
Direct Card Printer User's Guide

For Nisca Models PR5300/PR5310/PR5350



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CHAPTER

1.

Introduction

Welcome!

Congratulations on your purchase of the Nisca PR5300, PR5310, or PR5350 Direct Card Printer. The printer gives you brilliant images using these features:

- ❖ Full color edge to edge
- ❖ 300 dpi dye sublimation printing technology
- ❖ Industry leading 24-bit continuous tone printing
- ❖ 104 (PR5300 & PR5310) to 158 (PR5350) cards per hour printing speed
- ❖ Dual sided printing
- ❖ Dual sided lamination with alternating patch options
- ❖ Micro SCSI II, Parallel, and USB connectivity
- ❖ Full Windows®-based application compatibility

This printer produces cards ideal for driver's licenses, printing bureaus, access control badges, and standard corporate identification.

About This User's Guide

This User's Guide contains important safety information, along with detailed instructions on how to install, use, and maintain the printer and the printer driver.

This guide uses the following conventions:



Warning

This warning symbol means danger. You are in a situation that could cause bodily injury. Information presented must be followed carefully to avoid harm.



Caution

This caution symbol means reader be *careful*. In this situation, the user might do something that could result in equipment damage.

**Note**

This note symbol means *reader take note*. Notes contain important information and helpful suggestions about your printer.

General Site Requirements

When choosing a site for the PR53XX, consider the following recommendations:

- ❖ Select a site that is out of direct sunlight.
- ❖ Placement should be on a sturdy platform and off the floor.
- ❖ Platform should be free from vibration.
- ❖ Environment should be free from high humidity and dust.
- ❖ Environment should have a relatively stable temperature.
- ❖ Provide enough space to allow adequate ventilation.
- ❖ Place it in a location that allows easy access to all sides.

Important Safety Instructions

Before using your printer, read the following safety instructions to make sure you use the printer safely and effectively:

- ❖ Turn off and unplug the printer before cleaning.
- ❖ Do not spill any liquids on the printer.
- ❖ Always prevent debris from entering the printer.
- ❖ Do not place any heavy objects on the printer.
- ❖ Use only a power source indicated in the electrical requirements section.
- ❖ Do not place the printer on an unstable surface or near a radiator or a heating vent.
- ❖ Do not place the printer near sources of heat or electromagnetic interference.
- ❖ Except as specifically indicated and explained in this User's Guide, do not attempt to service the printer yourself.
- ❖ When moving the equipment, always be sure to turn off the power prior to moving.
- ❖ Do not let the power cord become damaged or frayed.
- ❖ Do not block the air vents or fan on the printer. Do not touch any part inside the printer except as directed by this User's Guide.
- ❖ Do not use the printer for purposes other than its intended use.
- ❖ Unplug the printer and refer servicing to qualified service personnel in the event that any of the conditions exist:
 - The power cord or plug is damaged.
 - Any liquid or solid object falls into the printer.
 - The printer has been dropped or the case has been damaged.
 - The printer does not operate normally or exhibits a distinct change in performance.

Electrical Requirements

The PR53XX requires the following electrical specifications for optimal performance:

- ❖ 100-240 VAC at 50/60 Hz. The PR53XX is auto-switching to power within this range.
- ❖ Single phase, 3-wire grounded receptacle.
- ❖ If you use an extension cord with the printer, verify it's rated for a minimum of 125 VAC, 10 Amps.



Warning **Never operate the printer in a location where the operator, computer, or printer can get wet. Personal injury could result. The printer must be connected to a grounded electrical power supply and properly protected against electrical surges and grounding faults.**

Physical Requirements

The PR53XX requires a sturdy platform that can accommodate its weight and physical dimensions. The printer weighs 26.6 pounds (13 kilograms). The dimensions are:

- ❖ Height: 16.57" (421 mm)
- ❖ Width: 10.66" (271 mm)
- ❖ Depth: 10.03" (331 mm)

Environmental Requirements

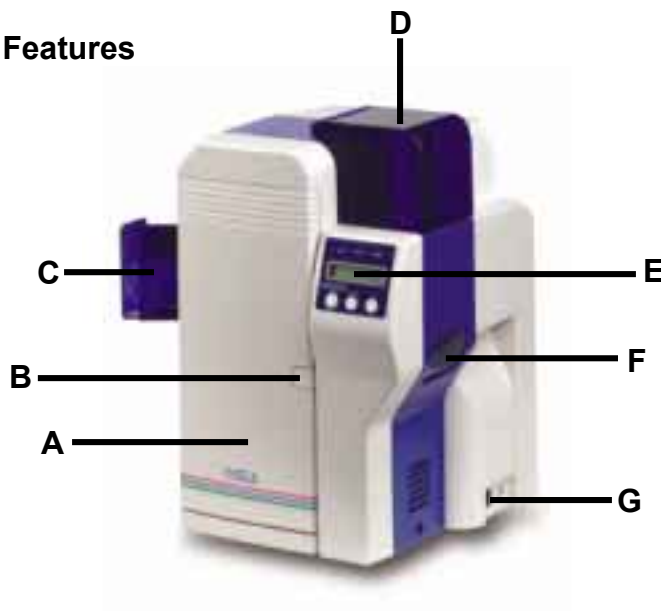
The PR53XX printer requires the following environmental conditions for optimal operation:

- ❖ Operating temperature range of 50° – 95° F (10° – 35° C). To ensure best performance, temperatures should be in the range of 68° – 77° F (20° – 25° C).
- ❖ Operating relative humidity range of 35% – 80% non-condensing.

2.

Getting Started

Printer Features



Front of the Printer

A. Front Access Panel

- ❖ Opens to allow access to the inside of the printer.

B. Front Access Panel Release Button

- ❖ Button that allows the front access panel to open.

C. Card Output Stacker

- ❖ Used to store printed cards.

D. Card Input Feeder

- ❖ Used to load blank cards for printing.

E. LCD Display

- ❖ Display's the current status of the printer.

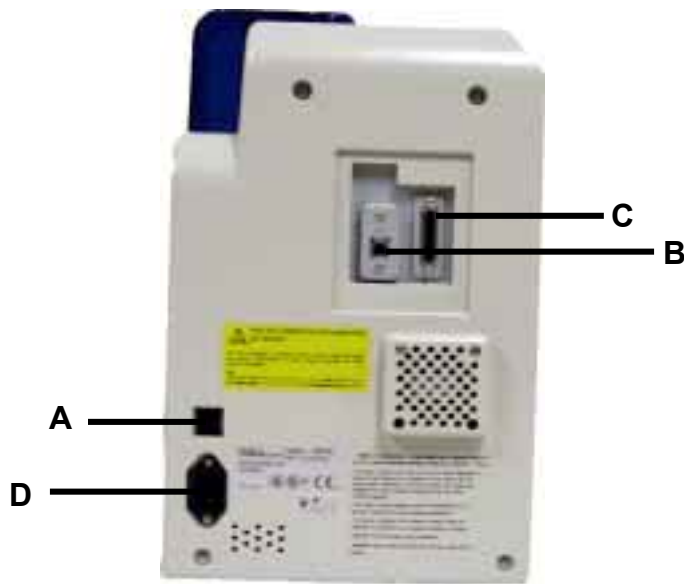
F. Rejected Card Exit

- ❖ Used to eject a card that encounters a problem.

G. On/Off Switch

- ❖ Turns the printer power ON and OFF.

Rear of the Printer



A. Circuit Breaker

- ❖ Protection device that stops current if there is a direct short or excessive heat.

B. Interface Port

- ❖ Connection SCSI II, Parallel, USB

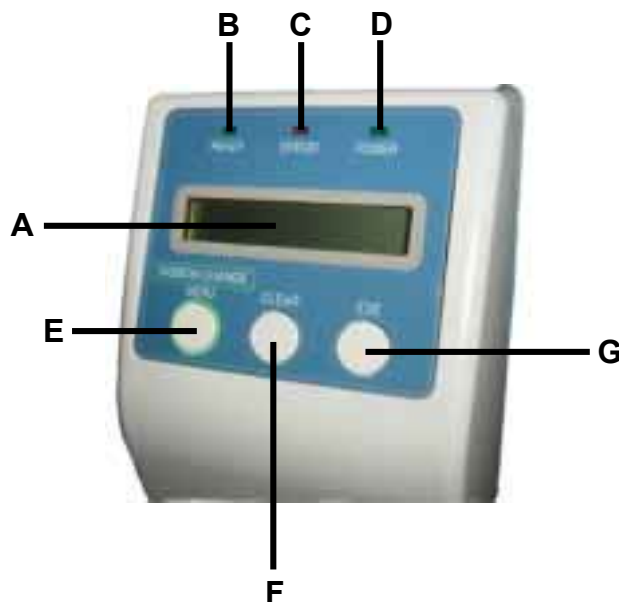
C. Options Connector Port

- ❖ The printer supports the attachment of a optional card lamination module.

D. Power Receptacle

- ❖ Supplies power to the printer.

Printer LCD Panel



LCD Operation

ITEM	DESCRIPTION	MODE	FUNCTION
A	LCD Display	Normal User	Displays the printer's status. Displays the selected menu or values.
B	Ready LED		Green light indicates printer is ready and will accept data.
C	Error LED		Indicates an error has occurred.
D	Power LED		Indicates the power is On.
E	Ribbon Change / Menu Button	Normal User	Press this button to change the ribbon. Press and hold this button enter User's Mode. Use this button for menu selections.
F	Clear Button	Normal User	Used for clearing or resetting errors. It is also used to stop continuous printing. In some cases, it is used to set values.
G	EXE Button	Normal User	Not used. Used to execute the displayed item or to change the setting.

Front Access Panel



A. Input Roller Module

- ❖ This module removes dust particles from the top and bottom of the card as it feeds into the printer.

