

Quick Start

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Shooting**

**Technical
Specifications**

User's manual

J A V E L I N™ J320i

www.engenyus.com



J A V E L I N

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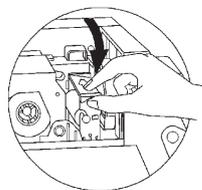
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Quick Start!

Before starting to work with your new JAVELIN™ card printer, please refer to this Quick Start guide. For more complete information regarding all aspects of your printer's operation, please refer to the main chapters of the printer user's manual.

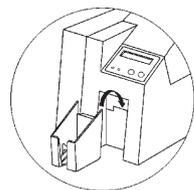
1. Install card cleaning cartridge



The card cleaning cartridge is packed separately from the printer in a protective plastic bag. Remove carefully and peel off tape from the cleaning roller before installing it.

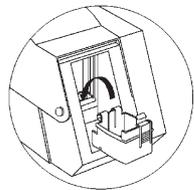
Refer to printer user's manual chapter 2 for more information about the cleaning cartridge.

2. Install card feeder cassette & card output hopper



This two items are delivered separately from the printer in protective plastic bags.

Refer to printer user's manual chapter 2 for more information.



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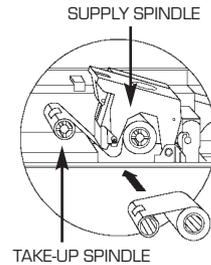
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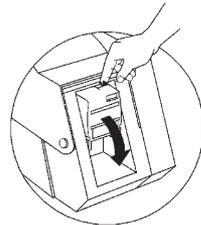
4. Loading ribbon



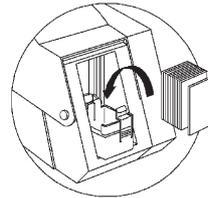
First, turn on the power to the printer and raise the printhead. Ribbon loading involves the placement of the ribbon onto the supply and take-up spindles. As soon as the ribbon is installed and the printhead is locked down, the spindles will automatically rotate to take up any slack and to synchronize the ribbon to the correct panel.

Refer to printer user's manual chapter 2 for more instructions.

5. Loading cards



Step 1



Step 2

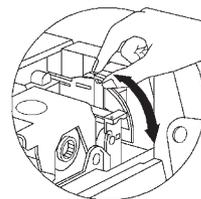


Step 3

First shuffle a stack of new cards to reduce any electrostatic charge. Always handle cards by their edges.

Refer to printer user's manual chapter 2 for more instructions.

6. Set card thickness control lever



This item can be operated by the user to set the card thickness and to prevent more than one card feeding into the printer at the same time and causing a jam. Simply move the lever to adjust correct card thickness position.

Refer to printer user's manual chapter 2 for more information.

7. Starting to print cards

First connect the interface cable and install the Windows driver on your PC.

Refer to printer user's manual chapter 3 for more instructions.

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INTRODUCTION

Thank you for choosing the Javelin J320i plastic card printer.

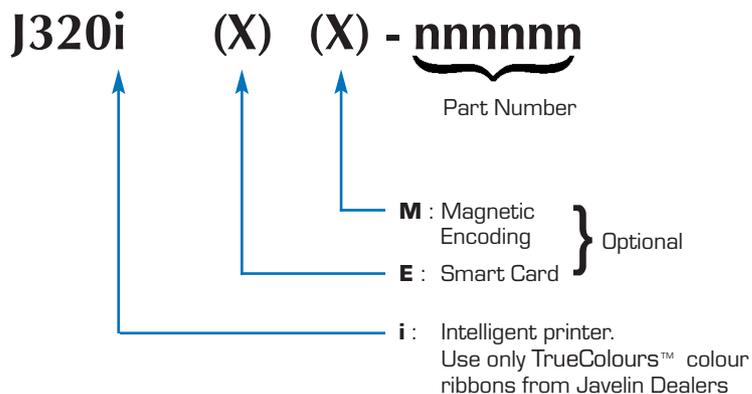
These printers produce cards ideal for personalised identification, access control, visitor, membership, promotion and luggage card, badges and tags.

This manual guides you to an efficient start up and operation of your new card printer.

J320i PRINTER MODELS

Here is a quick review of the Javelin card printer series numbering and lettering system to help you.

The Javelin J320i plastic card printer employs dye sublimation and resin thermal transfer technologies. Model numbers include identifiers that specify options are shown using the following lettering conventions:



This information can be found on the printer serial number panel and is also shown on the test card.

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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.

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1 Getting started

1.1 Unpacking your card printer

Your J320i 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.

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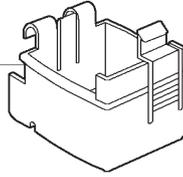
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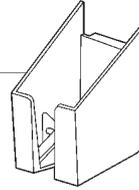
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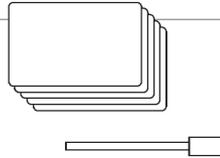
Make sure the following items are included with your J320i printer:



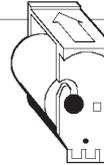
CARD FEEDER CASSETTE



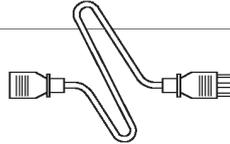
CARD OUTPUT HOPPER



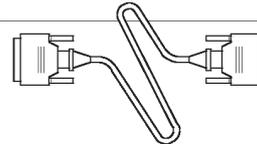
CLEANING KIT



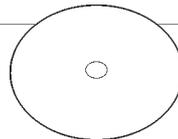
CLEANING CARTRIDGE



POWER CABLE



INTERFACE CABLE



USER MANUAL &
PRINTER DRIVER CD



QUICK
START!

QUICK START GUIDE

If any items are missing, please contact your dealer.

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

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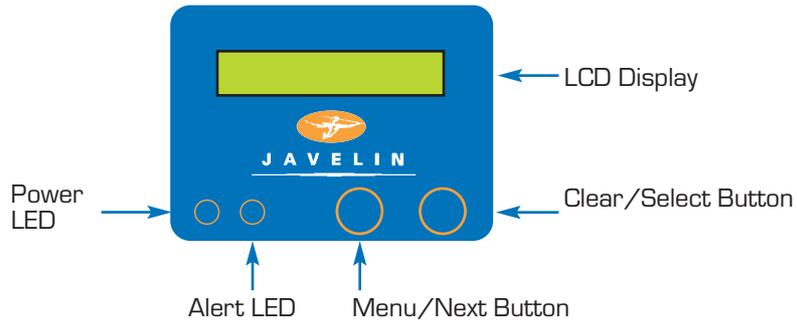
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1.2 Indicators and Controls

Your J320i printer has an LCD Display and and 2 Panel Buttons.



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/Next 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/Select Button (right) is a push button used for:

- Clearing an error status (when LCD display shows an error report 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

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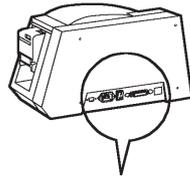
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1.3 Printer Installation

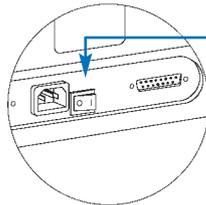
The following will guide you through the installation of your J320i printer.



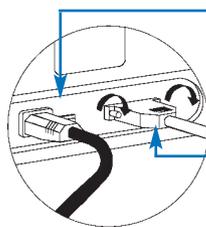
CAUTION : Limit AC power supplied to the J320i Printer to 110 - 230 V AC, 60 - 50 Hz for an associated 680 mA - 310 mA. Limit excess current draw to 16 amps or less, using an associated circuit breaker or other such device. Never operate the printer in a location where operator, computer, or printer 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 switch in the OFF (O) 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 metres in length.

