Javelin®

User's manual
J360i

Quick Start

1. **Unpack your Javelin card printer**

   Make sure the following items are included:

   - **Power cable**   **- USB cable**   **- Quick Start guide**
   - **Driver and documentation CD**   **- Cleaning kit**   **- Cleaning cartridge**
   - **Ribbon**   **- Card output hopper**   **- Large feeder extension kit**
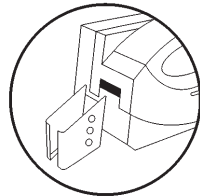
   If any items are missing, please contact your dealer.

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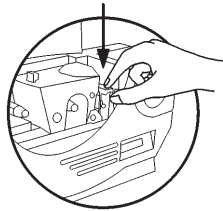
   The card cleaning cartridge is packed separately from the printer in a protective plastic bag.
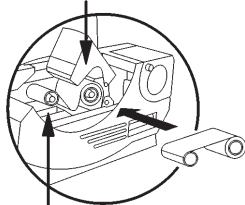   Remove carefully and peel off tape from the cleaning roller before installing it.

3. **Install card output hopper**

   This item is packed in the accessories tray.

4. **Loading ribbon**

   SUPPLY SPINDLE

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

   TAKE-UP SPINDLE
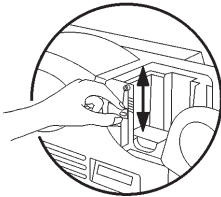
5. Loading cards
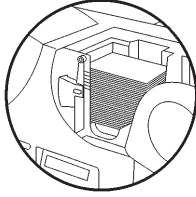
First shuffle a stack of new cards to reduce any electrostatic charge. Always handle cards by their edges.
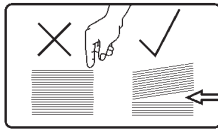
Do not try to eliminate the gap by pressing down on the card stack as this can cause a misfeed.

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.

There are 4 positions to set the card thickness control. Slide the lever to set the gauge.

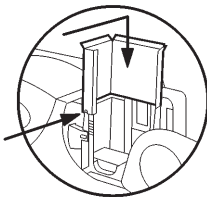The second position down is the normal position (30mil/0.76mm)

7. Starting to print cards

Install the Windows driver on your PC, connect the interface cable and switch on the printer when prompted.

8. Large feeder extension kit

To increase card feeding capacity, install the card feeder extension. Slide extension under the printer cover and push firmly down to locate. Tighten screw to secure.

Table of Contents

1 Introduction

Thank you for choosing the Javelin J360i card printer.
This manual guides you to efficient start up and operation of your new card printer.

Printer Features

The following shows the main functional features found on your printer.
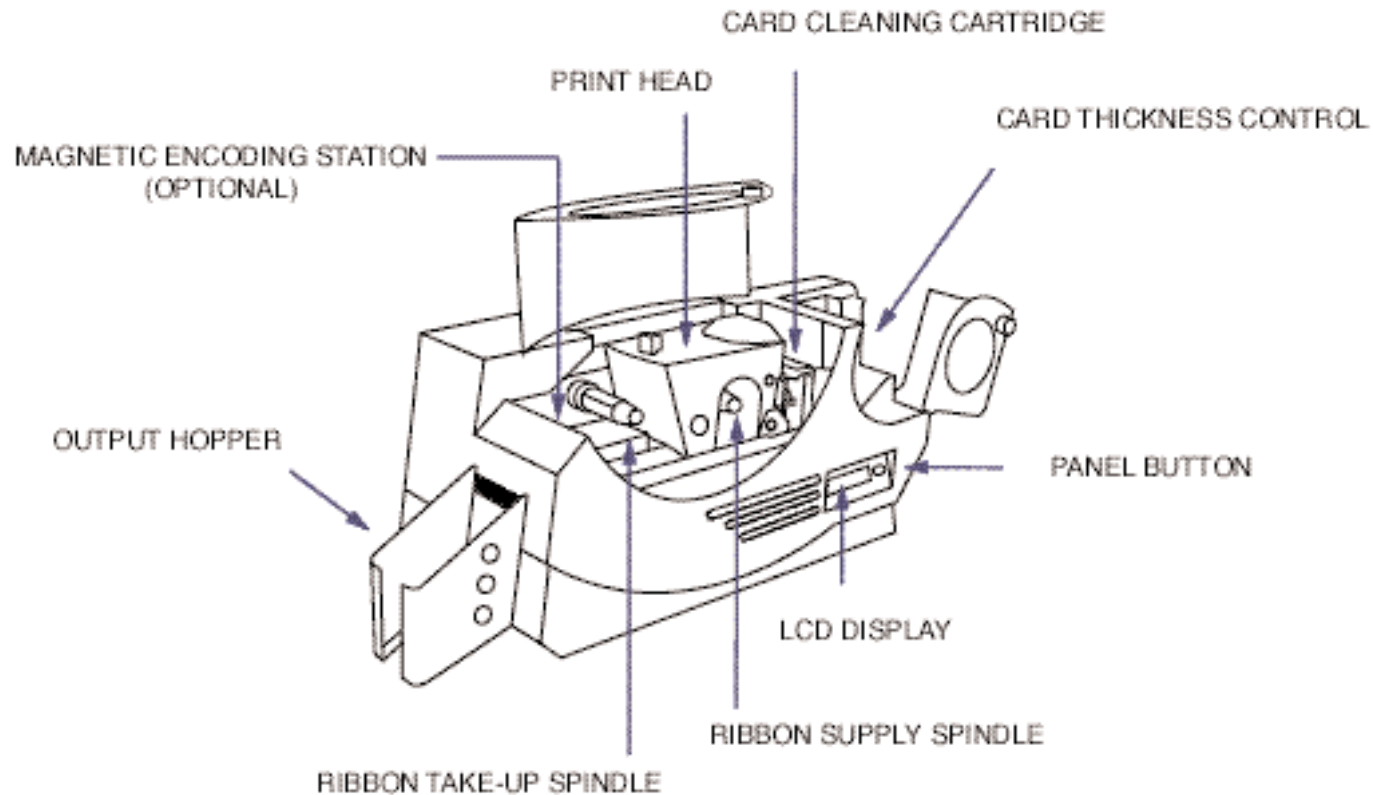
Controls, Connectors, and Indicators

Your printer has an LCD display panel and a panel button on the front and a power connector, power switch, and interface connectors on the rear panel.

PANEL BUTTON

LCD DISPLAY
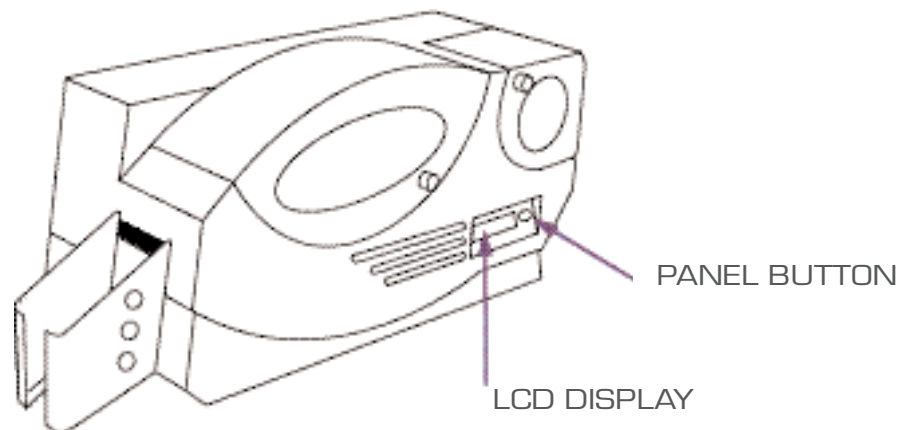
10/100 BASE-T CONNECTOR,
ETHERNET SWITCH,
NETWORK STATUS/ACTIVITY LED,
ETHERNET ADAPTER STATUS LED.
(THESE ARE ON THE OPTIONAL ETHERNET ADAPTER)

POWER SWITCH

KENSINGTON
SECURITY LOCK

POWER CONNECTOR   USB CONNECTOR

DB-9 CONNECTOR LOCATION FOR SMART
CARD STATION (OPTIONAL)
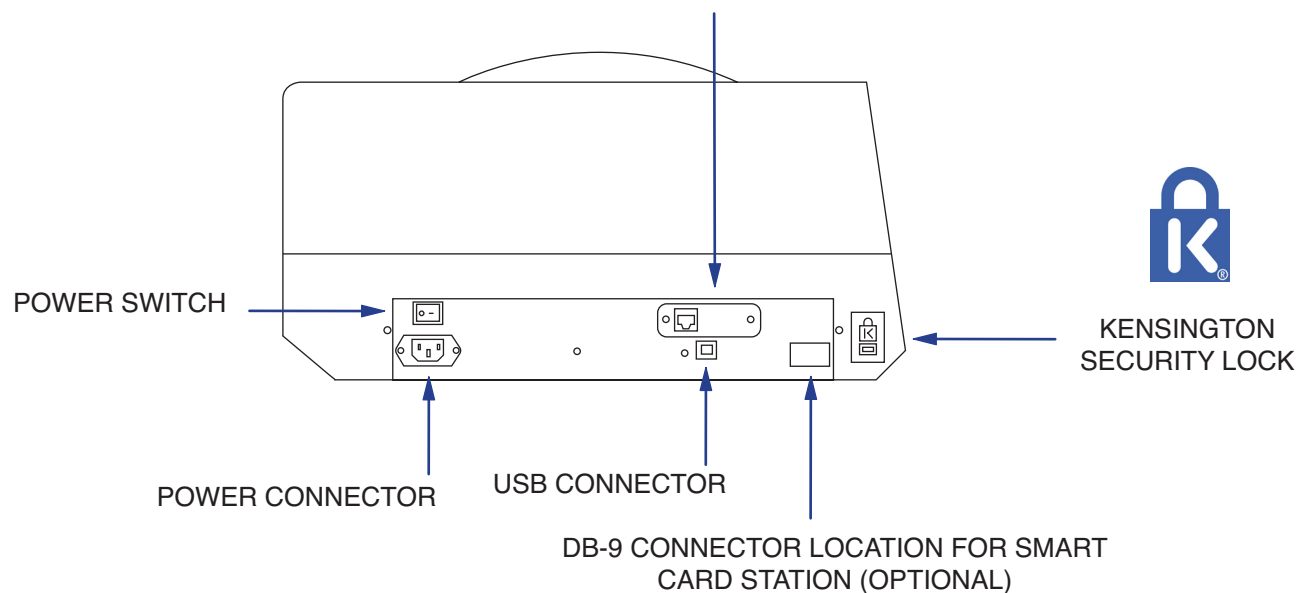
LCD Panel