B. Green Retaining Lever

- ❖ This prevents the ribbon cartridge from being removed.

C. Manual Rotation Knob

- ❖ Used to manually advance the rollers.

D. Ribbon Cartridge

- ❖ Used to print sharp, colorful images onto various types of cards.

Unpacking the Printer

Follow these steps to unpack the printer. Be sure to select a location that meets the general requirements as stated above.

**Caution**

IMPORTANT! The printer must be placed on a level surface, in a dust free environment. It is essential to be able to access the printer from all sides for its installation. It is also recommended that you have one or more persons to assist with unpacking the printer.

1. Place the shipping carton on a firm level surface. While unpacking, inspect the carton to ensure no damage occurred during shipping.
2. Remove the printer and carton components from the packing box.
3. Open the accessory box and verify the following items are included:
 - ☒ User's Guide
 - ☒ Power Supply Cord
 - ☒ Empty Bobbin for Ink Ribbon
 - ☒ Card Weight
 - ☒ Eject Card Box
 - ☒ YMCKO Ink Ribbon
 - ☒ Ribbon Cartridge
 - ☒ Printer Driver CD ROM
 - ☒ Warranty Registration Card

If any items are missing, please contact your authorized reseller.

Note

Keep all packing material in case you need to move or re-ship the printer.

4. Remove all packing tape.



5. Open the front access panel by depressing the release button and lift the green retaining lever. Gently remove the ribbon cartridge by sliding it toward the front of the printer.



6. Remove the print head packing material from the ribbon cartridge.



Loading The Ink Ribbon



Caution

IMPORTANT! To prevent damage to the print head, you must press the Ribbon Change button **BEFORE** removing the ribbon cartridge.

Initially, the print head has been retracted at the factory for shipment so you do not have to press the Ribbon Change button for initial setup. To load the ink ribbon, follow these steps:

1. Open the ribbon cartridge by sliding the release lever to the left.



2. Remove new ribbon from its packaging and place on the supply side of the ribbon cartridge.



3. Locate the empty ribbon bobbin packaged with the printer accessories and place on the take up side of the ribbon cartridge.
4. Remove the tape and pull the released ribbon towards the take up bobbin. Attach the tape to the bobbin making sure the ribbon is centered on the bobbin.



5. Advance the take up bobbin 2-3 turns to verify that the ribbon is properly seated on the bobbin and all slack has been removed from the ribbon.



6. Close the ribbon cartridge and slide the release lever to the right ensuring the cartridge is securely locked.
7. Slide the ribbon back into the printer and lower the green retaining lever to lock the ribbon cartridge in place.
8. Close front access panel.

Connecting The Printer

This section describes how to connect the printer to a power source and to a PC that runs the printer driver. Depending on the model you purchased, it can be connected either by SCSI, Parallel, or USB:

SCSI



Parallel



USB



To connect the printer to your computer, follow the instructions based on your connectivity.


SCSI Connection

If you are connecting your printer via a SCSI connection, obtain the appropriate interface cable.

Note Use only an external DB25 to 50-pin high density, half pitched Amphenol connector. TEAMNisca recommends an Adaptec ACK-D2H-1M-ICE.



1. Make sure the computer and printer are turned off.
2. Each SCSI device to be connected in the SCSI chain must be identified with an individual ID number. There are 7 potential SCSI ID numbers to specify and each SCSI device must be assigned its own unique ID number. The default SCSI ID number for the printer is 4.
3. You can set the ID number in the printer by accessing the User Mode Menu. Press and hold the Menu button on the LCD until it displays “User Mode”.
4. Press the EXE button several times until the SCSI ID sub menu is displayed. Press the Menu button to enter this menu and select the appropriate ID number using the EXE button. The numbers can be between 0-7.
5. Select “Return to Normal Mode” with the MENU button and press the EXE button to return to the “Ready to Print” display.
6. Depending on where your printer exists on the SCSI chain will determine the selection of the termination switch. If the printer is in the middle of the chain, then the terminating switch should be in the “OFF” position. If the printer is at the end of the chain, then the terminating switch should be set to “ON”.
7. Insert the power cord into the power receptacle on the rear of the printer. Plug the other end into an available wall outlet.

 **Note** The SCSI ID cannot be the same for any other device in your system. SCSI ID 0 is reserved for boot devices and is therefore not recommended to use. The SCSI interface allows for very high-speed data transmissions. To ensure error free data transmissions, use the shortest cable possible.

Parallel Connection

To connect the printer to your computer, obtain the appropriate interface cable. A printer to PC interface cable is a non standard accessory.



Note Use only a shielded, Type C, IEEE 1284 parallel port cable, up to a maximum of 6.5 feet long.

1. Make sure the printer and computer are turned off.
2. Connect the micro centronics connector to the printer's parallel port, and snap the fastening clips into place.



3. Connect the other side of the cable to the parallel connector on the back of the computer.
4. Insert the power cord into the power receptacle on the rear of the printer. Plug the other end into an available wall outlet.

USB Connection

To connect the printer to your computer, obtain the appropriate USB 2.0 cable.



1. Make sure the printer and computer are turned off.

2. Connect the square end of the USB 2.0 cable into the printer USB connector.



3. Connect the other end into an available USB 2.0 port on the back of the computer.
4. Insert the power cord into the power receptacle on the rear of the printer. Plug the other end into an available wall outlet.

Loading Cards

Before you begin printing, you must load blank cards into the printer's card feeder. You may load cards while the printer power is either on or off. You may also load cards while the printer is printing. The printer is factory configured to feed and print standard size CR-80 at 30 mil. To adjust the card thickness, see the next section. To load cards, following these steps:

1. Lift the card feeder door and remove the card weight.
2. Remove a new stack of cards from the card packaging. Fan cards but be cautious not to touch the printing surface of the card as dirt from your hands could impair the print quality.
3. Hold the stack of cards by the edges only. Set the stack of cards onto the card feeder between the guides.



4. Always load cards with the primary print side facing up. If inserting cards with a magnetic stripe, ensure the magnetic stripe is positioned downward and towards the back.

5. Once the cards are loaded, place the card weight on the top card with the raised bevel handle facing away from the printer. This card weight increases feeding reliability primarily when only a few cards are in the card feeder.
6. Close the card feeder door. The cards will automatically feed off the bottom first.

 **Note** Stack the cards evenly to prevent the printer from reporting a “pick up error”.

Card Size Adjustments

When loading cards that vary from the standard size, it is necessary to make a simple adjustment to the printer. To adjust the card size, follow these steps:

1. Open the card feeder door and remove cards.
2. Loosen the two phillips head screws on the adjustable gate.



3. Insert a card into the card feeder just under the gate.
4. Lower the gate until it slightly touches the card.




5. Raise the gate one half the thickness of the card and tighten the screws.
6. Test the new adjustment by attempting to slide two cards under the gate. If two cards slide under the gate, the gap width is incorrect and return to step 3. You should not be able to slide two cards into the gap.

Turning on the Printer

Before installing the printer driver and before using the printer, follow these steps to power on the printer. The PC that the printer is connected should be powered down.

1. Make sure cards and printer ribbon have been loaded.
2. Make sure the power cord and printer interface cable is connected.
3. Once the power cord is connected, press the power switch located on the right side of the printer. The switch will read 'I' and not 'O'.
4. Power up the PC.

Printer Driver Installation

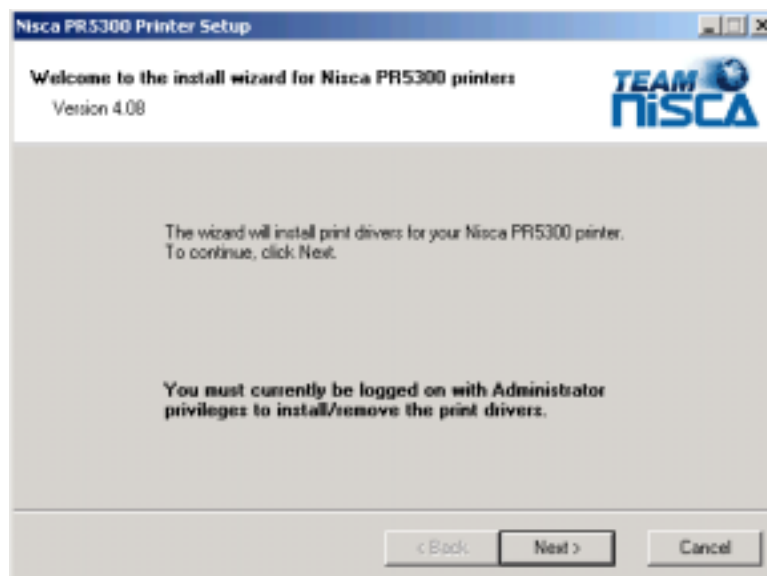
 **Note** Close all applications before installing the driver. To install the driver under Windows® 2000 and Windows® XP, you must have Administrator privileges.