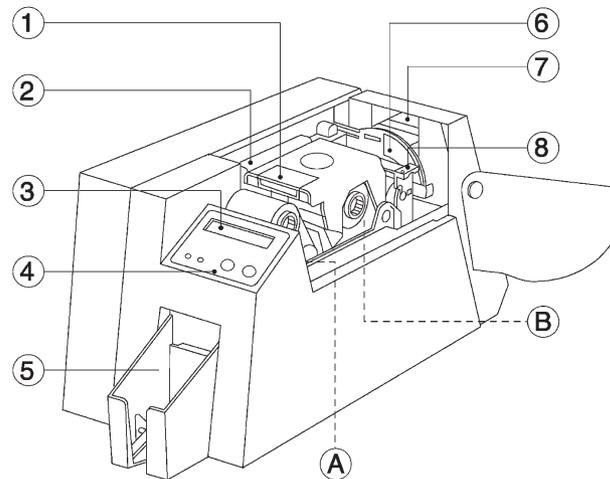


J A V E L I N

2 Operation

2.1 Printer Features

The following shows the features found on your J320i printer:



STANDARD FEATURES

1. Printhead
2. Printhead Unlock lever
3. LCD Display
4. Panel Buttons
5. Card Output Hopper
6. Card Thickness Control
7. Card Feeder Cassette
8. Card Cleaning Cartridge

OPTIONAL FEATURES

- A. Magnetic Encoder Station
- B. Smart Card Contact Station

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

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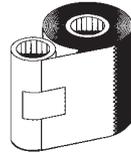
2.2 Loading Ribbons

The J320i printer requires approved ribbons (See Appendix A & D). The resin thermal transfer and dye sublimation ribbons are specifically designed for your J320i printer. For optimum performance and printer life (printhead), always use approved ribbons.

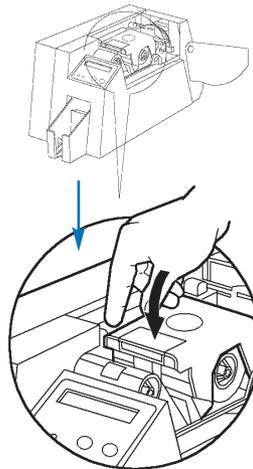
Only intelligent TrueColours™ colour ribbons purchased from Javelin dealer will work in J320i printers



DO NOT TOUCH the printhead or the electronic components on the printhead carriage. Discharges of electrostatic charge from the human body or other surfaces can damage the printhead or other electronic components used in this device.



1. Remove ribbon from packaging.



2. With printer power ON and in 'Check Ribbon' status, open cover and press down on the printhead unlock lever to open the print head carriage. The printhead carriage will pop open.

Continued on next page

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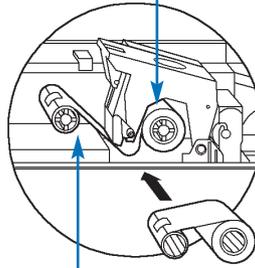
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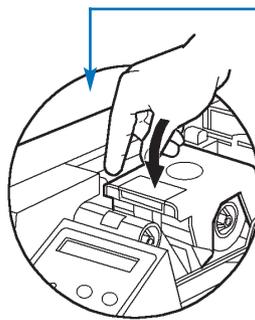
SUPPLY SPINDLE



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 the top of the supply spindle and feeds to the top of the take-up spindle. Push ribbon all the way in.

'CLICK'



4. Push down on the printhead lock lever until an audible 'click' signals the locked-down position. Please note that the ribbon automatically synchronises whenever the printhead is locked down. Ready status will appear.



Please note that the ribbon automatically synchronises whenever the printhead is locked down.

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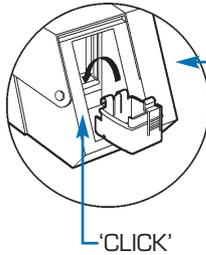
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2.3 Loading Cards

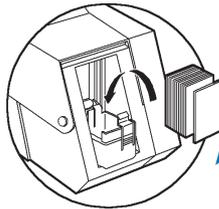
To help you load, print, and collect cards, the J320i has the following item:

A - CARD FEEDER CASSETTE

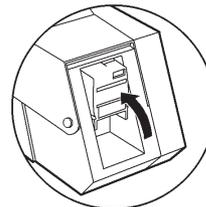
This item is used for loading cards.



1. Install card feeder cassette by hooking onto printer as shown and clicking down.



2. Install cards into card feeder cassette* as shown.



3. Close card feeder cassette.

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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.

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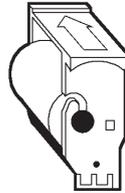
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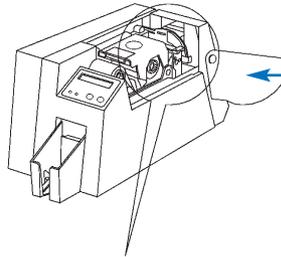
B - CARD CLEANING CARTRIDGE



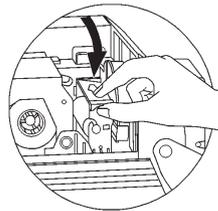
This item is used to clean the cards entering the printer and must be fitted before using the printer.



1. Remove card cleaning cartridge from packaging.



2. 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 side of the printer. Hook assembly into slot on printer and rotate down. Ensure the assembly locks in place.

4. Close cover

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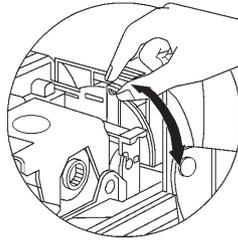
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C - CARD THICKNESS CONTROL LEVER

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 the correct position for the card thickness you are using. Repeat for different card thickness. (Factory setting is for 30mil (0.762 mm) card thickness). See diagram below :

Card thickness:

A - 60mil (1.524mm) to 50mil (1.27mm)

B - 40mil (1.016mm)

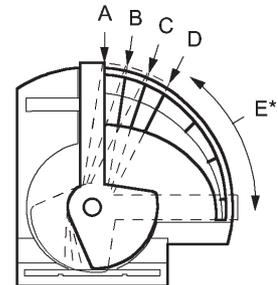
C - 30mil (0.762mm) - DEFAULT

D - 20mil (0.508mm)

E* - Less than 20mil (0.508mm)

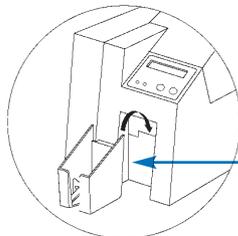
* Start at lowest position and move lever up to match card thickness.

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 to printer by hooking over bottom edge of card exit aperture.

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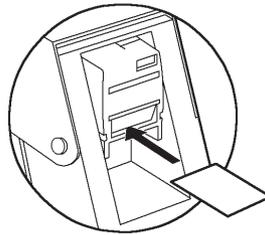
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2.4 Feeding one card at a time

A manual feed slot is available on the rear of the card feeder cassette cover for feeding single cards. Cleaning cards are fed manually through this slot.

The card feeder cassette must be empty for manual card feeding to work properly.



For one-at-a-time printing, feed cards through slot on rear of card feeder cassette.

Do not feed more than one card at a time.

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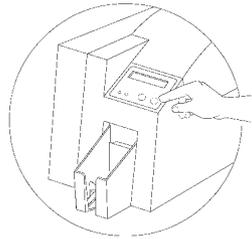
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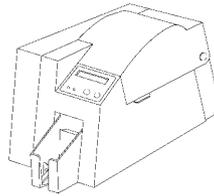
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2.5 Printing a Test Card

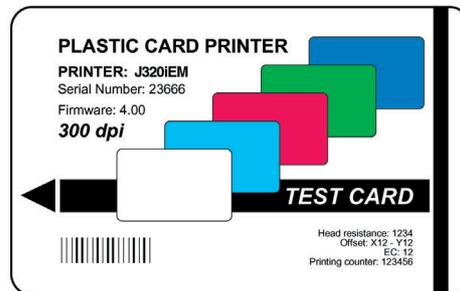
With ribbon and cards loaded, your J320i printer is ready to print. To check the operation of the printer you should print a test card.



1. Turn off printer.
2. While pressing clear button, switch printer back on.
3. LCD will show test, depress button once self test is displayed.
4. A test card is printed. This will show the current printer settings.
5. The printer is now communicating with the computer and is ready for use



This is an example of the test card.