The LCD panel can display the following messages:

Message	Mode
Operational:	
INITIALISING	Scrolling
READY	Fixed
DOWNLOADING DATA	Fixed
PRINTING MONO	Fixed
MAG ENCODING	Fixed
CONTACT ENCODING	Fixed
PRINTING CYAN	Fixed
PRINTING YELLOW	Fixed
PRINTING MAGENTA	Fixed
PRINTING BLACK	Fixed
PRINTING OVERLAY	Fixed
DOWNLOADING FW	Fixed
CLEANING PRINTER	Fixed
Warnings:	
CLEAN PRINTER	Scrolling
REMOVE RIBBON THEN CLOSE HEAD	Scrolling
EMPTY FEEDER & PRESS BUTTON	Scrolling
LOAD CLEANING CARD IN FEEDER	Scrolling
PRESS BUTTON TO CONTINUE	Scrolling
FEED LONG CLEANING CARD IN EXIT	Scrolling
CLEANING PRINTER	Scrolling
ENCODING ERROR (printing stops)	Blinking
INVALID MAGNETIC DATA (encoding stops)	Scrolling
REMOVE RIBBON	Fixed
Errors (Printer will not operate):	
OUT OF RIBBON	Blinking
MECHANICAL ERROR	Blinking
OUT OF CARDS	Blinking
PRINT HEAD OPEN	Blinking

2 Installation and Setup

General Information

This section will guide you through the installation and setup of your printer.
This consists of the following procedures, which should be performed in the order presented.

Unpacking the printer
Installing the print driver software and setting driver options
Loading a ribbon
Installing the card cleaning cartridge
Setting the card thickness control
Loading cards
Connecting the printer to your computer
Connecting power
Printing a test card to verify printer operation

The printer should be placed in a location that allows easy access to all sides.

The printer should never be operated while resting on its side or upside down.

Electric Shock Caution: Limit AC power supplied to the J360i Printer to 110 ~ 230 volts, 60 ~ 50 Hertz. 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 source and properly protected against electrical surges and grounding faults; the electrical reliability of the printer is based on the reliability of the mains power source and with the earth connection. The printer's power supply is an internal unit that can only be serviced or replaced by trained and authorised personnel.

Unpacking the Printer

Your printer ships in a carton and protective anti-static bag.
Keep all packaging material in case you need to move or reship the printer.

Inspect the shipping container to ensure that no damage has occurred during shipment.
If any damage is apparent, file a claim with the shipper.

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

Make sure the following items are included with your printer:

Driver & Documentation CD	Ribbon	Card Output Hopper
Cleaning Cartridge	Power Cable	USB Cable
Cleaning Kit	Quick Sart Guide	Large Feeder Extension Kit
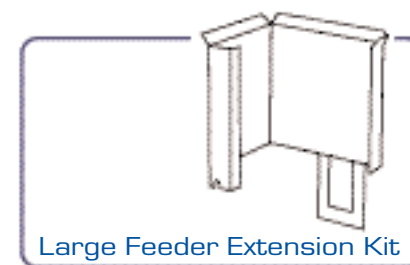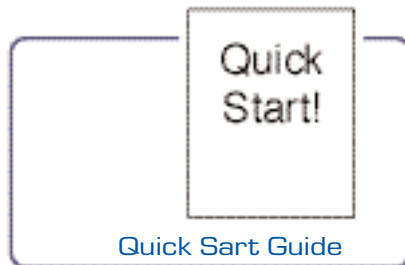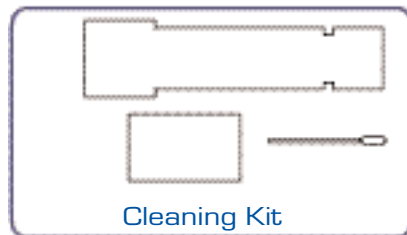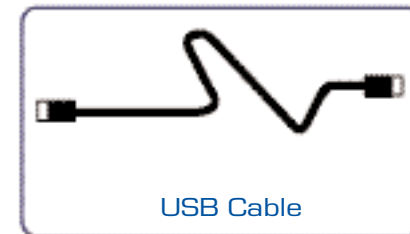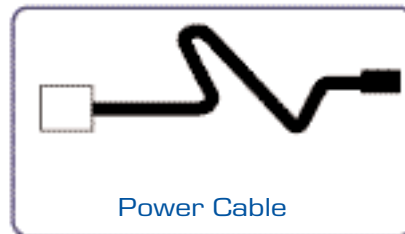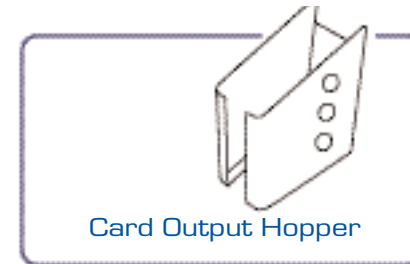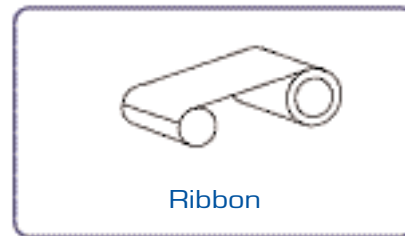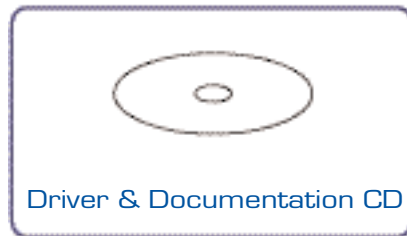
If any items are missing, please contact your dealer.

Your printer ships with warning tape where the card cleaning cartridge will be installed, and a pad that protects the printhead from possible damage in shipment.

1   Open the printer's main cover.

2   Remove the cleaning cartridge warning tape.

3   Release the printhead carriage by pushing the printhead carriage latch to the left, and raise the printhead carriage. It will remain open at about a 45° angle.

4   Remove the printhead protection pad.
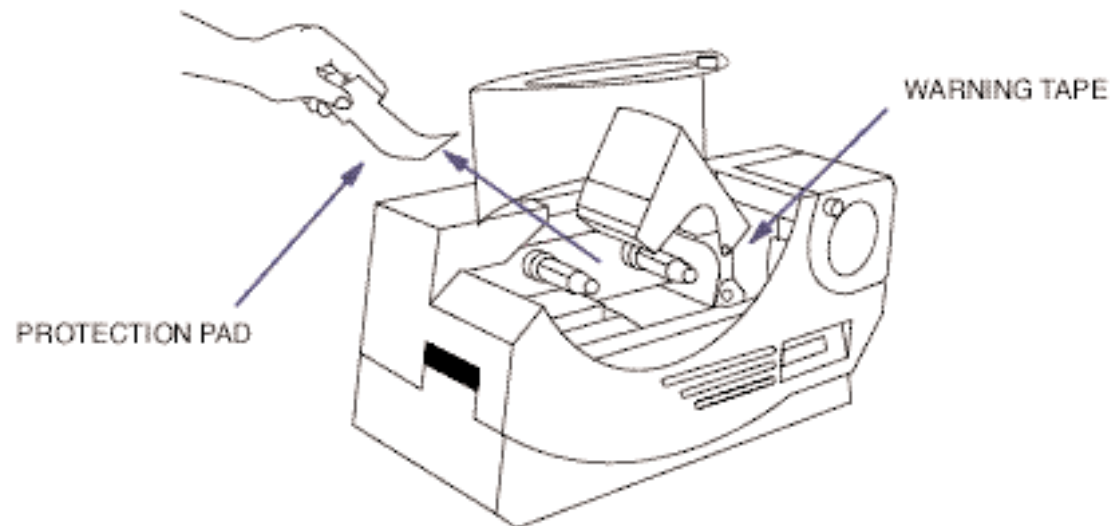
Keep the pad, as well as the other packing material and the shipping carton, in case the printer is shipped or moved.

Loading a Ribbon

Javelin i-series printers require the use of Javelin encoded i-series ribbons for full colour printing. The resin thermal transfer and dye sublimation ribbons for J360i are specifically designed for your printer.

1   Place the printer power switch in the OFF (O) position.

2   Raise the printhead carriage by pressing the release latch to the left (toward the output hopper) and lifting as shown below to about a 45° angle. The printhead carriage will stay in that position.

Electrostatic discharge caution: DO NOT TOUCH the printhead or the electronic components on the printhead carriage. Discharges of electrostatic energy that accumulate on the human body or other surfaces can damage the printhead or other electronic components used in the printer.