The PR53XX printer comes with different printer drivers for the Microsoft operating systems. The printer driver is located on the installation CD that was included with your printer. Insert the CD into your computer's CD drive. The CD will automatically open and prompt you to install the driver. If for any reason the CD does not automatically run, follow these steps:

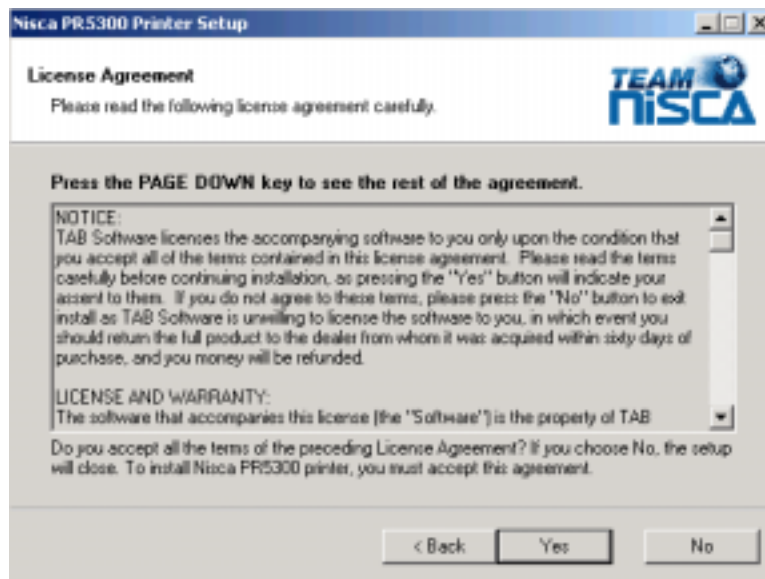
Windows® 2000 / Windows® XP Parallel Port Installation

1. Insert the Nisca installation CD in your computer's CD drive.
2. On the **Start** menu, click **Run**.
3. Type *d:\setup*, where *d* is the letter assigned to your CD drive.
4. Click **OK**.

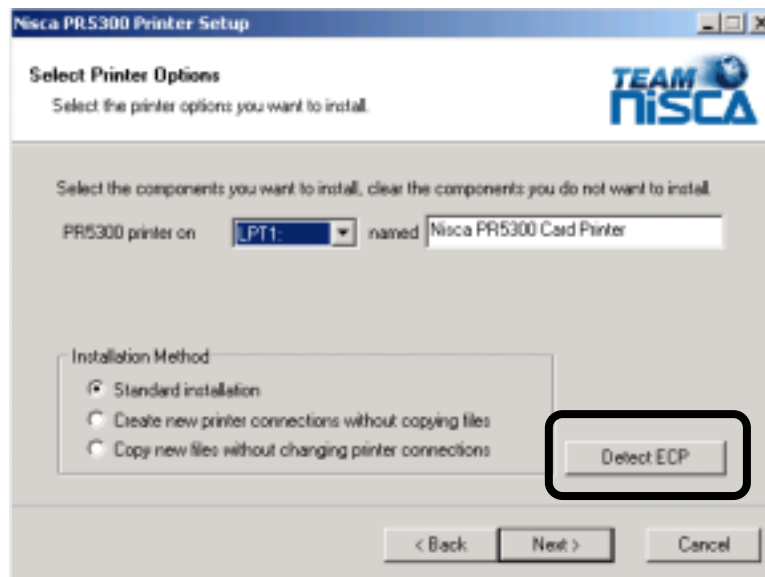
The printer driver Setup starts and guides you through printer driver installation.




1. Click **Next**.



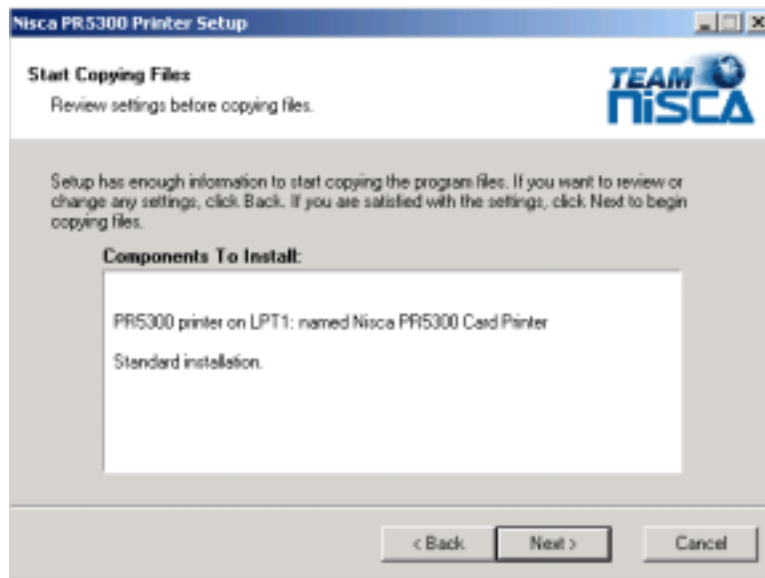
2. Read the license agreement and click **Yes** if you accept the terms of the license agreement. If you decline, you cannot install the driver.
3. Click **Next**.



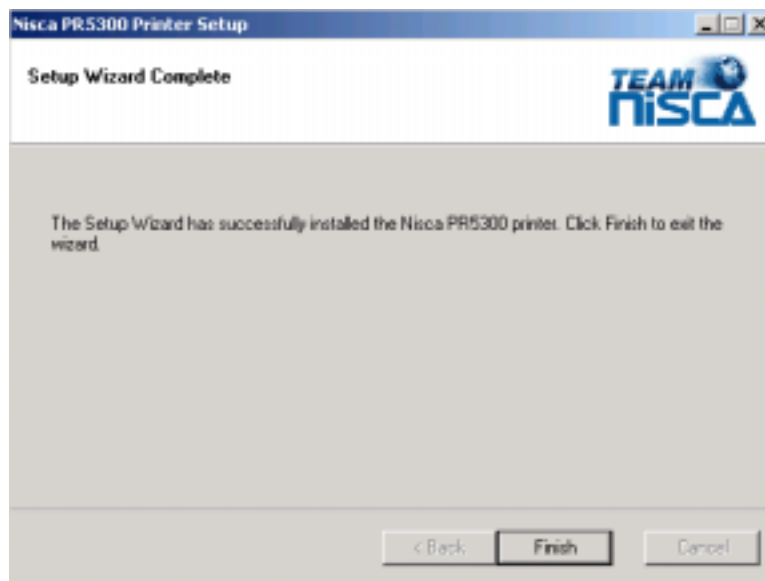
4. Verify the printer port and name.
5. Click on the Detect ECP button and review the message that is displayed. Most new computers have the parallel port set to ECP (enhanced capability port). If the message is "Your computer is configured to support ECP printing", continue on with the installation. If you receive any other message, you should verify your computer's parallel port is configured for ECP communication by reviewing the settings in your computer's BIOS menu. The printer driver can still be installed even though your computer may not support ECP mode. Refer to Setting your Parallel Port to ECP mode in the Troubleshooting chapter.

 **Note** If your computer's parallel port is not set to ECP, you will experience slower print speeds. ECP is not available in Windows NT®.

6. Click **Next**.



7. Verify the components to install.
8. Click **Next**.
9. The setup application will now install and configure the printer driver.

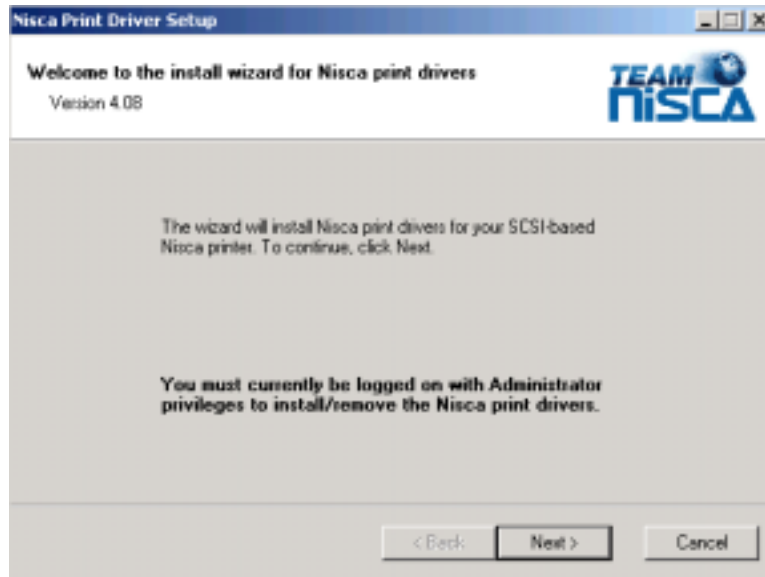


10. Click **Finish** to complete the printer driver installation.
11. After installation, you may receive a prompt instructing you to restart your computer. Click Yes, I want to restart my computer now for the updates to take effect.

Windows® 2000 / Windows® XP SCSI Interface Installation

1. Insert the Nisca installation CD in your computer's CD drive.
2. On the **Start** menu, click **Run**.
3. Type *d:\setup*, where *d* is the letter assigned to your CD drive.
4. Click **OK**.

The printer driver Setup starts and guides you through printer driver installation.



1. Click **Next**.



2. Read the license agreement and click **Yes** if you accept the terms of the license agreement. If you decline, you cannot install the driver.

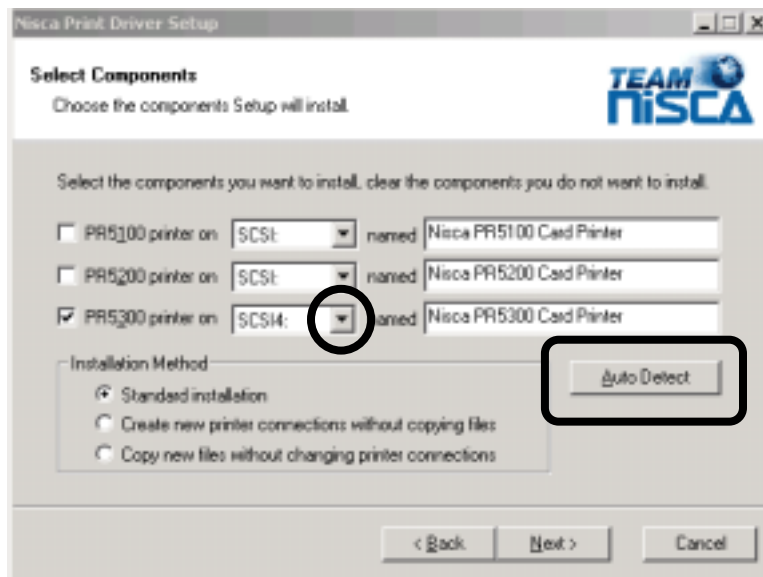
The screenshot shows the 'Nisca Print Driver Setup' window, specifically the 'Registration Information (Page 1)' screen. The window has a blue title bar and a 'TEAM nisca' logo in the top right corner. Below the title bar, the text 'Enter your registration information for product warranty' is displayed. The form contains several input fields: 'Company:', 'Contact:', 'Business Telephone:', 'Address 1:', 'Address 2:', 'City:', 'Country:', 'State/Province:', and 'Zip/Postal Code:'. At the bottom of the window, there are three buttons: '< Back', 'Next >', and 'Cancel'.

