FARGO®
Part of HID Global **HID**

DTC550 Direct to Card Printer/Encoder User Guide

(Rev. 2.8)

Part Number: L000685

DTC550 Direct to Card Printer/Encoder User Guide (Rev. 2.8), property of Fargo Electronics, Incorporated

The revision number for this document will be updated to reflect changes, corrections, updates and enhancements to this document.

Revision Control Number	Date	Document Title
Revision 2.8	1 December 2007	DTC550 Direct to Card Printer/Encoder User Guide
Revision 2.7	1 November 2007	Same document title
Revision 2.6	1 October 2007	Same document title
Revision 2.5	1 July 2007	Same document title
Revision 2.4	1 April 2007	Same document title
Revision 2.3	1 August 2006	Same document title
Revision 2.2	1 March 2006	Same document title

These reference documents were thoroughly reviewed to provide Fargo with professional and international standards, requirements, guidelines and models for our technical, training and user documentation. At all times, the Copyright Protection Notice for each document was adhered to within our Fargo documentation process. This reference to other documents does indicate that Fargo is an ISO-certified company at this time.

- ANSI/ISO/ASQ Q9001-2000 American National Standard, (sub-title) Quality Management Systems - Requirements (published by the American Society of Quality, Quality Press, P.O. Box 3005, Milwaukee, Wisconsin 53201-3005)

- The ASQ ISO 9000:2000 Handbook (editors, Charles A. Cianfrani, Joseph J. Tsiakals and John E. West; Second Edition; published by the American Society of Quality, Quality Press, 600 N. Plankinton Avenue, Milwaukee, Wisconsin 53203)

- Juran's Quality Handbook (editors, Joseph M. Juran and A. Blanton Godfrey; Fifth Edition, McGraw-Hill)

Any questions regarding changes, corrections, updates or enhancements to this document should be forwarded to:

FARGO Electronics, Incorporated
Support Services
6533 Flying Cloud Drive
Eden Prairie, MN 55344 (USA)
(952) 941-0050
FAX: (952) 941-7836
www.fargosupport.com

Table of Contents

Section 1: Introduction

Safety Messages (review carefully)

See FCC Rules below.

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.

(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.

See Safety Messages below

Symbol	Critical Instructions for Safety purposes
Danger: 	Failure to follow these installation guidelines can result in death or serious injury. Information that raises potential safety issues is indicated by a warning symbol (as shown to the below). • **To prevent personal injury**, refer to the following safety messages before performing an operation preceded by this symbol. • **To prevent personal injury**, always remove the power cord prior to performing repair procedures, unless otherwise specified. • **To prevent personal injury**, make sure only qualified personnel perform these procedures.
Caution: 	**This device is electrostatically sensitive**. **It can be damaged if exposed to static electricity discharges.** Information that raises potential electrostatic safety issues is indicated by a warning symbol (as shown to the below). • **To prevent equipment or media damage**, refer to the following safety messages before performing an operation preceded by this symbol. • **To prevent equipment or media damage**, observe all established Electrostatic Discharge (ESD) procedures while handling cables in or near the Circuit Board and Printhead Assemblies. • **To prevent equipment or media damage**, always wear an appropriate personal grounding device (e.g., a high quality wrist strap grounded to avoid potential damage). • **To prevent equipment or media damage**, always remove the Ribbon and Cards from the Printer before making any repairs, unless otherwise specified. • **To prevent equipment or media damage**, take jewelry off of fingers and hands, as well as thoroughly clean hands to remove oil and debris before working on the Printer.

How to use the guide

The DTC550 Direct to Card Printer/Encoder User Guide (Rev. 2.8) is designed to provide Installers and Technicians with quick, efficient lookup of related procedures, components and terms. The manual can be used effectively either in soft or hard copy, depending on the preference of the Installer or Technician.

Manual	Description
Sequence of Operations and Technical/Functional Specifications (hyper-linked)	You can go directly to the Sequence of Operations, Technical Specifications and Functional Specifications to learn how to use the processes, procedures, functions and windows for the DTC550 Direct to Card Printer/Encoder within concise, correlative tables.
Table of Contents (hyper-linked)	You can use the automated Table of Contents to quickly locate, for example, an error message or a procedure.
Troubleshooting, Diagnostic and Navigation Procedures (in hyper-linked Sections)	You can go directly to Specifications, General Troubleshooting, Printer Adjustments, Printer Packing, Board Level Diagnostics and LCD On-Line Menu Navigation to find troubleshooting procedures. The section titles are always labeled according to their function for consistent usage.
Cross-Referencing (hyper-linked)	You can use the cross-referencing links to quickly locate, for example, an error message or a procedure.

DTC550 Direct to Card Printer/Encoder Overview

Reviewing the DTC550 Block Diagram
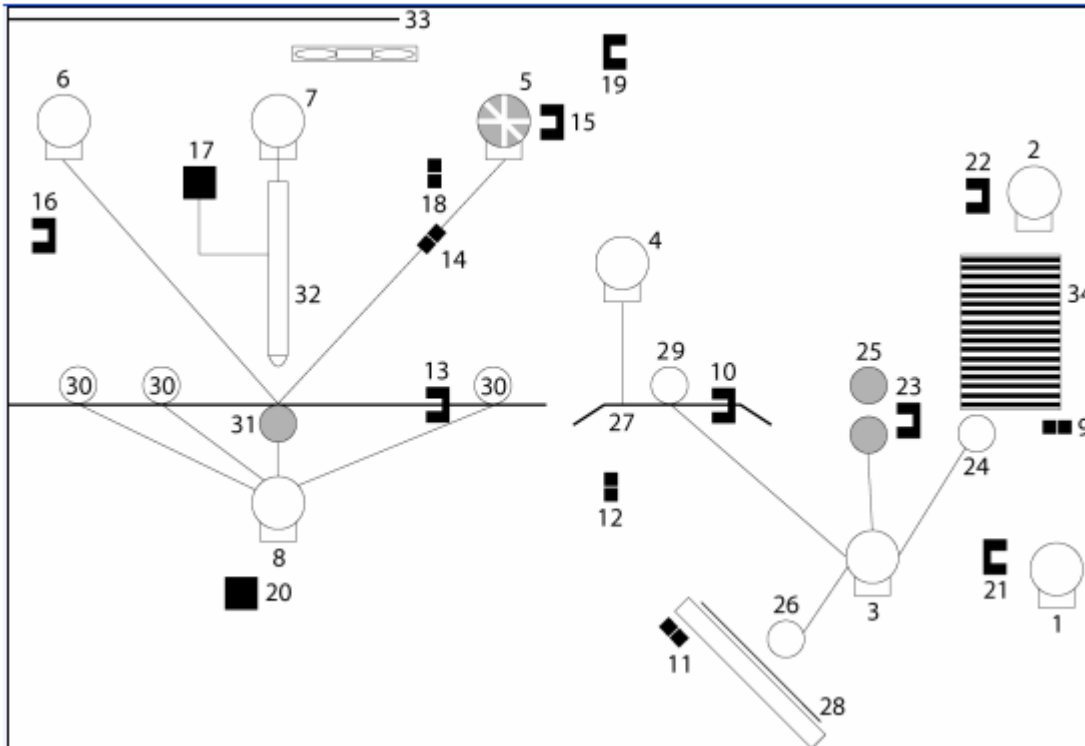
Reviewing the DTC550 Block Diagram (continued)

Motors	
1	Hopper Lift
2	Hopper Transport
3	Encoding/Flipper Feed
4	Flipper Stepper
5	Ribbon Supply
6	Ribbon Take-up
7	Headlift
8	Card Feed Stepper

Sensors	
9	Card Detection
10	Flipper Table Card
11	Encoding TOF
12	Flipper Home
13	Print TOF
14	Ribbon Sensor
15	Ribbon Encoder
16	Print Headlift
17	Thermistor
18	Cover Interlock
19	Release Lever
20	RFID
21	Hopper Lift
22	Hopper Transport
23	Card Feed

Parts	
24	Card Input Roller
25	Cleaning Cartridge
26	Flipper Table Roller
27	Flipper Table
28	Encoding Module
29	Encoding Feed Roller
30	Card Feed Roller
31	Platen Roller
32	Printhead
33	Printhead Cooling Fan
34	Card Input Hopper

Reviewing DTC550 Sequence of Operations

The following sequence describes a DTC550 doing a dual-sided full color print job with magnetic encoding.

Step	Process
1	The File information is received from the PC.
2	The Flipper Stepper activates and rotates the Flipper Table until the Flipper Home Sensor is activated.
3	The Flipper Stepper rotates the Flipper Table back a specific number of steps (based on the Flipper Offset setting) to return the Flipper Table to a level position.
4	The Card Detection Sensor detects the presence of a Card in the exception feed.
5	The Hopper Lift Motor activates and lowers the Card Hopper until the Hopper Lift Sensor detects a change in state.
6	The Card Detection Sensor detects the presence of a Card. If no card is seen, the following takes place: a. The Hopper Lift Motor activates and raises the Card Hopper until the Hopper Lift Sensor detects a change in state. b. The Hopper Transport Motor activates and moves to the other Hopper until the Hopper Position Sensor detects a change in state. c. The Hopper Lift Motor activates and lowers the card Hopper until the Hopper Lift Sensor detects a change in state. d. The Card Detection Sensor detects the presence of a Card.
7	The Card Feed Stepper activates and feeds a card through the Cleaning Roller and onto the Flipper Table.
8	The Flipper Stepper rotates the Flipper Table a certain number of steps (based on the Encoder Angle setting) to position the card for Encoding.

Reviewing DTC550 Sequence of Operations (continued)

Step	Process
9	The Encoder/Flipper Feed Motor activates until the card is in position for encoding (a set number of steps from the flipped position).
10	The Encoding Feed Motor feeds the Card back to the Flipper Table while the Magnetic Encoding Head transfers data onto the Magnetic Stripe.
11	Repeat Steps 9 to 10 for each Encoding and Verification pass.
12	The Card is centered on the Flipper Table based on input from the Flipper Table Card Sensor.
13	The Flipper Stepper rotates the Flipper Table a specific number of steps (based on the Flipper Offset setting) to home the Flipper Table.
14	The Card Feed Motor feeds the Card to the Print TOF Sensor.
15	The Ribbon Drives turn ON and move until the correct panel is found by the Print Ribbon Sensor Assembly. All Stop. (**Note:** The Print Ribbon Encoder is active during this step.)
16	The Headlift Motor engages and moves the Printhead down until the Headlift Sensor is activated. All Stop.
17	The Fan turns ON (as required) and blows cool air over the Printhead. (**Note:** The Printhead Thermistor determinates the Printhead Temperature.)
18	Ribbon Drive and Card feed Motors activate and the Printhead burns image data until the image data is depleted. All Stop. (**Note:** The Ribbon Encoder is active during this step.)
19	The Headlift Motor engages, moving the Printhead up until the Headlift Sensor is activated. All Stop.

Reviewing DTC550 Sequence of Operations (continued)

Step	Process
20	The Card Feed Motor feeds the Card back to the Print TOF Sensor.
21	Repeat steps 14 to 20 for the appropriate Number of Color/Overlay Panels.
22	The Card Feed Motor transports the Card back to the Flipper Table.
23	The Flipper Stepper rotates in order to invert the Card.
24	The Card Feed Motor activates and moves the card to the Print TOF Sensor. All Stop.
25	Repeat steps 14 to 20 for the appropriate Number of Color/Overlay Panels if printing a Dual sided card. If not then card is transported to the laminator if applicable or ejects the card.

Reviewing DTC550 Boot up Sequence

Step	Process
1	The Printer's Firmware is initialized.
2	The Firmware checks for an installed ribbon.
3	The Hopper is raised.
4	The fan activates and is turned off.
5	All of the sensors are checked to see if a card is present under a sensor. If a card is detected, the card is ejected.
6	If no cards are present under a sensor then the rollers are moved forward and backwards to see if a card is present. If a card is detected by this process, it is ejected.
7	The flipper is leveled to allow for a card feed.
8	If the "Exception Feed" is turned off the Hopper is lowered to allow for loading cards.
9	If no errors are detected the LCD screen displays **READY**. If errors are detected, then an error message is displayed and the LCD displays **NOT READY** until the error condition is corrected.

Reviewing the Lamination Module Sequence of Operations

The LAM sequence of operations begins after printing has occurred with the Card Printer.

Step	Process
1	The card is fed onto the Lamination Module Flipper Table.
2	The card is fed to the Card Position Sensor.
3	The Lamination Ribbon Motor begins cycling until the Upper Lamination Sensor detects the mark.
4	The Card Feed Motor activates to center the card on the Platen Roller.
5	The Lamination Roller Lift Motor cycles until the Lamination Roller Lift Sensor detects state change.
6	The Card Feed Motor and the Lamination Ribbon Motor activate for the length of the card.
7	The Lamination Roller Lift Motor cycles until Lamination Roller Lift Sensor detects state change.
8	The card is fed back to the Flipper Table.
9	The Flipper Table Clutch engages.
10	The Flipper Table Motor activates until the Card is inverted based on the Flipper offset setting.
11	The Flipper Table Clutch disengages.
12	The card is fed off the Flipper Table.
13	The Flipper Table Clutch engages.

Reviewing the Lamination Module Sequence of Operations (continued)

Step	Process
14	The Flipper Table Motor activates until the Flipper Table is homed.
15	The Flipper Table Clutch disengages.
16	Repeat Steps 2 through 7.
17	The card is fed out of the Printer.
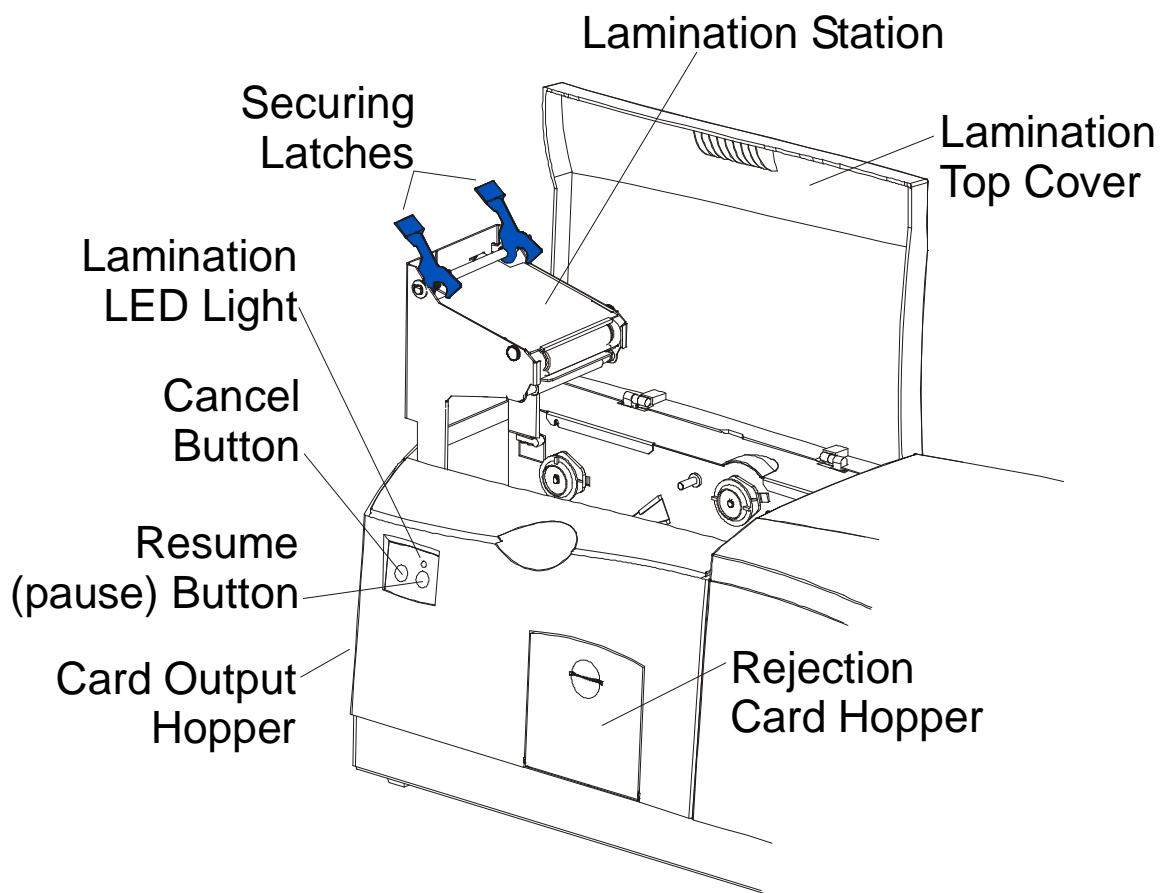
Reviewing the Lamination Module Boot up Sequence

Step	Process
1	The Lamination Headlift turns until head up position is returned from Headlift Sensor.
2	The Lamination Ribbon motor activates to determine the presence of a roll of lamination.
3	The Lamination Flipper table homes itself.
4	The Card sensor checks for the presence of a card and ejects it if found.

Section 2: Specifications

Regulatory Compliances, Agency Listings and FCC Rules

The purpose of this section is to provide the User with specific information on the Regulatory Compliances, Agency Listings and FCC Rules for the DTC550 Direct to Card Printer/Encoder User Guide (Rev. 2.8).

Regulatory Compliances

Term	Description
CSA (cUL)	The Printer manufacturer has been authorized by UL to represent the Card Printer as CSA Certified under CSA Standard C22.2 No. 60950-1-03. **File Number:** E145118
FCC	The Card Printer complies with the requirements in Part 15 of the FCC rules for a Class A digital device. (**Note:** These requirements are designed to provide reasonable protection against harmful interference in a commercial environment.)
EMC	The Card Printer has been tested and complies with EN55022 Class A and EN 61000-3-2, EN 61000-3-3 and EN55024. (**Note:** Based on the above testing, the Printer manufacturer certifies that the Card Printer complies with all current EMC directives of the European Community and has placed the CE mark on the Card Printer.)
UL	The Card Printer is listed under UL IEC 60950-1 (2001) INFORMATION TECHNOLOGY EQUIPMENT. (**Note:** This product is intended to be supplied by a Listed Power Unit marked "Class 2" or "I.T.E." and rated for 24 V dc, 3.3 to 5 A.) **File Number:** E145118

Agency Listings

Term	Description
EMC Standards	CE, FCC, CRC c1374, EN 55022 Class A, FCC Class A, EN 55024: 1998, EN 61000-3-2 and EN 61000-3-3.
Safety Standards	UL IEC 60950-1 (2001), CSA C22.2 No. 60950-1-03.

FCC Rules

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.

(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.

Reference Safety Messages in this document.

Environmental Protection (China-RoHS)

Environmental Protection Use Period is based on the product being used in an office environment.

Technical Specifications

Term	Description
Accepted Standard Card Sizes	CR-80 (3.370"L x 2.125"W / 85.6mmL x 54mmW) CR-79 Adhesive Back (3.303"L x 2.051"W / 83.9mmL x 52.1mmW)
Accepted Card Thickness	• **Print only:** .020" (20 mil) to .050" (50 mil) / .508mm to 1.27mm(single-sided printing only for 50 mil cards) • **Print/Lamination:** .030" (30 mil) to .040" (40 mil) / .762mm to 1.02mm
Accepted Card Types	PVC or polyester cards with polished PVC finish; monochrome resin required for 100% polyester cards; optical memory cards with PVC finish
Accepted Card Compositions	PVC or polyester cards with polished PVC finish; monochrome resin required for 100% polyester cards.
Agency Listing	• **Safety:** UL IEC 60950-1 (2001), CSA C22.2 No. 60950-1-03 • **EMC**: CE, FCC, CRC c1374, EN 55022 Class A, FCC Class A, EN 55024: 1998, EN 61000-3-2 and EN 61000-3-3
Available only with Print Security Package:	• Full-color with fluorescing, resin black and overlay panel, YMCFKO*, 400 prints • Full-color with fluorescing, two resin black panels and overlay panel, YMCFKOK*, 350 prints
Barcodes	PVC or polyester cards with polished PVC finish; monochrome resin required for 100% polyester cards.
Input Hopper Card Capacity	**DTC550:** Dual-stack Hopper, 200 cards (30 mil); auto or manual feed
Output Hopper Card Capacity	100 cards (30 mil)
Card Cleaning	Removable Card Cleaning Cartridge with replaceable cleaning roller

Technical Specifications (continued)

Term	Description
Colors	Up to 16.7 million colors / 256 shades per pixel
Dimensions	• **DTC550:** 10.75"H x 18.5"W x 11"D / 273mmH x 470mmW x 279mmD • **DTC550 + Lam:** 10.75"H x 30.5"W x 11"D / 273mmH x 775mmW x 279mmD • **Lam Module:** 10.25"H x 30"W x 11"D / 260mmH x 762mmW x 279mmD
Display	User-friendly, SmartScreen LCD Control Panel; LED display on Card Lamination Module
Encoding Options	• ISO Magnetic Stripe Encoding, dual high- and low-coercivity, Tracks 1, 2, and 3 • Contact Smart Card Docking Station • Contactless Smart Card Encoder (HID iCLASS, MIFARE and MIFARE DESFire) • Contact Smart Card Encoder reads from and writes to all ISO7816-1/2/3/4 memory and microprocessor smart cards (T = 0, T = 1) as well as synchronous cards • Prox Card Encoder (HID read-only) • Super-high
Fargo Certified Supplies	• Fargo Card Printer/Encoder require highly specialized media to function properly. • To maximize printed card quality and durability, Printhead life and Printer/encoder reliability, use only Fargo Certified Supplies. • Fargo warranties are void, where not prohibited by law, when non-Fargo certified supplies are used.
Fonts	TrueType fonts are available via the Windows driver.
Humidity	20% to 80% non-condensing

Technical Specifications (continued)

Term	Description
Input Hopper Card Capacity:	Dual hopper; 200 cards (.030" / .762mm)
Interface	USB 1.1 (Full Speed)
Memory	16 MB RAM
Options	• Card Lamination Module • Printer Cleaning Kit • Print Security Suite • Ethernet with internal print server • Card Hopper Lock
Operating Temperature	65° to 80° F / 18° to 27° C
Output Hopper Card Capacity:	100 cards (.030" / .762mm)
Overlaminate Options (for LC)	• Thermal Transfer Overlaminate, .25 mil thick • PolyGuard Overlaminate, 1.0 mil and .6 mil thick • All overlaminates available in clear, standard holographic design or custom holographic design. • PolyGuard available in a CR-80 patch size.