Note: Avoid any direct contact with the printhead to prevent transfer of oils or contamination. Outside of normal operation, only the NBS - approved cleaning materials should come in contact with the print head.
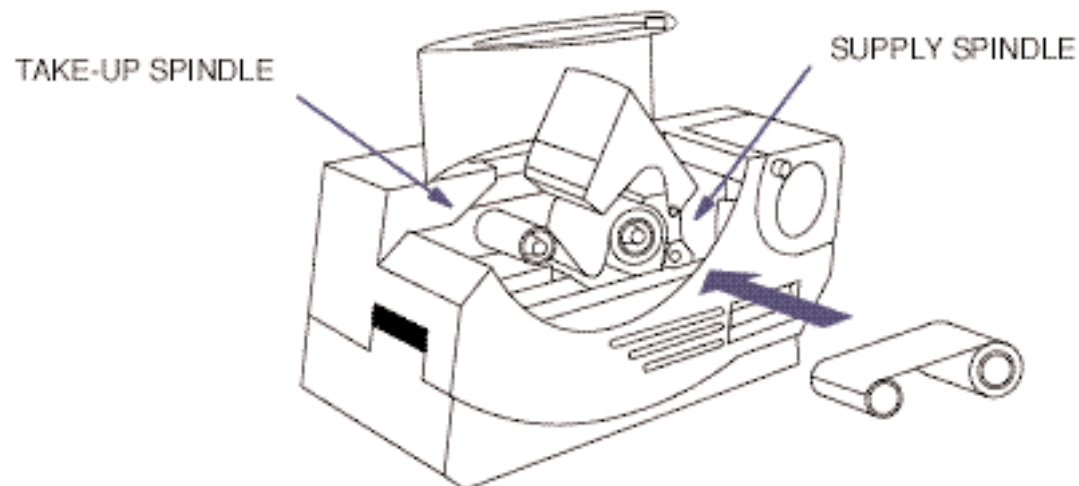
3   Locate the ribbon supply spindle and the ribbon take-up spindle (see above). Load ribbon onto the supply spindle (under the printhead carriage) flange side in, and load the empty core (with tape attached) onto the take-up spindle. Make sure the ribbon comes off the top of the supply spindle and feeds to the top of the take-up spindle.

4   Gently press the print head carriage down until it is fully lowered, as shown below. Very little force is necessary to perform this step.

⚠️ **Caution**: Do not touch the printhead if the printer has been in service within the last 10 minutes. It could be very hot and cause a burn.

Electrostatic discharge caution: A static discharge is possible if you touch any exposed metal parts. Use of an anti-static wrist strap or comparable anti-static protection is required.
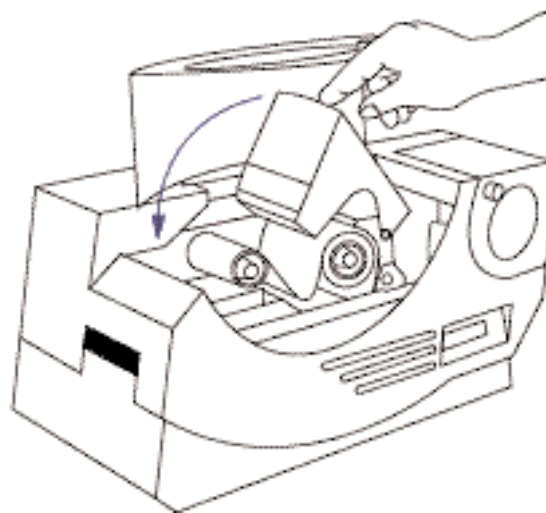
Note: During normal operation (with power connected and turned on), the ribbon would automatically synchronise when the printhead is restored to its fully-down position. The ribbon would be identified and the corresponding parameters sent to the driver.

Since power is not connected at this point in the installation and setup procedure, nothing will happen when the printhead carriage is closed. The ribbon will synchronise when power is turned on.

Installing the Card Cleaning Cartridge

The card cleaning cartridge cleans the cards entering the printer and consists of a cartridge frame and an adhesive roller, which are packed together.

1   Remove the cartridge frame and the adhesive roller from their packaging. Insert the adhesive roller into the cartridge frame. To avoid contamination, always hold the frame and the roller by the ends and peel the protective wrapper from the adhesive roller.
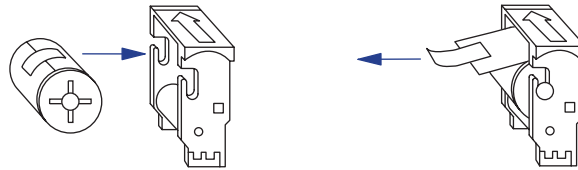
2   Open the printer's main cover and locate the area where the card cleaning cartridge will be installed (initially, this area was covered by a warning tape).

3   Locate the slot at the rear of the card cleaning cartridge mounting location.
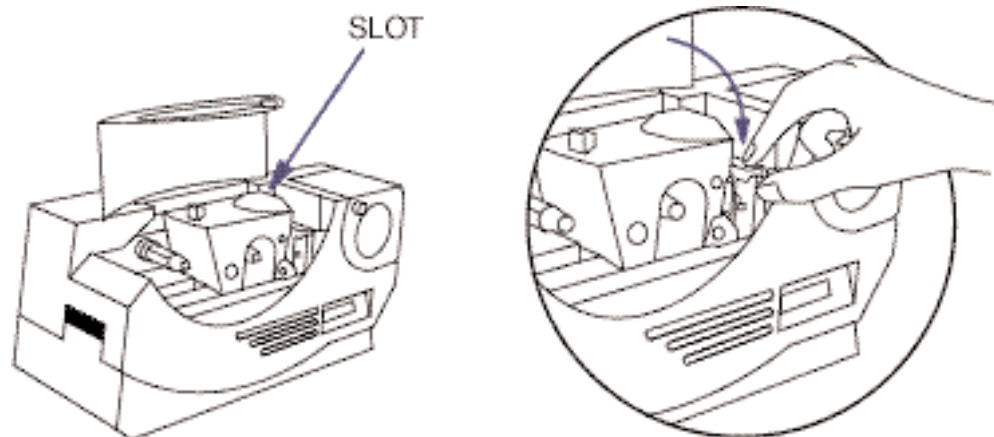
4   Hold the card cleaning cartridge by the extended 'handle' (so the large arrow on the top is pointing away from you). With the cartridge at about a 30° angle (pointing downward), insert the lip of the cartridge into the slot, until the cartridge seats against the back wall.
     Then press the front of the cartridge down until it seats all the way down and latches with an audible 'click'.

5   Close the printer's main cover.

Setting the Card Thickness Control

The card thickness control is set by the user to adjust the gap as cards enter the printer, to prevent double-feeds (which could cause a jam) or mis-feeds.

1   Open the card feeder cover.

The card thickness control lever is at the front of the left-side opening of the card feeder area
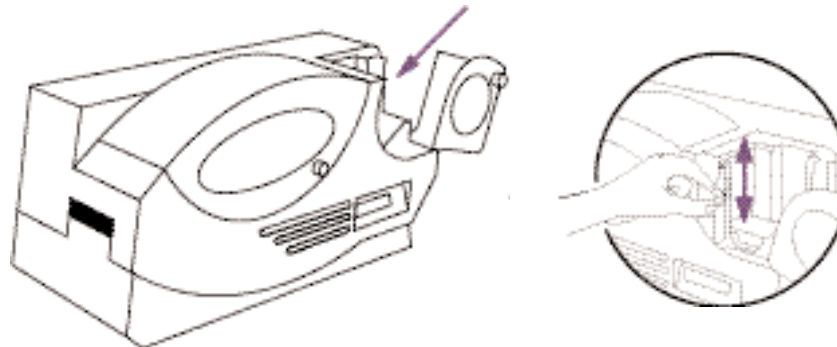
Note: Set the card thickness control before loading cards.

Note: To reduce contamination and ensure better print quality, minimise the time the card feeder cover is open.

There are four positions to set card thickness control.

2   Slide the card thickness control to the position corresponding to the following:

Highest position: 50 mil (1.27 mm) to 60 mil (1.52 mm)
2nd position: 30 mil (0.76 mm) to 50 mil (1.27 mm) - Normal setting.
3rd position: 20 mil (0.51 mm) to 40 mil (1.02 mm)
Lowest position: 10 mil (0.25 mm) to 20 mil (0.51 mm)

Note: The overlap in settings above accommodates variations in environmental conditions (especially humidity) and cards from different manufacturers. In general, start at the lowest position and move the lever up until cards feed reliably.

Note: "60 mil" ("1.524 mm") cards may have a significant variation (over 10%) in the actual thickness of the cards; do not use these cards unless each card has been measured to have a thickness less than 66 mil (1.676 mm).

Loading Cards

This section shows how to load plastic cards into the printer. The printer can use cards with a range of thickness from 10 mil (0.25 mm) to 60 mil (1.5 mm).

The printer can also load and print cards fed individually. Information on this is given in the next chapter.

The plastic cards generally come in decks of 100 cards; the card feeder can hold a full deck of 100 30-mil cards. Cards sometimes will stick together; this can cause mis-feeding or double feeding. To avoid this, separate the cards before loading.