3. Enter your customer information.
4. Click **Next**.

The screenshot shows the 'Nisca Print Driver Setup' window, specifically the 'Registration Information (Page 2)' screen. The window has a blue title bar and a 'TEAM nisca' logo in the top right corner. Below the title bar, the text 'Enter your registration information for product warranty' is displayed. The form contains three input fields: 'Printer Serial Number:', 'Heat Roller 1 Serial Number:', and 'Heat Roller 2 Serial Number:'. At the bottom of the window, there are three buttons: '< Back', 'Next >', and 'Cancel'.

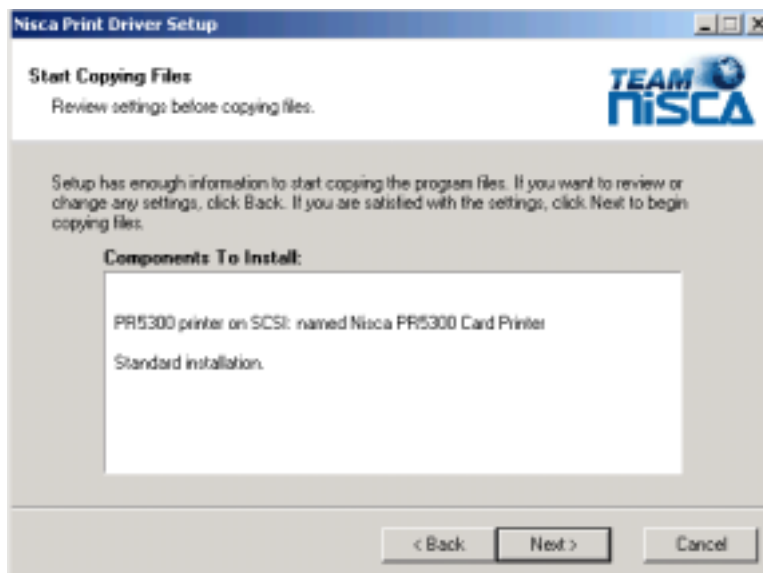
5. Enter the registration information for product warranty.

6. Click **Next**.



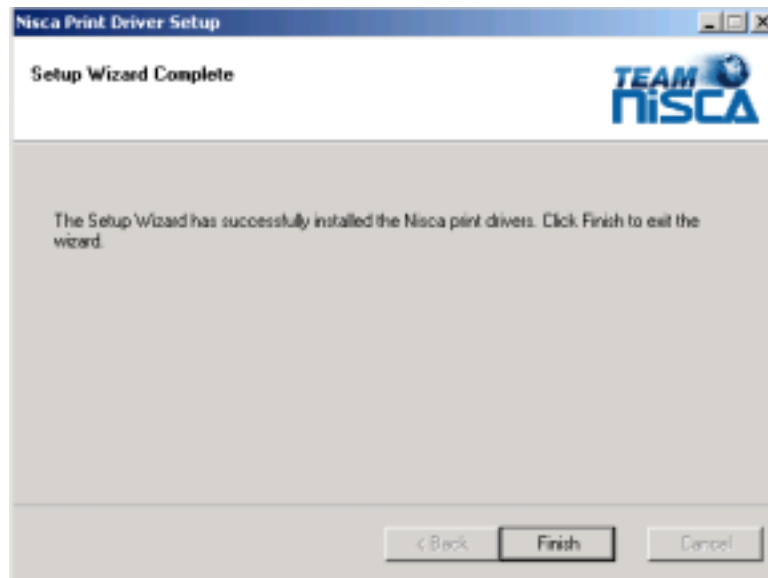
The setup application should automatically detect the PR53XX printer.

7. If for any reason Setup was unable to detect your SCSI printer, you may manually recheck the connection by clicking the Auto Detect button. If the printer is not detected, verify the cable connections and proper setting of the termination switch on the back of the printer. If the PR53XX printer is the last device on the SCSI bus, the termination switch must be set to ON. The printer driver may still be installed even though the printer was not detected. To continue setup, click on the PR53XX checkbox and verify the port is set to SCSI4.
8. Click **Next**.
9. Verify the components to install.



10. Click **Next**.

11. The setup application will now install and configure the printer driver.
12. Click **Finish** to complete the printer driver installation.



13. After installation, you may receive a prompt instructing you to restart your computer. Click Yes, I want to restart my computer now for the updates to take effect.

Printing a Test Card

A sample application is included with the installation of the printer driver. To print a sample card, refer to the following steps:

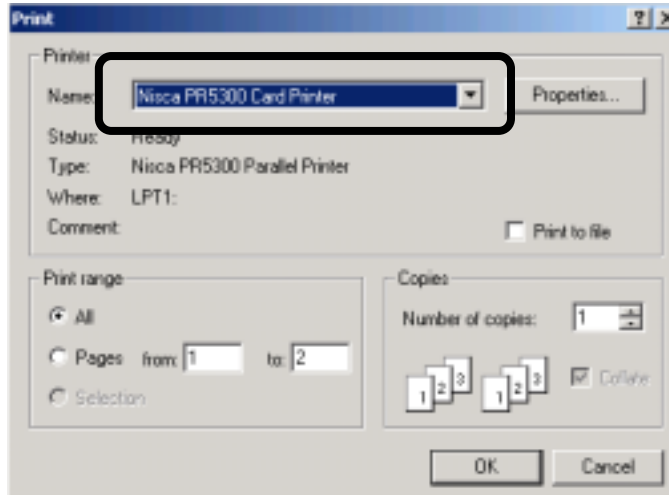
Windows® 2000 / Windows® XP

1. Turn on the power to the printer. Be sure the green LED on the LCD panel is lit and the LCD display shows normal mode.
2. Confirm that all supplies are loaded.
3. Click Start » Programs » Nisca PR53XX Printer » Nisca ID.

4. The sample application will load.



5. Select File » Print.



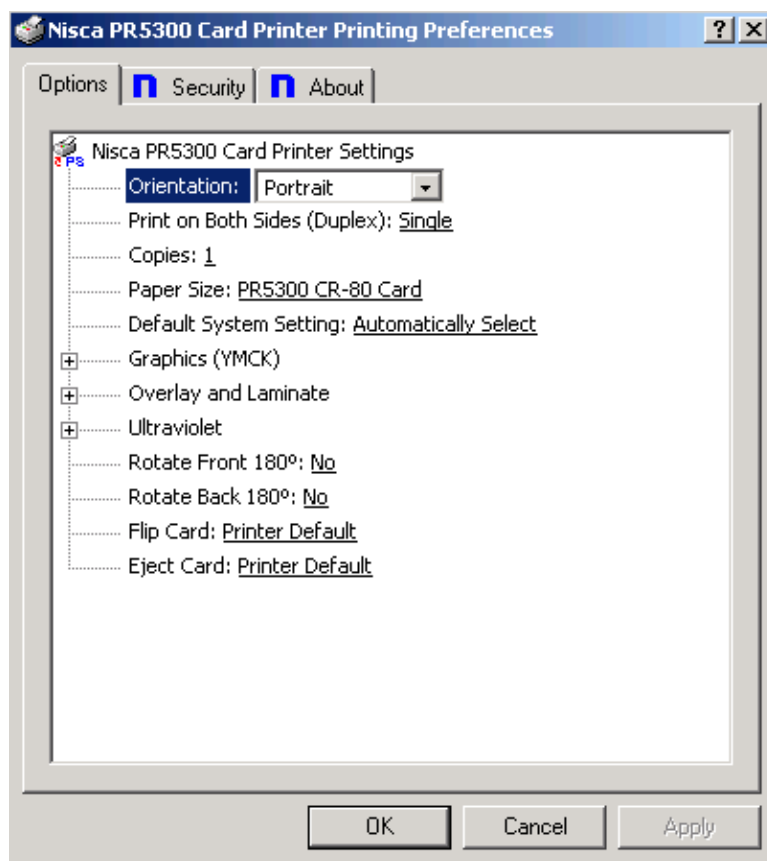
6. Select the Nisca printer you would like to use to print the sample.
7. Click OK to print the sample card.

3.

Using the Printer

Configuring Printer Preferences

The PR53XX printer can be used with any Windows® software application. Settings that control the printing and personalization of the card are found under Printing Preferences. These settings include:



To open the printer driver Printing Preferences, please refer to the following steps:

Windows® 2000 / Windows® XP

1. Click on the Start button, point to Settings, and select Printers.

2. Click on the Nisca PR53XX card printer with the right mouse button, and select “Printing Preferences...”.
3. Change the settings desired for your application.

Printer Options Tab

Orientation

- ❖ Select either Portrait or Landscape. Selecting Portrait causes the card to print in the vertical orientation. Selecting Landscape causes the card to print in a horizontal orientation. An icon illustrating a printed card helps represent the difference between the two.

Print on Both Sides

- ❖ Select this option to enable printing on the front and back side of the card.