Technical Specifications (continued)

Term	Description
Print Area	• **CR-79** (3.303"L x 2.051"W / 83.9mmL x 52.1mmW) • **CR-80:** Specifically, the DTC550 Card Printer can print an image at approximately 2.110-inches x 3.362-inches (633 x 1008 pixels) on a standard CR-80 card, which is 2.125-inches x 3.370-inches (637 x 1012 pixels). (**Note:** This means that there could be up to a 4-pixel or .011-inch margin on any side of the card.) The TOF, EOF and LOF can be adjusted in order to center and minimize these micro-margins. However, reducing the TOF or EOF (to allow printing closer than 3 pixels to the leading or trailing edge of the card) will likely cause Ribbon breakage on dark cards. Correspondingly, a slightly larger margin of 4 to 5 pixels ensures that these types of Ribbon problems are avoided.
Printing Method	Dye-Sublimation/Resin Thermal Transfer
Printing Resolution	300 dpi (11.8 dots/mm)

Technical Specifications (continued)

Term	Description
Print Speed – Batch Mode	• **K:** 7 seconds per card/514 cards per hour* • **BO:** 12 seconds per card/300 cards per hour* • **YMCKO:** 25 seconds per card/144 cards per hour* • **YMCKOK:** 33 seconds per card/109 cards per hour* • **YMCKK (w/Lamination):** 35 seconds per card /102 cards per hour* Indicates the Print Ribbon type and the number of Ribbon panels printed where Y=Yellow, M=Magenta, C=Cyan, K=Resin Black, B=Dye-Sublimation Black and O=Overlay. Print speeds do not include the time needed for the PC to process the image. Process time is dependent on the size of the file, the CPU, amount of RAM and the amount of available resources at the time of the print. Print speed indicates an approximate batch print speed and is measured from the time a card feeds into the Printer to the time it ejects from the Printer. (**Note:** The single card print speeds will be slower than the batch print speeds listed above since batch print speed is enhanced by the Printer's multi-tasking capabilities when printing multiple cards in succession.)
Print Ribbon options	• Full-color with resin black and overlay panel, YMCKO*, 500 prints • Full-color with two resin black panels and overlay panel, YMCKOK*, 400 prints • Full-color with two resin black panels, no overlay panel, YMCKK*, 500 prints • Resin black (3000 prints); green, blue, red, white, silver and gold (1000 prints) • Resin black and overlay panel, KO*, 1500 prints

Technical Specifications

Term	Description
Security Features	Card Hopper Lock (optional)
Software Drivers	Windows 2000/XP/2003
Supply Voltage	100-240 VAC, 3.3A (**Note:** This product is intended to be supplied by a Listed Power Unit marked "Class 2" and rated for 24 V dc, 3.3 to 5 A.)
Supply Frequency	50 Hz / 60 Hz
System Requirements	Windows® 2000 with Service Pack 4, Windows® XP with Service Pack 2 and Windows® Server 2003; x86 300 MHz computer with 64 MB of RAM or higher, 200 MB free hard disk space or higher, USB 1.1
Warranty	**Printer:** Two year (including On-Call Express, U.S. only); optional Extended Warranty Program (U.S. only); see below for more detail. • Two (2) Year Factory Warranty • Covers parts and depot repair • First year On-Call-Express (loaner printer) • 2nd year On-Call-Express available for a fee. This must be purchased before the first year On-Call-Express expires. • Extended Warranties available **Printhead:** One year, unlimited pass with UltraCard Cards
Weight	• **DTC550:** 20 lbs. (9.1 kg.) • **DTC550-LC:** 39 lbs. (17.7 kg.) • **LC Module:** 19 lbs. (8.6 kg.)

Functional Specifications

The Card Printer utilizes two different, yet closely related printing technologies to achieve its direct-to-card print quality for Dye-Sublimation and resin thermal transfer. The Card Printer will print from any IBM-PC® or compatible running Windows 2000 or Windows XP.

The following describes how each of these technologies works:

Function	Description
Dye-Sublimation	Dye-Sublimation is the print method the Card Printer uses to produce smooth, continuous-tone images that look photographic. (**Note:** This process uses a dye-based Ribbon roll that is partitioned by a number of consecutive color panels.)
	• **Process Colors:** The panels are grouped in a repeating Series of three process colors - yellow, magenta and cyan (YMC), along the entire length of the Print Ribbon.
	• **Panels:** The Printer always prints the yellow panel first, followed by the magenta panel and the cyan panel.
	• **Printhead:** As the Print Ribbon passes beneath the Printhead, hundreds of thermal elements within the Printhead heat the dyes on the Ribbon. (**Note:** When these dyes are heated, they vaporize and diffuse into the surface of the card. A separate pass is made for each of the three color panels on the Ribbon.)
	• **Color Shades:** By combining the colors of each panel and by varying the heat used to transfer these colors, it is possible to print up to 16.7 million different shades of color. (**Note:** This blends one color smoothly into the next, producing photo-quality images with absolutely no dot pattern.)
	• **Dye-Diffusion Thermal Transfer:** It is the process of heating a dye suspended in a cellulous substrate until the dye can flow, diffusing into the dye receptive surface of the card or InTM. This produces the image in the surface of the card.

Functional Specifications (continued)

Function	Description
Resin Thermal Transfer	Resin Thermal Transfer is the print method the Printer uses to print sharp black text and crisp bar codes that can be read by both infrared and visible-light bar code scanners.
	Like Dye-Sublimation, this process uses the same thermal Printhead to transfer color to a card from a resin-only Print Ribbon or the resin black (K) panel of a full color Print Ribbon.
	The difference, however, is that solid dots of resin-based ink are transferred and fused to the surface of the card. (**Note:** This produces very durable, saturated printing.)

Printer Components: Adjustment Lever to Serial Interface Ports

Component	Description
Card Thickness Adjustment Lever	Adjusts the Printer through feed varying card thicknesses. The settings are in increments of 10.
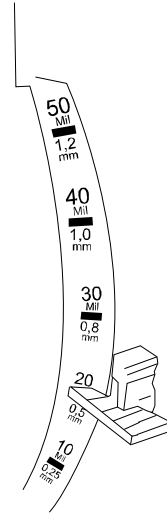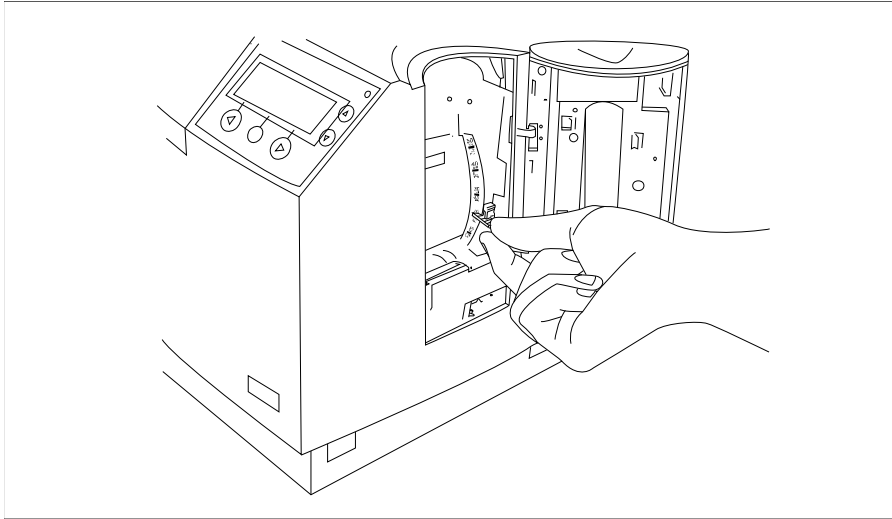
Printer Components: Adjustment Lever to Serial Interface Ports (cont.)

Component	Description
Card Cleaning Cartridge	Automatically cleans cards for higher print quality. (**Note:** Replace this roller with every ribbon or as needed.)
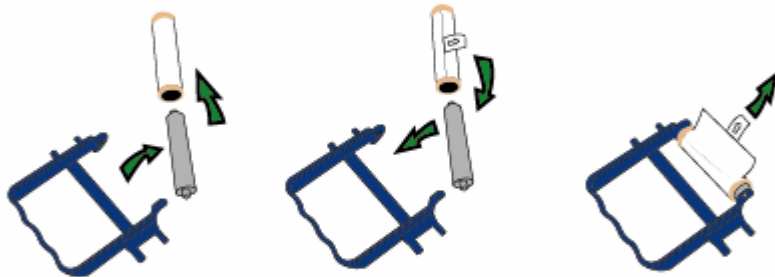
Printer Components: Adjustment Lever to Serial Interface Ports (cont.)

Component	Description
Card Input Hopper	Use the Dual Input Hopper to load blank cards.
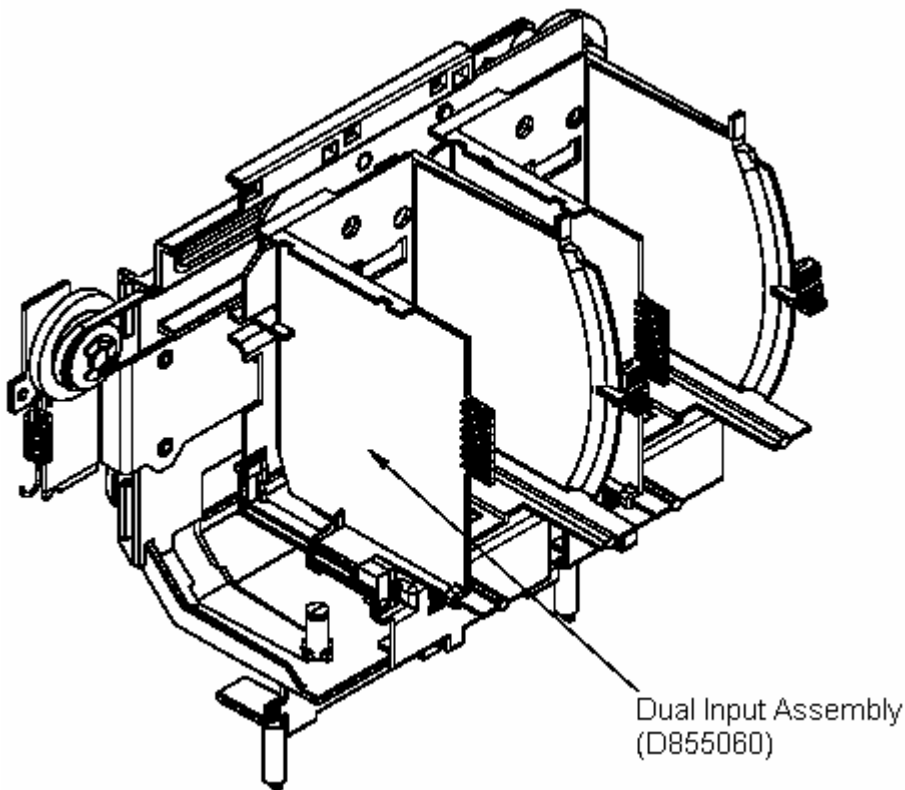
Dual Input Assembly
(D855060)

Printer Components: Adjustment Lever to Serial Interface Ports (cont.)

Component	Description
Card Output Hopper	Stores printed cards; up to 100, 30 mil cards.

Output Hopper with card ejecting
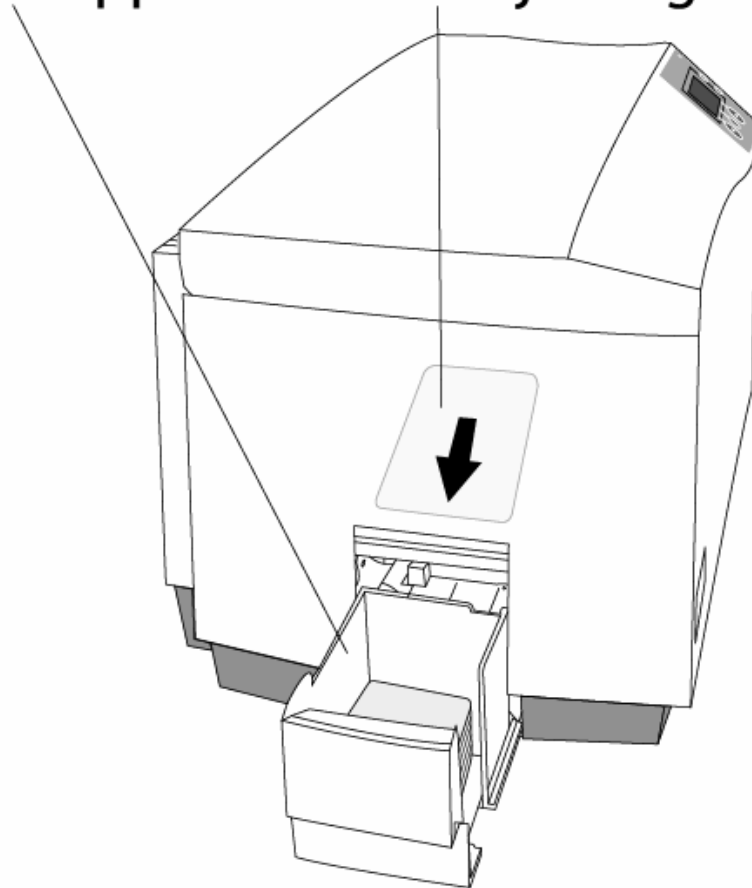
Printer Components: Adjustment Lever to Serial Interface Ports (cont.)

Component	Description
Card Supply Window	Check the current card supply at-a-glance, without having to open the Card Hopper Door.
Card Input Hopper Lock	This lock allows you to lock the Card Input Hopper Door to help prevent the theft of blank cards.
Exception Card Slot	Insert a single exception card into this slot if you would like to print onto a card other than those loaded in the Card Input Hopper.
LCD display	Displays the current status of the Printer.
LED light	Indicates Printer ON, OFF, pause, status conditions and error conditions.
Printhead	This Print Station component actually does the printing. (**Note:** This component is fragile and must not be bumped or touched with anything other than a cleaning pen.)
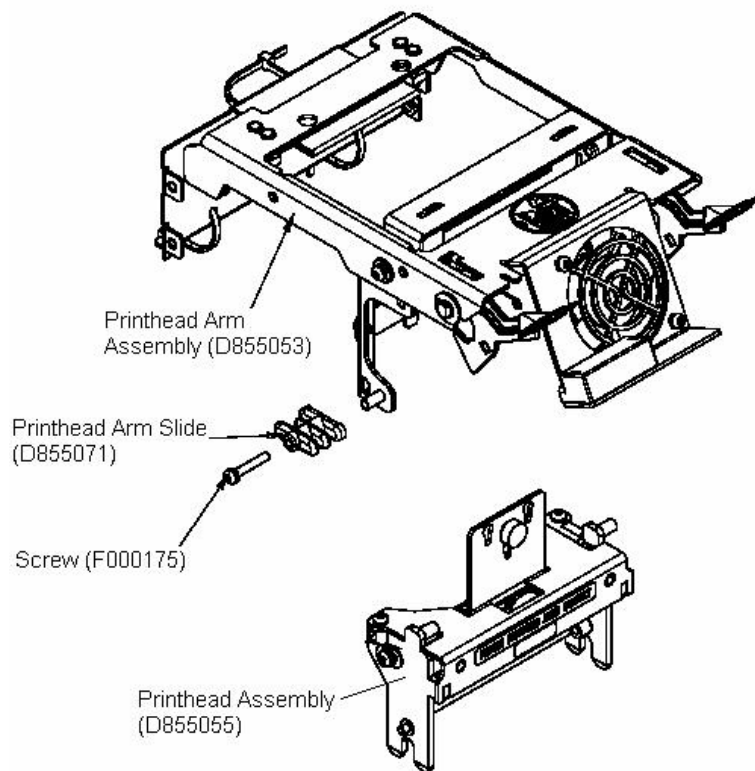
Printhead Arm Assembly (D855053)

Printhead Arm Slide (D855071)

Screw (F000175)

Printhead Assembly (D855055)

Printer Components: Adjustment Lever to Serial Interface Ports (cont.)

Component	Description
Power Switch	This switch turns the Printer power ON and OFF.
Power Port	This port connects to the (included) power supply.
Securing Latches	These latches lock the Print Station securely in place when closed.
Softkey Buttons	The button function is displayed above the button. The buttons change depending upon the Printer's mode of operation.
Scroll Buttons	These buttons are used to scroll through menus and sub-menus and to adjust certain menu options.
USB Interface Port	This port connects to a Windows PC with a USB cable.
Serial Interface Ports	**For Encoding option:** These ports are provided only if your Printer includes one or more optional Encoding Modules.
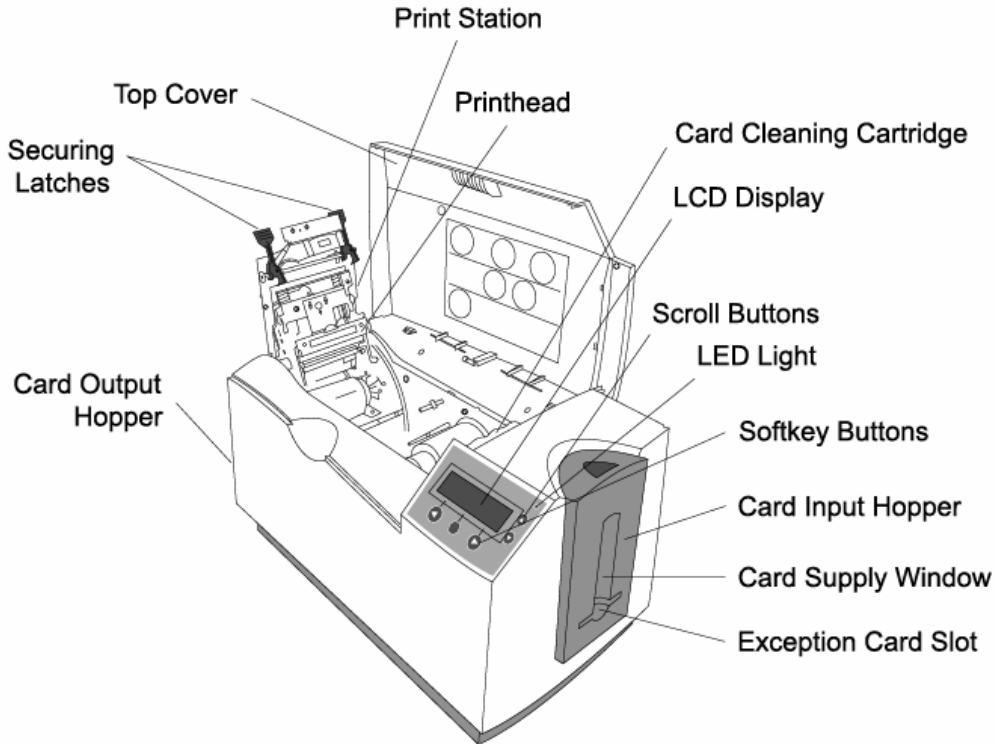
Printer Components: LCD and Softkey Control Pad

The Printer provides a four line, eighty (80) character LCD display that communicates helpful information about the Printer's operation.

- The top three lines of the LCD display will always be used to communicate print status, error messages and menu options.

- The bottom line of the LCD display will always be used to communicate the current function of the Printer's softkey buttons.

This section describes how the LCD display and Softkey Control Pad work together.

Component	Description
Softkey Buttons	The Printer has three **softkey buttons** that appear below the LCD display. (**Note:** Their current function is indicated by the words appearing above them. This function will change according to the Printer's current mode of operation.)
	Press the corresponding softkey button for the correct selection. (**Note:** If no word appears above a particular button, this indicates it has no function in that particular mode of operation.)
	Use the scroll buttons to scroll through <u>help text</u>, to navigate through the Printer's <u>menus</u> and to adjust certain <u>Printer settings</u>. (**Note:** The Printer has scroll buttons on its control pad located just to the right of the LCD display.)
	If scrolling through a list, this symbol will change to ▲ if you have reached the bottom of the list or ▼ if you have reached the top.
LCD display	The Printer's LCD display will change according to the Printer's current mode of operation.
System Check Screens	When the Printer is first powered ON, the Printer's system check screens will briefly appear to:
	Initialize the system.
	Display the READY screen.

Printer Components: LCD and Softkey Control Pad (continued)

Component	Description
Ready/Printer Open Screens	Once the Printer has finished its system check and with the Print Station closed, the Printer will display READY to indicate that the Printer is ready for operation. (**Note:** The Printer will stay in this mode until it receives a print job or it is turned OFF.)
	With the Top Cover open only, the screen will read **Top Cover Open**, and you can select Menu or cycle between the Input Hoppers.
	With both the Top Cover and Printhead Arm open, the screen will say **Ribbon Access Open**, and you can then use the softkey buttons (labeled FWD, Menu, and REV) to move the Rollers or access the menu.
	Press either the **FWD** or **REV** buttons to move the Printer's card path Rollers in the indicated direction.
	In any of these screens, the Printer will always display the **Menu** option above the center softkey button.
	Press this button to access the Printer's menu options. (**Note:** The **Menu** option is available only in the Ready/Printer Open screens.)
Print Status Screen	During operation, the LCD will indicate the current Print Status by showing you the area of the Printer that is active. It does this by displaying the following icons on the second line:
	• **FEEDING** indicates the Feeder Station is feeding a blank card into the Printer.
	• **ENCODING** indicates the Encode Station is encoding a card (appears only if you are using a Printer with an optional built-in Encoding Module).
	• **PRINTING** indicates the Print Station is printing onto the card.
	• **LAMINATING** indicates the Lamination Station is applying an overlaminate to a card (appears only if using a Printer equipped with the optional Card Lamination Module. See Reviewing the Card Lamination Module.
	Since the Printer is capable of performing several of these functions simultaneously, one or all of these icons may appear at once, depending on if you are printing just one card or a batch of cards.
	The Print Status screen always displays **Cancel** in the lower left and **Pause** in the lower right.

Printer Components: LCD and Softkey Control Pad (continued)

Component	Description
The **Cancel** button	Use this button to cancel print jobs and reset the Printer for the next print job.
	This **Cancel** function will ask if you wish to cancel just the individual job or all jobs in the queue. You may also resume the current job by pressing NO.
Pause button	Use this button to pause the Printer at any time during operation. (**Note:** The Printer will always finish its current task before pausing. When the Printer is paused, the LED light will flash and the **Pause** softkey button will change to **Resume**.)
	Press **Resume** to continue Printer operation.
LED light	This light works in conjunction with the Printer's LCD display to help communicate the Printer's current status. (**Note:** It is especially effective when the User is too far away from the Printer to read the LCD display.)
	See the descriptions for Error Screens and Attention Screens below this LED Light display for more detail on the Printer's LCD display.

LED Light

Printer Components: LCD and Softkey Control Pad (continued)

Component	Description
Error Screens	Your Printer is capable of communicating two similar yet different types of message screens:
	The first is called an ERROR screen. This screen appears if an error occurs and will completely stop Printer operation.
	In this case, the LCD will display ERROR on the first line and a brief description of the error on the second line.
	If multiple errors occur at the same time, the first line will display ERROR 1 of 2 or whatever the total number of errors may be.
	To see the other error(s), use the scroll keys.
	Press the HELP button to bring up the help screen explaining the nature of the error and how to correct it. If necessary, use the scroll buttons to scroll down the paragraph of help text.
	Press QUIT when you are done reading. Once the error is corrected, resume operation or reset the Printer according to how you were instructed in the help screen.
INFO MSG screen	The second type of prompt is called an INFO MSG screen.
	This screen will not stop Printer operation and serves to communicate helpful reminder (e.g., when running low on print supplies).
	This screen communicates any other Printer conditions of which you should be aware.
	In this case, the LCD will display INFO MSG on the first line and a brief description of the condition on the second line.
	If multiple messages need to be communicated at the same time, the first line will display INFO MSG 1 of 2 or whatever the total number of messages may be.
	Like error messages, help text explaining the particular condition can also be accessed by pressing the **HELP** button.