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2.6 Passcode Electronic Lock

The Javelin printer's passcode system disables the printing and encoding of the printer except by authorised users in possession of the valid passcode. This user-selected Passcode gives you the choice of what is the best level of security for your application. The printer ships with the passcode disabled. To enjoy the benefits of the passcode security feature, please follow these steps:

- 1** In READY mode, hold down both the "Next" and "Select" buttons on your LCD pad for five seconds. Bleeps twice goes into passcode menu.
- 2** If Passcode enabled; enter passcode, if disabled access Passcode menu.
- 3** Select your passcode first. You may choose a 1 to 5 digit number and each digit may be 0 to 5.
- 4** Use the "Next" key to move the cursor to the number you want for your first digit, then use the "Select" key to set it.
- 5** Repeat step four for each of the digits of your passcode. Move cursor to "END" when you have set all the digits. Press "Select".
- 6** You will be prompted to verify your passcode.
- 7** You will also be prompted to select how often you would like your passcode to lock out printing, encoding and overlay varnish.

When you have finished your selections, your passcode will be enabled with your settings.

Once enabled, the printer will prompt you to enter your passcode before printing, encoding, or resetting your passcode.

A complete passcode menu flowchart is shown overleaf.

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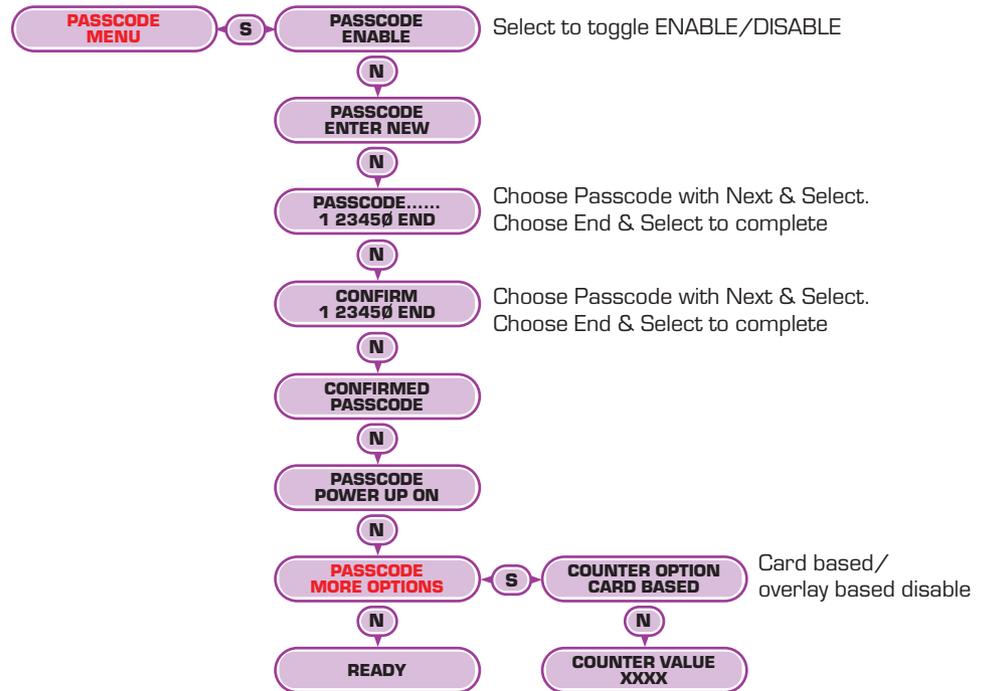
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Passcode Menu (starting from 'Passcode Disabled')



Legend:

(S) Clear/Select button **(N)** Menu/Next button

*means that 1 password digit has been entered

- means that nothing has been entered for the indicated digit



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3 Starting to print cards

Printing with the J320i printer requires the Windows Printer Driver, your card design/issuing software or printer command level programming through the printer interface.

The J320i card printer can be used with any Windows 98, ME, 2000, XP or NT 4.0 operating system, using the drivers provided with the printer. Updated drivers can be downloaded from the engenyus website www.engenyus.com

This section contains information on the printing of a single sided card in colour (using the 5-Panel colour ribbon YMCKOi) and the Windows Printer Driver.

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A-TO INSTALL THE J320i PRINTER DRIVER IN WINDOWS 98, 2000/NT OR XP, USE THE FOLLOWING STEPS:



IMPORTANT NOTE - ENSURE THAT YOUR PC PRINTER PORT IS SET TO STANDARD MODE AND ALSO ENSURE THAT YOU HAVE DELETED ANY PREVIOUS VERSIONS OF THIS PRINTER DRIVER. IF INSTALLING ON NT/2000 OR XP ENSURE THAT YOU HAVE ADMINISTRATION PRIVILEGES. IF YOU HAVE ANY DOUBTS PLEASE CONTACT YOUR IT DEPARTMENT.

- Start your computer .
- Insert your Javelin Printer Driver CD into computer drive.
- The CD will automatically launch and enter the Setup Wizard that will guide you through installation of your printer driver. (Autorun must be enabled on PC)
- If the CD does not launch itself, then open the CD in Explorer, go to Drivers and run setup.exe. This will launch the Setup Wizard.

The Printer Wizard will copy the necessary files to the PC for you and the J320i printer driver installation will be completed.

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B. SET PRINTER DRIVER OPTIONS. WINDOWS NT, 2000, XP

The printer settings can be accessed by selecting the **J320i Plastic Card Printer** driver from within **Printers**. Under Windows NT, 2000, XP the printer properties are separated into two distinct pages, Document Defaults and Printer Properties.

Highlight the printer icon and right click to open the following options.

Document Defaults

The page set-up window allows the number of copies to be set and the option of portrait or landscape.

The advanced settings are:

- Card: colour conversion, and image rotation.
- Ribbon: type of ribbon and use of the black panel.
- Printer: printer colour settings.

Properties

Within the device setting's window are the machine options such as:

- Print full size cards, smart download.
- Magnetic encoder settings
- Toolbox, from the toolbox, self-test printing station can be chosen to produce a test card.

NOW THAT YOU HAVE LOADED MEDIA AND SET UP THE PRINTER DRIVER, THE J320i PRINTER IS READY TO PRINT

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C. TRUESECURE VARNISH IMAGING PRINTING

This is a driver enabled option to print a bitmap in your O (overlay varnish) panel of your ribbon resulting in a simulated “watermark” that produces a more “copy-proof” card.

To enable this feature: On Windows 98, ME systems, click on the ribbon tab, or NT, 2000, XP systems choose document defaults/printing preferences, advanced, ribbon. Select the front overlay varnish button. From the drop down list, choose bitmap based overlay. Click the browse button to search your system for the bitmap created and click on the open button. The preview shows the file to be used in the overlay panel. Click on the close button to return to the driver. Click on the OK button to exit the driver.

A UV “Black light” can be used to view this more dramatically; the protected areas will glow in the light.

The best contrast is seen in the white areas on the card where the bitmapped varnish is present.

For additional security, you can passcode protect this feature through your LCD panel. See passcode electronic lock section for details.

Printing a bitmap with a hologram overlay varnish is not recommended. It may cause varnish flaking with some bitmaps which will decrease print quality and can damage the printer or shorten the printer life.



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4 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 engenyus authorised technicians to service the J320i 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.

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4.1 Cleaning System

Your J320i 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 printhead, and transport rollers.

CLEAN PRINTER

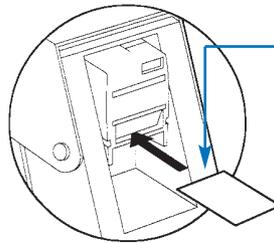
WHEN TO CLEAN

When LCD screen reports message.

HOW TO CLEAN

1. Leave power on.

Open cover and release printhead bracket to remove ribbon



2. Remove any normal cards from the card cartridge.

Insert one pre-saturated cleaning card (provided) through slot on the rear of the card cartridge. Close the printhead bracket. Close the cover.