Note: Do not mix cards of different thicknesses!
Note: 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.
Note: For cards with magnetic stripe, refer to Appendix A for loading instructions.
Note: To reduce contamination and ensure better print quality, minimise the time the card feeder cover is open.
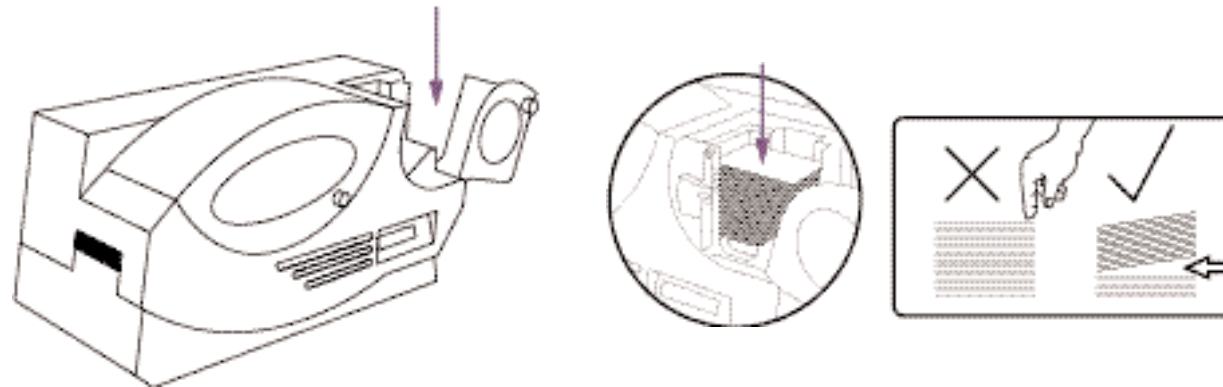
Open card feeder cover and place the cards in the input hopper.

Note: that there will be a 'gap' in the card stack, with several cards lying flat and the cards above angled upward. This is normal and ensures proper feeding.

Caution: Do not touch print surfaces of the cards; this can reduce print quality

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Card Output Hopper

This item is used for collecting printed cards.

Install the card output hopper by hooking over bottom edge of card exit aperture.
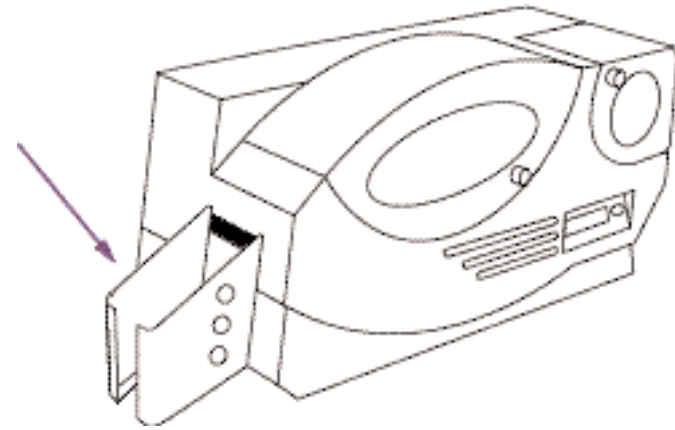
Large Feeder Extension
- to increase card feeding capacity (optional).

Open the card cover, slide the feeder extension under the printer cover and push firmly down. Tighten screw to secure.
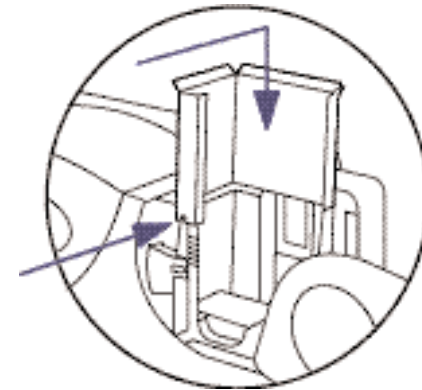
Physical security

To prevent unauthorised removal of the printer, you can use a Kensington Slim MicroSaver security cable to attach the printer to an immovable object.
Your printer has a Kensington Security Slot located on the back.
The Kensington Security Slot is indentified on the printer with this logo:
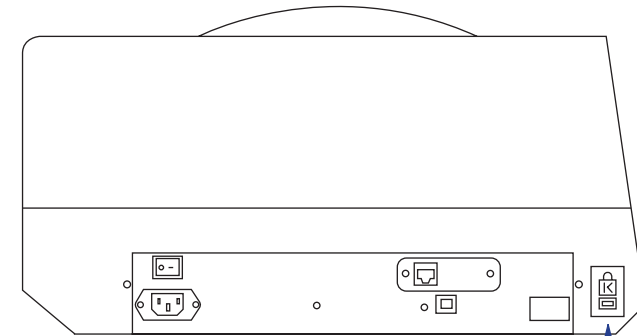
KENSINGTON
SECURITY LOCK

Installing the print driver software and setting driver options

Printing with this printer requires the Windows printer driver and your card design/ issuing software or printer command level programming through the printer interface.

The printer can be used with any Windows 2000, Windows server 2003, Windows XP or Windows Vista software application program, using the drivers provided on CD with the printer.

This section contains information on the printing of a sample card in colour (using the 5-panel colour ribbon YMCKO and the Windows printer driver).

Note: If updating the printer driver from a previous version, before installing the updated printer driver, always update the firmware to the correct version first. Then delete the existing version from your PC using the add/remove programs in Control Panel.

Installing the J360i print driver

To install the printer driver automatically on all operating systems, use the Javelin Install Wizard.

Note: Ensure that you have administrative privileges to perform this installation, or contact your IT department.

The Install Wizard will walk you through the appropriate installation steps. The Wizard will:

Automatically launch when the driver CD is inserted.

From the main menu of your documentation CD, select 'INSTALL DRIVER'. The Install Wizard will walk you through the appropriate steps.

Delete previous versions of the driver and clean up any necessary registry entries. You must select "Remove" from the install options to remove any previous driver versions.

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Connecting the Printer to your Computer

This printer includes a standard USB interface.

As an option, the printer can be ordered with a 10/100base-T Ethernet Adapter (in addition to the USB interface).

If using the USB interface, use the supplied USB cable to connect between the USB connector on the printer and a USB port on the computer, as shown below. (Note that the figure below shows the optional Ethernet Adapter directly above the USB Connector; this may not be present on your printer.)

ETHERNET CONNECTOR (OPTIONAL)

POWER SWITCH

POWER CONNECTOR   USB CONNECTOR
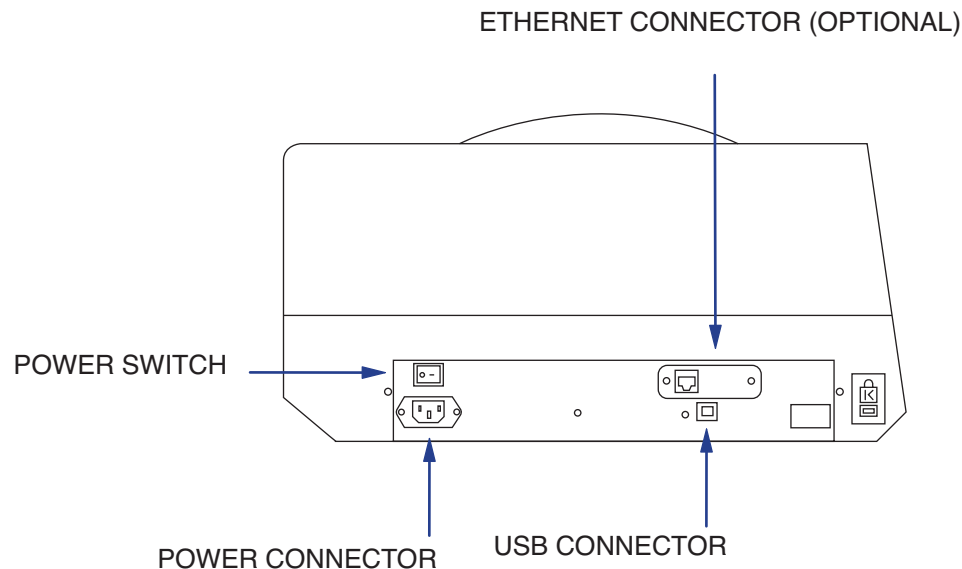
If your printer includes the optional Ethernet Adapter as well as the standard USB connection, use either the supplied USB cable or a standard Ethernet cable to connect the printer to a corresponding port on the computer or network.

Important: Do not use both USB and Ethernet connections at the same time!

Important: Intermittent or unpredictable operation may occur from unsecured connectors. If damaged, the power cable must be replaced by an exact equivalent.

Connecting Power

This printer includes an internal AC power supply that accepts nominal input voltage in the range from 110 to 230 volts at 50 to 60 Hertz. The power source must be grounded.

Depending on specific model number, your printer will include a power cord. If this is not appropriate, AC power cords may be purchased locally; make sure it is a three-wire (grounded) cord.

POWER SWITCH
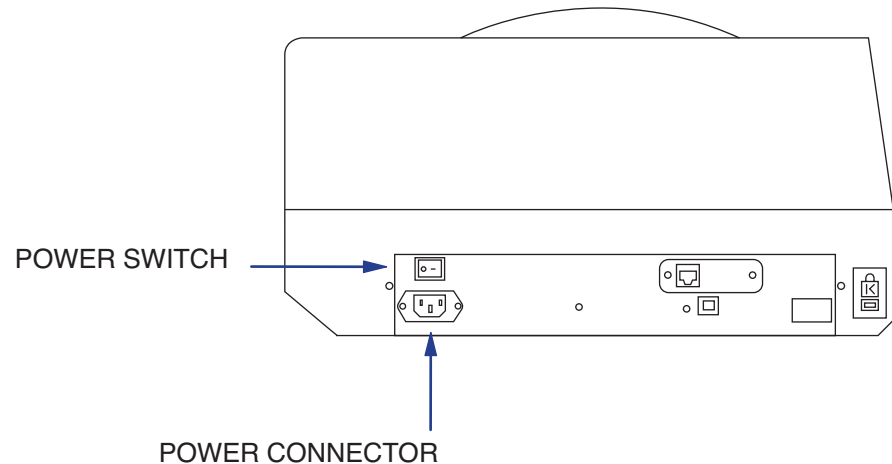
POWER CONNECTOR

Place the printer's power switch in the OFF (0) position.

Depending on your local AC voltage, plug the appropriate power cord into the printer's power connector and a grounded AC power source connection.

To turn the printer on, set the printer's power switch to the ON (I) position.