Printer Components: Print Ribbons

The Card Printer utilizes both Dye-Sublimation and/or resin thermal transfer methods to print images directly onto blank cards. Since the Dye-Sublimation and the resin thermal transfer print methods each provide their own unique benefits, Print Ribbons are available in resin-only and combination Dye-Sublimation/resin versions.

This letter code indicates the type of Ribbon panel used with each Ribbon.

Y = Dye-Sublimation Yellow Panel
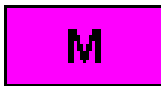
M = Dye-Sublimation Magenta Panel
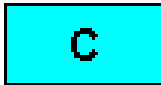
C = Dye-Sublimation Cyan Panel

K = Resin Black Panel
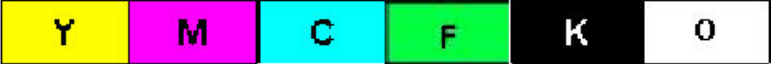
O = Overlay Panel

F = Ultra Violet Flourenscing Panel

Printer Components: Resin-Only Print Ribbons

Resin-only Print Ribbons consist of a continuous roll of a single resin color. No protective overlay panel (O) is provided since resin images do not require the protection of such an overlay.

Type	Description
Standard Resin Black (K) (provides 3,000 prints)	This Ribbon provides high resin durability ideal for most general-purpose monochrome ID card applications. Resin black bar codes are readable by both infrared and visible-light bar codes scanners. **K**
Premium Resin Black (K) (provides 3,000 prints)	This Ribbon provides maximum resin durability ideal for applications such as access control where cards are repeatedly swiped through a Magnetic Stripe reader. Resin black bar codes are readable by both infrared and visible-light bar codes scanners. (**Note:** Using a Premium Resin Black Ribbon will provide better photo realistic output.) **K**
KO (1500 image, with RFID)	This Ribbon provides resin, with Overlaminate (KO).
Colored Resin (provides 1,000 prints)	Several colored resin Ribbons are available in a variety of colors for customizing or color-coding resin-only ID cards.
Metallic Resin (provides 1,000 prints)	Metallic resin Ribbons are available for printing resin images with a unique metallic sheen.

Printer Components: Dye-Sublimation/Resin Print Ribbons

Type	Description
Dye-Sublimation/ resin Print Ribbon	The Dye-Sublimation/resin Print Ribbon combines the yellow (Y), magenta (M) and cyan (C) dye-sublimation panels with a resin black (K) panel.
	By combining both types of Ribbon panels, this Ribbon can be used to print full-color, photo-quality images with the dye-sublimation panels along with sharp, black text and bar codes with the resin black panel.
	A clear overlay panel (O) is also included on most Ribbons to protect the dye-sublimation images. Dye-Sublimation images must have an overlay panel applied to them or they will quickly begin to wear or fade.
Full-Color (YMCKO)	This Ribbon is used to print full-color photo ID cards along with resin black text and bar codes. Both infrared and visible-light bar code scanners can read bar codes printed with resin black.
	An overlay panel (O) is included to protect the full-color dye-sublimation printing.
YMCKOK	Here are the colored Ribbon designations. The Panels of color are displayed in the order in which they are printed: Yellow (Y), Magenta (M), Cyan (C), Black (K), Overlay (O), Black (K) (used for backside, black only printing).
YMCFKO	Here are the colored Ribbon designations. The Panels of color are displayed in the order in which they are printed: Yellow (Y), Magenta (M), Cyan (C), Fluorescent (F), Black (K), Overlay (O).

Printer Components: Dye-Sublimation/Resin Print Ribbons

Type	Description
YMCFKOK	Here are the colored Ribbon designations. The Panels of color are displayed in the order in which they are printed: Yellow (Y), Magenta (M), Cyan (C), Fluorescent (F), Black (K), Overlay (O) and Black (K) (used for backside, black only printing.)
YMCKK	Here are the colored Ribbon designations. The Panels of color are displayed in the order in which they are printed: Yellow (Y), Magenta (M), Cyan (C), Black (K) and Black (K) (used for backside, black only printing).

Printer Components: Blank Cards

⚡ **Caution:** Never run cards with a contaminated, dull or uneven surface through the Printer. Printing cards on this surface can lead to poor print quality and can greatly reduce the life of the Printhead. Always store the card stock in its original packaging or in a clean, dust-free container. Do not print onto cards that have been dropped or soiled. Printhead damage caused by contaminated or poor quality cards will automatically void the Printhead's factory warranty.

Printer **Component**s: Card Input and Output Hoppers

Type	Description
Card Input Hopper	The Card Input Hopper is where cards are initially loaded for printing, as shown below. The Printer's Hopper provides a large door that opens up wide to make card loading simple and closes securely to help protect the card stock. (**Note:** The Printer will hold a maximum of 100 cards in each Card Input Hopper, based on a standard 30 mil. card thickness.)
Card Output Hopper	All standard Card Printers provide a 100 card capacity Card Output Hopper (based on a standard 30 mil card thickness). (**Note:** This Hopper stores the cards after they are printed.)
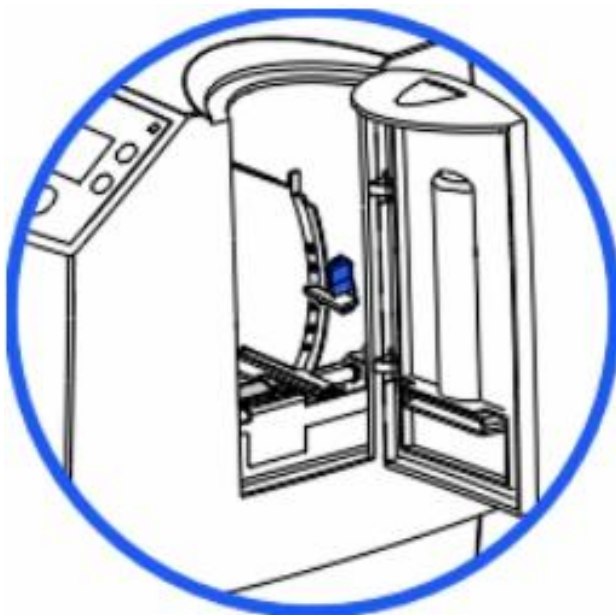
Reviewing the Card Lamination Module

⚠ **Danger:** The Printer's Lamination Roller can reach temperatures exceeding 350° F (175° C). Use extreme caution when operating the Laminator. Never touch the Lamination Roller unless the Printer has been turned off for at least 20 to 30 minutes.

All DTC550 Printers support the attachment of an optional Card Lamination Module. This module can be ordered pre-installed on your Printer from the factory or can be ordered separately as a field upgradeable module.
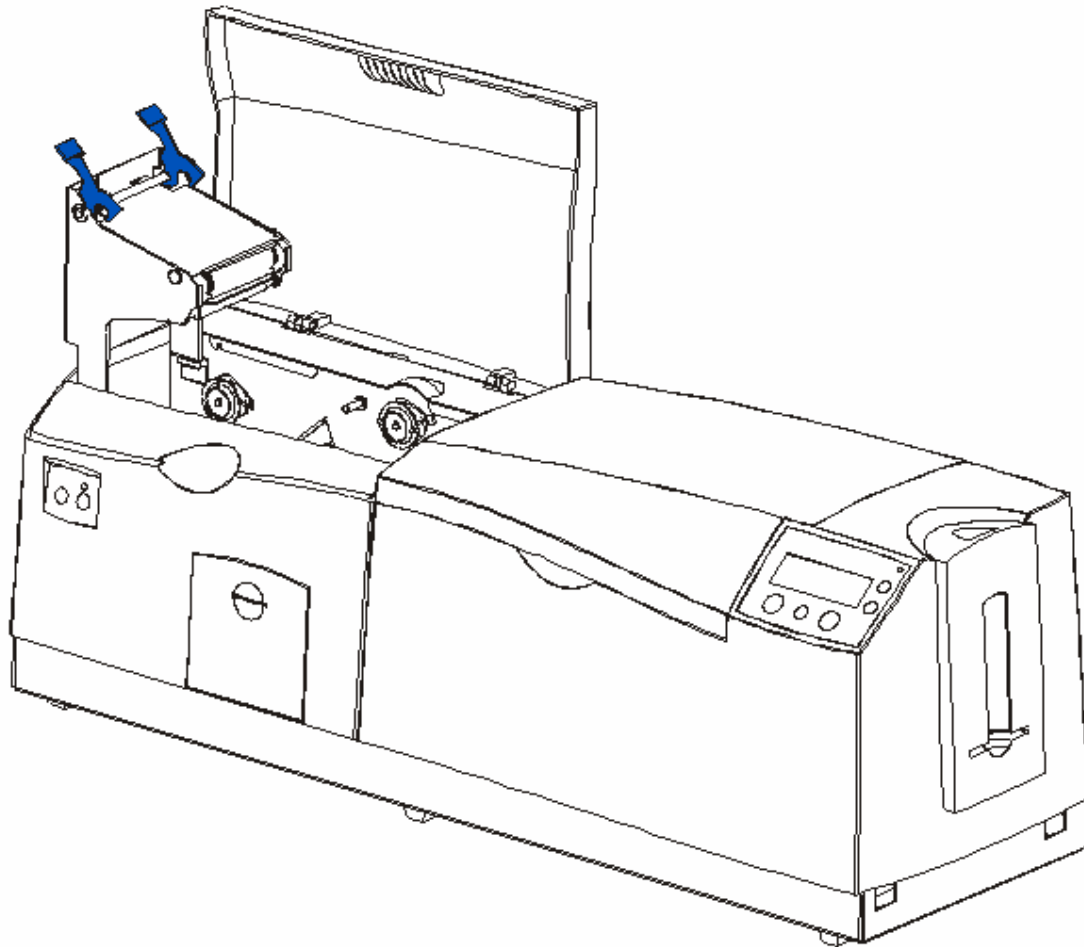
Reviewing the Card Lamination Module (continued)

Here is another display of the Card Lamination Module.
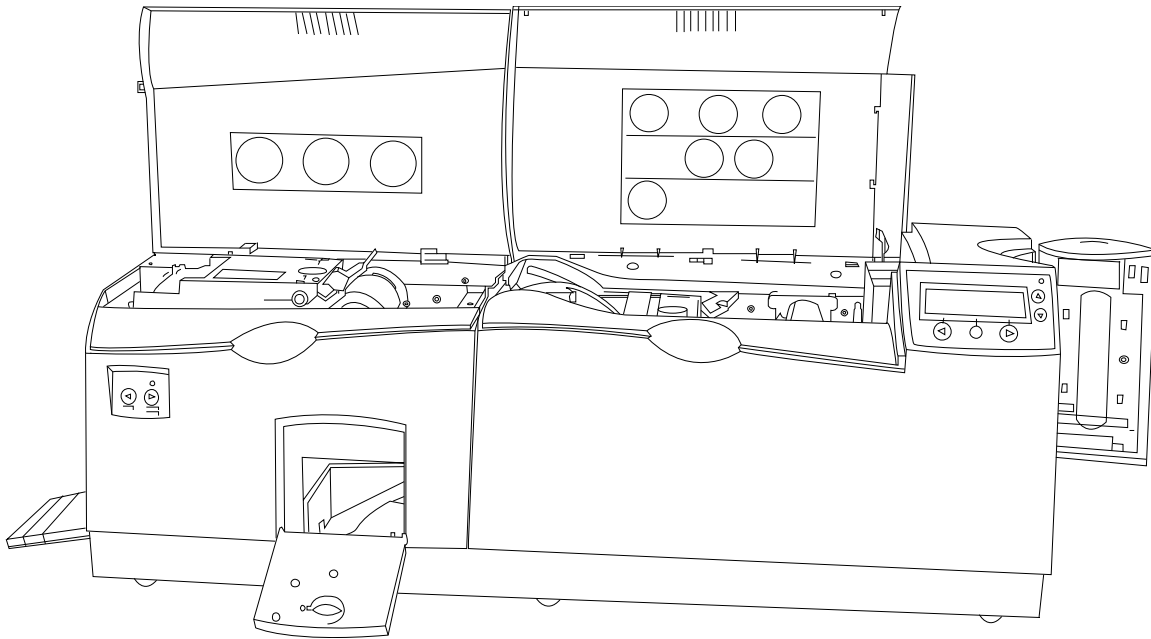
Reviewing the Lamination Top Cover and Station

Component	Description
Lamination Top Cover	Opens to allow access to the Lamination Station, overlaminate and card path.
Lamination Station	Transfers overlaminates onto cards via its heated lamination roller. The Lamination Station must be closed in order for the Printer to begin laminating.
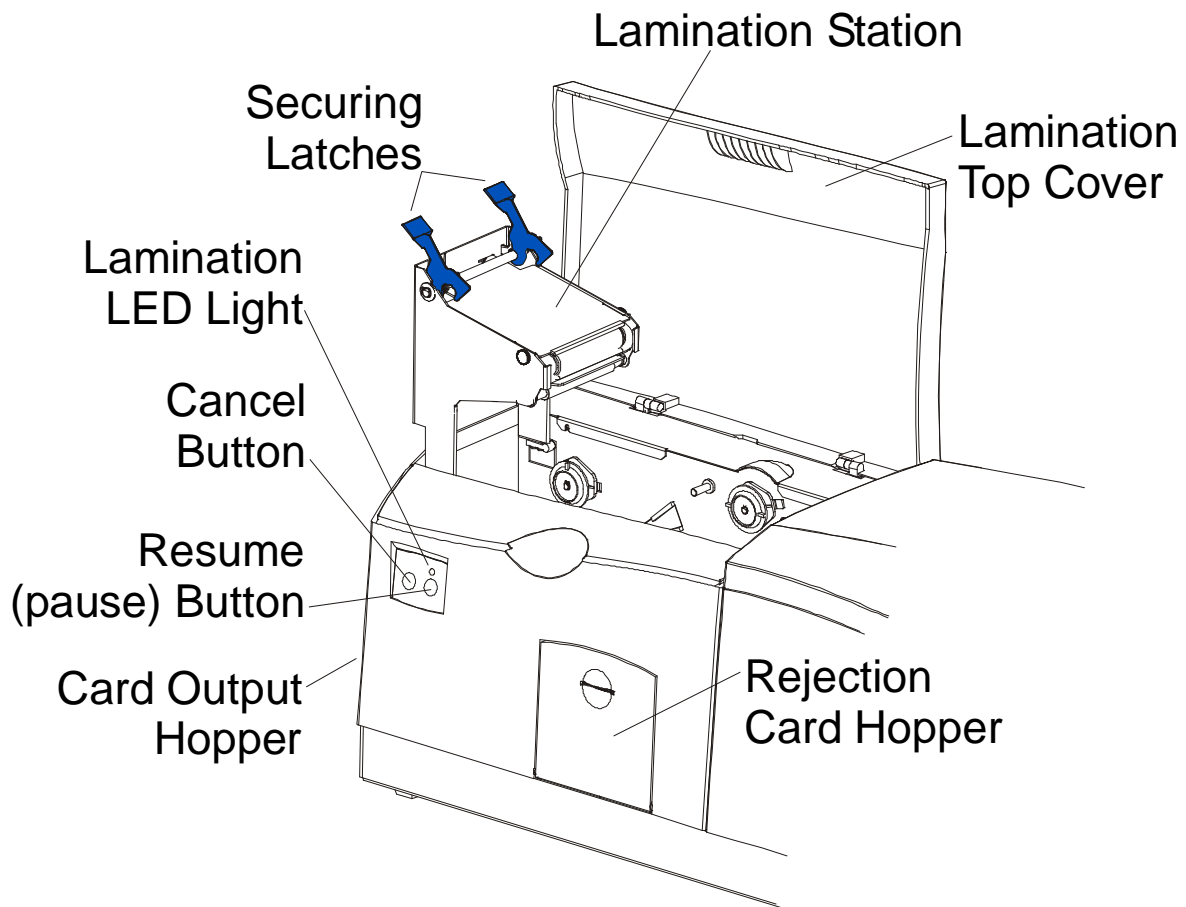
Reviewing the Securing Latches and Lamination LED light

Component	Description
Securing Latches	Locks the Lamination Station securely in place when closed.
Lamination LED light	The Lamination LED light works in conjunction with the Printer's LCD display to help communicate the Printer's current status. The following explains how to interpret the LED light. **Off:** Indicates the Printer and Lamination Module power is OFF. **Solid Green light:** Indicates the Card Lamination Module is ready for operation. **Slow Flashing Green light:** Indicates the **Lamination Module's (pause)** button was pushed and that the Lamination Module is paused. This also occurs when the Lamination Station is open. **Fast Flashing Green light:** Indicates the Lamination Module is in need of attention due to an error or an error condition. Refer to the Printer's LCD display for information.

Reviewing the Cancel button

Component	Description
Cancel Button	The **Cancel** button serves to cancel the current lamination job and reset the Card Lamination Module for the next lamination job. • If a card is left within the Lamination Module after a print job is canceled, it will automatically be ejected into the Rejection Card Hopper. (**Note:** With the Lamination Module's Transfer Station open, this button can also be used to manually rotate the Feed Rollers forward. This is helpful when cleaning the Rollers or if clearing jammed media.) • If you are printing <u>and</u> laminating simultaneously and you would like to cancel both the print and lamination jobs, press the Printer's **CANCEL** softkey button. (**Note:** This will cancel all jobs in the Printer. Any card currently laminating will finish and eject. The Lamination Module's **Cancel** button cancels only the lamination job.)

Reviewing the Resume (pause) button

Component	Description
Resume (pause) button	Press the **Resume** button to resume operation after an error condition is cleared.
	• If an error occurs, the Lamination Module's LED will flash and the Printer's LCD will report the specific error.
	• If this happens, correct the error and press the Lamination Module's **Resume** button to continue printing.
	Press this button to pause the Lamination Module during normal operation. (**Note:** The Lamination Module will always finish its current task before pausing.)
	• If this button is pressed while a card is being laminated, the Lamination Module will pause only after the current card has finished laminating and the Lamination Module has reached a safe stopping point.)
	• If the Printer is paused, the LED light will flash slowly and will return to solid when operation is resumed. (**Note:** with the Lamination Station open, the **Resume** button can also be used to manually rotate the Feed Rollers backward. This is helpful when cleaning the Rollers or when clearing jammed media.)

Reviewing the Rejection Card Hopper and Card Output Hopper

Component	Description
Rejection Card Hopper	The Rejection Card Hopper helps to separate potentially bad cards from a stack of good cards, which it ejects into the Card Output Hopper. • The Printer will automatically eject cards into this Hopper to indicate: • There is a printing error, laminating error or encoding error. • There is a card left in the Printer after a print job is canceled or the Printer restarted.
Card Output Hopper	Stores up to 100 printed cards (30 mil cards). • When the Hopper has reached its maximum capacity of cards, note that the operation pauses and an Output Hopper Full message appears on the Printer's LCD display. • Remove the stack of cards from the Hopper. • Press the Lamination Module's **Resume** button to continue. (**Note:** If printing onto oversized cards, the Card Output Hopper Door should be placed in the open position in order for these larger cards to eject properly.)

Reviewing the Module and Printer interaction

Term	Description
Module and Printer interaction	The Card Lamination Module works in conjunction with the Printer to apply a variety of different overlaminates to printed cards, providing increased card durability and security. The Lamination Module features its own LED indicator light and control buttons so it can conveniently be operated separately from the Printer. (**Note:** This means that when printing a batch of cards, for example, the Printer can be encoding and printing one card while the Lamination Module laminates another card for maximum efficiency.) In fact, you can even open the Lamination Module to replace the overlaminate while the Printer is printing or encoding and vice versa.

Reviewing the Module and LCD display interaction

Term	Description
Module and LCD display interaction	For ease of operation, the Card Lamination Module works in tandem with the Printer's LCD display to communicate status messages such as when an error occurs or when it is time to replace the overlaminate material.
	If a lamination error does occur, the Lamination Module's LED will flash and an attention level message will appear on the Printer's LCD display. (**Note:** Since it is an INFO level message, it will not interrupt printing.)
	• Correct the error.
	• Press **OK** to clear the LCD's INFO message.
	• Press the Lamination Module's **Resume** button to resume operation or its **Cancel** button to cancel the current lamination job and accept the next. (**Note:** If canceled, the canceled card will eject into the Rejection Card Hopper.)

Reviewing the Module's Programmed Default Temperature

Term	Description
Programmed Default Temperature	Upon initial power up, the Lamination Module is programmed to heat the Lamination Roller up to its default temperature.
	• **Target Temperature:** If a print job is sent while the Lamination Module is heating up, the Printer's LCD display will read Lam Heating. It will also display LAM Temp: [current] [target] which shows the current temperature of the Lamination Roller and the target temperature it is trying to reach. (**Note:** This indicates that the lamination Roller is heating to its preset temperature.)
	• **Initial Heating Process:** The initial heating process will generally take about 3 to 4 minutes. (**Note:** The LCD display will read Lam Heating or Cooling whenever the Lamination Roller is heating up or cooling down to the prescribed temperature. When the Lamination Module has reached its target temperature, lamination will begin.)

Reviewing the Laminator Temperature Adjustment

Term	Description
Laminator Temperature Adjustment	To change the temperature of the Laminator, adjust its temperature through the Lamination tab within the Printer Driver setup window. • **New Temperature Settings:** Once adjusted, the new temperature settings will be sent down with the next print job along with the rest of the Printer Driver information. Before printing begins, the laminator will automatically adjust itself to the new temperature setting. (**Note:** This new temperature setting will remain programmed within the Printer until it is once again changed within the Printer Driver or until the Printer is turned OFF.) • **Automatic Reset:** Whenever the Printer is turned OFF, the laminator will automatically reset itself and return to its default temperature the next time the Printer is turned ON. (**Note:** Pressing the Lamination Module's or Printer's Cancel button or switching the Printer power OFF and ON both serve to reset the Laminator to its default temperature.) • **Consistent Temperature:** The temperature setting within the Printer Driver stays the same until it is changed.

Reviewing the Overlaminates

IMPORTANT! Fargo Card Printers require highly specialized overlaminates to function properly. To maximize Printer life, reliability, printed card quality and durability, you must use only Fargo Certified Supplies. For this reason, the Fargo warranty is void, where not prohibited by law, if you use non-Fargo Certified Supplies. To order additional materials, please contact the authorized reseller.

Reviewing the Thermal Transfer Film and PolyGuard Overlaminates

Term	Description	Cross Reference
Thermal Transfer Film and PolyGuard Overlaminates	The Card Lamination Module will accept either a Thermal Transfer Film overlaminate or a polyester patch overlaminate called PolyGuard™. • **Thermal Transfer Film:** The Thermal Transfer Film overlaminate is a relatively thin material which covers a card edge-to-edge and provides a medium level of card durability and security.) • **PolyGuard overlaminate:** PolyGuard is a much thicker material which does not cover edge-to-edge, but provides an extremely high level of card durability and security. (**Note:** PolyGuard is available in either a 1.0 or .6 mil thickness and should always be used for those applications requiring the highest degree of card durability and security.)	See the Loading the Overlaminate procedure.