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.

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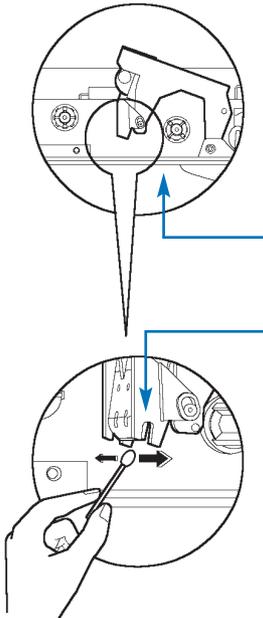
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4.2 Cleaning the printhead

Cleaning the printer using the cleaning system with cards usually suffices. However, cleaning the printheads using swabs can remove more stubborn deposits when print anomalies persist. To avoid deposits, only use foam-tipped swabs.



1. Raise printhead and remove the ribbon.

2. Clean printhead by moving the alcohol moistened swab tip side-to-side across printhead elements. Only use moderate force. (To re-order swabs see Appendix D).



Never use a sharp object to scrape deposits from the printhead. Permanent damage will result.

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4.3 Card Cleaning Cartridge

Your J320i printer also has a card cleaning cartridge. This item cleans the cards entering the printer. To ensure print quality, the adhesive cleaning roller requires periodic replacements.

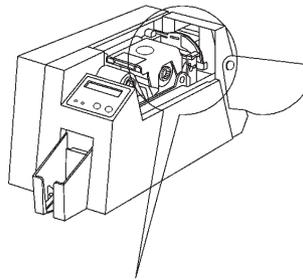
CLEAN PRINTER

WHEN TO MAINTAIN

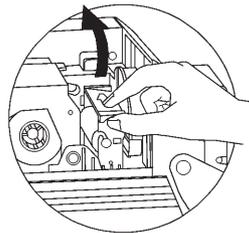
When LCD screen reports message, every 1,000 cards, or when roller is dirty. Run a printer cleaning first. (see 4.1 Cleaning System for more instructions.)

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...

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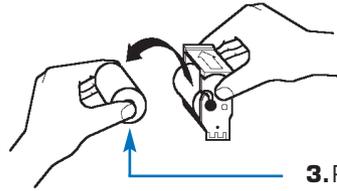
Operation

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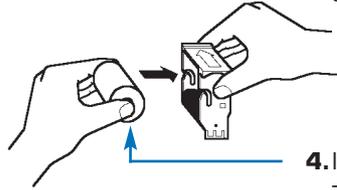
Cleaning

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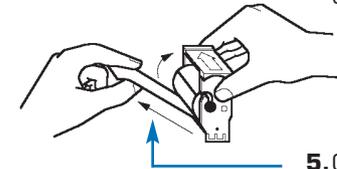
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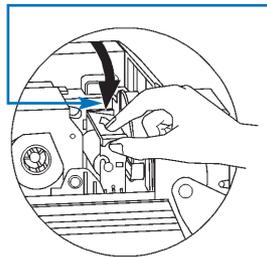
3. Remove the adhesive cleaning roller from cartridge and discard.



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.



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 D for replacement cleaning rollers.



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



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5 Troubleshooting

This section offers solutions to potential problems you may experience with your J320i 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
CHECK RIBBON	No ribbon	Install ribbon
INITIALISING	The printer is performing an internal test before use	Wait for READY message
READY	Ready for use	
WAIT TEMPERATURE	printhead 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	

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SCREEN MESSAGE	MEANING	ACTION
PRINTING BLACK	A monochrome panel is being printed	
PRINTING VARNISH	The overlay is printing	
PRINT HOLOGRAM	A hologram overlay is printing	
CLEAN PRINTER	The printer is prompting the operator maintenance	Carry out the cleaning procedure as detailed in section 4 of this manual
CLEAN MAG HEAD	The printer is prompting the operator	Carry out the cleaning procedure as detailed in Appendix B of this manual
CLEANING	The printer is performing an internal cleaning routine	
REMOVE RIBBON	The ribbon has not been removed while the cleaning operation is in progress	Remove ribbon
OUT OF RIBBON	The printer ribbon has run out	Replace printer ribbon
MECHANICAL ERROR	The printer has an error moving the card internally	Remove the jammed card. Ensure that the card is not out of specification. Ensure the cleaning cartridge is correctly fitted!
OUT OF CARD	The card cartridge is empty, or the card has mis-fed	Add more cards or adjust the card feeder to accept the cards
HEAD OPEN	The printhead is not locked into position	Lock the printhead in its lower position
COMMAND ERROR	The data being sent from the host is not recognised	Check that the data is suitable for printing. Try reprinting a card from known 'good' data
PARAMETERS ERROR	The features of the card are not recognised	Check the Windows driver options, magnetic data and printer type

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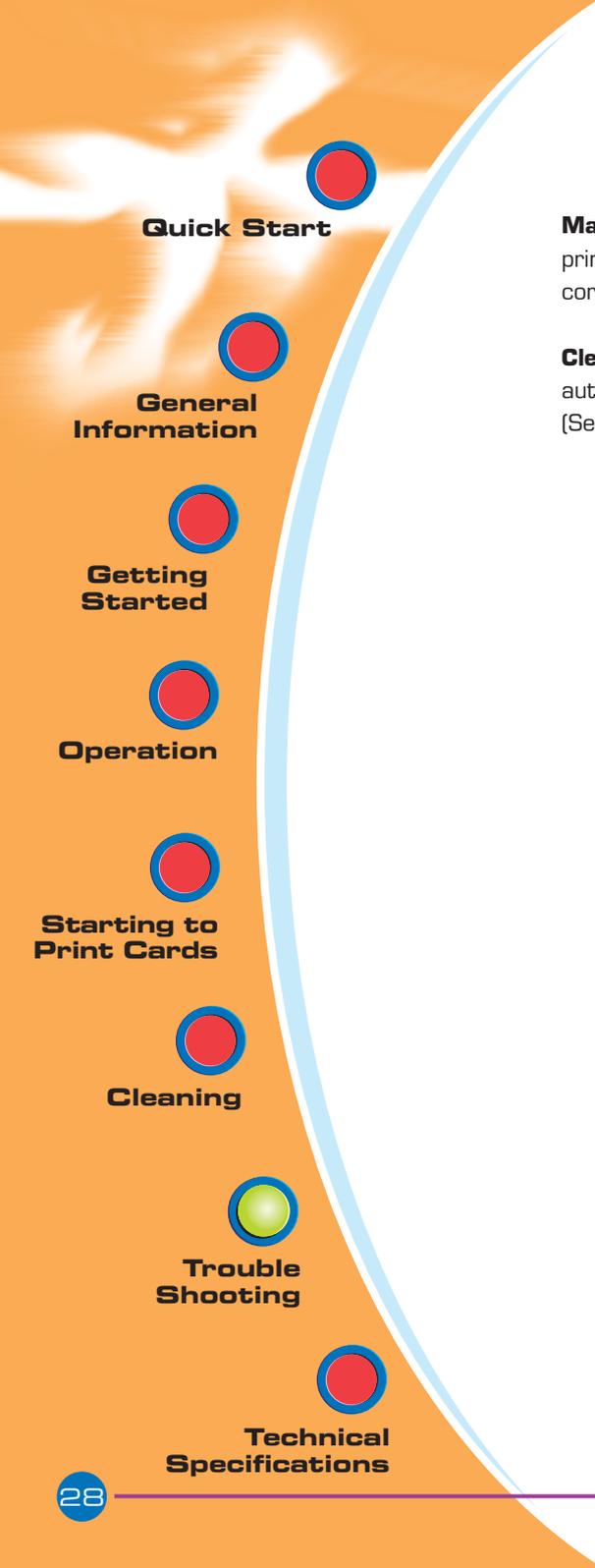
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SCREEN MESSAGE	MEANING	ACTION
ENCODING ERROR	Data cannot be written or read from the card's magnetic stripe	Check that the cards are loaded with the magnetic stripe in the correct orientation. Check whether high or low coercivity cards have been specified. Check that the data conforms to ISO specifications. See Appendix B 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 B of this manual for further information.
ENCODING 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 printhead assembly; this resynchronises the ribbon automatically. When using a colour ribbon, it should advance automatically so that the leading edge of the yellow panel is beneath the printhead. 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.