Copies

- ❖ Specifies the number of copies to be printed.

Paper Size (Card Size)

- ❖ Select the card size currently loaded in the printer.

Graphics (YMCK)

- ❖ Specifies the color mode and ribbon panels used for printing. Available options include Monochrome Using Resin Black, Grayscale Using YMC, or Color With Selective Resin Black. For further control, select the desired color mode and click Settings.

Overlay and Laminate

- ❖ Clear Overlay (Varnish): Thin clear overlay panel represented by the O in a ribbon, for example, YMCKO.
- ❖ Thermal Overlaminate: A thicker protective layer applied by the attached Heat Roller Unit. The optional Heat Roller Unit can apply a thin film roll that can sometimes contain holographic images for providing a level of card durability and security.
- ❖ Apply Overlaminate Last: Overlaminate should be applied last to reduce the risk of card jams caused by curled cards being pulled back into the printer.

Ultraviolet

- ❖ Color Mask: If the ribbon contains an ultraviolet panel, you may specify how the printer driver applies the mask to the front and back side of the card. The color mask option instructs the driver to look for the specified mask color and apply as the UV ribbon panel. If the mask color is magenta, the driver will pull all magenta from the card and pass it to the UV panel.
- ❖ Monochrome Bitmap Graphic: This option applies a tiled overlay using a monochrome bitmap graphic. For file selection and placement of the image, click on Settings.

Rotate Front/Back 180°

- ❖ This option allows the image to be rotated 180° on the front and back of the card before printing. This option is often used to change the position of the printed image in relation to the set location of a card's magnetic stripe.

Flip Card

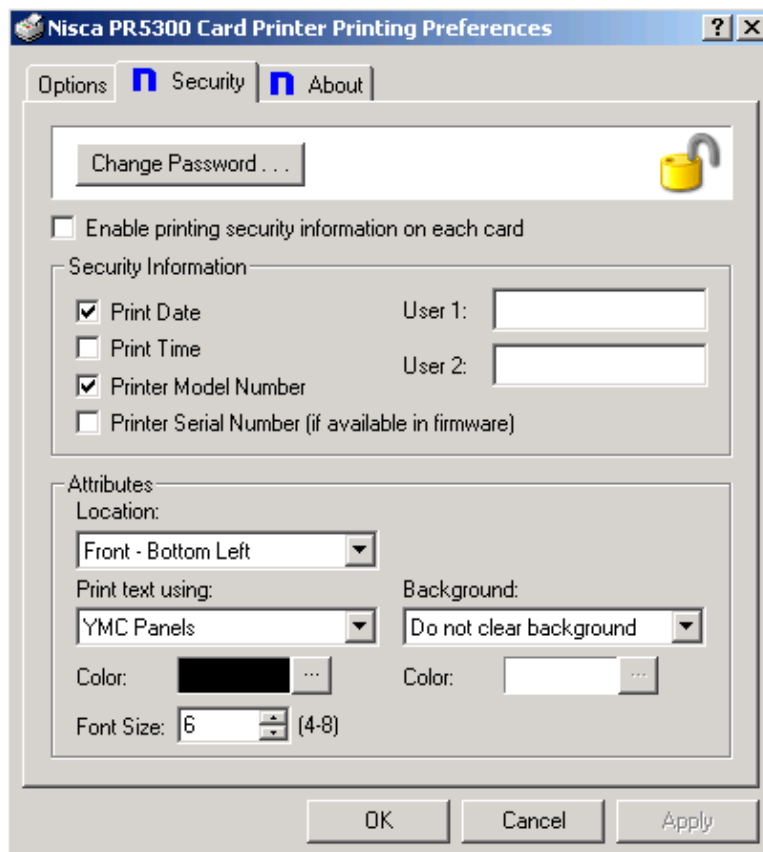
- ❖ If an external module is inserted at the beginning of the print chain, the driver can force a particular side up on entry.

Eject Card

- ❖ If an external unit is attached to the end of the print chain, the driver can force a particular side up on exit.

Security Tab

To enable printing security information on each card, select this option. You may enter any information desired in the User 1 and User 2 fields. You may also change font attributes and print location using the options in the Attributes group.



About Tab

The about tab displays copyright and version information about this printer driver.

LCD Modes of Operation

Normal Mode

The printer is equipped with an LCD display that communicates helpful information about the printer's operation. There are three softbutton buttons that appear below the LCD display. Simply press the corresponding softbutton button under the choice you wish to select.

When the printer is first powered ON, the printer's initialization check will briefly appear and the printer will indicate "PLEASE WAIT, NOW INITIALIZING". When completed, the green Ready indicator light will be illuminated. The LED lights work in conjunction with the printer's LCD display to help communicate the status of the printer. The printer will stay in this mode until it receives a print job or it is turned OFF.

If the red Error indicator light is illuminated, the printer has encountered an error or attention condition. Refer to the printer's LCD display for information. Also refer to Chapter 5 for troubleshooting. To erase output data from the printer's memory, press and hold the Clear button for 3 seconds. The LCD will indicate the printer has been reset and the LCD will display Ready to Print with the Ready light illuminated.

User Mode

User Mode operation is used for navigating through the configuration menus. To enter the User Mode, follow these steps to change many of the printer's settings:

1. Press and hold the Menu button on the LCD panel until the printer displays "User Mode" on the top display of the LCD.
2. Once you enter User Mode, press the Menu button to advance through the menus and press the EXE button to execute the instruction.

4.

Maintenance

Your Nisca PR53XX printer is built to require a minimum amount of maintenance. Nevertheless, there are a few procedures you need to perform on a regular basis or as needed to ensure maximum performance.

**Caution**

IMPORTANT! As with any electronic device, internal components of the printer, such as the print head, may be damaged if exposed to static electrical discharges. Make positive contact with the bare metal chassis of the printer with your hand prior to touching any internal electrical components.

Following is a minimum cleaning requirement guideline:

CLEANING	SCHEDULE	CLEANING TOOL
Takeup Roller	10,000 prints	Alcohol Swab
Input Rollers	2,000 prints	Alcohol Swab
Card Flip/Turn Transport Rollers	10,000 prints	Alcohol Swab
Print Unit Rollers	10,000	Alcohol Swab
Print Head	2,000 prints	Alcohol Pen

You can check the number of prints by referring to the menu map in Appendix C.

Basic Automated Cleaning

A basic automated cleaning is recommended after every ribbon change for the printer. For this maintenance procedure, you will need a printer Cleaning Card, available from your authorized reseller. The Cleaning Card contains adhesive backing causing dust particles and debris on the rollers to adhere to the card. Please only use genuine Nisca Cleaning Cards.

1. Enter the User Mode by pressing and holding the Menu button for 3 seconds.



2. Press EXE and then use the Menu button to navigate to the Cleaning sub-menu. See User Mode Menu Map in Appendix C for navigation assistance.
3. Open the card feeder door and remove any blank cards.
4. Remove the protective paper backing from ONLY ONE side of the cleaning card.



5. Insert the Cleaning Card into the feed gate until the card stops.



6. Press the EXE button to begin the cleaning process.
7. Remove the card when the process is completed and repeat by removing the protective layer from the other side of the cleaning card.

Manual Cleaning

As you use your printer, dust and other particles may accumulate inside the printer before you actually need to replace the ink ribbon. To maintain a consistent print quality, manual cleaning procedures should be performed periodically. The following identifies areas needed for manual cleaning.

Cleaning the Takeup Roller

The takeup roller automatically feeds the cards off the bottom of the stack into the printer. The takeup roller should be cleaned every 2,000 prints to help prevent card jams and maintain the best print quality.

1. Open the card feeder door, remove any blank cards, and locate the takeup roller.



2. Use an alcohol swab to wipe the roller clean. Use your fingertips to move the roller back and forth while cleaning.
3. After the roller has been cleaned and is completely dry, reload the cards onto the card feeder and close the access panel.

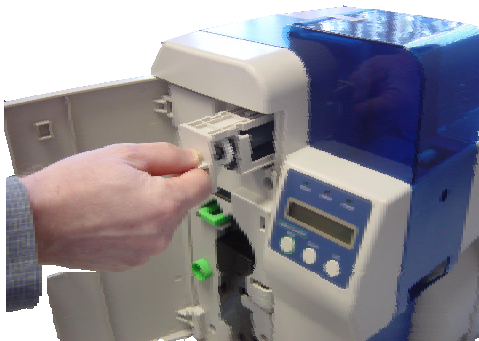
Cleaning the Input Rollers

The input roller module removes dust particles from the top and bottom of a blank card as it feeds into the printer. Cleaning these rollers helps prevent card contamination, thus allowing for a higher quality output. The input rollers should be cleaned if your prints start showing bumps, speckles, or debris on the printed surface.