Reviewing the Overlaminate Design

Term	Description	Cross Reference
Design	Both PolyGuard and the Thermal Transfer Film overlaminates are available in either a clear or generic secure holographic-type design. (**Note:** Custom holographic-type overlaminates are also available with specific designs, patterns, logos and security features.) Please contact the authorized reseller for more information about custom Overlaminates.	See the Loading the Overlaminate procedure.

Reviewing the Visual Security Solutions

VeriMarkTM Cards - 2-D holographic foil application

VeriMarkTM Cards are a low cost, customized 2-D holographic foil application, that is made in two steps.

- The first step is to emboss a base foil 1.9 cm (L) x 1.3 cm (H) onto the surface of a blank white card.

- The second step is debossing a custom-made dye into the surface of the base foil - leaving a customized image, logo or text provided by the customer.

- Two separate color foils are used to contrast the impression.

End Users will be able to choose between 8 different card placements (4 - landscape) and (4-portrait) where the VeriMarkTM can be located. When its time to print through the driver, the End User will select the location on their organizations card design around which no printing and overlay will be placed.

Custom HoloMarkTM Cards

A Custom HoloMark TM Card is a three-dimensional holographic image transferred to metal foil and embossed to blank cards. The image is customer specific and the program mirrors our holographic laminates program with a couple exceptions.

Visual Security - Card Stock Part Numbers

All Visual Security Cards will be offered on the following Fargo Card Stocks only:

- **Part No. 81754:** Ultra Card

- **Part No. 81762:** Ultra Card III with hi-coercivity magnetic stripe

- **Part No. 81763:** Ultra Card III

Visual Security - Fargo Certified Overlaminates (Special Order in 50 quantity minimum)

- **Part No. 82255:** PolyGuard 1.0 mil for HoloMarkTM and VeriMarkTM Cards, Clear

- **Part No. 82256:** PolyGuard 1.0 mil for HoloMarkTM and VeriMarkTM Cards, High Resolution Globe design hologram with "Secure" micro-text

Visual Security Card Stock - Tolerances

Tolerance of base foil placement will equal +/- .010" from the nearest edges of the card

Tolerance of layered foil will equal +/- .010"

VeriMarkTM - Application Specifications

VeriMarkTM foils will cover a dimensional area of 1.9 cm length x 1.3 cm height. The exclusive areas are as follows:

- VeriMarkTM Card customers will be able to choose 1 of 8 pre-defined placements (corners) via Printer driver (4 positions) Landscape and (4 Positions) Portrait mode.

- VeriMarkTM foil placement will not interfere with card punch slots .

- Foil color base is silver; debossed impression is gold foil.

- VeriMarkTM foil placement will be located 0.4 cm from the edges of the card except for the top two locations on portrait orientation cards (positions E & F). The foil will be located 0.9 cm from the top of the card and 0.4 cm from the sides of the card.

HoloMarkTM and Custom HoloMarkTM - Application Specifications

HoloMarkTM and Custom HoloMarkTM foils will cover a dimensional area of 1.5 cm x 1.5 cm. The exclusive areas are as follows:

HoloMarkTM and Custom HoloMarkTM card end-users will be able to choose 1 of 8 pre-defined placements (corners) via Printer driver (4 positions) Landscape and (4 positions) Portrait mode.

HoloMarkTM foil placement will not interfere with card punch slots.

Foil Color options will be silver or gold.

Outside edge placement of Foil impression options on card will be 0.4 cm from edge of card.

HoloMarkTM foil placement options will be at all four corners of card located 0.4 cm from edge of card.

Fluorescing Panel – Application Specifications

Inserting Fluorescent Text

Step	Procedure
1	Create fluorescent text in the body of an image by creating a text string which begins with a ~T.
	• For example, the text string of **~TFargo** would appear on the card as just **Fargo**.
	• The location of the text will be dictated by the ~.
	• The format of the string will be as entered (i.e. font, size, etc.).

Text string entered into software application   Output on card

~TFargo   FARGO®

Insert Fluorescent Image

Step	Procedure
1	Save a 1-bit bmp file that is 300x300 dpi somewhere that is easily accessible.
2	In order to import the file onto your card, you will need to paste the path of the image onto your card preceded by ~I. • For example, **~IC:/test.bmp** would insert the image named **test.bmp** onto the card. • The location of the image will be dictated by the ~. • The image will not be scaled. For example, if it is a 300x300 dpi image, it will print 1"x1". **Please note that the fluorescent text or image can only be printed on the one side of the card.

Text string entered into software application

Output on card

~IC:/test.bmp

FARGO®

Printing Dynamic Text

Step	Procedure
1	If the application supports dynamic text and images, then dynamic text can also be printed with the Fluorescing Panel. Follow the application directions to map a text field to a data source. "~T" must be included in the beginning of the expression or in the beginning of the data.

Section 3: Setup and Installation Procedures

Printer Setup and Placement

Please review the information below.

Choosing a Good Location

Follow these guidelines:

- Place the unit in a location with adequate air circulation to prevent internal heat build up.

- Use the Printer's dimensions as a guideline for the minimum clearances to the unit. (**Note:** Allow for adequate clearance in front and on top of the unit to accommodate the unit with its Covers open.)

Caution: Do not install unit near heat sources, such as radiators or air ducts, or in a place subject to direct sunlight, excessive dust, mechanical vibration or shock.

About Moisture Condensation

If the unit is brought directly from a cold to a warm location or is placed in a very damp room, moisture may condense inside the unit. Should this occur, print quality may not be optimum.

Leave the unit turned OFF in a warm, dry room for several hours before using. This will allow the moisture to evaporate.

Introduction

The following guide will walk you through the installation of the Fargo DTC550 Direct to Card Printer/Encoder Printer Driver, Diagnostic Utility, Print Ribbon and Cards.

Time Requirement

- **Time Requirement (software):** This software installation process will require approximately 2 to 5 minutes (depending on the speed of your PC).

- **Time Requirement (Printer):** The time required to set up a standard DTC550 Printer would be approximately 5 to 10 minutes.

System Requirements

The System Requirements are as follows:

- IBM-PC or compatible**,** Windows 2000/XP, x86 300MHz computer with 64MB of RAM or higher, 200MB free hard disk space or higher, USB 1.1
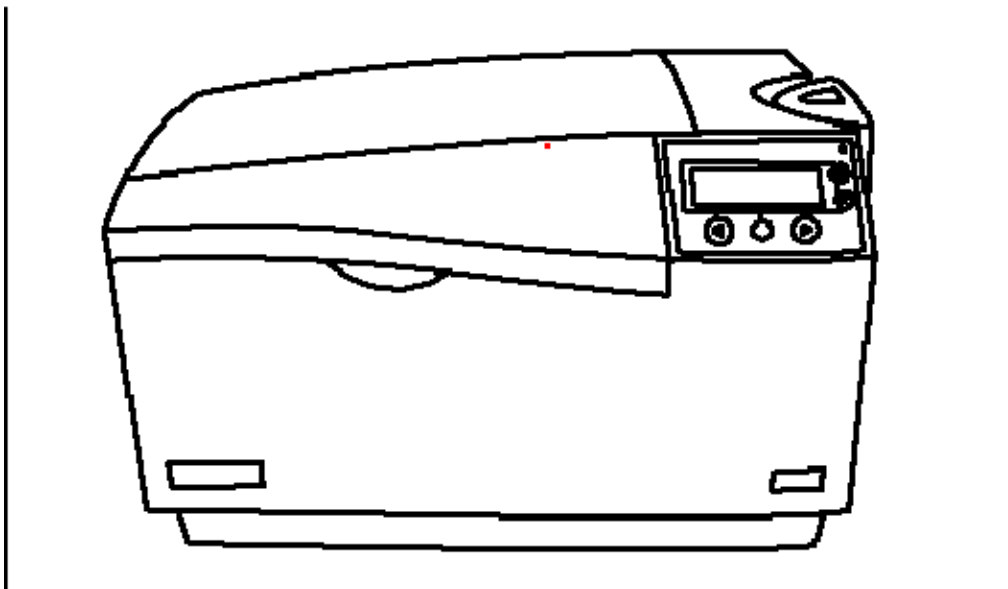
Inspection

While unpacking your Printer, inspect the carton to ensure that no damage has occurred during shipping. Make sure that all supplied accessories are included with your unit.

Unpacking the Printer

The following items are included with your Printer:

- Power Supply (**Note:** This product is intended to be supplied by a Listed Power Unit marked "Class 2" and rated for 24 V dc, 3.3 to 5 A.)

- US Power Cable

- European Power Cable

- Card Cleaning Cartridge

- Two (2) Card Hopper - Feed Weights

- Warranty Statement, Registration Card and Compliancy Document

- Software Installation CD (includes Printer Driver, Online User's Guide, Software Setup/Installation and Printer Diagnostic Tool)

- Keys (Included with the Hopper Lock option)

This is included with the DTC550 with Lamination Module only:

- Card Lamination Module - Power Supply with Power Cord

Loading Supplies

Loading the Print Ribbon

Note: Fargo Card Printers require highly specialized supplies to function properly.

- To maximize Printer life, reliability, printed card quality and durability, you must use only Fargo Certified Supplies.

- For this reason, your Fargo warranty is void, where not prohibited by law, if you use non-Fargo Certified Supplies.

Step	Procedure
1	Lift the Cover to the Print Station in order to load the Print Ribbon, as shown below.
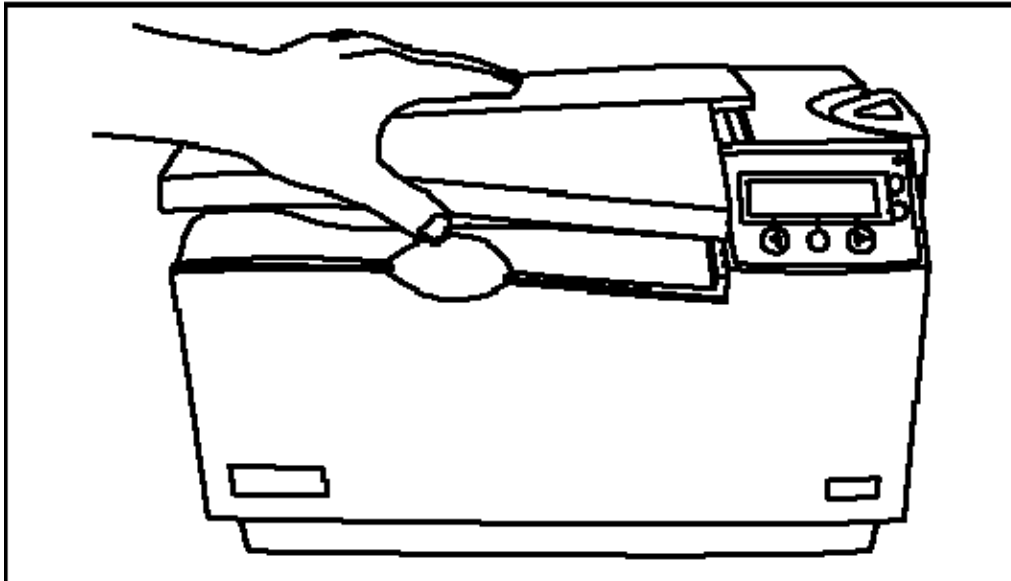
Loading the Print Ribbon (continued)

Step	Procedure
2	a. Pull back on the Blue Latch Hooks to release the Printhead Arm Assembly, as shown below.
	b. Pull the Printhead Arm Assembly back to its fully open position.

Loading the Print Ribbon (continued)

Step	Procedure
3	Load the Print Ribbon (supply spool)
	a. Place the supply end of the Print Ribbon in between the two Hubs. (**Note:** The Print Ribbon comes wound on a gray spool with a green ring around one side.)
	b. Match the green ring on the Ribbon Spool to the Green Hub inside the Printer. (**Note:** When properly installed, the green ring will be fit securely in place.)

Loading the Print Ribbon (continued)

Step	Procedure
4	Load the Print Ribbon (take-up spool) as follows:
	a. Insert the take-up end of the Ribbon by depressing the Spring Hub and lowering it into place. (**Note:** Make certain the Ribbon is fed from beneath the roll, as shown below in Displays A and B.)
	b. Lower the Roll until it aligns with the Hubs.
	⚠ **Caution:** Be careful to insert the Ribbon away from the Printhead Arm Assembly to avoid damaging the Printhead.

Display A - Loading the Print Ribbon (take-up spool)
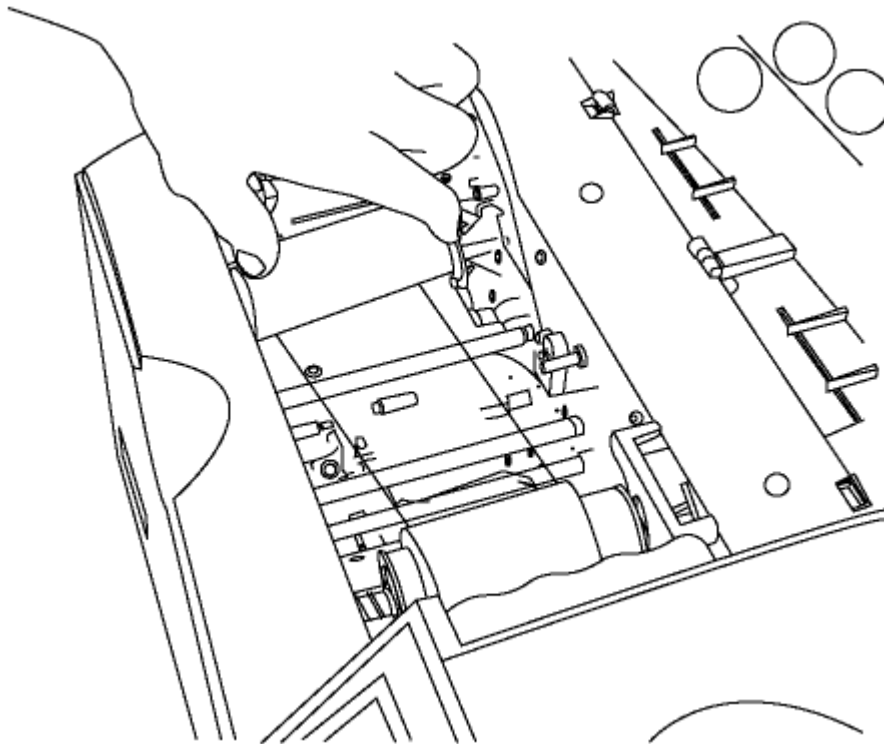
Loading the Print Ribbon (continued)

Display B - Loading the Print Ribbon (take-up spool)
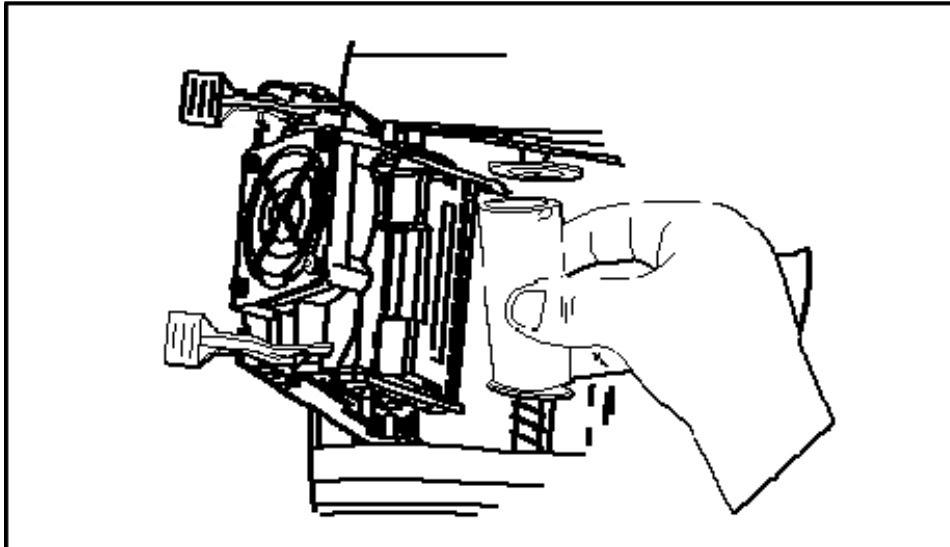
Loading the Print Ribbon (continued)

Step	Procedure
5	Lower the Print Arm Assembly by gently pressing down with your thumb until the Printhead Arm latches into place.
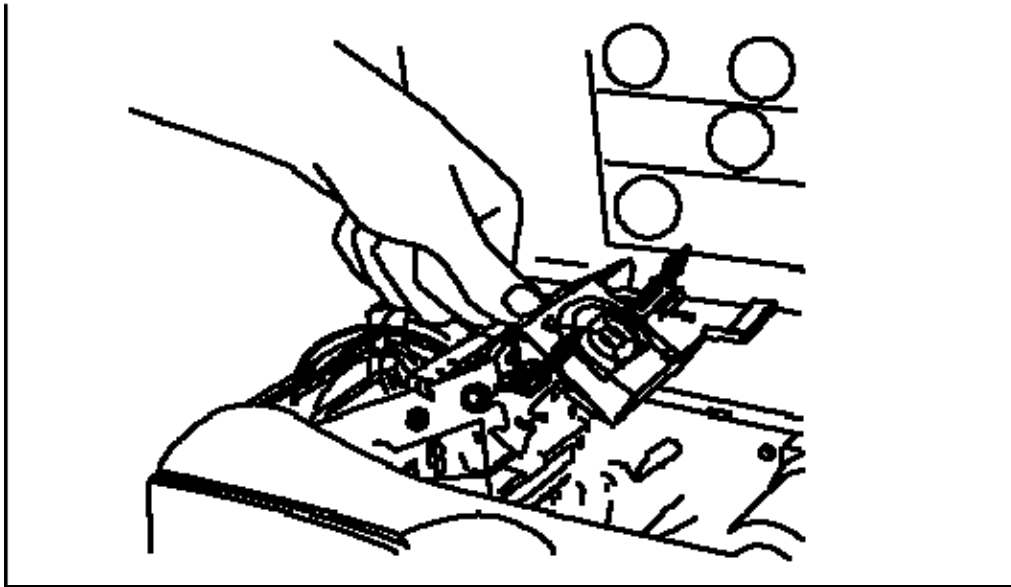
Inserting the Card Cleaning Cartridge

⚠ **Caution:** Replace the Card Cleaning Cartridge Roller with every Ribbon change, depending on the cleanliness of the card stock or the environment in which the Printer is located.

Steps	Procedure
1	a. Remove the Card Cleaning Cartridge from the Printer. b. Install the cardboard cleaning roller, as shown in Display A (below). (**Note:** The cardboard cleaning roller is provided with each Ribbon.) c. Remove the white cover sheet before loading the Card Cleaning Cartridge, as shown in Display B (below).

Display A - Replace the tape/cardboard cleaning roller
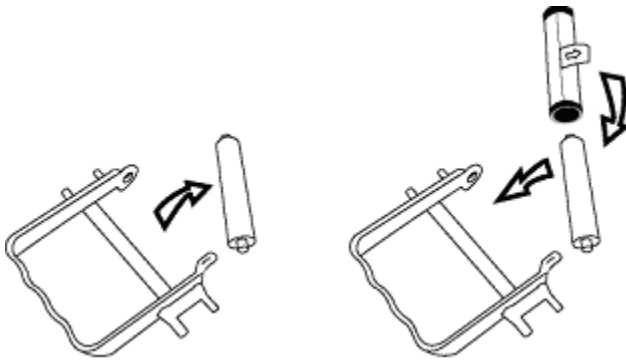
Display B - Remove the white cover sheet
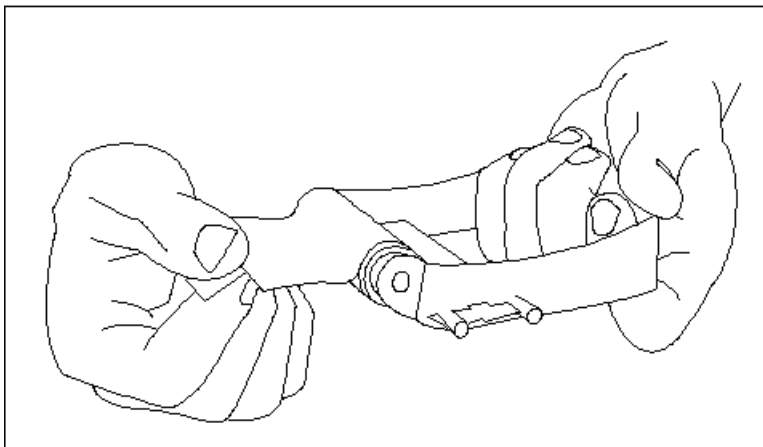
Inserting the Card Cleaning Cartridge (continued)

Steps	Procedure
2	Insert the Cleaning Cartridge back into the Printer, as shown below.
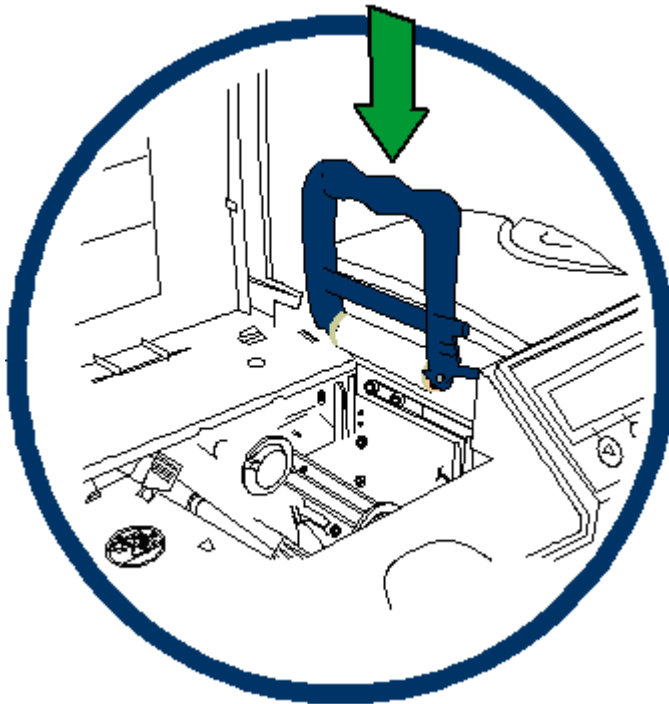
Inserting the Card Cleaning Cartridge (continued)

