENDIX A

Magnetic Card Stripe Encoder

This section contains information on the additional operations of the P420**i** Printers with Magnetic Card Stripe Encoder.
(See Chapter 2 for location.)

INTRODUCTION

Operation and maintenance requirements for the P420**i** Printer with the optional magnetic card stripe encoder.
(See Chapter 2 for location.)
The magnetic encoder can be set for either high or low coercivity.

A.··MEDIA LOADING ORIENTATION
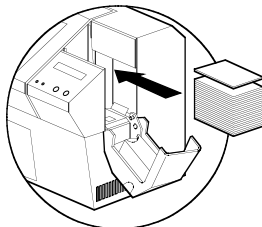
*The magnetic encoder is a factory installed item with the read/write head positioned below the card path, available with HICO encoding (P420**i** CM1 or P420**i** CEM1) or LOCO encoding (P420**i** CM2 or P420**i** CEM2).*
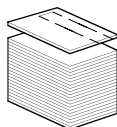
STRIPE DOWN

When loading cards into the Card Cartridge, please ensure that the magnetic stripe is facing down and closest to the rear.

*Also available are Printer models with the Magnetic Read/Write head positioned above the card path, with HICO encoding (P420**i** CM3 or P420**i** CEM3) or LOCO encoding (P420**i** CM4 or P420**i** CEM4)*
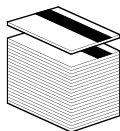
STRIPE UP

When loading cards, please ensure that there is a magnetic stripe.

NOTE:
M1 = Stripe Down HICO   M3 = Stripe up HICO
M2 = Stripe Down LOCO   M4 = Stripe up LOCO

Approved HICO & LOCO PVC cards are available. (See Appendix C).

ONLY USE cards that comply with ISO 7810 & 7811 standards for magnetic stripe cards. The magnetic stripe must be flush to the surface of the card to work properly. Never use taped-on magnetic stripes.

B. MAGNETIC ENCODER CLEANING

There exists two different processes to clean the Magnetic Stripe Encoder.
The first process consists of a standard cleaning of the printer. This cleans the most important parts of the printer; including the Print head, Transport Roller and Magnetic Stripe Encoder (refer to chapter 4 "Cleaning" for more instructions).

The second process consists of a cleaning of the Magnetic Encoder using the Menu Button from the LCD Display.
To access the Magnetic Encoder Cleaning Menu proceed as below:
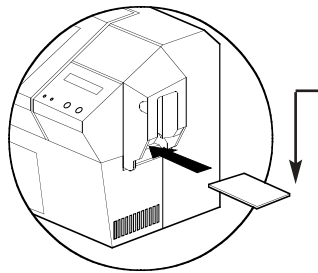
1. Leave power on.

2. Remove cards from the Card Feeder

3. Insert one Pre-Saturated Cleaning Card (provided) through slot on the side of the Card Cartridge.

4. Press the Menu button until the LCD screen shows CLEANING MENU.

5. Press the Select button to select.

6. Press the Menu button again until the LCD screen shows CLEAN MAG HEAD.

7. Run this operation by pressing the Select button.

ISO STANDARD ENCODING

Track #	Field Separator	Track density	Valid Characters	# of characters
1	^	210 BPI*	Alphanumeric (ASCII 20~95†)	79‡
2	=	75 BPI*	Numeric (ASCII 48~62)	40‡
3	=	210 BPI*	Numeric (ASCII 48~62)	107‡

* Bit per inch
† Except the '?' character
‡ Including Start, Stop and LCR characters. Also note that these 3 characters are automatically managed by the magnetic encoder according to the ISO Standard Norms.

NOTE: Refer to the Card Printer Programmer's Manual for complete programming information.

APPENDIX B

Smart Card Contact Station

This section contains information on the additional operations of the P420i Printers with Smart Card Contact Stations. (See Chapter 2 for location.)

INTRODUCTION

Smart Cards can have a built-in microcomputer and a battery. Card Memory can store fingerprints, voice recognition patterns, medical records and other such data. The P420i printer may be equipped with an optional contact station for programming Smart Cards (ISO 7816). This printer model responds to commands that position the cards at the contact station, where the printer connects to the contacts on the Smart Cards. All other printer operations remain the same as the standard P420i model.

A. MEDIA LOADING ORIENTATION
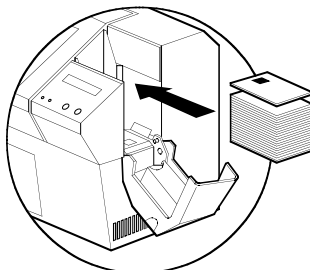
Position the cards with the Smart Card Chip at the top of the card and towards the printer.

B. SMART CARD CONTACT STATION INTERFACE
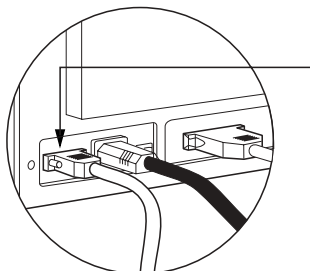
When a command to the parallel printer interface sends a card to the Smart Card Contact Station, the printer connects the Smart Card Contact Station to the female DB-9 connector on the rear of the printer.

An attached external Smart Card Programmer can be used to program Smart card chips.