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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).

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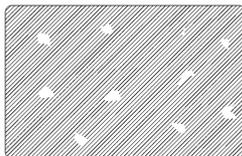
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5.2 Print Quality Issues

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

- A1. Check that cards are stored in a dust free environment
- A2. Use a different supply of cards.
- B1. Perform a cleaning of the printer (see cleaning section).
- B2. Replace cleaning roller (see cleaning section).

- **There are non-printing horizontal lines (white) on the card surfaces.**



Possible Cause

- A. Ribbons is not correctly positioned.
- B. printhead may be dirty.
- C. printhead elements may have been damaged (e.g. scratched or burnt).

→ Solution

- A1. Open cover and press down the printhead unlock lever to open the printhead carriage. The printhead will move up.
- A2. Check that the ribbon is properly rolled onto the ribbon cores and there are no wrinkles in the ribbon.
- A3. Push down on the printhead lock lever until an audible “click” signals the locked-down position.
- A4. Ribbon will automatically synchronize.
- A5. Print again.
- B1. Perform a cleaning of the printhead (see 4.2 Cleaning the printhead.)
- C1. Call service for printhead replacement information.

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• Printing shows very pale or inconsistent results.



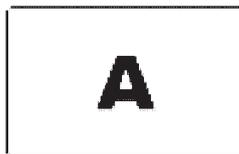
Possible Cause

- 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 printhead.

→ Solution

- A1. Change ribbon and print again.
- B1. Use a different supply of cards.
- C1. Adjust contrast and/or Intensity values in software
- D1. Perform a cleaning of the printhead (see 4.2 Cleaning the printhead.)

• Printing shows blurry printed image.



Possible Cause

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

→ Solution

- A1. Open cover and press down the printhead unlock lever to open the printhead carriage. The printhead will move up.
- A2. Check ribbon is properly rolled on ribbon cores.
- A3. Push down on the printhead lock lever until an audible "click" signals the locked-down position.
- A4. Ribbon will automatically synchronize.
- A5. Print again.

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- B1. Open cover and press down the printhead unlock lever to open the printhead carriage. The printhead will move up.
- B2. Push down on the printhead Lock Lever until an audible «click» signals the locked-down position.
- B3. Ribbon will automatically synchronize.
- B4. Print again.
- C1. Use a different supply of cards.
- D1. Perform a cleaning of the printhead (see 4.2 Cleaning the printhead.)
- D2. Replace cleaning roller (see 4.3 Cleaning cartridge.)
Printing shows blurry printed image.

• 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 printhead may be disconnected.
- D. printhead elements may be scratched or burnt.

→ Solution

- A1. Check for ribbon in the printer.
- B1. Use a different supply of cards.
- C1. Power off the printer and check the printhead cable connections.
- D1. Call service for printhead 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.



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6 Technical Specifications

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General

- High speed printing, over 144 cards/hour edge to edge in full colour (YMCKOi) throughput
- Small footprint
- Windows Drivers for 98, NT 4.0, ME, 2000, XP.

Colour Printing

- Colour dye sublimation or monochrome thermal transfer printing
- 25 seconds per card (YMCKOi) throughput
- 300 dpi (11.8 dots/mm) print resolution
- Edge to edge printing standard

Fonts

- Resident: Arial Normal 100, Arial Bold 100
- True Type fonts available via Windows Driver

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 1.524mm
- Card feeder capacity: up to 240 cards (10mil), up to 80 cards (30 mil)
- Card output hopper capacity: 300 cards (10mil), up to 100 cards (30 mil)

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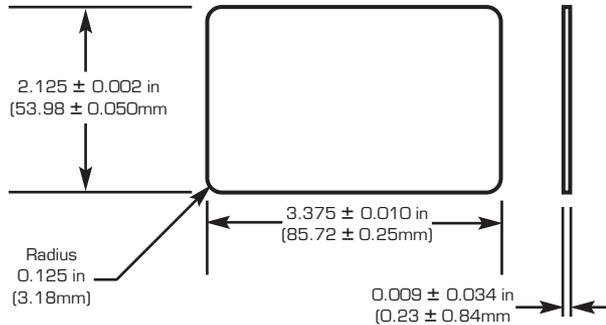
Cleaning

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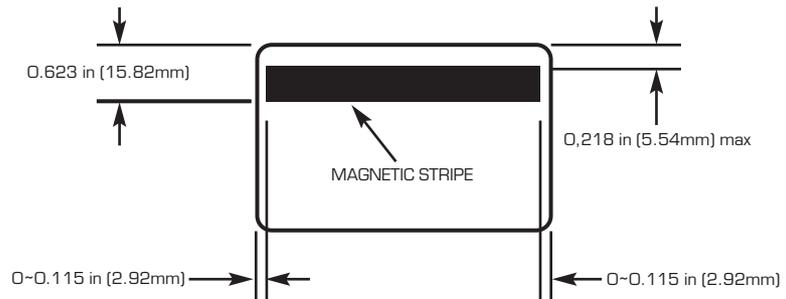
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CARD DIMENSIONS