Steps	Procedure
3	⚠ **Caution:** Be sure to push down on the cartridge until it clicks into place.
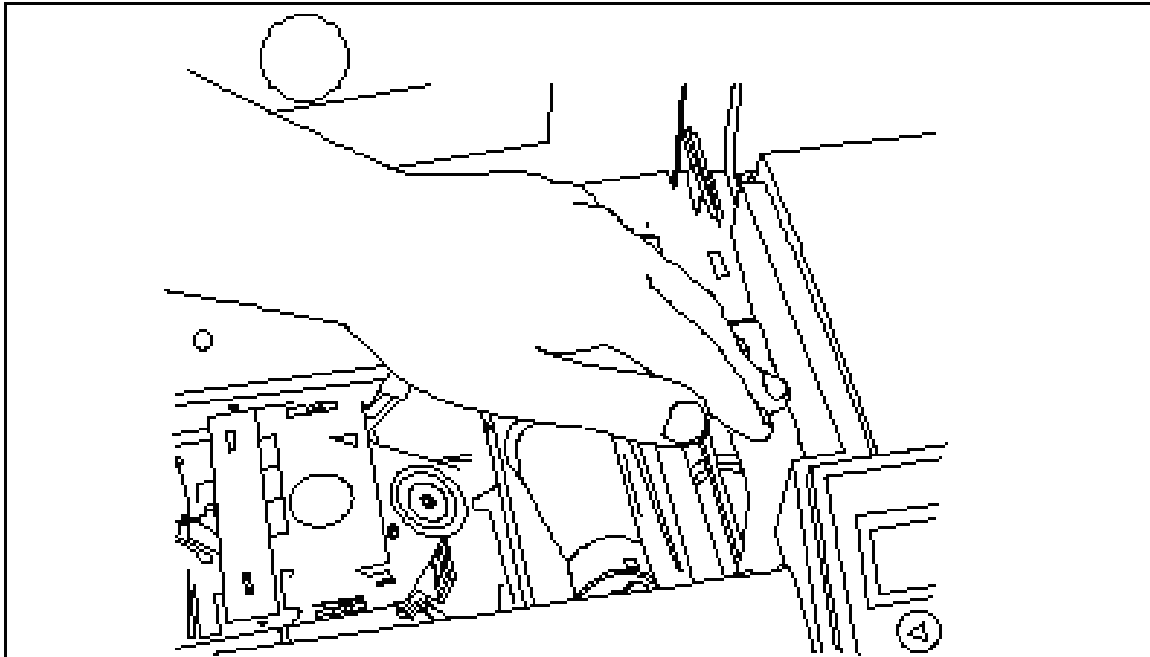
Inserting the Card Cleaning Cartridge (continued)

Step	Procedure
4	Gently press down on the Cover until it closes.
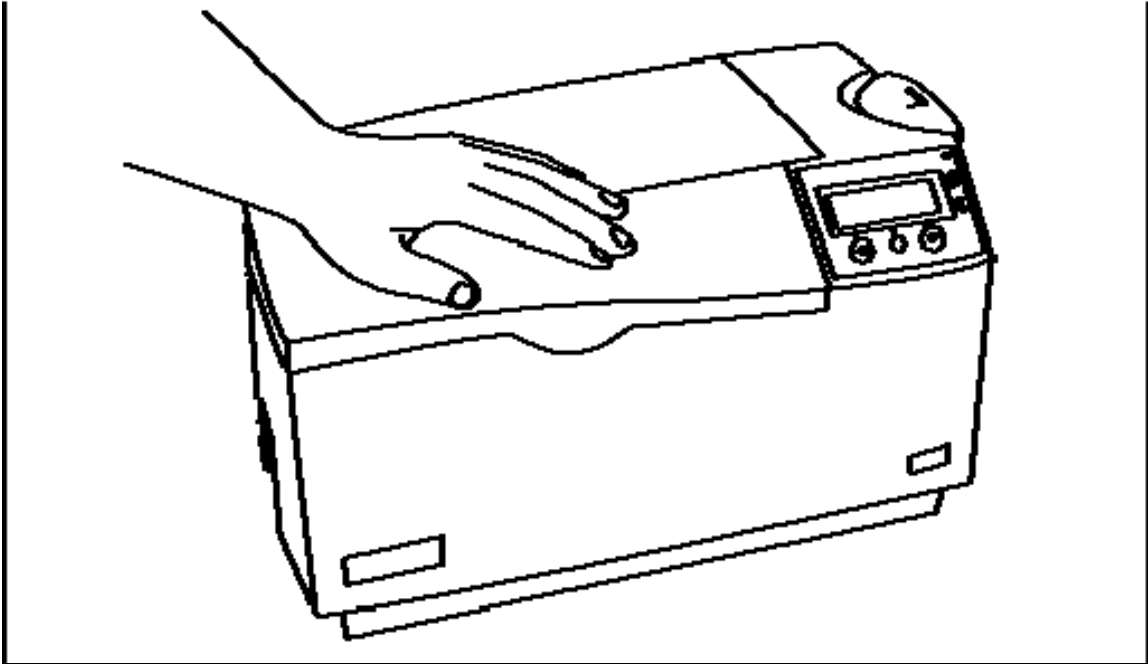
Loading the Overlaminate

(**Note:** This procedure only applies to the DTC550 with Laminating Card Printer/Encoder.)

The loading process for both the Thermal Transfer Film and the PolyGuard™ Overlaminate material is the same. Refer to the following steps to load either type of overlaminate into the Printer.

⚠ **Danger:** Do not touch the metal Lamination Shield or the Lamination Roller when loading the overlaminate. These components can become very hot.

Step	Procedure
1	Open the Lamination Module's Top Cover.
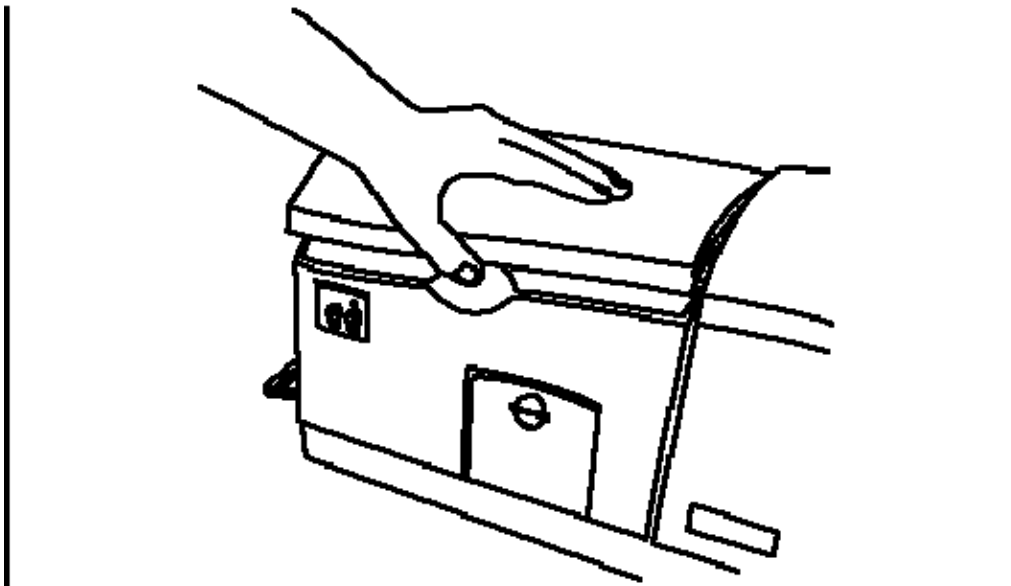
Loading the Overlaminate (continued)

Step	Procedure
2	a. Pull up on the blue latch hooks to release the Lamination Arm. b. Pull the Lamination Arm back to its fully-open position.
3	Remove the overlaminate from its packaging.
4	Load the overlaminate into the Lamination Module.

Loading the Overlaminate (continued)

Step	Procedure
5	a. Place the supply end of the overlaminate roll in between the two black Lamination Drive Hubs.
	b. Use the end of the supply roll with the black core plug to push in the spring loaded hub located on the front side of the Printer. (**Note:** Make certain the overlaminate material is fed from beneath the roll, as shown below.)
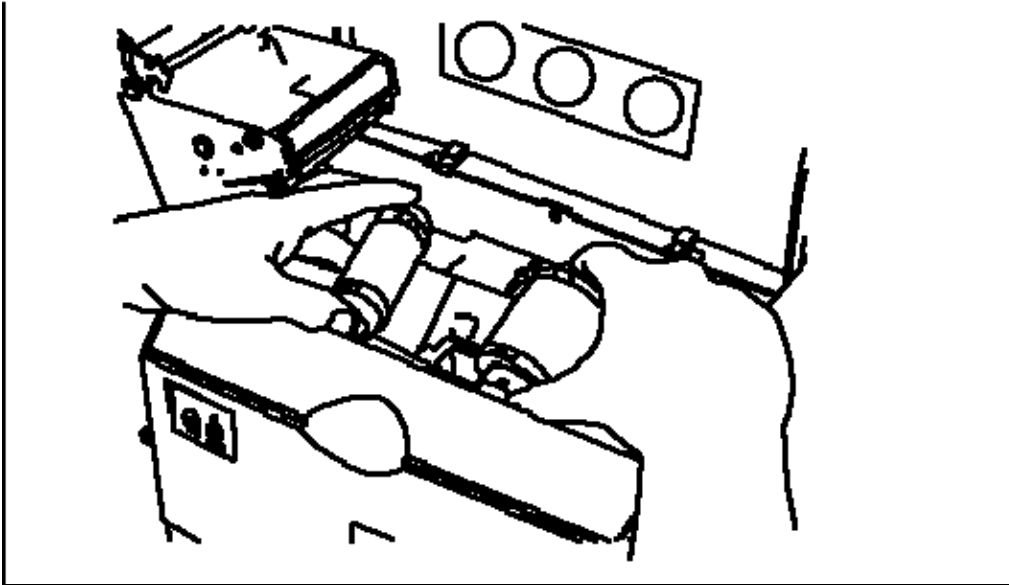
Loading the Overlaminate (continued)

Step	Procedure
6	Load the take-up end of the roll just as you loaded the supply end. (**Note:** When loaded properly, the overlaminate material should feed from underneath each roll.)

Loading the Overlaminate (continued)

Step	Procedure
7	Close the Lamination Arm by pressing down on the center of the Lamination arm until it snaps into place, as shown below. ⚠ **Caution:** Do not reverse the overlaminate roll. Damage may occur to the Lamination roller!
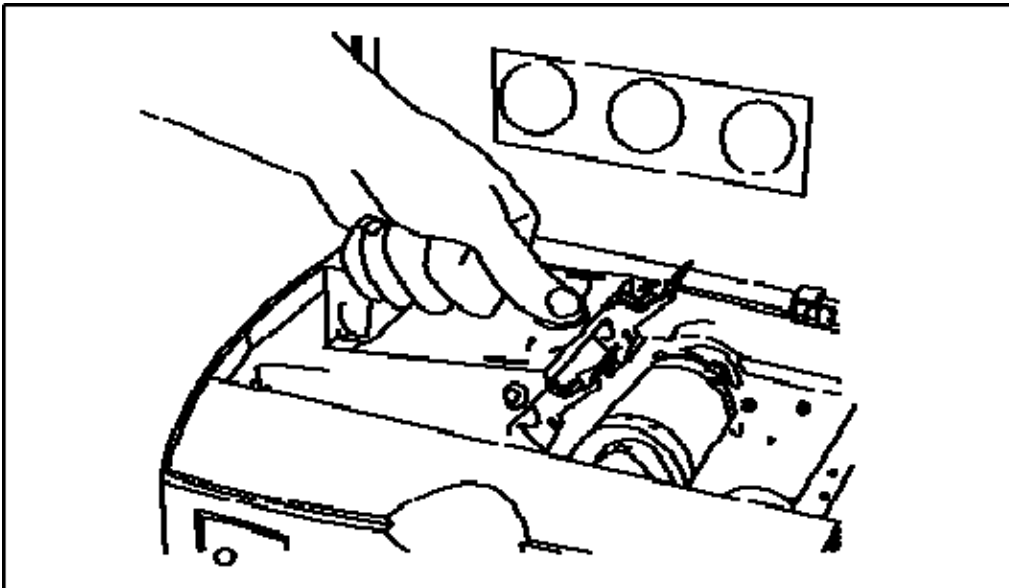
Loading the Overlaminate (continued)

Step	Procedure
8	To complete this section, simply close the Lamination Module cover. See below.
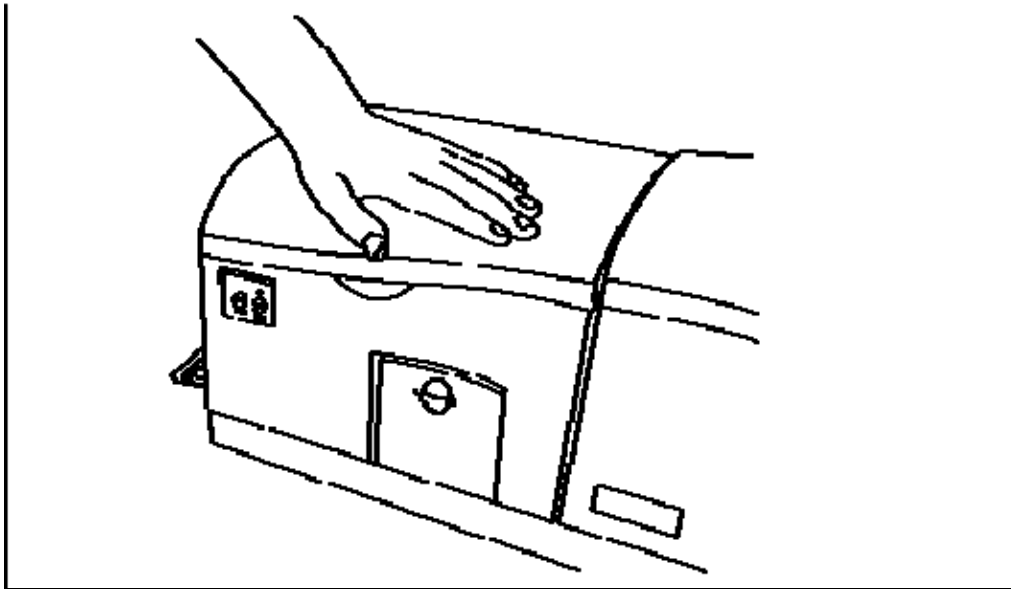
Connecting power to the DTC550 Printer

⚡ **Caution:** Do not remove the red Warning sticker across the USB connection. Do not plug in the USB cable until prompted to do so during the installation of the DTC550 Printer Driver. See the Installing the DTC550 Printer Driver procedure.

Step	Procedure
1	The Printer connections are shown below.
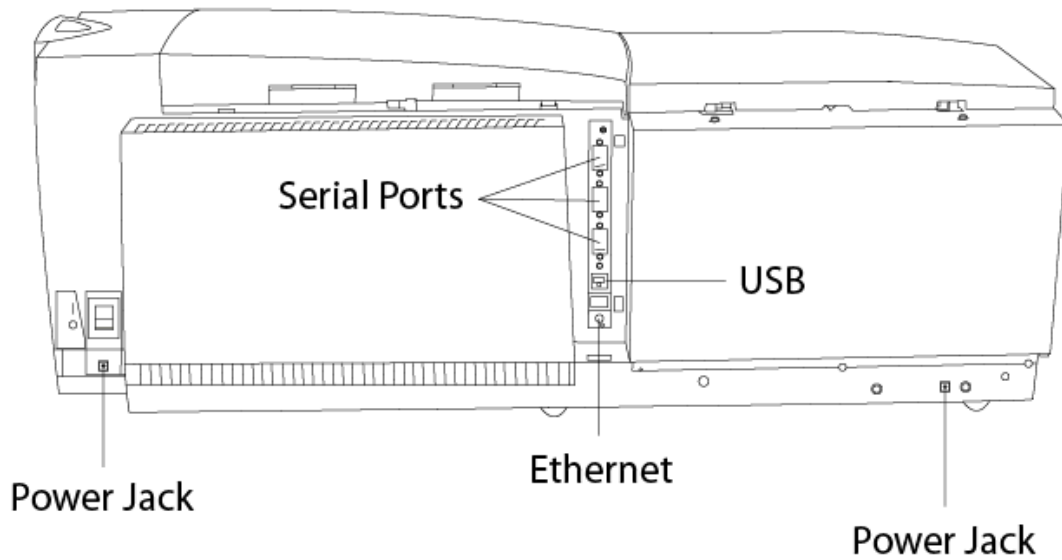
Connecting power to the DTC550 Printer (continued)

Step	Procedure
2	Connect the AC power cable to the power supply, as shown below.

Connecting power to the DTC550 Printer (continued)

Step	Procedure
3	Connect the other end of the AC power cable to a Surge Protector. Connect the other end of the cord to the Power Supply. See both notes below.
	• **Note No. 1:** Instead of connecting the AC power cable directly into an AC outlet, it is recommended that a Surge Protector be used to protect against power surges.
	• **Note No. 2:** Some buildings have surge protection built into the electrical outlets. Please consult your building supervisor regarding this material.
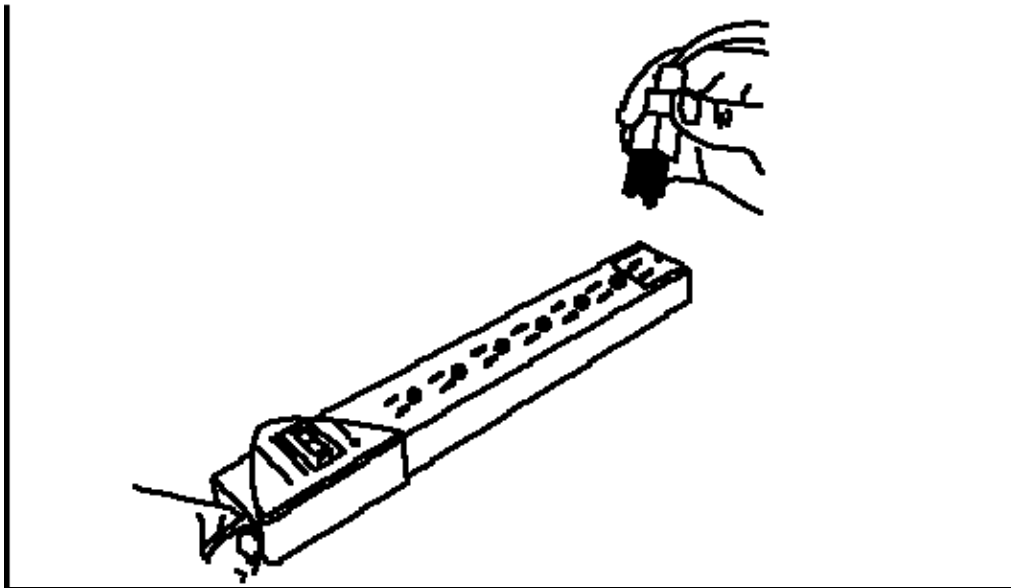
Connecting power to the DTC550 Printer (continued)

Step	Procedure
4	Connect the plug from the power supply to the Printer as shown below. (**Note:** If working with a non-Lamination unit, proceed to **Step** 8 in this procedure.)
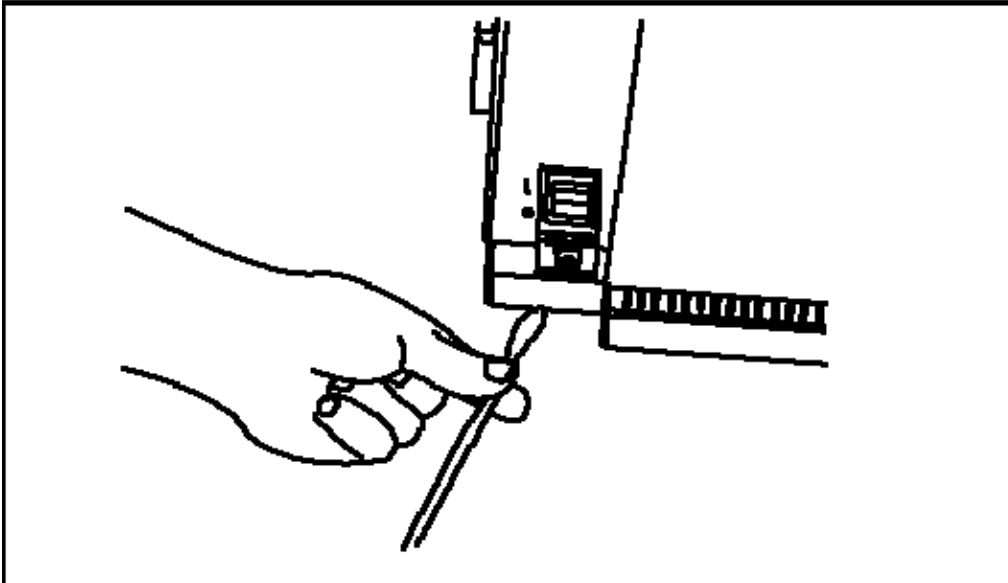
Connecting power to the DTC550 Printer (continued)

Step	Procedure
5	This applies to the DTC550 with Lamination Printer only.
	Connect the AC power cable to the DTC550 with Lamination power supply, as shown below.