1. Open the front access panel by depressing the release button.



2. Grasp the input roller module tab, and pull it out of the printer.



3. Clean the rollers with an alcohol cotton swab in the direction pictured.

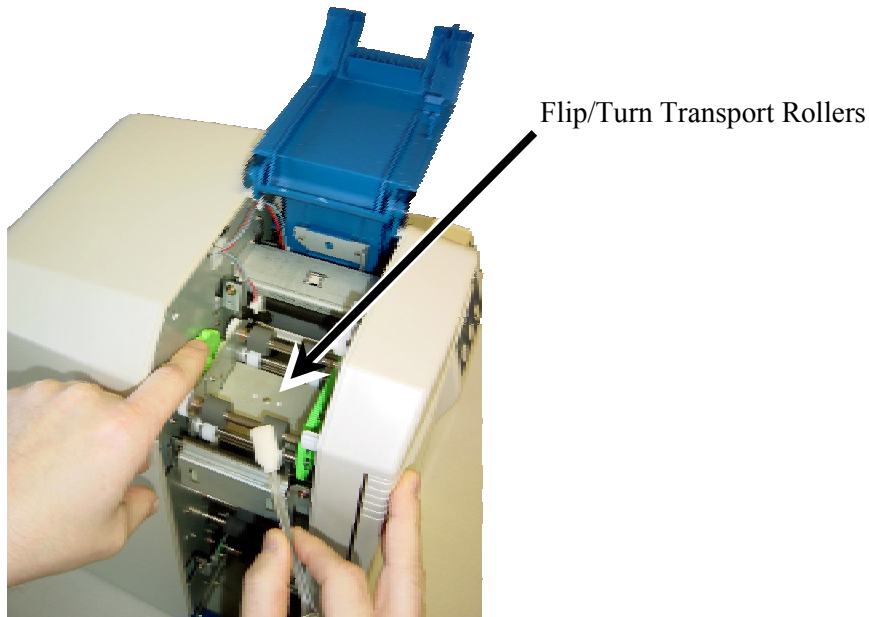


4. Once the dust and debris is cleaned from the rollers, place the assembly module back into the printer. Push it in until it hits the stops and close the front access panel.

Cleaning the Flip/Turn Transport Rollers

1. Power OFF the printer and remove the power cord.

2. Remove the phillips screw on the left side of the printer to open the print unit door. Open the top cover and manually rotate the flip/turn transport roller 180° by moving the unit counter clockwise.
3. Advance the green knob and use an alcohol swab to clean the rubber and white plastic rollers.



4. After cleaning the flip/turn transport rollers, proceed to cleaning the print unit rollers in the next section.

Cleaning the Print Unit Rollers



Warning **IMPORTANT! Turn off the power to prevent electrical shock.**

1. With the print unit door still open, turn the manual rotation knob clockwise to advance the print rollers.



2. Clean each of the print unit rollers using a alcohol cotton swab.



Cleaning the Print Head

This procedure should be performed if you notice a streak on the card where color was not transferred and be performed approximately every 2,000 prints to maintain a consistent print quality. To clean the print head, you will need a print head cleaning pen, available from your authorized reseller.



Caution

IMPORTANT! The print head may be hot. Turn off the power and let the print head cool before proceeding with this section. Never use a sharp tool or abrasive object of any kind to clean the print head.

1. Press “Ribbon Change” on the control panel once to lift the print head. This allows for removal of the ribbon cartridge.
2. Power OFF the printer and remove the power cord.

3. Open the front access panel by depressing the release button. Lift the green retaining lever and remove the ribbon cartridge.



4. Using a phillips screwdriver, remove the retaining bracket.



5. Press the metal latch to release the print head and gently slide the print head toward the front of the printer.



6. Using a print head cleaning pen, firmly wipe back and forth across the surface of the print head.



7. Once the print head is completely dry, reinstall the print head in reverse order.

Updating the Firmware

The firmware is internal software that controls the operation of the hardware. Occasionally, new firmware versions are released which have updated and/or new features. New firmware updates can be downloaded from the Nisca website at www.teamnisca.com and loaded into your printer using the “Download Utility” program. No physical replacement or repair of any parts is required, so this process is simple. Download the appropriate file(s) based on your interface and operating system. If you do not have Internet access and are unable to access these files, contact your authorized reseller for assistance.



Caution

IMPORTANT! It is critical that all parallel printers, **including** the Nisca PR53XX be temporarily removed from LPT1 for the firmware utility to function. One recommendation is to change all printer drivers from LPT1 to LPT2. It is critical for all USB printers to close the USB printer status box before attempting to communicate with the printer.

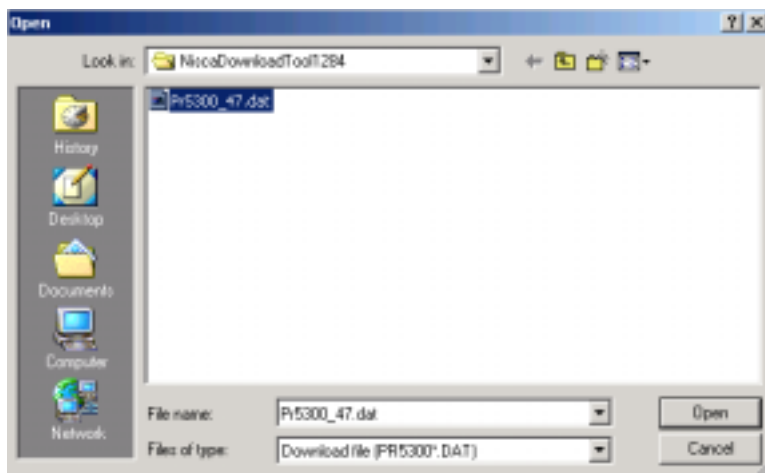
Refer to the following steps to update your firmware:

1. Download and install the Firmware Update Utility from www.teamnisca.com.

2. Click Start » Programs » Nisca Download IEEEENT » Nisca Download IEEEENT program. The firmware update utility program will appear:



3. From the download utility program, click on the search button. This finds the printer attached to your computer.
4. Click the Download button and go to the folder in which you saved the update file, select it, and click Open.




5. A dialog box will ask you to confirm executing the update. Click Yes. This will begin the firmware update process that will only take a few minutes.
6. Click end to exit the program and turn the printer power OFF for a few seconds and back ON. You may verify the status of the new firmware version by entering the User Mode on the printer. See Appendix C for further assistance on checking the ROM version.

CHAPTER

5.

Troubleshooting

This chapter offers explanations to potential problems you may experience with your PR53XX printer. The LCD will alert the operator and will display the error condition. The suggestions in this chapter should, in most cases, solve the problem. If you still have difficulty after trying these suggestions, contact your authorized reseller for technical assistance.

 **Note** Prior to contacting your authorized reseller for assistance, make note of the error message along with the error code located under the actual description.

In most cases, press the Clear button after identifying the error to return the printer back to the ready to print status. If the message “Cannot Recover/Please Reset” appears, press and hold the Clear button for more than 3 seconds while the printer resets.

Interpreting General LCD Messages

LCD SCREEN MESSAGE	PROBABLE CAUSE	ACTION
Initializing	The printer is performing an internal test before use.	❖ Wait for the Ready to Print message.
Ready to Print	The printer will accept data and begin printing.	
Card Empty	Indicates there is not an adequate supply of cards in the printer's Feeder.	❖ Add more cards to the input Feeder.
Front access panel is Open	The front access panel on the printer is open or incorrectly closed.	❖ Close the front access panel and press the Clear button to return the printer to the ready state.
Top Cover is Open	The cover to the flip/turn unit is open.	❖ Close the top cover until it snaps closed.
Temperature out of Range	Temperature of the print head is out of range.	❖ Turn the printer off and allow the print head to cool. Turn the printer back on and wait for the Ready to Print message.
Encoder Write Error	Data cannot be written or read from the card's magnetic stripe	❖ Check the cards are loaded with the magnetic stripe in the correct orientation.

LCD SCREEN MESSAGE	PROBABLE CAUSE	ACTION
		<ul style="list-style-type: none"> ❖ Check whether high or low coercivity cards have been specified. ❖ Verify no debris is on the card and replace with another card.
Print Card does not Exist	An error has occurred during dual side printing.	<ul style="list-style-type: none"> ❖ Press the clear button and reprint the card.
Please Check Ink Ribbon	This error occurs when the printer detects a problem with the ink ribbon.	<ul style="list-style-type: none"> ❖ Press the Ribbon Change/Menu button to retract the print head. ❖ Remove, inspect, or replace the ink ribbon using the instructions provided in Chapter 2. ❖ Verify the settings in the Ribbon Type sub-menu match the ink ribbon installed in the printer.
Ribbon Empty	The printer ribbon has run out.	<ul style="list-style-type: none"> ❖ Install a new ink ribbon. See Chapter 2.
Ribbon Type Incorrect	The printer ribbon installed in the printer does not match the ribbon type specified in the printer settings.	<ul style="list-style-type: none"> ❖ Enter User Mode on the printer and change the settings in the Ribbon Type sub menu to match the ribbon type installed in the printer i.e. YMCK, YMCKO, YMCKOK, etc.
Ribbon Wind up miss	The ink ribbon is not installed correctly; the ribbon transport is dirty; an improper card was used; the engagement teeth on the bobbin are broken.	<ul style="list-style-type: none"> ❖ Verify the ribbon installation using the instructions in Chapter 2. If the ribbon has broke, clear tape may be used to affix it back onto the bobbin. ❖ Clean the ribbon transport using instructions in Chapter 4. ❖ Verify you are not trying to double print a card. ❖ Inspect the bobbin. If the bobbin is damaged, replace it.

Interpreting LCD Jam Messages

If a card becomes jammed inside the printer, the LCD will indicate the approximate location of where it is jammed. Try to eject the jammed card first by pressing the Clear button. If the card does not eject automatically, refer to the following table for a list and cause of the LCD message. Many jams can be fixed by keeping the rollers clean. See the PR53XX block diagram at the end

of this appendix for clarification of the areas for jams. Refer to Chapter 4 for cleaning procedures.