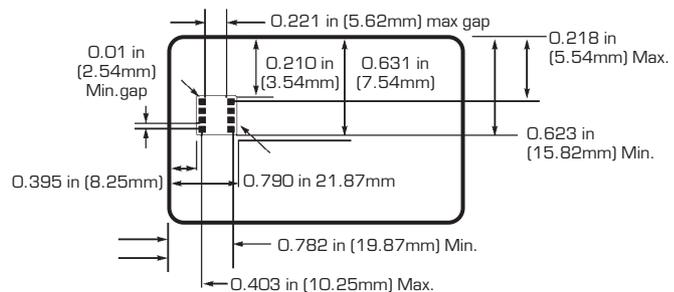
ISO STANDARD DIMENSIONS FOR PLAIN CARD

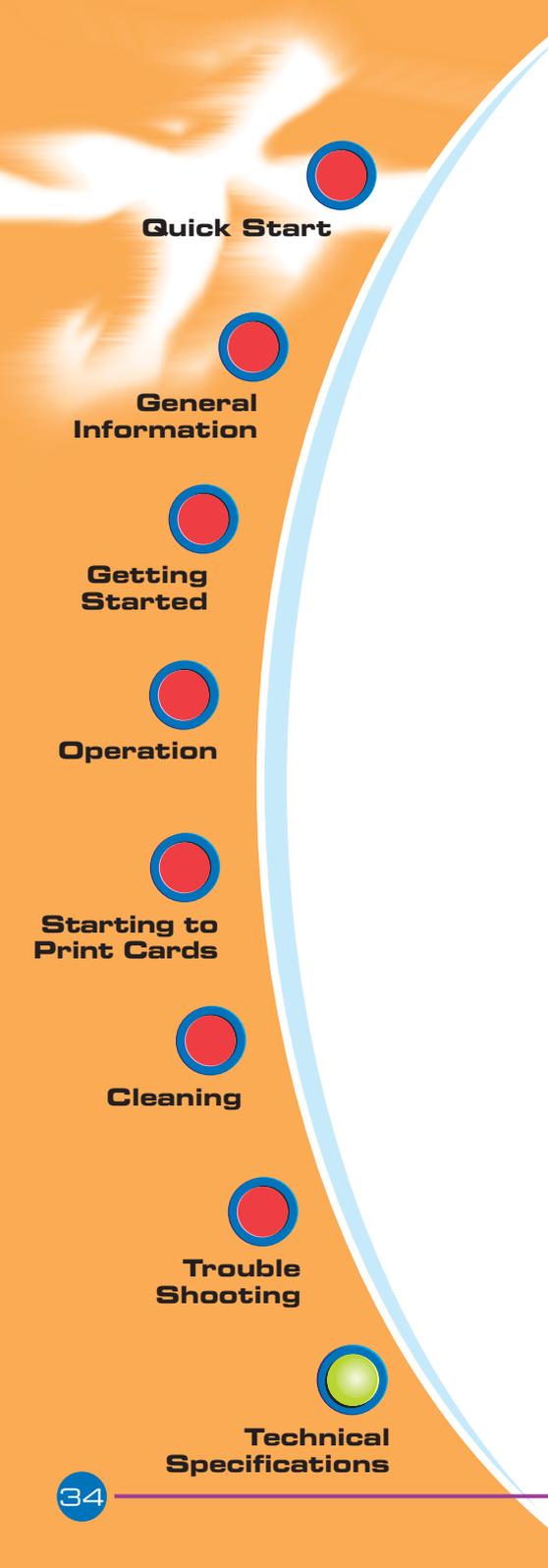


ISO STANDARD DIMENSIONS FOR MAGNETIC STRIPE CARD



CHIP POSITION FOR SMART CARD





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Ribbons*

- Monochrome: 1000 cards/roll
black, red, blue, green, silver, gold, white, scratch-off.
- Monochrome: 1500 cards/roll (black only)
- K-resin + Oi: 500 cards/roll
- K-dye + Oi: 500 cards/roll
- YMCKOi: 200 or 330 cards/roll

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.

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: 7.5" (191 mm)
- Depth: 17.3" (440 mm)†
- Height: 9.1" (232 mm)
- Weight: 20.9lbs (9.5 kg)

† Measured without card output hopper.

Electrical

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



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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

Options & Accessories

- Centronics Cable (2.0 or 3.0 metres)
- RS-232C serial port
- USB port
- Smart Card Contact Station (0.76mm cards only)
- Magnetic Encoder (0.76mm cards only)
- Cleaning supplies
- Service Manual



*For best results use engenyus-approved cards and TrueColours™ colour ribbon media. Using non-approved cards or ribbon media can void your warranty.

Refer to the Accessories section for more information about cards and ribbon media available from engenyus.

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Appendix A

JAVELIN™ i Series: Intelligent Printing System Frequently Asked Questions

1 What is the Javelin i Series?

The i Series is a new line of Javelin plastic card printers that incorporates an innovative, intelligent card printing system.

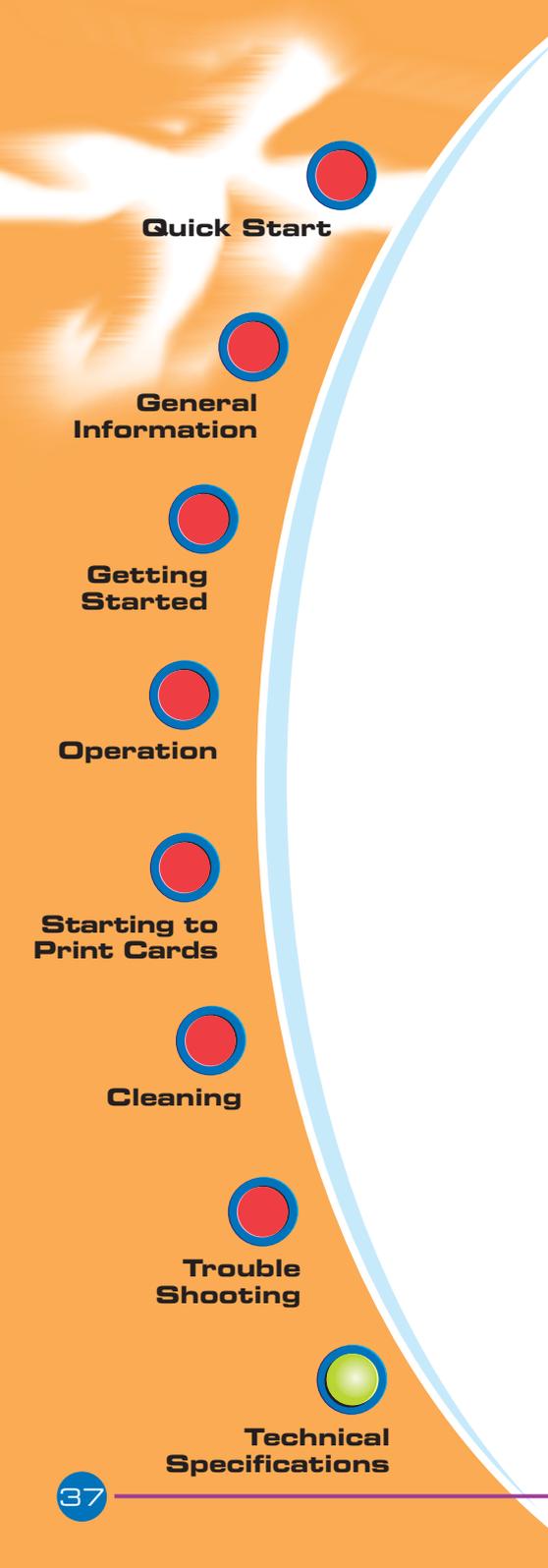
2 What is the i Series Intelligent Printing System?

The i Series Intelligent Printing System is combination of design features implemented in Javelin card printers, printer drivers, and Javelin printer ribbons that ensure easy, economical, high quality card printing on Javelin-brand card printers.

3 What are the benefits of the new i Series Intelligent Printing System?

- Easy to Use: printer automatically detects the ribbon type and configures the driver, eliminating extra steps and potential errors when setting up or changing print jobs. Ribbon low alert tells the operator when there are 20 card images remaining on the ribbon and a replacement ribbon will be required soon.

- Excellent Print Quality: wider ribbon for edge-to-edge applications; new HC (High Colour) ribbon formulation for fuller, richer colours; advanced image data processing for greater detail, sharpness and control.



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4 What are the printer features of the new i Series Intelligent Printing System?

- Image Data Processing: Uses a method of data processing in the printer firmware to optimise how the image is printed. The printer is able to process a wider range of colours resulting in greater image detail, sharper images, and better colour control.
- Ribbon Type Detection: The printer deploys RFID technology to detect the type of ribbon installed and interacts with the driver to ensure optimisation for printing with the type of ribbon detected.

5 What are the ribbon features of the new i Series Intelligent Printing System?

- New HC (High Colour) Ribbon Formulation: Prints in fuller, richer colours for improved colour reproduction with more vibrant colour range.
- New Wider Ribbon: Covers full range of edge to edge printing for better print quality and increased operating and density range to minimise potential for ribbon wrinkle.
- RFID Intelligence: Factory pre-programmed ribbon type and image count information is communicated to the printer and driver at installation.
- Image Counter: Counts and saves "number of images printed" information. This information is used to provide "ribbon low" status to the driver. The number of images printed is continuously updated and saved in the smart chip on the ribbon cartridge or core, so the ribbon "knows" how many card images have been printed. This means ribbons can be removed or exchanged, even if not fully used, and reinstalled for use of the remaining panels.

6 What are the software/driver features of the i Series Intelligent Printing System?

- Automatic Driver Configuration: Printer detects the i Series ribbon type and the driver automatically configures the driver to select correct ribbon type.
- Javelin Image Profile: A software tool for Windows 98 and 2000 environments that enhances colours, minimises whitewashing, and enhances colour contrasts.
- Ribbon Low Notification and Messaging: Alerts user when ribbon is running low (20 card images remaining) and that a replacement ribbon will soon be required.
- Changed Ribbon Type Notification: Notifies user and requests confirmation when a newly installed ribbon is different than the previous ribbon used.

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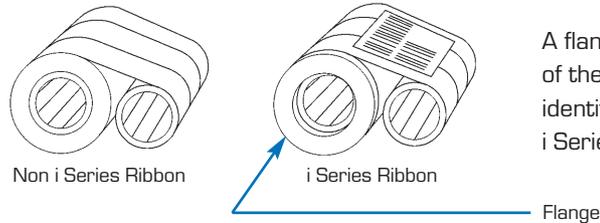
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7 How do I know if I have an i Series ribbon?