Connecting power to the DTC550 Printer (continued)

Step	Procedure
6	This applies to the DTC550 with Lamination Printer only.
	Connect the other end of the AC power cable to a Surge Protector. Connect the cord to the Power Supply. See both notes below.
	• **Note No. 1:** Instead of connecting the AC power cable directly into an AC outlet, it is recommended that a Surge Protector be used to protect against power surges.
	• **Note No. 2:** Some buildings have surge protection built into the electrical outlets. Please consult your building supervisor regarding this material.
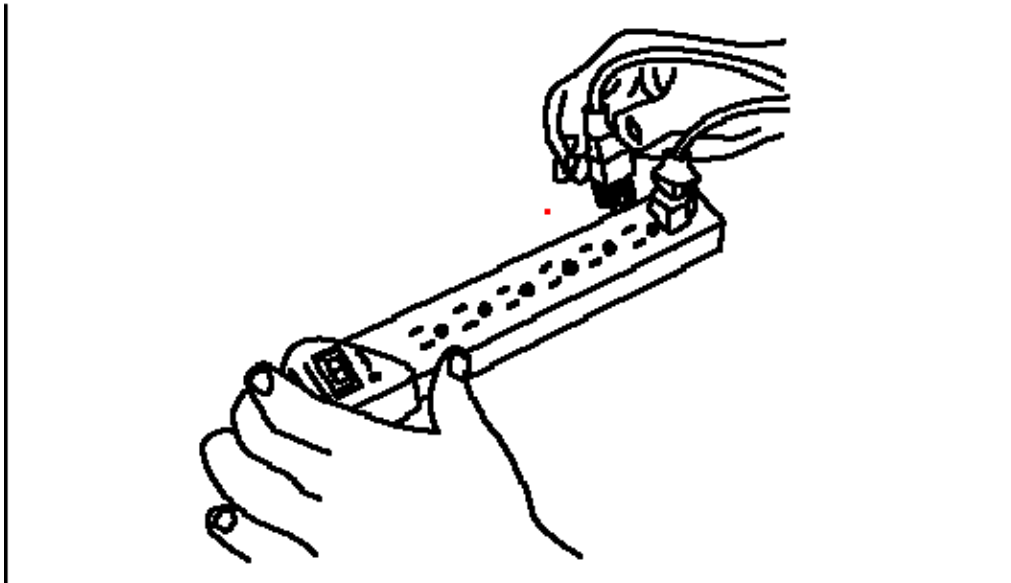
Connecting power to the DTC550 Printer (continued)

Step	Procedure
7	This applies to the DTC550 with Lamination Printer only.
	Connect the plug from the power supply to the Card Lamination Module, as shown below.
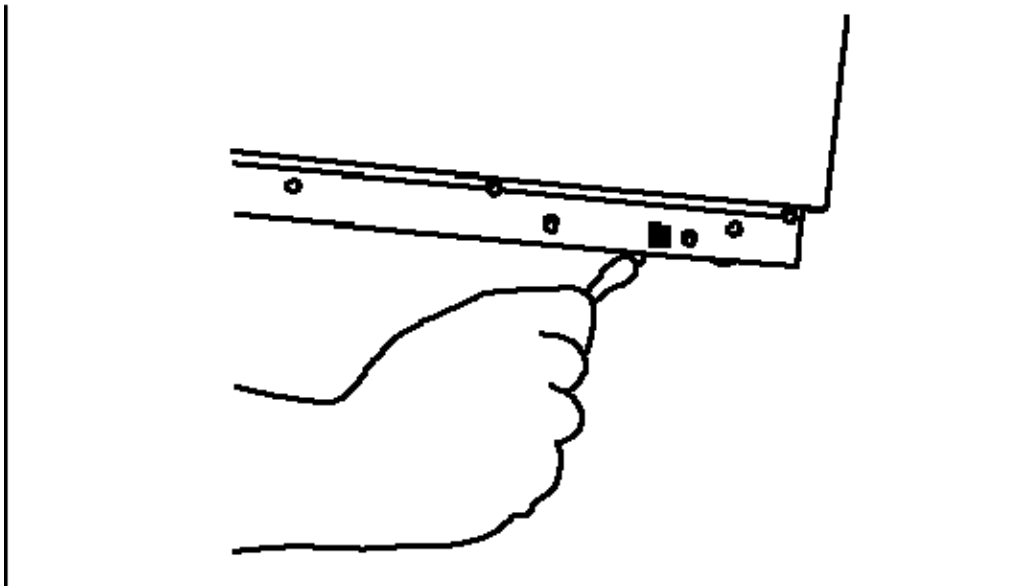
Connecting power to the DTC550 Printer (continued)

Step	Procedure
8	Turn on the Printers power by pressing on the Printer's power switch (ON/OFF). (**Note:** Once the DTC550 has been powered on, the Printer will initialize the Print Ribbon.)
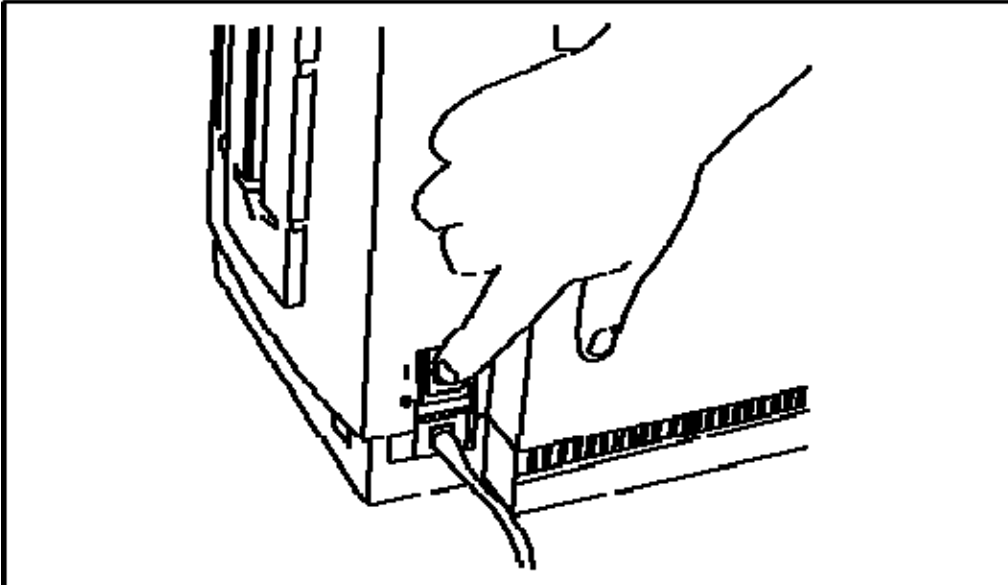
Loading the Blank Cards

Step	Procedure
1	Open the Card Hopper door, as shown below.
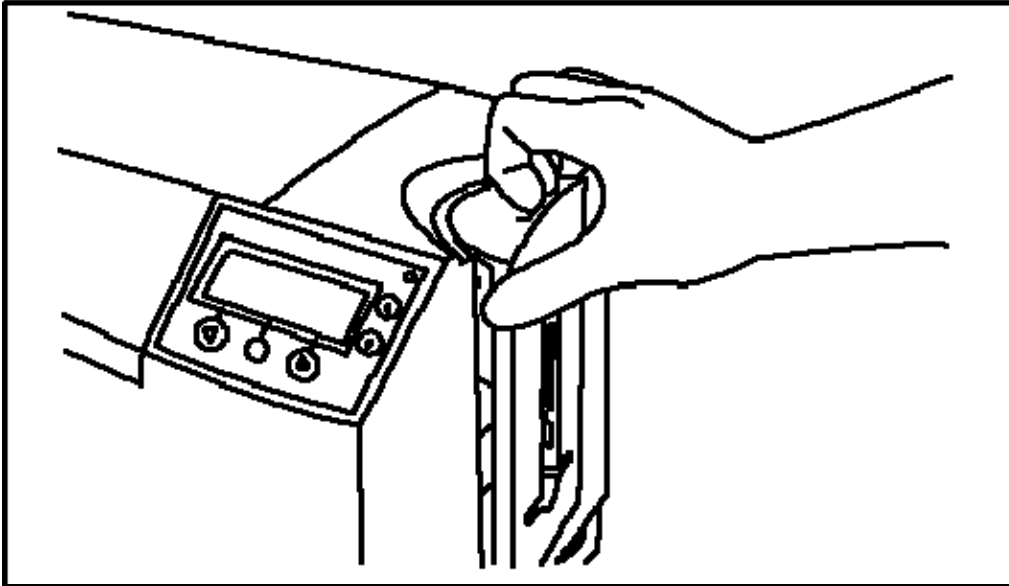
Loading the Blank Cards (continued)

Step	Procedure
2	a. Set the Card Thickness Adjustment Lever to the appropriate setting. (**Note:** The settings are in increments of 10, as shown below.) b. Depress the blue tab, move the lever and release it when properly set. (**Note:** The Printer will be set to a default of 30 mil.)

Loading the Blank Cards (continued)

Step	Procedure
3	Load the Blank Cards into the empty Hopper, as shown in Displays A and B (below).
	a. Insert the Card Weight (Push to the back), as shown in Display C (below). (**Note:** This will need to be done for each Hopper that is filled before the Hopper is switched.)
	b. Cycle between Hopper 1 and Hopper 2 by selecting H1 or H2 from the Printers LCD Control Panel.

Display A - Loading the Blank Cards
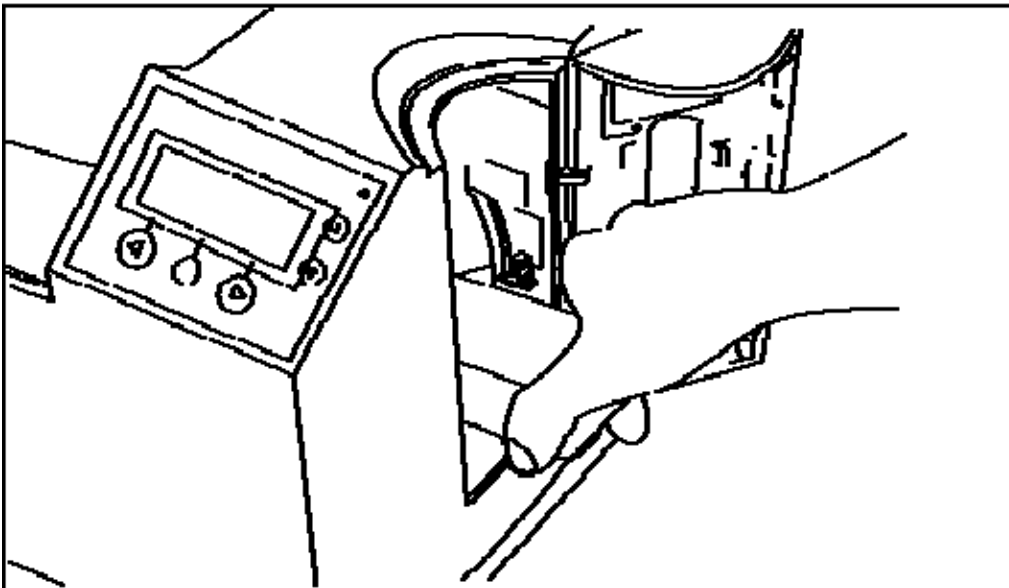
Loading the Blank Cards (continued)

Display B - Loading the Right Way and the Wrong Way

THE RIGHT WAY

Insert cards straight into the hopper.

Insert cards neatly stacked.

Cards

Card Hopper (side view)

Card Feed Roller
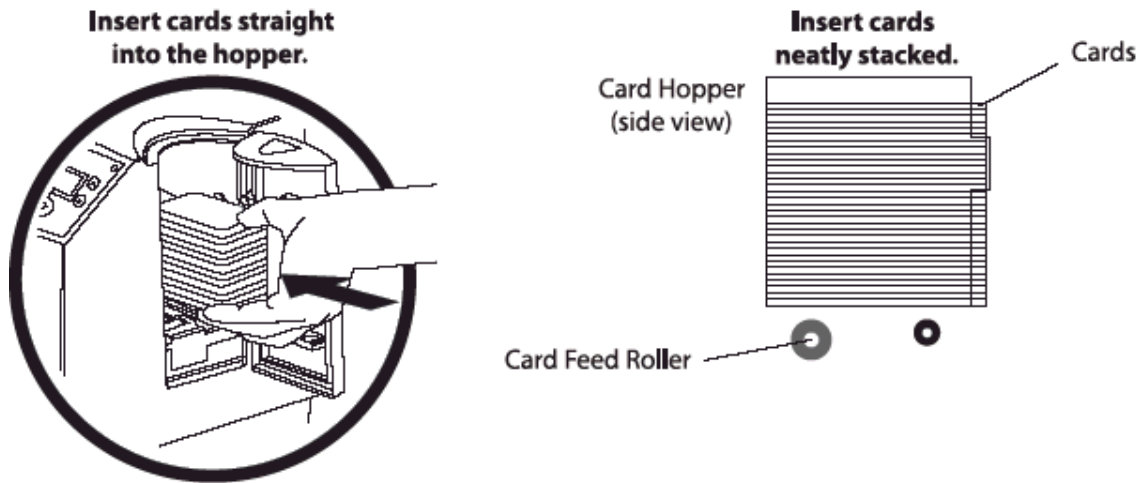
THE WRONG WAY

DO NOT push bottom cards in further than top cards!
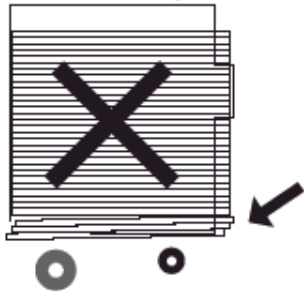
DO NOT insert cards at an angle!
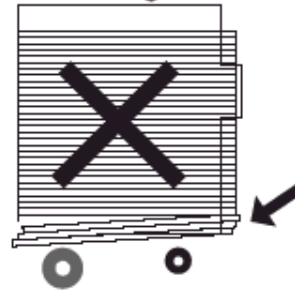
Loading the Blank Cards (continued)

Display C - Inserting the Card Weight
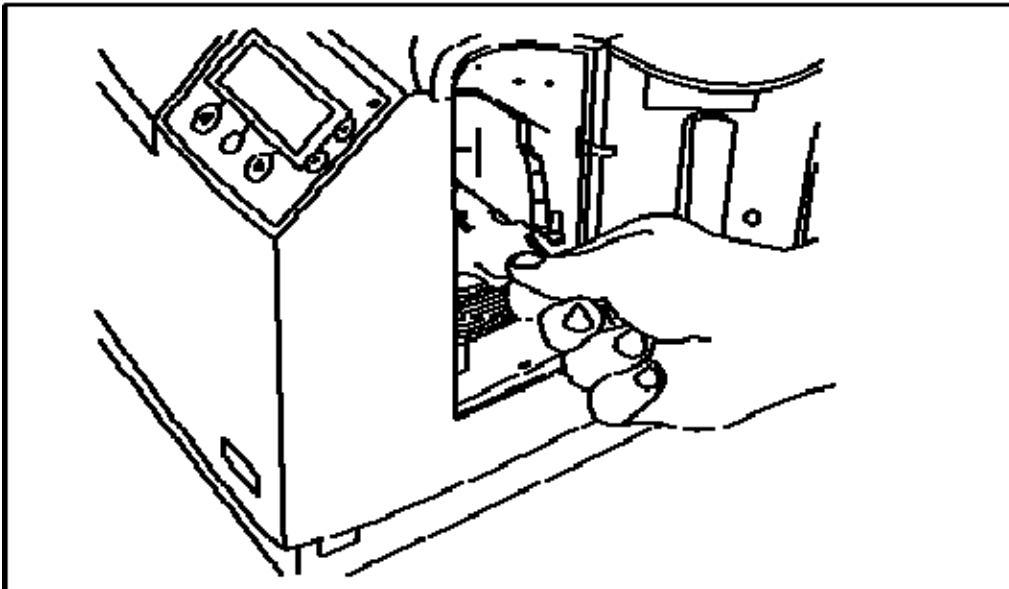
Step	Procedure
4	You have completed the setup procedure for the DTC550 Direct to Card Printer/Encoder.
	Continue to the next section for instructions on installing the Printer Driver.
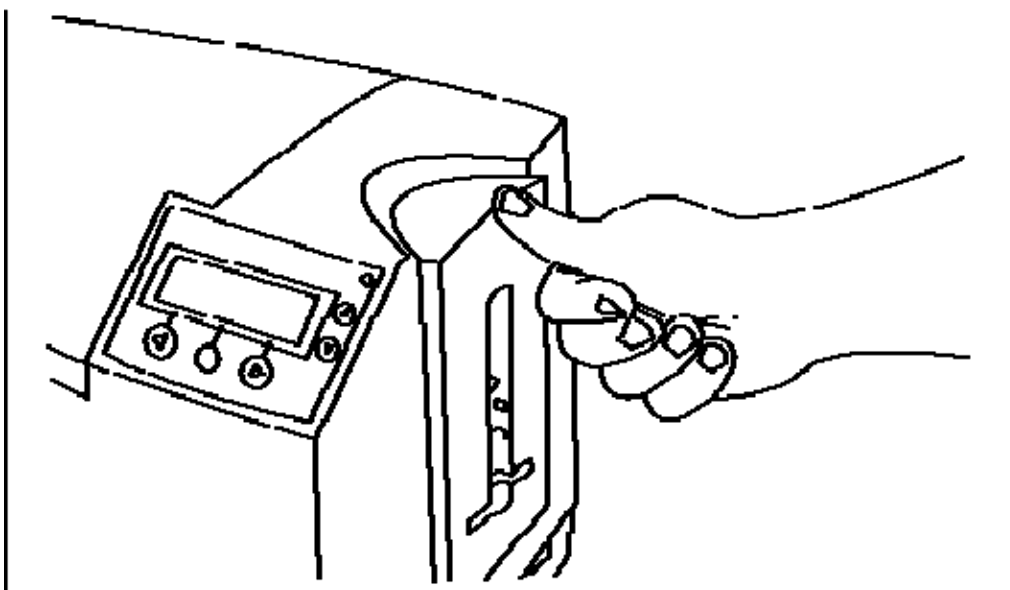
Software Setup and Installation Procedures

Installing the DTC550 Printer Driver

Step	Procedure
1	Close down all programs and insert the Software Installation CD into your computer's CD drive. After a few seconds, the CD's installer program will automatically open.
	Follow the CD's on-screen Procedures to complete installation.
	(**Note:** If the CD does not automatically open, use "My Computer" or "Windows Explorer" to view the contents of the CD. Then, double-click on the Setup.exe file listed on the CD.)
	See below.

Installing the DTC550 Printer Driver (continued)

Step	Procedure
2	Click on the **Next** button to continue with the installation.

Welcome to the InstallAware Wizard for DTC550 Card Printer Setup.

The InstallAware Wizard will install DTC550 Card Printer on this computer. Please click Next to continue.

Next >   Cancel
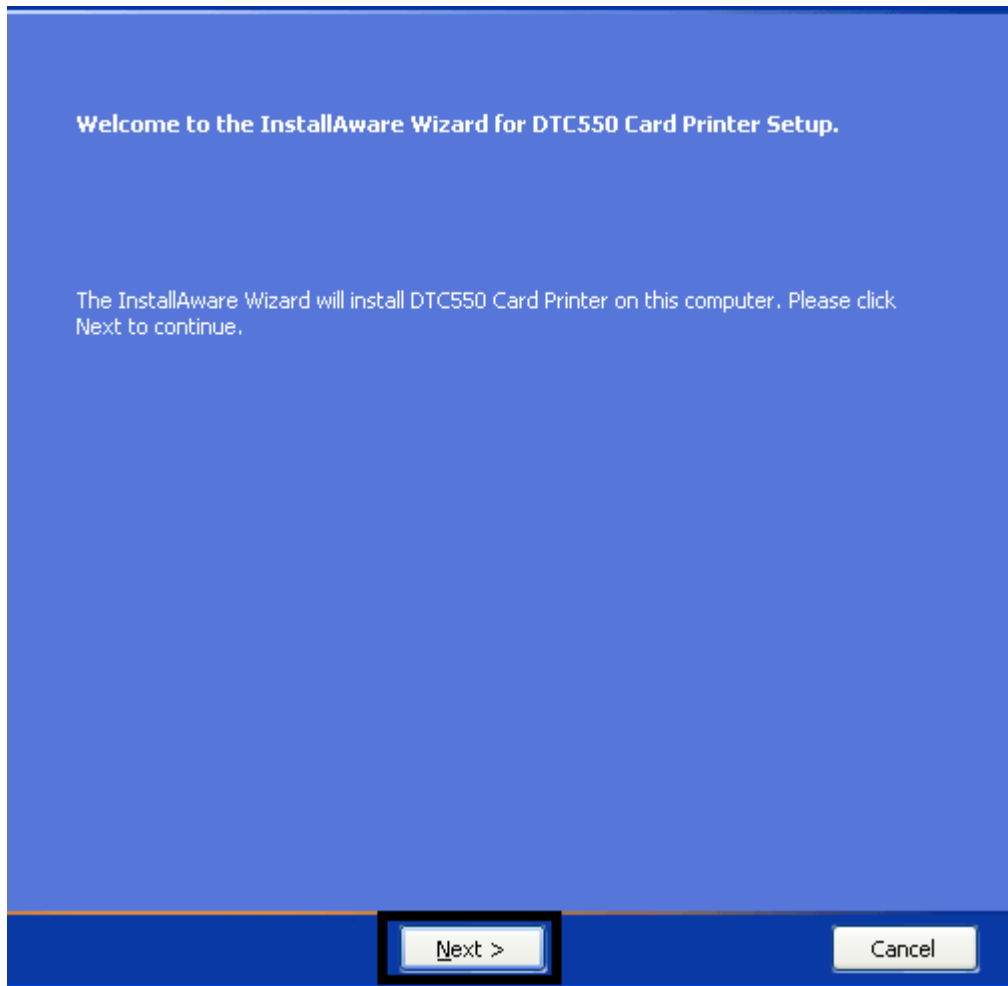
Installing the DTC550 Printer Driver (continued)

Step	Procedure
3	Read the License Agreement. Select **I accept the terms of the license agreement**.
	Click **Next** to continue with the installation.

Installing the DTC550 Printer Driver (continued)

Step	Procedure
4	If installing a USB Printer, select the **Local Connection (USB)** radio button. See Display A (below). **OR** If installing an Ethernet Printer, select the **Network Connection (Ethernet)** radio button. Enter the IP address of the Printer. See Display B (below). See Accessing the IP Address.
5	Click **Next** to continue.

Display A - Local Connection (USB) radio button

Installing the DTC550 Printer Driver (continued)

Display B - Network Connection (Ethernet) radio button

Select the type of connection for the Printer.

○ Local Connection (USB:)

● Network Connection (Ethernet)

Ethernet Information

Enter the IP Address of the Printer:

10.1.210.120

How do I find my IP address

< Back   Next >   Cancel

Installing the DTC550 Printer Driver (continued)

Step	Procedure
6	Click **Next** to continue.

Setup is ready to start installing DTC550 Card Printer.

Please click Next to install now. Click Back to review your installation settings.