Caution: If the power cord appears damaged in any way, or if the power cord will not securely plug into the Printer's power connector or the AC power source connection,

STOP! Use of a damaged or incorrect power cord could cause equipment damage, result in an electrical fire, or possibly cause injury.

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Printing a Test Card

With ribbon and cards loaded, your printer is ready to print. To check the operation of the printer, you should print a test card. (Printing a test card does not require that the printer be connected to your computer or network, but power must be applied.)

1   Set the printer's power switch (on the back of the printer) to the OFF (O) position.

2   While pressing the printer's front panel button (next to the LCD display panel), switch the printer ON (I).

3   Hold the panel button until the LCD display panel reads "SELF TEST".

4   Release the panel button, and the test card will print.

This is an example of the test card:
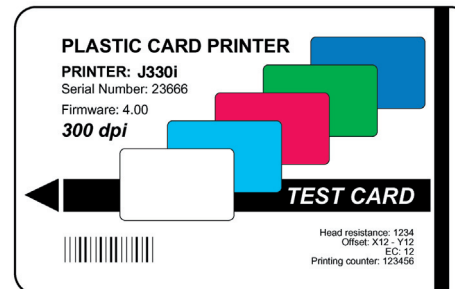
3 Printing a Card

Printing with this printer is similar to printing with any other printer in a Windows environment.

The printer driver software is installed on your computer (see chapter 2).
The printer is connected to the power source and the computer (see chapter 2).
The printer is selected by either the operating system or the appropriate application software program.
Printer properties are set (the factory default values will be appropriate for many applications).
Card printing is directed by the appropriate application software program.

Setting printer properties

Printer properties can be set either at the operating system level or within the application software program used for printing cards.

Note: In the following description of setting printer properties, only those properties and options that are suitable for being set by the user are described. The user should not make selections or set parameters unless they are specifically described in this section

Preferences settings can configure the printer for landscape (wide) or portrait (tall) printing orientation, and allow the user to verify that the desired ribbon is installed in the printer. (Monochrome ribbons are selected via the drop-down menu.)

If the printer includes the optional magnetic card stripe encoder, encoding parameters and coercivity can be set.

Printer cleaning can be initiated from the tools window (printer cleaning can also be initiated at the printer; see chapter 4).

Also from the tools window, the test card can be selected.

Printing a Sample Card

Sample card designs are installed with the printer driver. Sample cards require Microsoft Word or Microsoft Paint application software. The cards are accessed via the start menu. Select start, select programs, select Javelin card printers, and select a sample card, or follow the directions below to design a card.

Follow these steps to design and print your first card:

1   Launch Microsoft Word software. Depending on your computer configuration this may be done by double-clicking an icon on your desktop, or by clicking the Windows start icon, selecting programs, and navigating to Microsoft Word.

2   Go to the **file** menu and choose **page setup**.

3   Select the **paper size** tab, choose **card**. Under orientation, select **landscape**.

4   Select the **margins** tab, and set the top, bottom, left, and right margins to O (zero).

5   Click **OK** to close the **page setup** window.

6   The card appears on the screen.

7   Design a card with both black and coloured text and with coloured pictures (see example below).

Note: For cards thinner than 20 mils (0.51 mm) or thicker than 40 mils (1.02 mm), the card design must be limited to (1) no more than two 30 mm x 30 mm areas of full colour, (2) black information (text and barcode, for example) must cover no more than 50% of the card area, and (3) there must be at least a 5mm unprinted border along all edges.
For cards with thickness between 20 mils (0.51 mm) and 40 mils (1.02 mm), these restrictions do not apply; full colour printing is permitted edge to edge in both directions.

8   Once you are ready to print, go to the **file** menu and select **print**.

9   If the printer was not selected as the default printer, go to the file menu, select **print setup** and choose **Javelin J360i card printer** from the printer names list. Then **close** the **print setup** dialog box.

10   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).

11   Once the printing job is complete, the card is ejected from the printer.

Printing One Card at a Time

Note: The card feeder must be empty for printing single cards.

1   Insert a single card into the card feeder and close the lid.
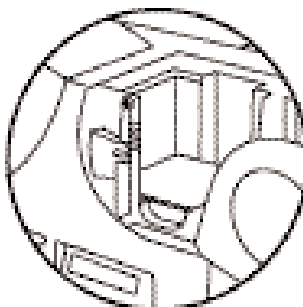
2   Go to your ID software package and print your single card.

3   Wait until the printer has printed the card.
     If you need to print another card of a different
     design, then follow these steps again.

Note: The single card feed sensor which was present on the early J360i printer is no longer installed. All cards, including the small cleaning cards, must be put inside the card feeder. See picture above.

4 Cleaning

Caution: PROTECT YOUR FACTORY WARRANTY!

The recommended cleaning procedures must be performed to maintain your factory warranty. Other than the recommended cleaning procedures described in this manual, allow only Javelin authorised technicians to service this printer.

NEVER loosen, tighten, adjust, bend, etc., any part or cable inside the printer.
NEVER use a high pressure air compressor to remove particles in the printer.

Cleaning the Printer

Clean your printer using pre-saturated cleaning cards provided. The regular use of these cards will clean and maintain important parts of your printer that cannot be reached, including the printhead, transport rollers, and optional magnetic encoder station.

When to Clean

When the LCD Panel displays the message CLEAN PRINTER.

Approximately every 1000 cards when using 5-panel colour ribbon, or every 5000 cards when using a monochrome ribbon.

How to Clean

Note: This cleaning procedure uses two cleaning cards. One cleaning card is the size of a regular plastic card, and is referred to as the 'cleaning card'. The other is elongated, with a wider section at one end; it is referred to as the 'long cleaning card'.

1   Turn printer power on.

2   Initiate the cleaning process by either of the following methods:

At the printer, press and hold the panel button for several seconds, until the LCD panel displays the message REMOVE RIBBON THEN CLOSE HEAD.
From the computer, enter the J360i printer tools software, and click on the CLEAN button.
The LCD panel will display the message REMOVE RIBBON THEN CLOSE HEAD.

3   Open the main cover, release the printhead carriage, and remove the ribbon. Then close the printhead carriage.
(For details, see chapter 2.) The LCD panel will display the message
EMPTY FEEDER & PRESS BUTTON.

4   Open the card feeder cover and remove cards from the card feeder. The last card is difficult to remove; leave it in place.
Press the panel button on the front of the printer. The card remaining in the feeder will be ejected. The LCD panel will then display the message LOAD CLEANING CARD IN FEEDER.

5   Place a pre-saturated cleaning card into the card feeder. The cleaning card will automatically feed into the printer and the cleaning process will start (there is a several second delay after the cleaning card feeds before the cleaning movement starts). While the cleaning process is underway, the LCD panel will display the message CLEANING PRINTER.

6   At the conclusion of this part of the cleaning process, the cleaning card will be ejected, and the LCD panel will display the message PRESS BUTTON TO CONTINUE.

7   After the user presses the panel button, the LCD panel will display the message FEED LONG CLEANING CARD IN EXIT.
Insert the long end of the long cleaning card into the card exit (directly above the output hopper). If the user inserts a "regular" cleaning card into the card exit, the LCD panel will display the message INVALID CARD, PRESS BUTTON until the user presses the panel button and inserts the long cleaning card into the card exit.

Note: If the user does nothing at this point (ie., does not insert the long cleaning card), after a timeout the LCD panel display will change to CLEAN PRINTER. The printer will be able to print, but the LCD panel will continue to display CLEAN PRINTER.

This limited cleaning does not do a thorough cleaning, but may be performed if no 'long cleaning cards' are available.

To restore the display to READY, you will need to perform a complete cleaning process, using both short and long cleaning cards, from step 2 above through step 9 below.

8   The long cleaning card will automatically feed into the printer and the printing process will continue. The LCD panel will again display the message CLEANING PRINTER.

9   When the cleaning process is completed, the long cleaning card will be ejected and the LCD panel will display the message READY, indicating that the printer is ready to resume normal printing operations.

10   Discard both cleaning cards after a single use.

Note: Do not use previously used cleaning cards.

Colour Sensor Recalibration
Follow the display messages for recalibration; install a colour ribbon when prompted. If you have a mono ribbon, install this and wait to the printer displays READY.

Cleaning the Printhead

A cleaning using the cleaning cards usually suffices. However, a separate printhead cleaning can remove more stubborn deposits when print anomalies persist. To avoid deposits, only use foam-tipped swab or cleaning pens.

1   Place the printer power switch in the OFF (O) position.

2   Open the main cover, release the printhead carriage, and remove the ribbon. Leave the printhead carriage in its raised position. (For details, see chapter 2.)

3   Clean printhead by moving an alcohol-moistened swab tip or impregnated head cleaning pen side-to-side across the printhead elements. Only use moderate force. To reorder swabs or pens, please refer to the media list on the Windows drivers and user documentation CD supplied with this printer.

4   The swabs can also be used in a similar manner to clean the optional magnetic encoding head.

Caution: Never use a sharp object or any abrasive to scrape deposits from the print head. Permanent damage to the printhead will result.

Caution: Do not touch the printhead if the printer has been in service in the last 10 minutes. It could be very hot and cause a burn.

Card Cleaning Cartridge

Your printer includes a card cleaning cartridge. This item cleans the cards entering the printer through the card feeder. To ensure print quality, the cleaning roller requires periodic replacement. New cleaning rollers are included with each ribbon or may be purchased separately. (To reorder, please refer to the media list on the Windows drivers and user documentation CD supplied with this printer.)

Installation of the card cleaning cartridge is described in chapter 2 and is not repeated in detail here.

Replace the cleaning roller each time you install a new ribbon.