The i Series designation is part of the ribbon description. i Series TrueColours' ribbons are packaged in blue boxes and are clearly identified on ribbon packaging and labelling. In addition, all i Series ribbons part numbers are different from non-i Series ribbon part numbers.



A flange on the supply side of the ribbon core easily identifies unpackaged i Series ribbons.

8 What is the difference between i Series and non-i Series ribbons?

i Series multi-panel ribbons have RFID technology that enables the printer and driver features of the Intelligent Printing System, High Colour (HC) ribbon formulation, and are wider for improved edge to edge printing. The i Series ribbons are supplied with a replacement cleaning roller included in the box.

9 Will i Series ribbons work on non-i series printers?

Yes. An i Series ribbon will work with a non i Series printer, but when installed on a non i Series printer, the ribbon will not be enabled through RFID technology. This means the resulting colour imaging will not be as optimal as it would be if it were used with an i Series printer.

10 Will non-i Series ribbons work on i Series printers?

- No. i Series printers require use of i Series ribbon for full colour printing or printing with multi-panel ribbons.
- Non-i Series monochrome, single panel ribbons function on i Series printers.

11 Where can I buy i series ribbons?

Javelin i Series ribbons are available only from authorised Javelin card printer dealers.

12 Do I Series ribbons require any special care or handling?

No. The storage and handling requirements are the same as non i Series ribbons.

13 Who do I contact if I have any other questions?

Contact your Javelin dealer for any questions related to Javelin card printers.



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Appendix B

Magnetic Card Stripe Encoder

This section contains information on the additional operations of the J320i printers with magnetic card stripe encoder. (See Chapter 2 for location.)

INTRODUCTION

Operation and maintenance requirements for the J320i 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. (HICO or LOCO)

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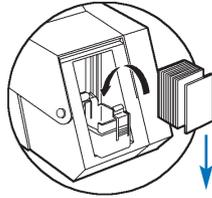
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A. MEDIA LOADING ORIENTATION



The magnetic encoder is a factory installed item with the read/write head positioned below the card path, available with HICO encoding or LOCO encoding .



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 or LOCO encoding .



When loading cards, please ensure that the magnetic stripe is facing up and closest to the rear.

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



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.

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ISO STANDARD ENCODING

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

* Bit per inch

† Except the '?' character

‡ Including Start, Stop and LRC 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.

B. MAGNETIC ENCODER CLEANING

The process consists of a standard cleaning of the printer. This cleans the most important parts of the printer; including the printhead, transport roller and magnetic stripe encoder (refer to chapter 4 Cleaning for more instructions).



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Appendix C

Smart Card Contact Station

This section contains information on the additional operations of the J320i printers with smart card contact stations. (See Chapter 2 for location.)

INTRODUCTION

Smart cards can be either 'memory' cards or contain memory and a microprocessor. Data can be stored such as the holder's personal details together with advanced features such as security algorithms and biometric data such as fingerprint patterns.

The Javelin J320iE and J320iEM printers have a contact station to connect a serial interface to the smart card contacts. A suitable smart card coupler and associated software would be required external to the printer to communicate with the smart card. engenyus offers a range of integrated couplers (as detailed on page 46) for both contact, contactless (Mifare) and 'combi' cards.

The J320i 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 J320i model.

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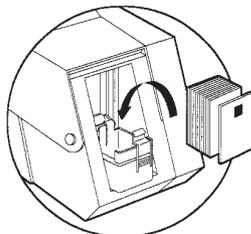
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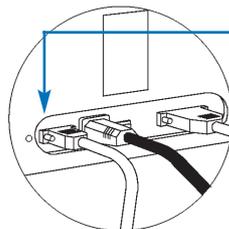
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A. MEDIA LOADING ORIENTATION



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	C1 (Vcc)	6	C6 (Vpp)
2	C2 (Reset)	7	C7 (I/O)9
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.



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Appendix D

Accessories & supplies

Please contact your Javelin dealer to place an order for accessories and supplies.



IMPORTANT NOTICE:

Only TrueColours™ colour ribbons can be used in this printer

RIBBONS

Intelligent Javelin Encoded Ribbons

New rich colour formula - essential for intelligent J320i printers

Intelligent TrueColours Two-panel Ribbons (Inc. Cleaning Rollers)

6 11 34 509	Black (dye-sub) + overlay KdOi - for monochrome photo	(500 cards)
6 11 34 510	Black (resin) + overlay KrOi - for text and bar codes	(500 cards)

Intelligent TrueColours Full Colour Ribbons (Inc. Cleaning Rollers)

6 11 34 501	Five panel YMCKOi	(200 cards)
6 11 34 503	Five panel YMCKOi	(330 cards)

Intelligent TrueColours "Value Pack" Full Colour Ribbons (Inc. Cleaning Rollers)

6 11 34 511	Five panel YMCKOi - 5 rolls per pack	(200 cards)
-------------	--------------------------------------	-------------

TrueColours Monochrome Ribbons

6 11 32 101	Black	(1500 cards)
6 11 31 101	Black	(1000 cards)
6 11 31 108	Black (Value pack 100 rolls)	(1000 cards)
6 11 31 107	Black for ABS cards	(1000 cards)
6 11 31 102	Red (PMS 1795C)	(1000 cards)
6 11 31 103	Green (PMS 348C)	(1000 cards)
6 11 31 104	Blue (PMS 287C)	(1000 cards)
6 11 31 106	White	(1000 cards)
6 11 31 111	Gold	(1000 cards)
6 11 31 112	Silver	(1000 cards)
6 11 31 121	Scratch-off	(880 cards)

Note : Y = Yellow, M = Magenta, C = Cyan, B = Black , O = Overlay

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Varnish Overlay Ribbons		
6 11 32 701	Clear	(350 cards)
6 11 32 702	Genuine Secure	(350 cards)

CARDS

The following plain white plastic cards are available for use in the J320i printers:

engenyus Part Number	Description
9 19 00 009	Cards with no magnetic stripe
9 19 00 011	Cards with low coercivity magnetic stripe
9 19 00 007	Cards with high coercivity magnetic stripe
9 19 00 003	Self-adhesive cards to fix onto proximity cards

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

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ACCESSORIES

Accessories available for J320i printers are listed below:

engenyus Part Number	Description
2 33 11 001	Mifare (contactless) encoding kit to be fitted to a J320i or J320iM printer. Includes integrated Mifare encoder, software tools, RS232C interface and documentation
2 33 13 000	Smart Card (contact) encoding kit to be fitted to a J320i or J320iEM printer. Includes integrated smart card coupler, software tools, RS232 interface and documentation
2 33 12 000	Combined Smart Card (contact) & Mifare (contactless) card encoding kit to be fitted to a J320iE or J320iEM printer. Includes integrated smart card coupler, software tools, RS232C interface and documentation
6 11 00 914	Cleaning kit: cleaning cards (50) and swabs (25)
6 11 00 915	Cleaning cards (100)
6 11 00 916	Swabs (25)
6 11 00 902	Replacement printhead kit
6 11 00 912	Cleaning roller kit (5)
6 11 00 913	Card cleaning cartridge
2 40 20 000	USB connector and cable
2 42 62 420	2.0m Centronics Cable
2 42 62 421	3.0m Centronics Cable



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Appendix E

Warranty Information

PRINTERS

All JAVELIN™ printers are warranted against defects in material or workmanship. ENGENYUS JAVELIN™ printers (excluding printhead) are warranted against defects in material or workmanship. Proof of purchase or shipment date is required to validate the warranty. 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.

PRINTHEADS

The original printhead is covered by an unlimited number of passes warranty. Warranty period begins on purchase date. To qualify for this warranty, the printhead must be returned to ENGENYUS or to an authorised dealer. Customers are not required to purchase ENGENYUS supplies (media and/or ribbons) for warranty qualification. However, if it is determined that the use of other manufacturers' supplies has caused any defect in the printhead for which a warranty claim is made, the user is responsible for all 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 Manual has caused defects in the thermal printhead for which a warranty claim is made.