< Back   Next >   Cancel
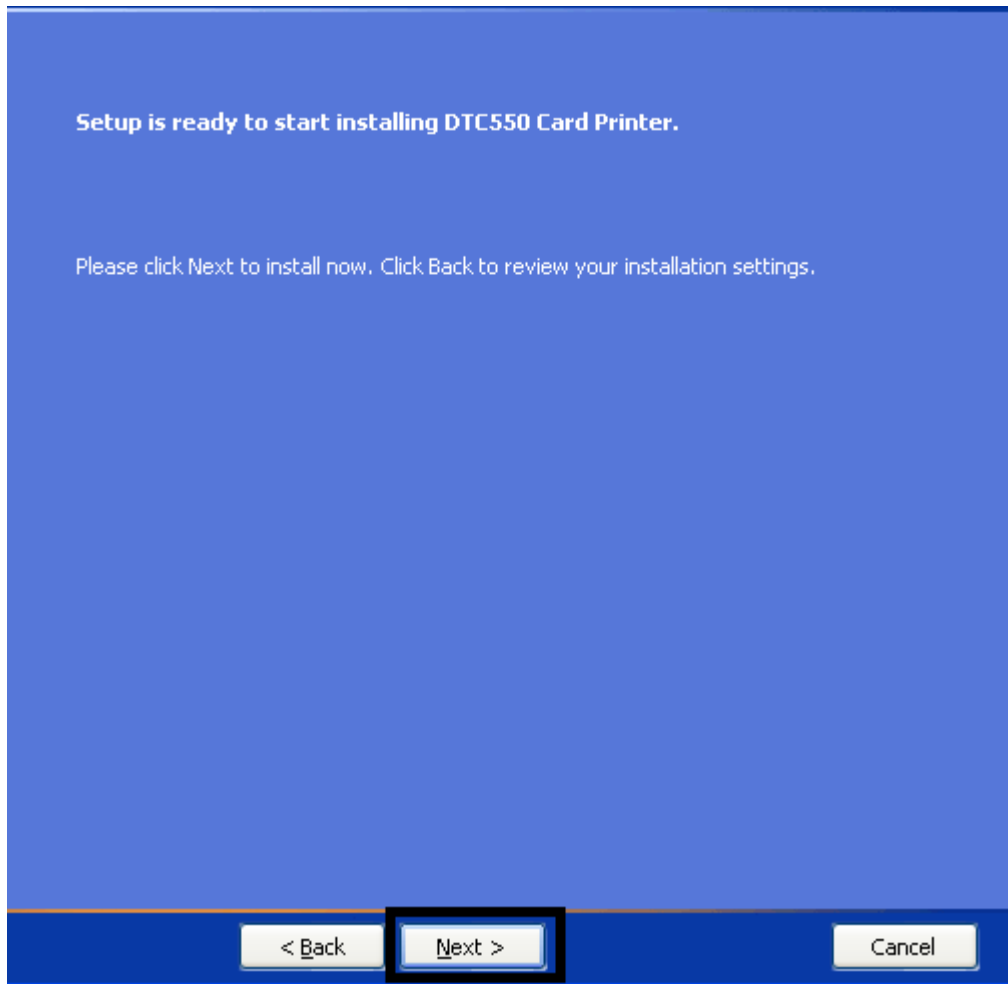
Installing the DTC550 Printer Driver (continued)

Step	Procedure
7	Wait during the installation.
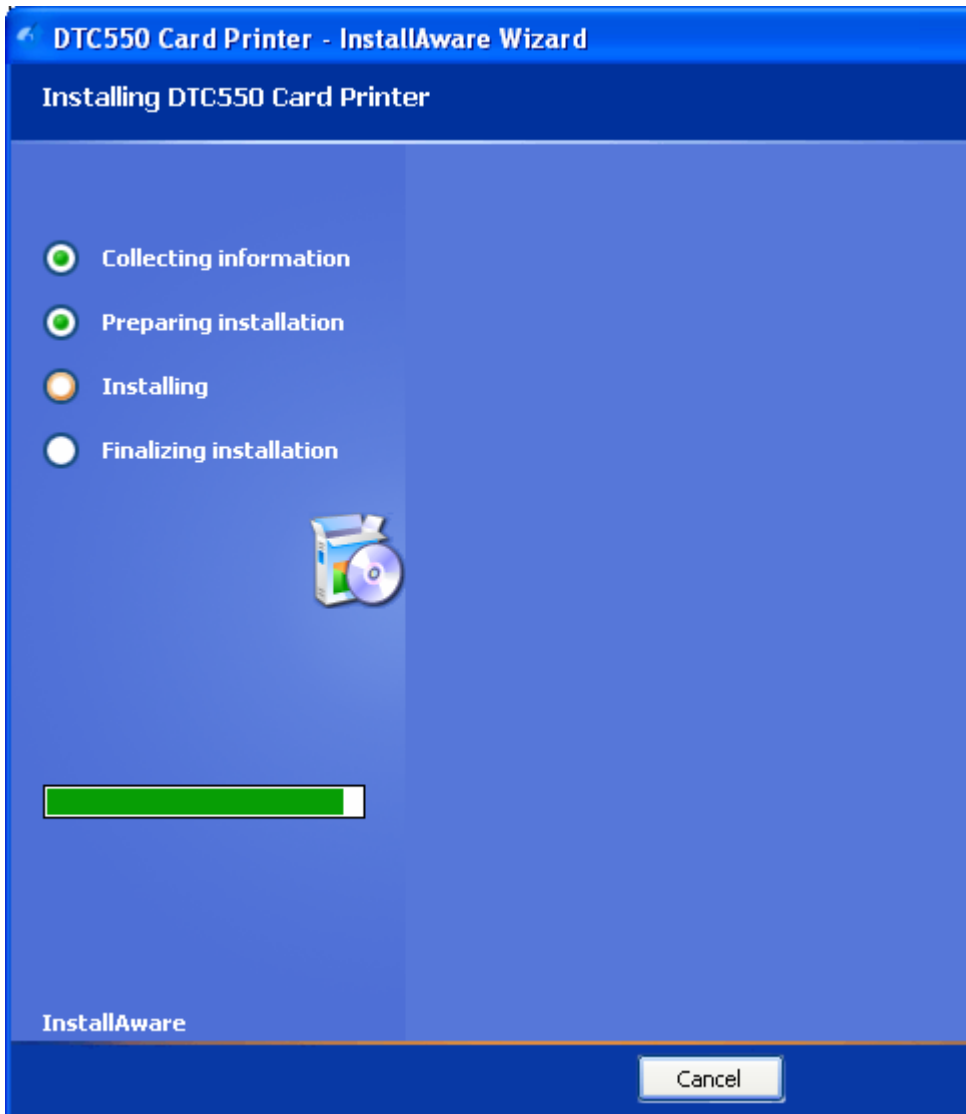
Installing the DTC550 Printer Driver (continued)

Step	Procedure
8	This step only applies if you are installing a USB Printer.
	a. Connect the USB cable to the Printer.
	b. Turn ON the Printer at this time if it is not already ON.
	c. Wait during the installation.
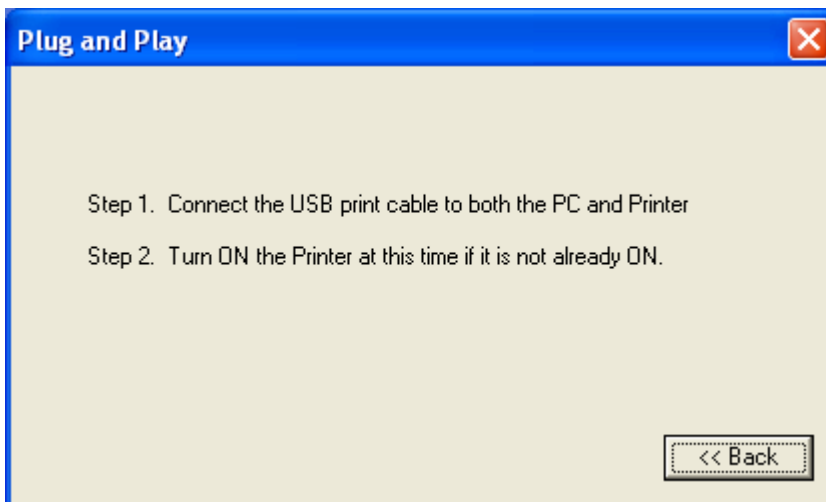
Installing the DTC550 Printer Driver (continued)

Step	Procedure
9	Select the **Ribbon Type** from the dropdown menu. See Display A under this procedural step.

Display A – Ribbon Type dropdown menu
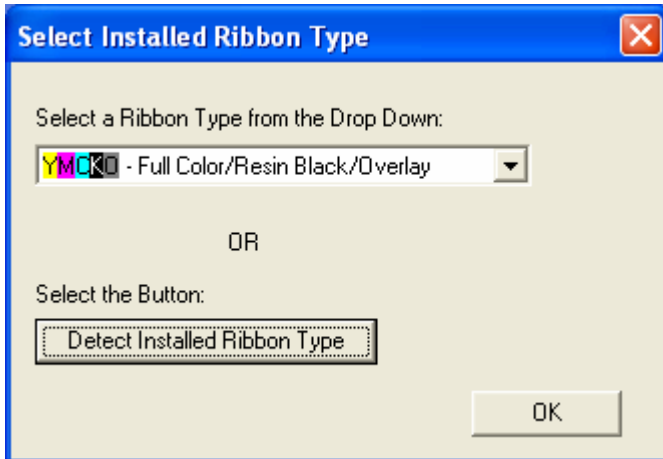
Installing the DTC550 Printer Driver (continued)

Step	Procedure
10	Click the **Finish** button to complete the Installware Wizard.
11	You have completed this procedure.
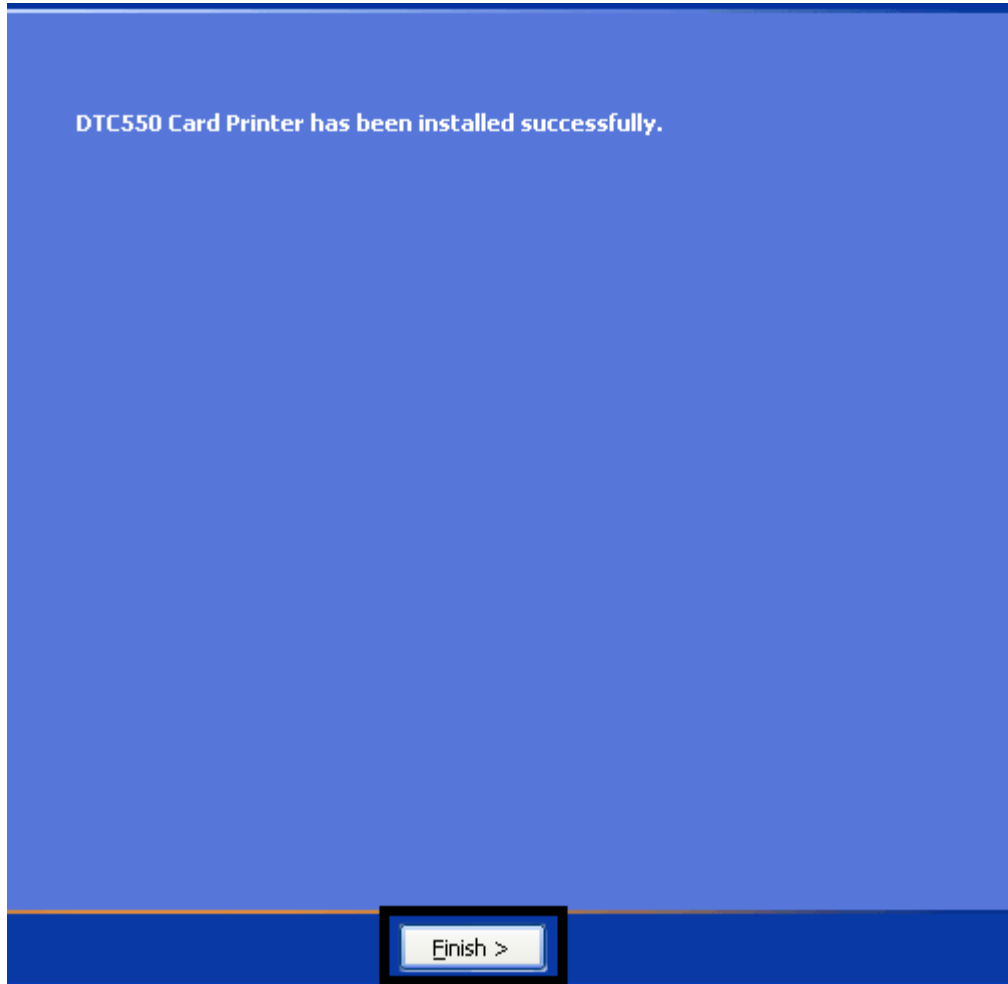
Printing a Test Print Image

Ribbon Requirement: This procedure requires the YMCKO or YMCKOK Ribbon.

Step	Procedure
1	a. From your computer's startup menu, select Settings > Printers and Faxes (Windows XP) or > Printers (Windows 2000). b. Double click on the DTC550 Direct to Card Printer under the Printers window. c. Select Printing Preferences under the Printer drop-down menu. This will bring up the DTC550 Printing Preferences window.
2	a. Select the Card tab, then click on the **Test Print** button, as shown in Display A on the next page. b. Select the **Ribbon Type** on the Device Options tab. (**Note:** The only Ribbon types supported for the **Test Print** option are either YMCKO or YMCKOK. Any other Ribbon type will display an error.) c. When the **Test Print** button is selected, an image is copied to the Printer.
3	This completes the DTC550 Direct to Card Printer/Encoder Installation Guide. For additional help regarding the Test Print and other related items please see the DTC550 Direct to Card Printer User Guide located under Start > Programs > Fargo.

Printing a Test Print Image (continued)

Display A - DTC550 Printer Driver Card tab (see below)
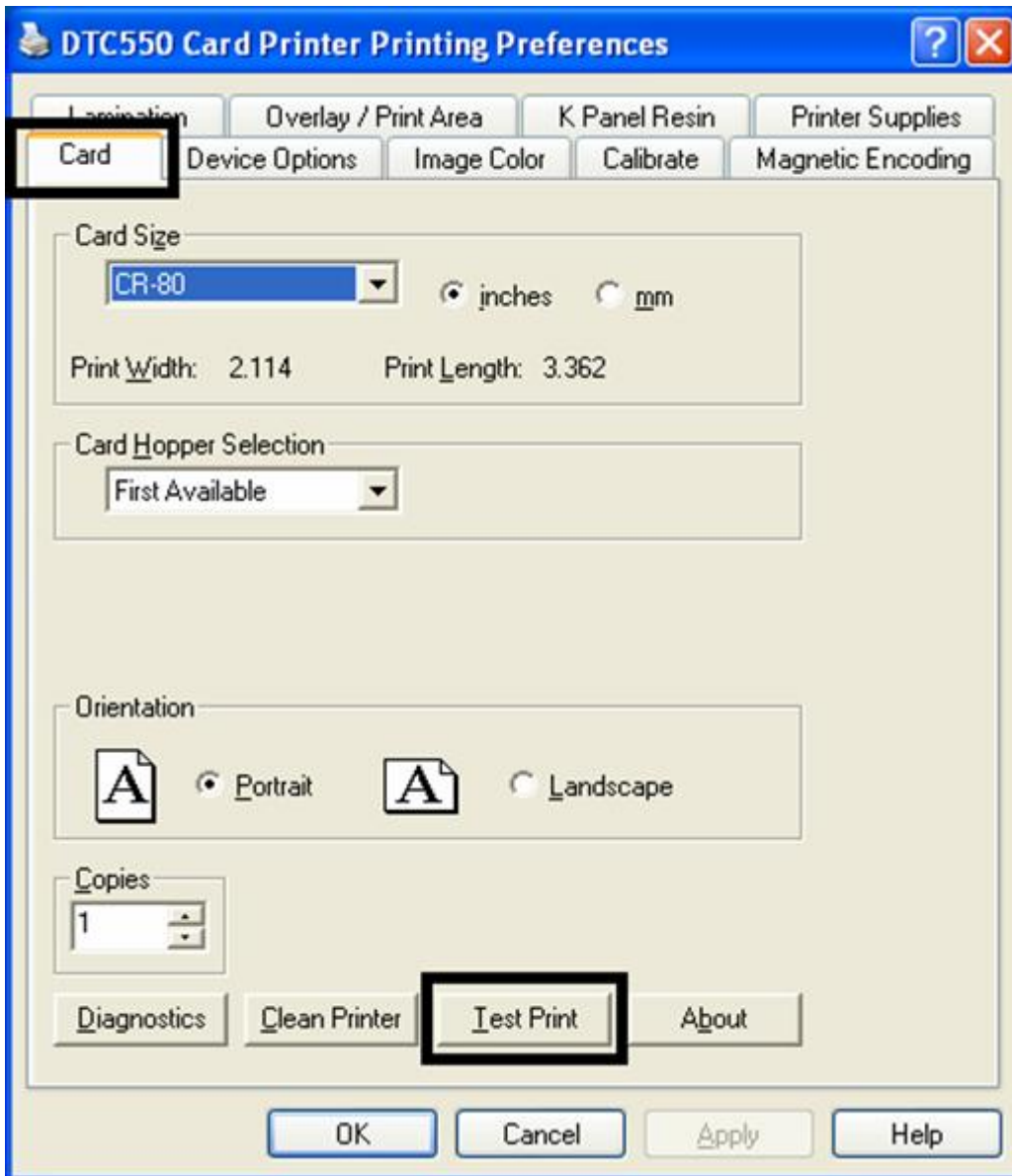
Printer Transport

Moving the Printer to another location

Step	Procedure
1	The Printer should be transported by at least two persons who can safely lift it onto a nearby cart with rollers and then carefully transport it to a designated location. See below.
	Please see your supervisor to determine who can safely lift the Printer in order to relocate it. Use caution because of the weight of the Printer.
2	**You have completed the setup and installation procedures in this section.**
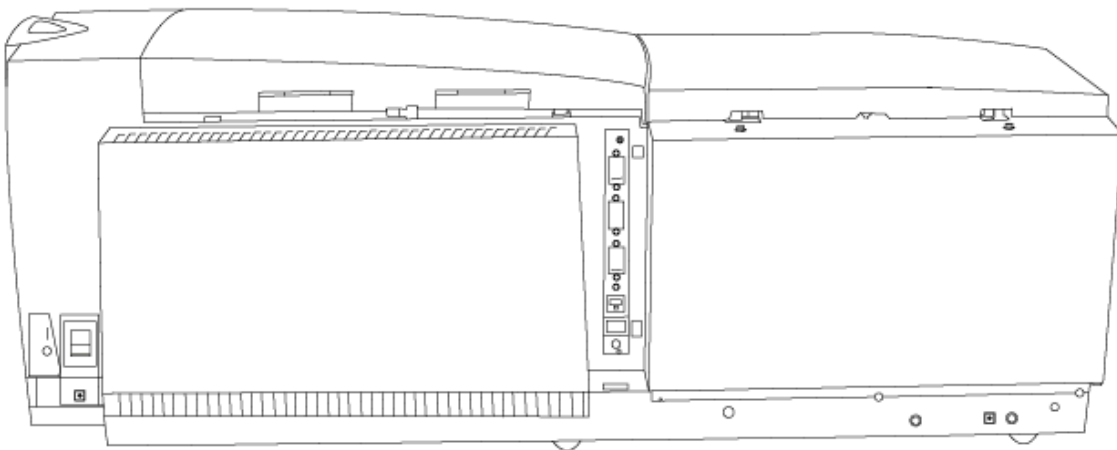
Section 4: General Troubleshooting

IMPORTANT! Fargo Card Printers require highly specialized Print Ribbons to function properly. To maximize Printer life, reliability, printed card quality and durability, you must use only Fargo Certified Supplies. For this reason, your Fargo warranty is void, where not prohibited by law, if you use non-Fargo Certified Supplies. To order additional materials, please contact your authorized reseller.

Reviewing the LCD display and LED light

The LCD display provides the current status of the Printer. Refer to the following tables for a complete list and cause of all possible LCD messages. The tables (in this section) display the LCD messages. If the LCD message is communicating an error or requires an action, these tables will also offer a solution to what should be done.

The purpose of this section is to provide the User with specific procedures relating to the LCD/SmartGuard Messages, Communication Errors, Card Feeding Errors, Encoding Errors, Printing Process Errors and Diagnosing the Image Problems for the DTC550 series Card Printer.

Troubleshooting LCD Messages

LCD Message	Cause	Solution
CALIB HOPPER SENSOR	The input Hopper cards-out Sensor needs to be calibrated.	Go to **MENU**>SETUP PRINTER>SENSOR CALIBRATION>CAL HOPPER SENSOR and press **SELECT**.
CALIBRATE RIBBON	The print Ribbon is out of calibration.	Select **CANCEL** and then perform the Ribbon calibration procedure according to the steps in the Troubleshooting section of the User Guide.
CARD ALIGN ERROR	A card is jammed in the Print Station of the Printer.	Clear the jam according to the steps in the Troubleshooting section of the User Guide. Press **RESUME** to continue.
CARD ERROR	A card has been removed; or a card is jammed; or a Ribbon align error has occurred in the Print Station of the Printer.	Clear the problem according to the steps in the Troubleshooting section of the Users Guide. Press **RESUME** to continue. See Card Feeding Errors.
CARD FEED STOPPED	The Ribbon access arm was opened. This caused the card transfer to stop.	Press **RESUME** or **CANCEL**. See Card Feeding Errors.
CARD HOPPER EMPTY	The Card Hopper is empty.	Load more cards and press **RESUME** to continue. See the Resolving the Card Hopper Empty Error Message procedure.

Continued on the next page

Troubleshooting the LCD Messages (continued)

LCD Message	Cause	Solution
CARD HOPPER JAM	The Card Hopper is unable to move to the proper position.	Clear any obstructions and close the Hopper door. Press **RESUME** to continue.
CARD HOPPER LIFT	The Card Hopper is unable to raise or lower.	Clear any obstructions and close the Hopper door. Press **RESUME** to continue.
CARD JAM	A card is jammed in the Print Station or card flipping area of the Printer.	Clear the jam according to the steps in the Troubleshooting section of the User Guide.
CARD JAM ERROR	A card is jammed in the Print Station of the Printer.	Clear the jam according to the steps in the Troubleshooting section of the User Guide. Press **RESUME** to continue.
CARD JAM: FLIPPER	A card is jammed in the card flipping area of the Printer.	Clear the jam according to the steps in the Troubleshooting section of the User Guide.
CARD JAM: MAG	A card is jammed in the magnetic encoding area of the Printer.	Clear the jam according to the steps in the Troubleshooting section of the User Guide.
CARD JAM: PROX	A card is jammed in the PROX card encoding area of the Printer.	Clear the jam according to the steps in the Troubleshooting section of the User Guide. See Resolving the Card Jam on the Flipper Table. See Removing the Card Jam in the Printer's Magnetic Encoding Area.
CARD JAM: SMART	A card is jammed in the smart card encoding area of the Printer.	Clear the jam according to the steps in the Troubleshooting section of the User Guide. See Removing the Card Jam in the Printer's Smart Card Encoding Area.

Troubleshooting the LCD Messages (continued)

LCD Message	Cause	Solution
CARD NOT FOUND	The card being processed cannot be found.	Press **RESUME** to load the next card or **CANCEL**.
CARD RELEASE ERROR	A card is jammed in the Print Station of the Printer.	Clear the jam according to the steps in the Troubleshooting section of the User Guide. Press **RESUME** to continue or **CANCEL** to abort. See Card Feeding Errors.
CH STARTUP ERROR	A problem was detected during Printer start-up.	If this problem persists, call for technical assistance.
CHECK CARDS	No cards found in the input Hopper.	Add cards to the Card Input Hopper or check for an error. Press **RESUME** to continue. See the Resolving the Card Hopper Empty Error Message.
CHECK LAM POWER	A power connector must be connected to the Laminator module.	Insert power connector and cycle power to the Printer.
CHECK MULTIPLE FEED	Two or more cards may have been fed from the Card Hopper.	If so remove the fed cards and verify the card thickness setting is set to the thickness of your cards. Press **RESUME** to continue. See Card Feeding Errors.
CLEAN PRINTER	For best Printer performance, replace the Cleaning Cartridge Tape and clean the Printers Feed Rollers and Printhead at this time.	Refer to the Maintenance section of your User Guide for fast, easy instructions. See Cleaning procedures.

Troubleshooting the LCD Messages (continued)

LCD Message	Cause	Solution
E-CARD ENCODER STARTUP ERROR	A problem was detected during Printer start-up.	If this problem persists, call for technical assistance.
E-CARD STARTUP ERROR	A problem was detected during Printer start-up.	If this problem persists, call for technical assistance.
EEPROM CORRUPTION	EEPROM restored with factory default values.	No action needs to be taken.
EEPROM READ FAILURE	EEPROM read failed.	Cycle power and try again. If this problem persists, call for technical assistance.
EEPROM REPAIR FAILED	EEPROM is corrupted. Repair attempt failed.	Cycle power and try again. If this problem persists, call for technical assistance.
EEPROM RESTORED	Part of EEPROM was corrupted.	Repaired successfully.
EJECTING USED CARD	The system Firmware has detected a card already in the Printer.	This card has been ejected however it may contain encoded data and therefore should be disposed of properly.
ERR CHK LAM MATERIAL	See the next column.	Install a new Lamination roll and press **RESUME** to continue or **CANCEL** to abort. If the problem persists, call for technical assistance.
ERR CHK LAM MATERIAL	See the next column.	Install a new film roll and press **RESUME** to continue or **CANCEL** to abort. If the problem persists, call for technical assistance.