How To Replace the Cleaning Roller

1   Open the main cover and locate the card cleaning cartridge.

2   Gently remove the card cleaning cartridge. Lift the 'handle' end, and then pull it away from the printer.
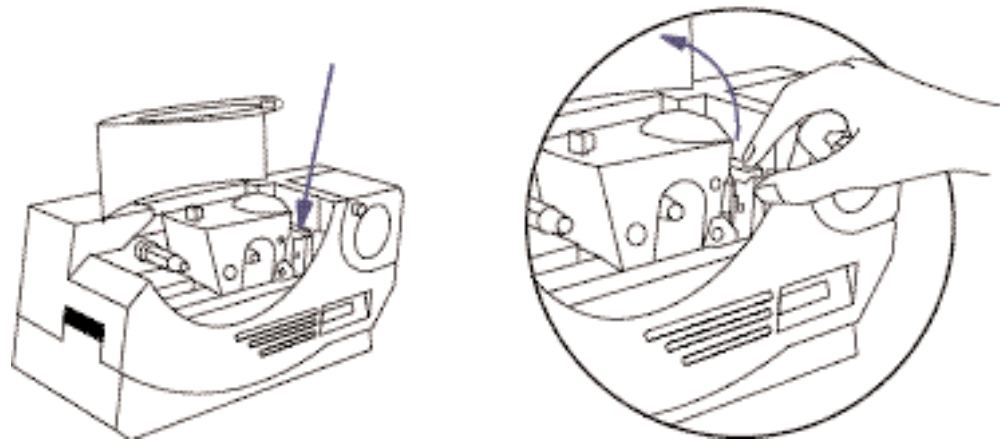
Note: Before replacing the card cleaning cartridge or its cleaning roller, clean the printer using the cleaning cards as described earlier in this chapter.

3   Remove the cleaning roller from the card cleaning cartridge and discard.
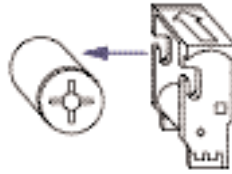
4   Install new cleaning roller into the card cleaning cartridge. To avoid contamination, always hold the cleaning roller by the ends. (For replacement cleaning rollers, please refer to the media list on the Windows drivers and user documentation CD supplied with this printer.)

5   Peel protective wrapper from the cleaning roller by gently pulling on the tape.

6   Replace the card cleaning cartridge into the printer.

7   Close the printer main cover.

Note: Do not touch the adhesive roller surface that contacts the cards.

5 Troubleshooting

The table on the next page offers causes and solutions to symptoms related to improper operation. Check the table when experiencing any loss of operation or print quality.

Problem/Description
LCD displays:

Cause/Solution:

OUT OF CARDS
1 Check for cards in the card feeder. If no cards present, load cards.
2 Check that card thickness control lever is properly adjusted (see loading cards in chapter 2).
3 Press the panel button for 1 second. The printing job will restart.

OUT OF RIBBON
1 Check ribbon. Replace if defective or entirely used. Ribbon will automatically synchronise and printing will restart with a new card.

PRINT HEAD OPEN
1 Check that printhead carriage is closed and latched.

MECHANICAL ERROR
1 Check that you are using the correct card type (see technical specifications).
2 Check that card thickness control lever is properly adjusted (see loading cards in chapter 2).
3 If 2 cards are fed into the printer at the same time: Open cover and remove card cleaning cartridge, empty the card feeder, and pull the jammed cards out. Replace the card cleaning cartridge. Remove cards from card feeder, separate them as shown in Loading cards in chapter 2, and replace.
4 Check that ribbon is loaded correctly.

ENCODING ERROR
1 Check that you are using the correct magnetic card type (for low or high coercivity encoding).
2 Verify command syntax.
3 Contact Javelin technical support.

CLEAN PRINTER
1 Printer cleaning required (see chapter 4).

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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 procedures below:

EXAMPLE 1 Small spots appear on the printed card with a non-printed area or a different colour.

Possible Cause: Contamination on the card surface.

Solutions: Check that cards are stored in a dust free environment.
Use a different supply of cards.

Possible Cause: Dust inside the printer and/or dirty cleaning roller.

Solutions: Perform a cleaning of the printer (see chapter 4).
Replace cleaning roller (see chapter 4).
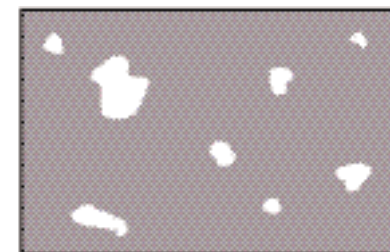
EXAMPLE 1

EXAMPLE 2 There are non-printing horizontal lines (white) on the card surfaces.

Possible Cause: Ribbon cartridge is not correctly positioned.

Solutions: Ensure that the ribbon is properly rolled onto the ribbon cores of the cartridge and that there are no wrinkles in the ribbon.
Replace ribbon cassette, making sure it locks in place.

Possible Cause: Printhead is dirty.

Solution: Clean the printhead

Possible Cause: Printhead elements are damaged (e.g., scratched or burnt).

Solution: Call your Javelin dealer or NBS customer service for printhead replacement information.
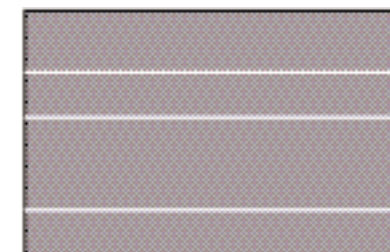
EXAMPLE 2

EXAMPLE 3 Printing shows very pale, very dark, or inconsistent results

Possible Cause: Ribbon has been stored improperly or is damaged.
Solution: Change ribbon and print again.

Possible Cause: Cards may not meet specifications.
Solution: Use a different supply of cards.

Possible Cause: Contrast and/or Intensity may be set to
  incorrect values.
Solution: Adjust contrast and/or Intensity values in software.

Possible Cause: Head Settings are too low / high.
Solution: Adjust head Settings higher / lower.

EXAMPLE 3

Possible Cause: Dust or embedded contamination on elements of the printhead.
Solution: Perform a cleaning of the printhead (see chapter 4).

EXAMPLE 4 Printing shows blurry printed image.

Possible Cause: Ribbon cartridge may not be correctly positioned.
Solution: Check that the ribbon is properly rolled onto the ribbon cores of the cartridge.
  Replace ribbon cartridge, making sure it locks in place, and print again.

Possible Cause: Ribbon may not be synchronised on the correct colour panel position.
Solution: Open the printhead carriage, then close it.
  This will cause the ribbon to resynchronise.

Possible Cause: Cards may not meet specifications.
Solution: Use a different supply of cards.

Possible Cause: Dust or embedded contamination inside
  the printer and/or dirty cleaning roller.
Solution: Clean the printhead.
  Replace the cleaning roller.
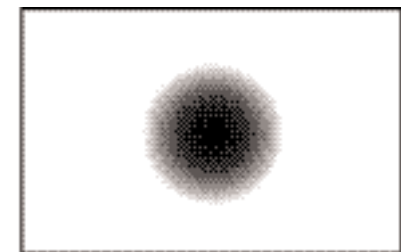
EXAMPLE 4

EXAMPLE 5   No printing on the card.

Possible Cause: Ribbon may not be installed in the printer.
Solution: Check for ribbon in the printer.

Possible Cause: Cards may not meet specifications.
Solution: Use a different supply of cards.

Possible Cause: Printhead elements may be scratched or burnt.
Solution: Call your Javelin dealer or NBS customer service for printhead replacement information.

EXAMPLE 6   Only one panel of a colour ribbon prints.

Possible Cause: Using the wrong type of ribbon.
Solution: Use only Javelin encoded i-series ribbons for full colour printing.

Note: For optimum print quality, always keep the main cover and the card feeder cover closed.

Troubleshooting the Ethernet Connection and Adapter

Resetting to Factory Defaults

To reset the Ethernet adapter configuration parameters to the factory defaults, press the panel button and hold it in while turning the printer power on. Keep the panel button pressed until the status Indicator light turns **green**, then release the panel button. To print a configuration card, press and hold the ethernet switch.

Ethernet Adapter Status Indicator

A bi-color status Indicator displays the operational status of the Ethernet adapter. The following conditions might occur:

1   During normal operation, the LED is solid **green** for more than 30 seconds. This indicates all the hardware is functioning properly and the Ethernet adapter has detected the presence of the network. It does not mean the Ethernet adapter has an IP address or is attached to a printer queue.

2   If the LED is rapidly flashing **green** (9 times/sec), the Ethernet adapter has not detected the presence of a network cable. To solve the problem:

    Verify that the network cable is appropriate for the network and has an RJ-45 connector.

    Turn the printer power off (O). Remove the network cable from the Ethernet adapter. Plug the network cable back in until you hear a positive click. Check the other end of the cable in the same manner. Turn the printer power on; if the Ethernet adapter still does not detect a cable, continue.

    Connect the Ethernet adapter to a known good network connection. If the Ethernet adapter is still unable to detect the network cable, contact technical support for assistance.

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3   If the LED is slowly flashing **green** (1 time/sec), the Ethernet adapter is trying to print a job.If the job does not print, check the following:

Important: Cables with a rating higher than CAT-6 have not been tested.

Verify that the printer has media and ribbon. If the printer is showing any errors, it is unlikely that the Ethernet adapter can send data to the printer. The LED continues to blink until the printer malfunction is resolved or until the printer is turned off (O).

Flashing **red** indicates the power on self test (POST) is in progress.

4   If the LED is solid **red** for more than 30 seconds, the Ethernet adapter has failed the POST. A failed POST can be caused by any of the following:

The printer attached to the Ethernet adapter device is malfunctioning. Turn the printer power off, wait 10 seconds, then turn the printer back on (I). If the Ethernet adapter still fails the POST, the Ethernet adapter has a hardware problem that can be fixed only by replacing or returning the unit. Contact technical support for repair or replacement information.