SUPPLIES

These are warranted to be free from defect in material and workmanship provided the user has complied with storage guidelines, handling and usage of the supplies within ENGENYUS Javelin printers.

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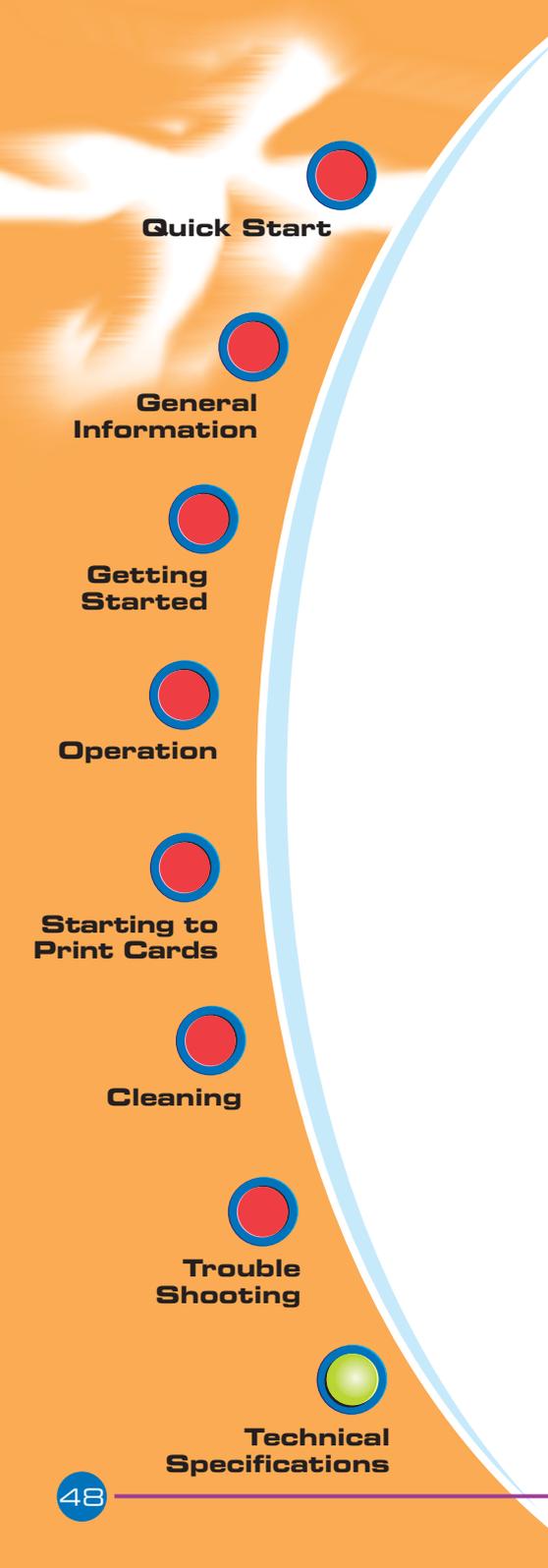
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SPARE PARTS

All parts, maintenance kits, options kits, and accessories are warranted to be free of defects in material and workmanship. This warranty becomes void if the item is modified, improperly installed or used, or damaged by accident or neglect.

Notes

Failure to exercise caution to protect the equipment from electrostatic discharge damage, adverse temperature and humidity conditions or physical abuse, including, but not limited to, improper packaging, shipping, service or repairs performed by personnel not authorised by ENGENYUS or an authorised dealer may void the warranty. ENGENYUS or its authorised dealer will, at its option, repair or replace the equipment or any parts which are determined to be defective within this warranty period, and which are returned to ENGENYUS or its authorised dealer. ENGENYUS specifically disclaims the implied warranties of merchantability and fitness for a particular purpose.

For full warranty terms, please contact the Javelin dealer from whom you purchased your printer.

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Appendix F

Technical Support

If for any reason you require product technical support, please contact the distributor where you purchased your equipment. If they cannot help you, or at their direction, engenycus can be reached at :

ENGENYUS LIMITED

7 Byfleet Technical Centre

Canada Road

West Byfleet

Surrey

United Kingdom KT14 7NB

Tel : +44 1932 351531

Fax : +44 1932 351382

Email : technical.support@engenycus.com

HOW TO RETURN YOUR PRINTER

If you have purchased your printer from an engenycus distributor, please first contact them on their returns procedures.

Alternatively, contact engenycus Technical Support (details above) for instructions before shipping your printer.



Only complete goods in their original packaging with a valid **Returned Materials Advice (RMA)** number clearly marked on the outside can be accepted for return to engenycus.

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Appendix G

Declarations of Conformity



European Council Directive		Compliance to Standards	
89/336/EEC modified by 92/31/EEC and 93/63/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



Model: J320i conforms to the following specification:
FCC Part 15, Subpart A, Section 15.107(a) and Section 15.109(a) Class A digital device

Supplemental Information:

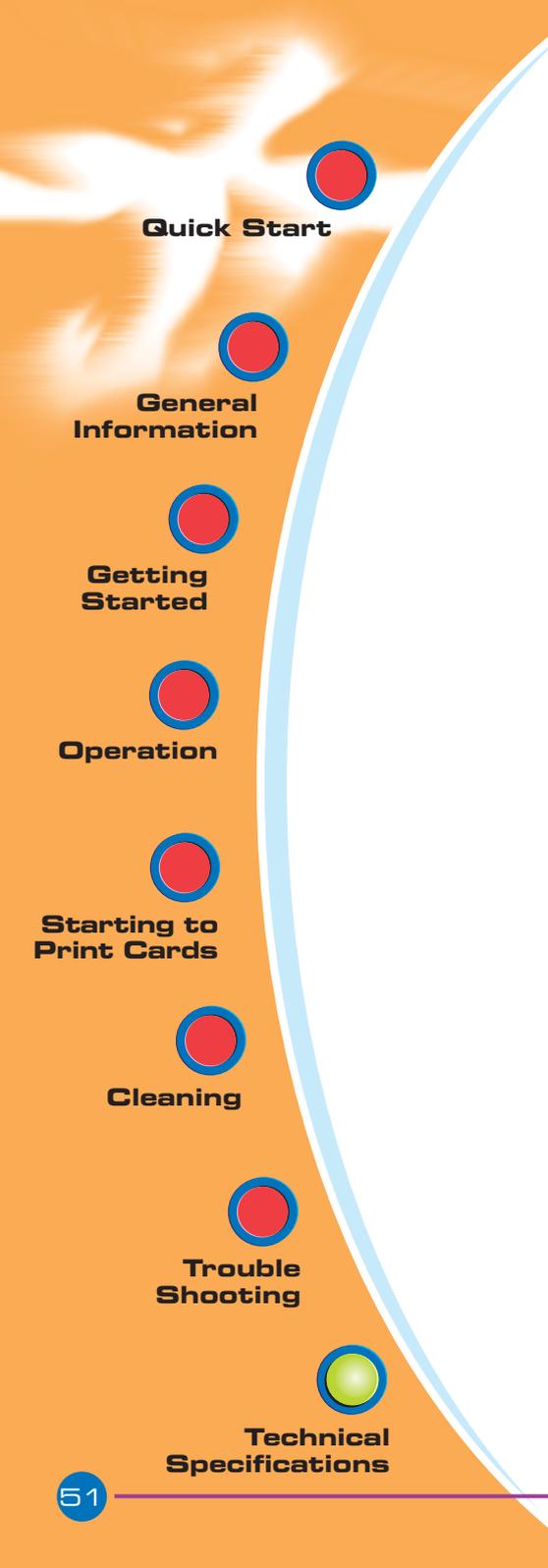
This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Note:

This equipment has been tested and found to comply with the limits for a class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

INDUSTRY CANADA NOTICE

This device complies with Industry Canada ICS-003 class A requirements.



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