DB - 9 PINS	SMART CARD CONTACT POINTS	DB - 9 PINS	SMART CARD CONTACT POINTS
1	CI (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)		

Refer to the Card Printer Programmer's Manual for complete programming information.

DO NOT position printing over the Smart Card Chip.

APPENDIX C

Accessories & supplies

Please contact your Zebra-authorized dealer to place an order for accessories and suplies.

RIBBONS

The following ribbons may be used in the P420**i** Printer:

Monochrome Resin Ribbons (Sold by the Roll)		
Part Number	**Description**	
800015-101	Black	1000 images
800015-102	Red	1000 images
800015-103	Green	1000 images
800015-104	Blue	1000 images
800015-106	Gold	1000 images
800015-107	Silver	1000 images
800015-109	White	1000 images
800015-185	Scratch-off Grey	1000 images
800015-301	Black	1500 images

Color Ribbons (Sold by the Roll)		
Part Number	**Description**	
800015-448	6-Panel Color Ribbon (YMCKOK)	170 images
800015-440	5-Panel Color Ribbon (YMCKO)	200 images
800015-450	2-Panel Black Ribbon (K Dye + O)	500 images
800015-460	2-Panel Resin Ribbon (K Resin + O)	600 images
800015-540	5-Panel Color Ribbon (YMCKO)	250 images
800015-640	5-Panel Color Ribbon (YMCKO)	Value Pack: 20 rolls/pack

Note: Y = Yellow, M = Magenta, C = Cyan, K = black, O = Overlay

CARDS

The following plain white plastic cards are available for use in the P420i printers:

Blank White Cards (Sold by the box)	
Part Number	Description
Premier Grade PVC 104523-114 104523-010 104523-111 104523-112 104523-113	**Premier Grade PVC** Card, 10 mil † ‡ (5 packs of 200) Card, 10 mil ‡ adhesive back (5 packs of 200) Card, 30 mil † (5 packs of 100) Card, 30 mil -low coercivity Mag. Stripe (5 packs of 100) Card, 30 mil -High coercivity Mag. Stripe (5 packs of 100)
104524-101 104524-102 104524-103	**Premier Plus Grade (PVC composite 60/40)** Card, 30 mil (5 packs of 100) Card, 30 mil -low coercivity Mag. Stripe (5 packs of 100) Card, 30 mil -High coercivity Mag. Stripe (5 packs of 100)

Notes:
† 10mil = 0.254mm;30 mil = 0.762mm
‡ 10mil cards are recommended for single side printing monochrome only.

Many other card types are also available; ask your dealer for more information.

ACCESSORIES

Accessories available for P420**i** Printers appear below. Always refer to the part number when placing an order.

Printer Supplies	
Part Number	Description
300320-001	Centronics Parallel Cable (36 pins)
105909-112	Replacement Print Head Kit

Cleaning Supplies	
Part Number	Description
105909-169	Premier Cleaning Kit (25 swabs, 50 cards)
105912-003	Adhesive Cleaning Roller Kit (set of 5)
105912-002	Cleaning Cartridge, complete
105909-055	Cleaning Card Kit (box of 100 cards)
105909-057	Cleaning Swab Kit (box of 25 swabs)

Miscellaneous	
Part Number	Description
806503-001	Card Punch (slots card for lapel clip)
104527-001	Lapel Clips (pack of 100 clips)

Card
Printer
Solutions

P420i Plastic Card Printer

World Wide Sales and Support:

Zebra Technologies Corporation
Card Imaging Division
1001 Flynn Road
Camarillo, CA. 93012-8706.USA
Phone:+1 (805) 579 1800
Fax.:+1 (805) 579 1808
Toll Free in US: (800) 452-4056
e-mail: cards@zebracard.com

Zebra Technologies Corporation
Card Imaging Division, (Europe, Middle East, Africa)
The Valley Centre, Gordon Road, High Wycombe
Buckinghamshire HP13 6EQ, England
Phone: +44 (0) 870 241 1527
Fax.: +44 (0) 870 241 0765
e-mail: eurosales@zebracard.com

Zebra Technologies Corporation
Card Imaging Division, Latin America
6175 NW 153rd Street, Suite # 121
Miami Lakes, FL 33014 USA
Phone: +1 (305) 558 8470
Fax: +1 (305) 558-8485
e-mail: latinsales@zebracard.com

Zebra Technologies Corporation
Card Imaging Division, Asia/Pacific
1 Sims Lane #06-11
387355 Singapore
Phone:+65 84 20 322
Fax.:+65 84 20 514
e-mail: asiasales@zebracard.com

C**ORPORATE HEADQUARTERS**
Zebra Technologies Corporation
333 Corporate Woods Parkway
Vernon Hills, IL 60061-3109 USA
Phone: +1 (847) 634 6700
FAX: +1 (847) 913 8766
e-mail: sales@Zebra.com

Website: www.zebracard.com

Zebra Technologies Corporation

Free Manuals Download Website

http://myh66.com

http://usermanuals.us

http://www.somanuals.com

http://www.4manuals.cc

http://www.manual-lib.com

http://www.404manual.com

http://www.luxmanual.com

http://aubethermostatmanual.com

Golf course search by state

http://golfingnear.com

Email search by domain

http://emailbydomain.com

Auto manuals search

http://auto.somanuals.com

TV manuals search

http://tv.somanuals.com