5   If the LED is alternately flashing **red** and **green** for longer than 2 minutes, the Ethernet adapter is in firmware-download mode. This means it is waiting for new firmware data to be sent before it continues normal functioning. Perform the following:

If the Ethernet adapter was purposely put into firmware-download mode, finish the download with the proper update utility.
Contact the NBS web site at http://www.nbstech.com to download this utility.
Contact technical support for help recovering this unit

Network Status/Activity Indicator

A bi-colour status/activity LED indicates network speed, established link, and network activity.

1   If the LED is off, no link was established.

2   If the LED is solid **green**, a 100Base link is established.

3   If the LED is flashing **green**, a 100Base link is established and network activity has been detected.

4   If the LED is solid **orange**, a 10Base link is established.

5   If the LED is flashing **orange**, a 10Base link was established and network activity has been detected.

Network activity detected by this LED does not mean the activity is data for the print server. The activity is all activity on the network seen on the Ethernet adapter.

6 Technical Specifications

General Specifications

Full colour dye-sublimation card printing
25 seconds per card single-sided colour printing (YMCKO)
Monochrome thermal transfer printing
4 seconds per card monochrome

Ribbon Specifications

Patented ribbon core and spindle system
I-series technology featuring RFID

Note: 'i series'; printers require the use of Javelin encoded 'i-series' ribbons for full colour printing. For more information about card media and ribbons available from NBS Technologies, please refer to appendix D.

Card Specifications

Types: PVC or composite
Card width/length ISO CR-80 - ISO 7810, 2.125" (54 mm) x 3.375" (86 mm)
Option: magnetic stripe - ISO 7811
Card thickness: 10-60 mil (0.25-1.5 mm) ± 10%
Card feeder capacity: up to 100 cards (30mil) (optional high-capacity feeder: up to 220 cards)
Card output hopper capacity: 100 cards (30mil)

Bar Codes

Code 39, Code 128 B & C with & without check digit
2 of 5 and 2 of 5 interleaved
UPC-A, EAN8, and EAN13
PDF-417 2D bar code and other symbologies available via Windows printer driver

Fonts

Arial and Arial bold
True type fonts available via Windows driver

Card Dimensions

ISO standard 7810 dimensions
for plain card:
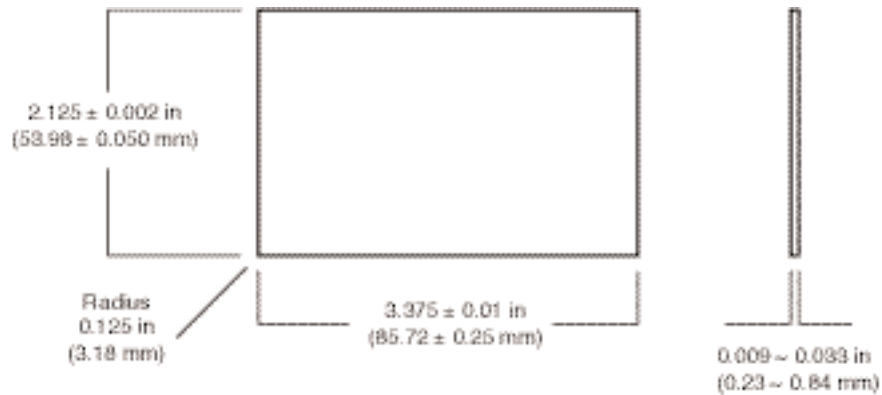
ISO standard 7811 dimensions
for magnetic stripe card:

2.125 ± 0.002 in
(53.98 ± 0.050 mm)

Radius
0.125 in
(3.18 mm)

3.375 ± 0.01 in
(85.72 ± 0.25 mm)

0.009 ~ 0.033 in
(0.23 ~ 0.84 mm)

0.623in (15.82mm) min

0.218in
(5.54mm)
max

0 ~ 0.115in (2.92mm) max   0 ~ 0.115in (2.92mm) max

0.782 in (19.87 mm)

0.757 in (19.23 mm)

1.124 in (28.55 mm)

0.403 in (10.25 mm)
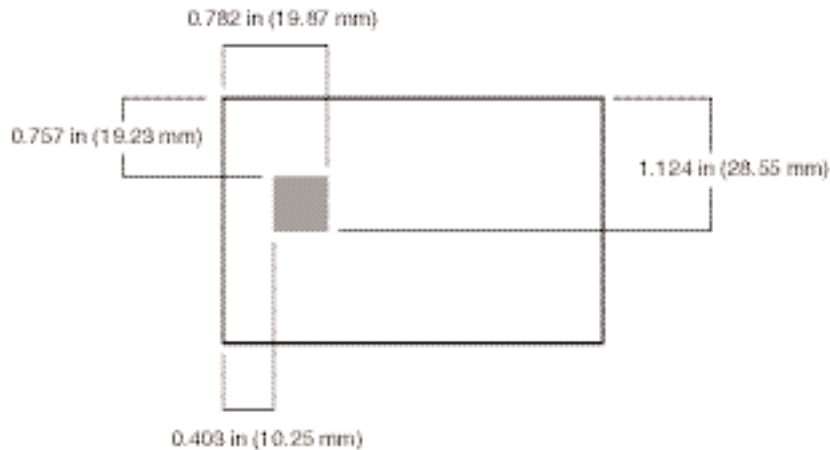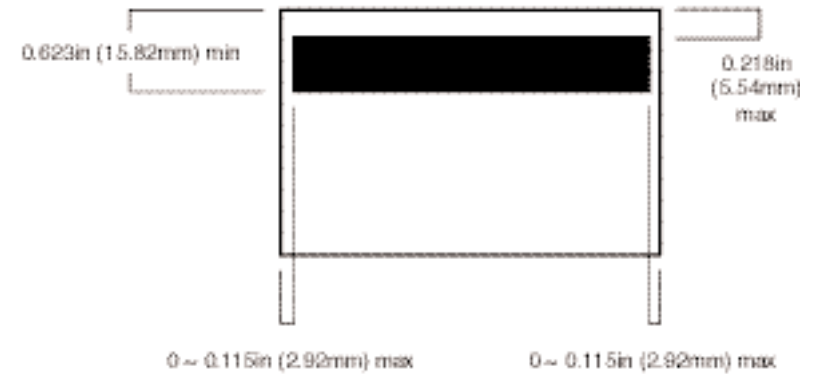
Bi-Directional Communications Interfaces

USB
Built-in ethernet (optional)

Mechanical Specifications

Width: 462 mm (18.2 in) (measured without card output hopper)
Depth: 200 mm (7.9 in)
Height: 240 mm (9.4 in)
Weight: 14.0 kg (30.8 lbs)

Electrical

110 ~ 230 Volts AC ± 10% (99 - 254 V), 60 ~ 50 Hz ± 3Hz (47 - 63 Hz)
FCC Class B, CE, UL, and CUL approved

Environmental

Operating temperature: 60°F to 86°F (15°C to 30°C)
Operating humidity: 20% to 65% non condensing
Storage temperature: 23°F to 158°F (-5°C to 70°C)
Storage humidity: 20% to 70% non-condensing
Ventilation: reasonably dust free air environment

Options

Built-in ethernet network communications
Three track magnetic stripe encoder (standard and reverse)
Smart card contacts station
Contact and contactless smart card encoding kits

Appendix A Magnetic Card Stripe Encoder

Introduction

This appendix includes operation and maintenance requirements for the J360i printer with the optional magnetic card stripe encoder. (See chapter 2 for location of the magnetic card stripe encoder.)

The magnetic encoder can be set for either high or low coercivity. Use the printer driver to change the encoder setting.

Media Loading Orientation

The magnetic encoder may be installed with the read/write head positioned below the card path. magnetic card Stripe encoder upgrade kits are also available.

When loading cards with magnetic stripes into the card feeder, please ensure that the magnetic stripe is down and nearer to the rear of the printer.

Also available are printer models with the magnetic read/write head positioned above the card path. When loading cards into one of these models, ensure that the magnetic stripe is up and nearer to the rear of the printer.
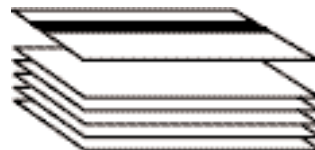
Sample Encoding Program

Refer to the programmer's manual available to Javelin dealers via the NBS web site.

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

Magnetic Encoder Cleaning

The magnetic encoder read/write head is cleaned as part of the printer cleaning process.
If the frequency of encoding errors increases, the magnetic encoder head may need cleaning.

When to Clean

When the LCD panel displays the message ENCODING ERROR at an increasing frequency.

How to Clean

1   Leave power on.

2   Press and hold the front panel button for a few seconds.

3   Open the main cover and release the printhead carriage latch, raise the printhead carriage, and remove the ribbon. Close the printhead carriage.

4   Close the main cover.

5   Open the card feeder cover and remove any cards.

6   Insert a pre-saturated cleaning card (provided) into the slot below the card feeder. The cleaning card will feed into the printer and carry out the cleaning process. Repeat the process with a new cleaning card if necessary.

7   Additional cleaning of the magnetic head can be accomplished using the alcohol-soaked swabs provided with the printer. Follow the directions given in section 4.

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‡

*Bits 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.

Appendix B Smart Card Contact Station

This section contains information on the additional operations of a J360i printer equipped with the optional smart card contact station. (See chapter 2 for location.)

Introduction

Smart cards can have a built-in microcomputer and/or memory to store fingerprints, voice recognition patterns, medical records, and other such data. The J360i printer may be equipped with an optional contact station for programming smart cards (ISO 7816). This printer model responds to commands that position the card at the contact station, where the printer connects to the contacts on the smart card. All other printer operations remain the same as the standard J360i model.