Warning **IMPORTANT: Turn the printer power off to avoid electrical shock when clearing jams.**

LCD SCREEN MESSAGE	PROBABLE CAUSE	ACTION
Card Jam Feeder Area	The printer is unable to feed a card from the card Feeder.	<ul style="list-style-type: none"> ❖ Open the Card Feeder door and remove cards. ❖ Verify cards are appropriate thickness. ❖ Clean the input rollers. ❖ Be sure to use the appropriate card weight. ❖ Adjust the card gate. See Chapter 2 for Card Size Adjustment.
Card Jam F Turn	A card is jammed between the input rollers and the flip/turn unit.	<ul style="list-style-type: none"> ❖ Open the cover to the flip/turn unit. ❖ Use the green dial to advance the card in a position easier for removal. ❖ If this error occurs again, clean the rollers in the flip/turn unit.
Card Jam Print Area	A card is jammed between the flip/turn unit and the print unit.	<ul style="list-style-type: none"> ❖ Press the Ribbon Change/Menu button and remove the ink ribbon. ❖ Open the flip/turn cover and use the green dial to remove the card. ❖ If you can't remove the card, remove the phillips screw to the print door. ❖ Open the print door and remove the card using the manual green dial to advance the card in a position easier for removal. ❖ If this error occurs again, clean the rollers in the print unit. See Chapter 4.
Card Jam Encode Area	A card is jammed between the flip/turn unit and the encoder.	<ul style="list-style-type: none"> ❖ Press and hold the clear button to reset the printer. ❖ If the card does not eject automatically, remove it manually.
Card Jam Unknown	A jam occurred that is unknown to the printer.	<ul style="list-style-type: none"> ❖ Inspect all areas of the printing path.

LCD SCREEN MESSAGE	PROBABLE CAUSE	ACTION
Card Jam Remove the Card	A card is jammed in the printer.	<ul style="list-style-type: none"> ❖ Press and hold the clear button to reset the printer. ❖ Press and hold the clear button to reset the printer. ❖ If the card does not eject automatically, remove it manually. ❖ Refer to the block diagram at the end of this section for jam areas.

Card Appearance Issues

CARD APPEARANCE	PROBABLE CAUSE	ACTION
Color discoloration; Color Drop	Most likely due to debris on the card; dust inside the printer or dirty rollers.	<ul style="list-style-type: none"> ❖ Ensure cards are debris free. ❖ Ensure printer is in clean area. ❖ Clean all rollers.
Abnormal coloring of anamorphous area.	Grease from fingertips in on the surface of the card.	<ul style="list-style-type: none"> ❖ Do not touch surface of the card with your fingers. Hold onto the edges only.
A thin line or scratch appears along the entire card length.	Print head is dirty.	<ul style="list-style-type: none"> ❖ Clean the print head. ❖ If problem persists, you may need to replace the print head. Avoid dirty cards because they can damage the print head over time.
Random bands or streaks	Print head is stained. Print head may be need replaced if more than 20,000 prints have been made and hesitation occurs in the print block area.	<ul style="list-style-type: none"> ❖ Clean the print head. ❖ Replace, if necessary. ❖ Clean the rollers in the print block area. See Manual Cleaning, Chapter 4.
The color of the printed image suddenly changes in the middle of the card.	The ribbon has been removed without releasing the print head.	<ul style="list-style-type: none"> ❖ Remove the ribbon by pressing the Ribbon Change/Menu button. Verify the correct ribbon is specified in the printer settings.
Unexposed dark area appears on the printed image.	Material or debris is on the card.	<ul style="list-style-type: none"> ❖ Try another card and use only cards specified by your authorized reseller.
White card; no image printed.	Incorrect ribbon setting.	<ul style="list-style-type: none"> ❖ If a color image is printed while the ribbon is set to KO, the card printed will be blank.

General Troubleshooting Suggestions

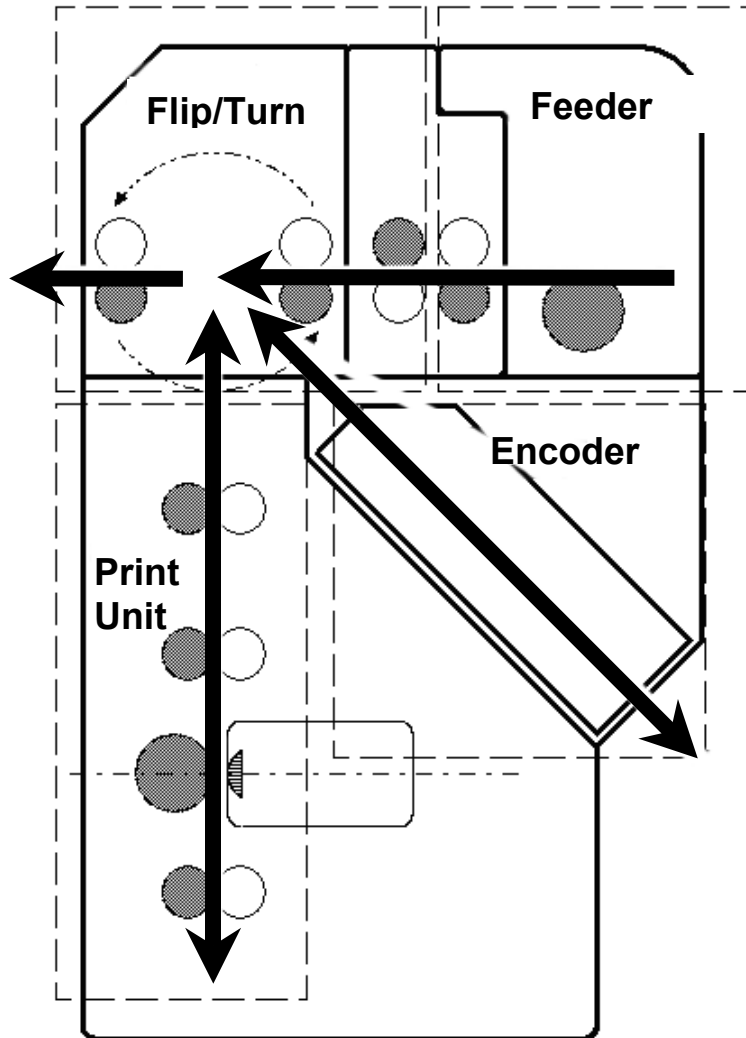
PROBLEM	ACTION
Printer doesn't seem to work at all.	❖ Verify the power cord is plugged in securely on both ends and that the printer is ON. Confirm power is applied by pressing the power switch. Also, be sure the printer is ready by verifying the LCD light above the Ready LED is illuminated.
Data cannot be transmitted to the printer.	❖ Make certain the printer cable is securely connected to the back of the printer and to your computer. ❖ SCSI Interface: <ul style="list-style-type: none">• Verify the SCSI ID number is not conflicting with other device(s)• Cycle the power by turning your printer OFF and then back ON.• Verify the position of the termination switch. The switch should be in the ON position if the printer is at the end of the SCSI chain and OFF in all other positions.
Setting your Parallel Port to ECP	❖ Parallel Interface: <ul style="list-style-type: none">• Cycle the power by turning your printer OFF and then back ON. ❖ You must change the parallel port mode through your system "BIOS" or setup screen. The system BIOS is generally entered by holding down a specific character while your computer is booting up. This character will differ depending on which brand of computer you have, but is often specified on screen during initial startup. For example, a line such as "Press button if you want to run SETUP may appear. ❖ Once you have entered the BIOS, use the on-screen directions to locate the parallel port option and change it to ECP. Also, check if your particular BIOS provides an option for enabling a DMA channel. If so, enable this as well. Once changed, save the BIOS settings and reboot.
Nisca Print Spooler Error	❖ Ensure "Enable bi-directional support" is activated.

Where to get additional help

If you work with an authorized Nisca distributor or value added reseller, contact your reseller for assistance. You may also contact us at one of the following sources:

Telephone: (732) 271-7367
Sales email: info@teamnisca.com
Technical Support email: techsupport@teamnisca.com
Website: www.teamnisca.com

PR53XX Block Diagram



A P P E N D I X

A.

Printer Specifications

PR53XX Direct ID Card Printer

Printing system	❖ 300 dpi, 24 bit continuous tone printing, 16.7 million colors
Printing method	❖ Thermal transfer dye-sublimation
Print medium	❖ PVC or polyester cards with polished PVC finish
Medium size	❖ Card width/length: CR-80, 2.125" (54mm) x 3.375" (85.6mm) ❖ Card width/length: CR-79, 2.051" (52.1mm) x 3.303" (83.9mm)
Medium Thickness	❖ 0.020" (20mil) to 0.050" (50mil) ❖ (0.508mm to 1.72mm)
Print area	❖ Edge to Edge
Input feeder capacity	❖ Up to 100 cards
Output feeder capacity	❖ Up to 100 cards
Image memory	❖ 8MB (PR5300/PR5310) or 16MB (PR5350) with parallel processing, four memory modes
Display	❖ LCD 16 character 2-line display shows printer status and diagnostic prompts

❖ Print Speed ¹	
❖ YMCO Single Side	❖ Up to 158 cards/hour (PR5350)
❖ YMCO/K Dual Side	❖ Up to 120 cards/hour (PR5350)
❖ YMCKO/K Dual Side	❖ Up to 116 cards/hour (PR5350)
❖ YMCK/K w/ Lam	❖ Up to 104 cards/hour (PR5350/PR5302)
Encoding options	❖ Offering integrated driver control for all encoding that includes: ❖ ISO standard Magstripe with dual high and ❖ low-coercivity standard. ❖ Contact IC Chip and RFID (Mifare, HID, & etc.)
Interface	❖ SCSI II, Parallel, and USB
Dimensions	❖ 16.57" (H) x 10.66" (W) x 13.03" (D) ❖ (421mm x 271mm x 331mm)
Weight	❖ 28.6 lbs. / 13 kg
Operating Temperature	❖ 65 to 80° F / 18 to 27° C
Power source	❖ 100 ~ 240 Volts AC, 50 ~ 60Hz auto-switching
Agency listing	❖ UL, CE, FCC
Driver compatibility	❖ Microsoft Windows®
Warranty	❖ 2 year return to depot service printer warranty ❖ 1 year unlimited prints print head warranty
Options	❖ PR5302 Laminator ❖ PR5301 Magstripe encoder ❖ RFID encoding (read/write, ready only ²)