Media Loading Orientation

Orient the cards with the gold-plated smart card contacts at the top surface of the card and facing to the left.
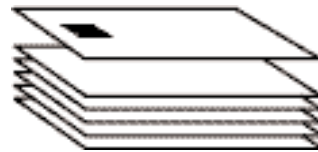
Printing on Contact Smart Cards

When designing material to be printed on contact smart cards, be sure the printing will not be on the contact area.

Smart Card Contact Station Interface

When a command to the 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.
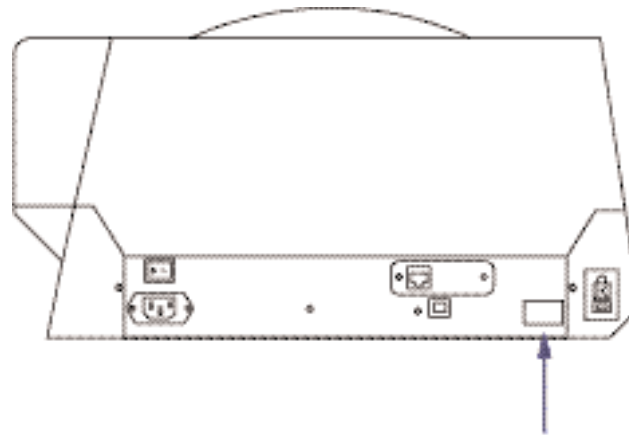
DB-9 CONNECTOR LOCATION FOR SMART CARD STATION (OPTIONAL)

An attached external smart card programmer can be used to program smart card chips. The following table shows the smart card contact points.

DB-9	Pin Smart Card Contact Points	DB-9 Pin	Smart Card Contact Points
1	C1 (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)		

APPENDIX C Connecting to a Network

Card printers can be connected to an Ethernet network in three ways:

Printer Sharing

In printer sharing, the printer is connected locally to the host computer and configured to be shared to other client computers. Client computers connect to the printer over the network through the host computer.

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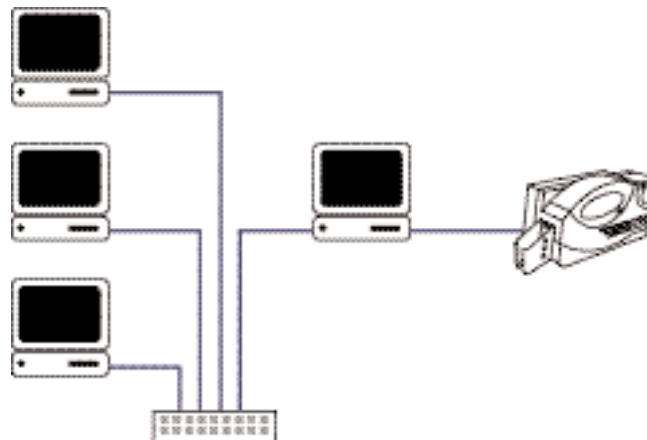
External Print Server (Jet Direct)

A stand alone device that acts as a server on the network specifically for receiving print jobs and passing them to the printer. Client computers connect to the print server over a network.
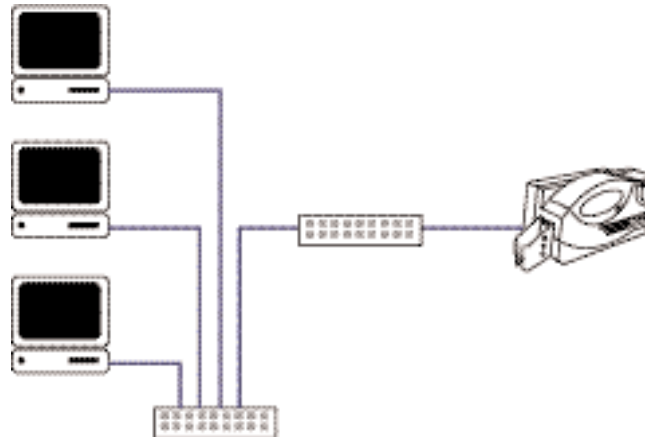
Internal Print Server

Similar to an external print server, except the print server is integrated into the printer. This removes the need for a separate power supply and separate device drivers. This is the simplest way to network a printer.
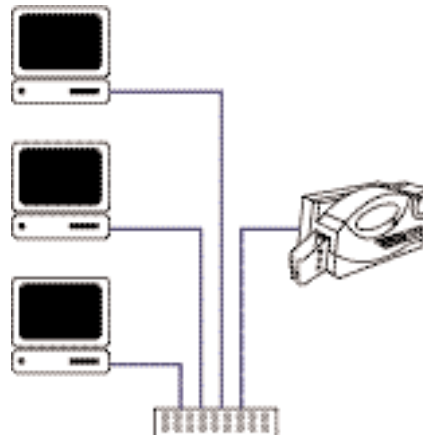
Appendix D Accessories & Supplies

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

IMPORTANT NOTICE:
 Only TrueColours™ colour ribbons supplied by Javelin dealers can be used in this printer.

RIBBONS

JAVELIN ENCODED INTELLIGENT RIBBONS.

Each i-series ribbon includes a cleaning roller.

Full colour ribbons
NBS part no.
61134501   Five panel YMCKOi (200 cards)
61134503   Five panel YMCKOi (330 cards)
61134512   Half panel YMC plus full panel KOi (450 cards)

Two panel ribbons
61134509   Black (dye-sub) + overlay KdOi (500 cards) - for monochrome photos
61134510   Black (resin) + overlay KrOi (500 cards) - for text and bar codes

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

MONOCHROME RIBBONS

1000 cards unless indicated otherwise.

Original 'blue core' ribbons		NBS Javelin ribbons	
61131100	Black	61131101	Black
61132100	Black (1500 cards)	61131108	Black value pack*
61131107	Black for ABS cards	61132101	Black (1500 cards)
61131102	Red (PMS 1795C)	61131156	Red (PMS 200C)
61131103	Green (PMS 348C)	61131151	Green (PMS 349C)
61131104	Blue (PMS 2935C)	61131152	Blue (PMS 287C)
61131106	White	61131153	White
61131111	Gold	61131154	Gold
61131112	Silver	61131155	Silver
61131121	Scratch-off (840 cards)	61131157	Scratch-off

Varnish overlay ribbons (350 cards) applied using printer

61131701	Clear
61131702	Genuine secure

Hand applied peel 'n' stick laminate patches

61152270	World globe hologram (500 patches)

*sold in multiples of 100 rolls

PLASTIC CARDS (per 1000 cards)

PVC 30 mil (0.76 mm)

92000009	Plain white cards
92000011	Plain white cards (with low coercivity magnetic stripe)
92000007	Plain white cards (with high coercivity magnetic stripe)
9104523-020	Plain white 30 mil 3-up breakaway key tags
92000700	Plain black cards
92000701	Plain silver cards
92000702	Plain gold cards
9104523-121	Plain white security cards with embedded security star opacity mark
9104523-122	Plain white security cards with lock & key colourshift ink image
	PVC 10 mil (0.25 mm)

PVC 10 mil (0.25 mm) and 15 mil (0.38mm)

92000003	10 mil self adhesive cards
9104523-114	10 mil plain white cards
9104523-117	15 mil cards with writeable backs

92000003 Self adhesive cards

9104523-114	Plain white cards
9104523-115	10 mil cards with writeable backs

PVC Composite 60/40 30 mil (0.76 mm)

9104524-101	Plain white cards
9104524-103	Plain white cards (with high coercivity magnetic stripe)
9104524-120	Plain white security cards with embedded world globe hologram design

OTHER CONSUMABLES

61100908	Printhead (J330i/m - J360i - J430i)
61100914	Cleaning Kit. Short cards (50) & Swabs (25)
61100915	Short cleaning cards (100) for all Javelin printers
61100916	Cleaning swab kit (25)
61100919	Long cleaning cards (50)
61100912	Adhesive cleaning roller (5) for all Javelin printers, except J200 series
61100918	Card cleaning cartridge
61100923	Cleaning pens (12)

Appendix E Warranty Information

PRINTERS

NBS 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.
The warranty period begins on purchase date. To qualify for this warranty, the printhead must be returned to NBS or to an authorised dealer. Customers are not required to purchase NBS 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, handling and usage guidelines established for supplies used with NBS Javelin printers.

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 NBS or an authorised dealer may void the warranty. NBS 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 NBS or its authorised dealer. NBS 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.

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, contact NBS.

For support in Europe, Middle East, Africa and Asia Pacific:

NBS TECHNOLOGIES
B1 MOORFIELD POINT
SLYFIELD INDUSTRIAL PARK
GUILDFORD
SURREY GU1 1RU
UNITED KINGDOM

Tel: +44 (0)1483 563 200
Fax: +44 (0)1483 511 189

Email: technical.support@nbstech.com

For support in North and South America:

NBS TECHNOLOGIES
10925 BREN ROAD EAST
MINNEAPOLIS MN 55343
UNITED STATES OF AMERICA

Tel: 1 800 565 9033 or
**   +1 (952) 912 9423**
Fax: +1 (952(912 9439

Email: technical.support@nbstech.com

Web: www.nbstech.com

HOW TO RETURN YOUR PRINTER

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

Alternatively, contact the appropriate NBS Technical support department (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 NBS.

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 593/68/EEC	Low voltage Directive	EN 60950	Product Safety

Model: J360i 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 ICES-003 class A requirements.
Cet équipement est conforme à l'ICES-003 classe A de la Norm Industrielle Canadienne.

TRADEMARKS

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PRODUCT DISPOSAL

Do not dispose this product in unsorted municipal waste.
This product is recyclable and should be recycled accordingly
to your local standards.