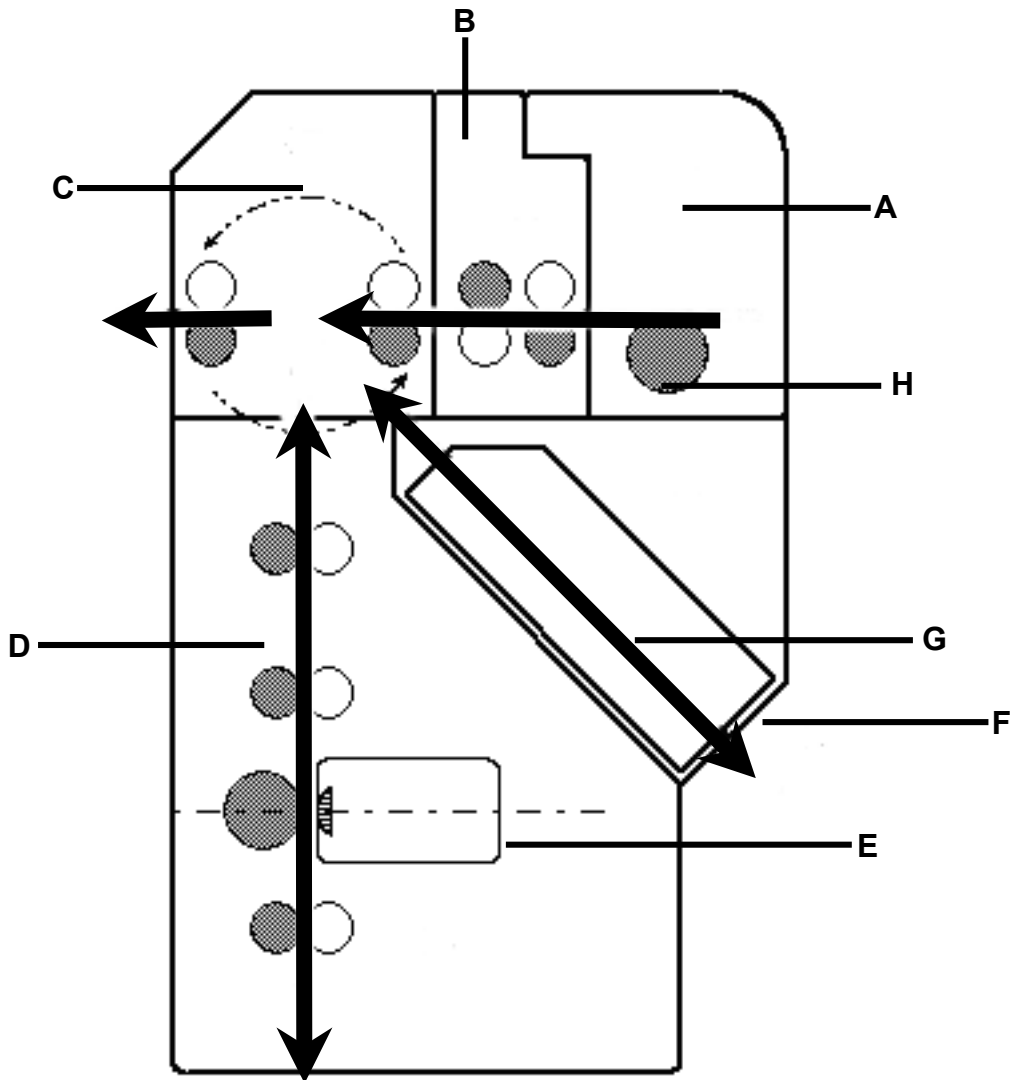
¹ Print speed indicates approximate batch print speed and is measured from the time a card feeds into the printer to the time it ejects from the printer. Print speeds do not include encoding time or the time needed for the PC to process the image. Process time depends on the size of the file, the CPU, the amount of PC memory, the interface (SCSI, Parallel, USB), and the amount of resources available at the time of the print job.

² RFID encoding capabilities differ depending on technology, please consult Team Nisca for more details.

A P P E N D I X

B.

Printer Configuration



ITEM	NAME	DESCRIPTION
A	Card Feeder	The cards automatically feed off the bottom of the stack. The slot is 1.5 times the thickness of the card to

ITEM	NAME	DESCRIPTION
		prevent double feeding.
B	Input Roller Module	Removes any debris from the surface of the card prior to entering the print unit.
C	Flip/Turn Unit	This unit flips the card over and switches the printing path from printed, rejected or encoded.
D	Print Unit	The card moves through this unit as the color and protective coating is applied. The print head is mounted perpendicularly to the print unit and is pressed against the surface of the card.
E	Print Head	The component of the printer that actually does the printing. This component is fragile and must not be bumped or touched with anything other than a cleaning pen.
F	Card Rejection	The printer will automatically reject cards if there is a printing error, encoding error, or if a card is left in the printer after a job is cancelled or printer restarted.
G	Encoder Space (Optional)	This is for the optional encoder. If an encoder is installed, encoding, your computer performs reading, and verification.
H	Takeup Roller	This roller feeds the card into the printer.

A P P E N D I X

C.

User Mode Menu Map

USER MODE MAIN MENU	IMAGE SETUP MENU	COLOR ADJUSTMENT MENU	RIBBON TYPE MENU
Card Count	Image Setup — <i>Entry</i>	Color Adjustment — <i>Entry</i>	Ribbon Type — <i>Entry</i>
Total Count	Color Adjustment ↗	Yellow ▸ <i>Adjustment</i>	Printer Ribbon ▸ <i>Ribbon Selection</i>
Image Setup ↗	Black Print Mode ▸ <i>High Speed / High Quality</i>	Magenta ▸ <i>Adjustment</i>	Return to Normal Mode
Error Buzzer ▸ <i>On / Off</i>	Image Data Print	Cyan ▸ <i>Adjustment</i>	Return to Parent Menu
Ribbon Type ↗	Return to Normal Mode	Black ▸ <i>Adjustment</i>	
Printer Cleaning ↗	Return to Parent Menu	Return to Normal Mode	
Printer Status ↗		Return to Parent Menu	
ROM Version ↗			
Setup Data Reset			
Return to Normal Mode			

User Mode Menu Map (continued)

PRINTER CLEANING MENU	PRINTER STATUS MENU	ROM VERSION MENU	SETUP DATA RESET MENU
Remove Normal Cards	Printer Status — <i>Entry</i>	Base Program	Setup Data Reset — <i>Entry</i>
Set Cleaning Card	Memory Mode ‣ <i>Mode selection</i>	Main Program	Setup Data Reset Finish
Return to Normal Mode	Encoder Type ‣ <i>Lo-Co / High-Co</i>	Head Code	Return to Normal Mode
	Encode First ‣ <i>On / Off</i>	Encoder Unit	Return to Parent
	Encode Mode ‣ <i>Card side selection</i>	Return to Normal Mode	
	Encode Reject ‣ <i>Hold / Reject</i>	Return to Parent	
	Exe Button Print ‣ <i>On / Off</i>		
	Print Retry ‣ <i>On / Off</i>		
	Parallel Print ‣ <i>On / Off</i>		
	Card Eject Face ‣ <i>Up / Down / No effect</i>		
	Print Area ‣ <i>Margin selection</i>		
	Return to Normal Mode		
	Return to Parent Menu		

A P P E N D I X

D.

Parts Replacement

This printer is designed to provide excellent performance over time. In order to maintain your printer in peak performance, several parts should be replaced on a periodic basis. The following table outlines these parts and the suggested replacement time frame:

PART	NUMBER OF PRINTS	TOOLS NEEDED
Input Roller	Every 10,000 prints	❖ N/A
Print Head	Every 20,000 prints	❖ Firmware Update Utility

Replacing the Input Rollers

1. Open the front access panel by depressing the release button.



2. Grasp the input roller module tab, and pull it out of the printer.



3. Clean the new input roller assembly before replacing it back in the printer. Clean with an alcohol cotton swab in the direction pictured.



4. Once the dust and debris is cleaned from the rollers, place the assembly module back into the printer. Push it in until it hit's the stops. Close the front access panel.

Replacing the Print Head



Caution

IMPORTANT! The print head may be hot. Be sure the printer has adequate cooling time before proceeding with this section. Do not touch the actual print head with your hands.

1. Press "Ribbon Change" on the control panel once to lift the print head. This allows for removal of the printer ribbon.
2. Power OFF the printer and remove the power cord.

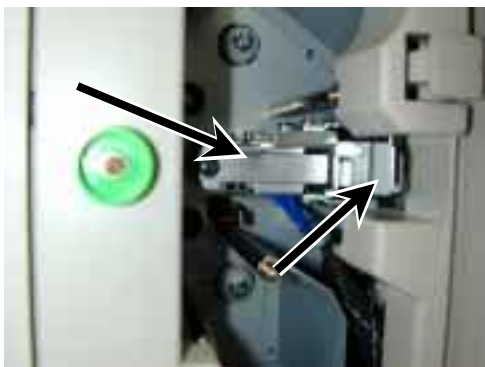
3. Open the front access panel by depressing the release button. Lift the green retaining lever and remove the ribbon cartridge.



4. Using a phillips screwdriver, remove the retaining bracket.



5. Press the metal latch to release the print head and gently slide the print head toward the front of the printer.



-
6. Gently remove the pin connector from the bottom of the print head.
 7. Affix the connector to the new print head and reinstall in reverse order.
 8. Insert the floppy disk that came with the print head. This data must be loaded to the print head before using the printer.
 9. Use the firmware update utility as outlined in Chapter 4. When prompted for the update file, be sure to select the file from the floppy disk.