Troubleshooting the LCD Messages (continued)

ERR LAM HEATER OFF	See the next column.	If this problem persists, call for technical assistance.
ERR LAM HEATER TIMEOUT	See the next column.	If this problem persists, call for technical assistance.
ERROR CARD JAM: LAM	A card is jammed in the Lamination module area of the Printer.	Clear the jam according to the steps in the Troubleshooting section of the User Guide. Press **QUIT** to clear this message.
FIRMWARE ERROR	An unspecified error was detected by the Printer Firmware. The Printer operation may be unstable.	Cycle power on the Printer and try the operation again. If this problem persists, call for technical assistance.
FLIPPER ALIGNMENT	Unable to align flipper.	Check for obstruction. If the problem persists, call for technical assistance. See <u>Resolving the Card Jam on the Flipper Table</u>.
HEAD LIFT ERROR	The Printer was unable to start lowering the Printhead.	Press **RESUME** to retry or **CANCEL** to abort. If the problem persists, call for technical assistance. See <u>Resolving the Headlift Error Message</u>.
HEAD LOADING	An unrecoverable error occurred while printing.	Contact technical support if this error repeats. Press **CANCEL** to abort this card.
HEAD RESISTANCE	LCD setting for head resistance is out of range.	Reset the correct value according to the steps in the Troubleshooting Section. If this problem persists, call for technical assistance.

Troubleshooting the LCD Messages (continued)

LCD Message	Cause	Solution
HEAD SENSOR ERROR	The Printhead temperature Sensor is not functioning or is not connected properly.	If the problem persists, call for technical assistance.
HEAD TEMP ERROR	The Printhead temperature Sensor is not functioning or the Printhead is not cooling properly.	If the problem persists, call for technical assistance.
HEAD VOLTAGE ERROR	A hardware fault has prevented setting the correct Printhead voltage.	A default value will be used. Call for technical assistance.
HOPPER 1 EMPTY	Card Hopper 1 has run out of cards.	The Printer will continue printing from Hopper 2. Refill Hopper 1 when convenient. See the Resolving the Resolving the Card Hopper Empty Error Message.
HOPPER 2 EMPTY	Card Hopper 2 has run out of cards.	The Printer will continue printing from Hopper 1. Refill Hopper 2 when convenient. Resolving the Resolving the Card Hopper Empty Error Message.
INVALID PASSWORD	Printing disabled at this time.	Press **CANCEL** to abort this print job and then check security settings at host computer.
INVALID RIBBON 1	The print Ribbon installed in the Printer does not match the Ribbon type set in the Printer.	Get the correct Ribbon from your dealer. See the Resolving the Wrong Print Ribbon Error Message.

Troubleshooting the LCD Messages (continued)

LCD Message	Cause	Solution
INVALID RIBBON 2	The print Ribbon installed in the Printer does not match the Ribbon type set in the Printer.	Get the correct Ribbon from your dealer. See the Resolving the Wrong Print Ribbon Error Message.
INVALID RIBBON 3	The print Ribbon installed in the Printer does not match the Ribbon type set in the Printer.	Get the correct Ribbon from your dealer. See the Resolving the Wrong Print Ribbon Error Message.
JOB DATA ERROR	The print data sent to the Printer is corrupt or has been interrupted.	Check the interface cable and cancel the print job from the PC. Press **CANCEL** to abort this print job and then resend the job.
LAM CARD FLIP ERROR	A problem has been detected in the Laminator flipper.	If this problem persists, call for technical assistance.
LAM ERROR	The Lamination module requires attention.	Check the indicated condition and correct it, using the Laminator's control buttons. Press **QUIT** to clear this message.
LAM HANDLER STARTUP	See the next column.	If this problem persists, call for technical assistance.
LAM LIFT ERROR	See the next column.	If this problem persists, call for technical assistance.
LAM MATERIAL LOW	Lamination material is low.	
LAM MEMORY ERROR	See the next column.	If this problem persists, call for technical assistance.

Troubleshooting the LCD Messages (continued)

LCD Message	Cause	Solution
LAM STARTUP ERROR	See the next column.	If this problem persists, call for technical assistance.
LAM TAG ERROR	The Ribbon identification tag cannot be read.	Install a new film roll and press **RESUME** to continue or **CANCEL** to abort. If the problem persists, call for technical assistance.
MAG CARD JAM	A card jam has been detected in the MAG encoding section of the Printer.	Clear the jam according to the steps in the Troubleshooting section of the User Guide.
MAG ENCODER PAUSED	The head arm assembly has been opened during Magnetic Encoding causing this operation to halt.	Press **RESUME** to retry or **CANCEL** to abort.
MAG ENCODER STARTUP ERROR	A problem has been detected in the MAG encoding section of the Printer during start-up.	If this problem persists, call for technical assistance.
MAG VERIFY FAILURE	Print could not verify MAG write.	
NO FLIPPER INSTALLED	Two sided job sent to a one sided Printer.	
NO MAG INSTALLED	MAG encoding job sent to Printer without MAG encoder.	
NO RIBBON INSTALLED	There is no Ribbon installed or it is broken.	

Troubleshooting the LCD Messages (continued)

LCD Message	Cause	Solution
OPEN PRINT ARM	Cover and print arm must be opened for Printer cleaning.	Open cover and print arm and retry.
PANEL STARTUP ERROR	A problem has been detected in the print section of the Printer during start-up.	If this problem persists, call for technical assistance.
PLEASE REMOVE CARD	Exception recovery cannot position a card located in the Printer.	Please remove or reposition the card and press **RESUME** to continue.
PLEASE REMOVE RIBBON	See the next column.	The Ribbon must be removed at this point to properly calibrate the Sensor.
PRINT RIBBON LOW	The print Ribbon will soon run out.	If printing a large number of cards replace the Ribbon now or monitor the Printer until the Ribbon is gone and install a new Ribbon.
PRINT RIBBON OUT	The print Ribbon has run out.	Install a new Ribbon and press **RESUME** to continue or **CANCEL** to abort.
REINSERT RIBBON	The Ribbon must be reinserted for proper functioning of the Printer.	Reinsert the Ribbons or press **RESUME**.
RIBBON ALIGN ERROR	The print Ribbon is either damaged or the Printer is not calibrated.	Replace the Ribbon or recalibrate according to the steps in the Troubleshooting section of the User Guide. Press **RESUME** to continue or **CANCEL** to abort. See Resolving the Ribbon Alignment Error Message.

Troubleshooting the LCD Messages (continued)

LCD Message	Cause	Solution
RIBBON ERROR	There is no Ribbon or its identification tag cannot be read.	Install a new Ribbon and press **RESUME** to continue or **CANCEL** to abort. If the problem persists, call for technical assistance.
RIBBON JAM/BROKEN	The print Ribbon is either jammed or broken.	If jammed clear it according to the steps in the Troubleshooting section. If broken repair by taping the Ribbon back on to the take-up core. Press **RESUME** to continue or **CANCEL** to abort.
RIBBON TAG ERROR	The Ribbon identification tag cannot be read or the Ribbon is consumed.	Install a new Ribbon and press **RESUME** to continue or **CANCEL** to abort. If the problem persists, call for technical assistance.
RIBBON TENSION	The Ribbon tensions or pretensions may be out of range.	Check and adjust the LCD settings. If this problem persists, call for technical assistance. Press **RESUME** to continue or **CANCEL** to abort.
SELF TEST FAULT	Self-test job could not be initiated.	Reset the Printer and try again. If this problem persists, call for technical assistance.
SENSOR CALIBRATED	The Ribbon Sensor has been properly calibrated.	
START PRINTING ERROR	The Printer was unable to begin the printing process.	Press **RESUME** to retry or **CANCEL** to abort. If the problem persists, call for technical assistance.

Troubleshooting the LCD Messages (continued)

LCD Message	Cause	Solution
SYSTEM FAULT	Unspecified system error detected by the Printer Firmware.	If this problem persists, call for technical assistance.
TEST TYPE ERROR	Self-test job cannot be printed with the print media installed.	Install the correct print media and try again.
UNABLE TO FEED CARD	The Printer is unable to feed a card from the Card Hopper.	Check the following then press **RESUME** to continue. Verify the card thickness setting is set to the thickness of your cards. Verify the Cleaning Cartridge is properly assembled and fully inserted into the Printer. Clean the in-feed rollers. Verify your cards are within the Printers accepted card size range. Be sure the cards are not sticking together. (See the Troubleshooting section of the User Guide). See Resolving the Card Feeding Errors.
UNSPECIFIED ERROR	Unspecified system error detected by the Printer Firmware.	If this problem persists, call for technical assistance.

Troubleshooting the LCD Messages (continued)

LCD Message	Cause	Solution
WRONG LAM TYPE ERROR	See the next column.	Install a new film roll and press **RESUME** to continue or **CANCEL** to abort. If the problem persists, call for technical assistance.
WRONG RIBBON OEM	The OEM ID of the print Ribbon installed in the Printer does not match the OEM ID set in the Printer.	Get the correct Ribbon from your dealer. Press **RESUME** to continue or **CANCEL** to abort.
WRONG RIBBON TYPE	The print Ribbon installed in the Printer does not match the Ribbon type selected in the Printer Driver or a Self-test job cannot be printed with the print media installed or the Ribbon must contain YMC panels for Sensor calibration.	Change either accordingly. Press **RESUME** to continue or **CANCEL** to abort.

Communications Errors

Resolving the Communication Errors

Symptom(s): Incorrect output, communications error on PC or Printer, stalling, no response from Printer or no job printed.

Step	Procedure
1	Confirm that the system meets the minimum requirements, as shown here: Windows® 2000 with Service Pack 4 Windows® XP with Service Pack 2 Windows® Server 2003 x86 300 MHz computer with 64 MB of RAM or higher 200 MB free hard disk space or higher USB 1.1
2	Confirm the correct installation of the Printer Driver. Close the software program and check the Printer Driver. Reboot the computer. Ensure the Printer Driver is installed correctly. (**Note:** Especially if an obsolete Driver was recently removed.) Ensure the correct setup options within the Printer Driver are selected. Confirm that the Driver is current by checking at: www.fargo.com

Resolving the Communication Errors (continued)

Step	Procedure
3	Determine the problem with printing from the application.
	Print a self-test from the Printer by selecting **MENU Print Test Image** and selecting an appropriate image for your **Ribbon Type**.
	Print the Windows test page that is located in the Card tab of the Printer Driver.
	Use **WordPad** (a Windows 2000/XP word processing program in the Accessories Program Group).
	a. Go to the **File** menu and select **Page Setup**.
	b. Click on the **Printer** button and select the DTC550 Card Printer.
	c. Click **OK** and reset all four margins to zero. (**Note:** The WordPad will automatically replace the values with its minimum margins.)
	d. Open the program and type: "This is a Test." then, go to **File** on the menu bar and select **Print**.
4	Determine whether there is adequate hard Drive space.
	(**Note:** A large volume of temporary files on the computer can cause communications errors.)
	Access the temporary files by following this process:
	a. Search for all folders called TEMP. Once found, clear out the contents of the folders.
	b. If using Windows 2000/XP, run the System Utility - Disk Defragmenter found in the Accessories folder of the **Start** Menu.
	c. Use a disk cleanup utility (such as **Disk Cleanup** found in the System Tools folder of the Start menu) or use a third party application.

Card Feeding Errors

Resolving the Card Feeding Errors

Symptom: Two or more cards feed at the same time or the cards will not feed at all.

Step	Procedure
1	Clean the Input Roller. Leave the Printer power **ON** throughout this procedure. (**Note:** The card-cleaning cartridge can also remain within the Printer during this cleaning process.) Use a cleaning card from the Printer Cleaning Kit and remove its adhesive backing paper. See Cleaning procedures in this document.
2	Ensure the Card Thickness Lever is set correctly, as shown below. • Press the Card Thickness Lever Lock and then push the Card Thickness Lever up or down to the appropriate setting. • With regards to the **Card Thickness** settings, move the slide slightly toward a higher setting until the cards begin feeding (if the Printer seems unable to feed cards at the selected setting). • Move the slide slightly toward a lower setting (if the Printer seems to double-feed cards). (**Note:** The card thickness slide is adjustable to accommodate card thickness variations that often occur even within standard card sizes.)
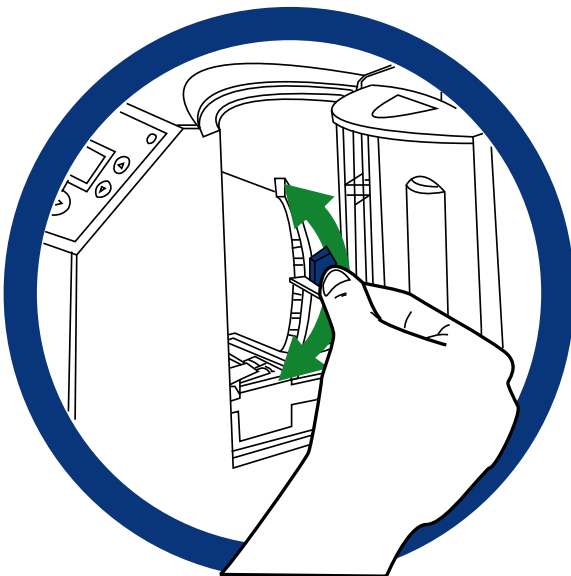
Resolving the Card Feeding Errors (continued)

Step	Procedure
3	Check for static build up between cards. (**Note:** Occasionally, a static charge will build up between the surfaces of two or more cards causing them to stick together.) Reduce or eliminate this static charge by separating the cards manually before placing them in the input Hopper.
4	Ensure that the cards are loaded properly in the Input Hopper. Load the cards into the Printer by inserting them straight into the Hopper and setting them on the feed Roller.
5	Verify that the Hopper Lift (A000124) is operational. Reset Power to the Printer. Open the Card Hopper Door and watch to verify that the Hopper Cycles on startup.

Insert cards neatly stacked.

Card Hopper (side view)

Cards

Card Feed Roller
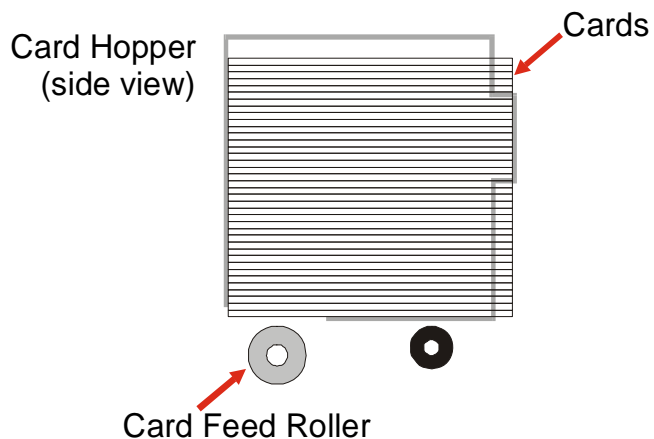
Resolving the Card Jam on the Flipper Table

Symptom: Cards are jamming on or at the Flipper Table or a Card Jam: Flip error is displayed on the LCD.

Step	Procedure
1	Error message reads: **Unable to feed card.**
2	Ensure that the Flipper Table is level.
	Open the Top Cover and remove any cards that are jammed inside the Printer.
	Reset power on the Printer to clear any error messages that are on the LCD.
	Press the **MENU** button on the LCD.
	Press the **Down Arrow** button and select **PRINTER SETUP**.
	Scroll through the menu and select **FLIPPER SETTINGS**.
	Select **PRINT FLIP LEVEL**.
	If the cards are feeding over the Feed Rollers on the card path, adjust the value by +2.
	OR
	If the cards are feeding under the Card Feed Path, adjust the value by –2.
3	Ensure that the Flipper Table Tension Spring is providing appropriate tension.
	Open the Top Cover on the Printer.
	Remove the Ribbon.
	Rotate the Flipper Table to an angle perpendicular to the Card Feed Path.
	Using the **Forward** button, insert a card onto the Flipper Table.
	Once fed onto the Flipper Table (D850855), manually pull the card from the Flipper table. (**Note:** There should be sufficient resistance to prevent the card from slipping from the Flipper table.)
	If there is not sufficient resistance, replace the U-shaped spring on the top of the Flipper Table.

Resolving the Card Hopper Jam Error Message

Step	Procedure
1	Clear any obstructions. a. Open the Input Hopper Door, as shown below. b. Remove any cards from the Input Hopper. c. Ensure that there are no cards that are partially fed out of the Card Hopper.
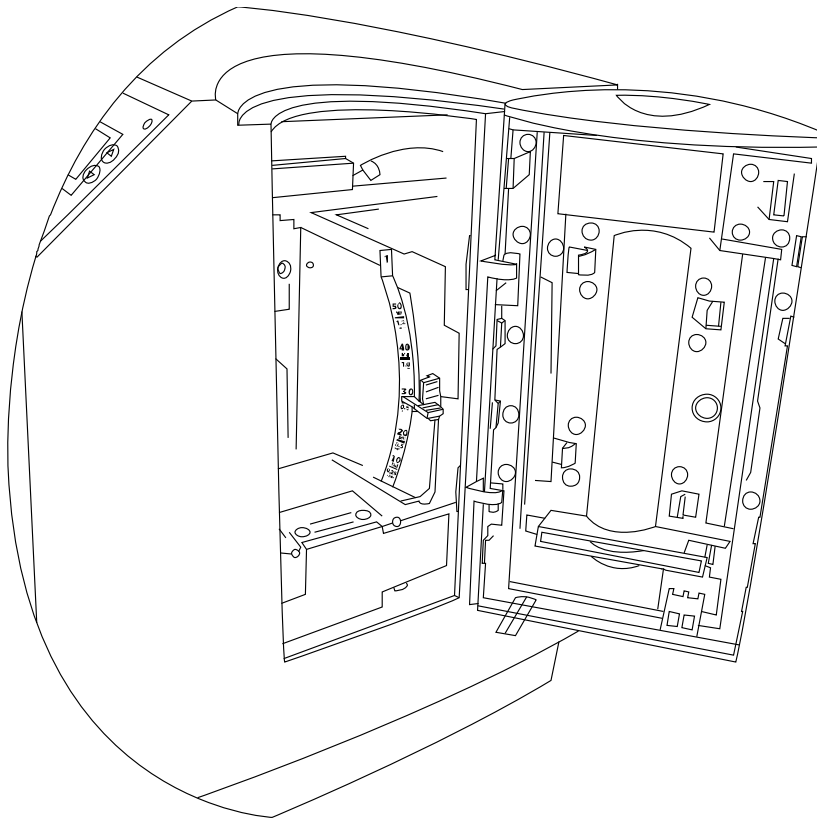
Resolving the Card Hopper Empty Error Message

Symptom: The Hopper Empty error message is displayed on the LCD.

Step	Procedure
1	Refill the Hopper when convenient.
2	Be sure to load cards with the mag stripe down toward the rear of the Printer.
3	Turn the Card Sensor off if it is determined that the Hopper's Card Sensor cannot see these types of cards. (**Note:** The activated Sensor indicates to the Printer that the Card Input Hopper is empty and the cards will not feed.)
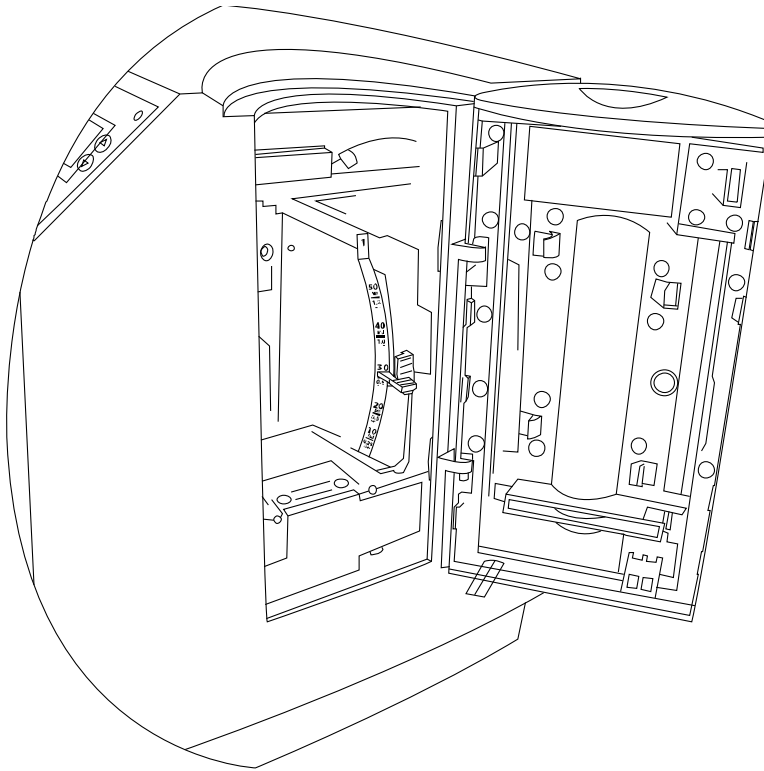
Encoding Errors

Resolving the No Magnetic Encoder Error Message

Symptom: The Printer is receiving encoding data, but the Printer is not configured with this Encoder type.

Step	Procedure
1	Ensure the LCD Setting is correct.
	Press Menu on the LCD.
	Select Setup Printer and Encoder Settings.
	Change the Mag Setting from **None** to **YES**.
2	If the encoding data was sent in error, check the appropriate software user's manual for encoding instructions.

Resolving the No ENC Response Error Message

Symptom: There is no ENC response.

Step	Procedure
1	Check the Magnetic Offset Setting.
	Press Menu on the LCD.
	Select Setup Printer and Encoder Settings
	Select Magnetic TOF.
	Verify that the current value matches the default value listed inside the Top Cover.

Resolving the Failed Magnetic Encoder Error Message

Symptom: The Magnetic Stripe was not encoded properly.

Step	Procedure
1	Check to ensure that the cards are loaded with the Magnetic Stripe facing down and towards the back of the Printer.
2	Verify the Driver Settings. See the Using the Magnetic Encoding tab.x Ensure that the Coercivity setting in the driver corresponds to the type of cards that are being used. • Super-High Coercivity = 4000 Oersted • High Coercivity = 2750 Oersted • Low Coercivity = 300 Oersted

Resolving the No Prox Encoder Error Message

Symptom: The Printer is receiving encoding data, but the Printer is not configured with this Encoder type.

Step	Procedure
1	Ensure the LCD Setting is correct. • Press **MENU** on the LCD. • Select Setup Printer and Encoder Settings. • Change the Prox Setting from **None** to **Yes**.
2	Check the appropriate software user's manual for specific encoding instructions if the encoding data was sent in error.

Resolving the No Smart Encoder Error Message

Symptom: The Printer is receiving encoding data, but the Printer is not configured with this Encoder type.

Step	Procedure
1	Ensure the LCD Setting is correct. • Press **Select** on the LCD. • Select the Setup Printer and Encoder Settings. • Change the Setting from **None** to **Yes**.
2	Check the software user's manual for encoding instructions if the encoding data was sent in error.

Resolving the Failed Smart Encode Error Message

Symptom: The card's smart chip was not encoded properly.

Step	Procedure
1	Check to ensure that the cards are loaded with the smart chip facing up and are being fed into the Printer first.
2	Verify that the card is entering the E-card Docking Station properly. • Send an encoding print job from the computer. • Watch the card feed into the Printer and enter the E-card Docking Station. • Adjust the Flipper Offset (as needed) if the card is not feeding into the E-card Docking Station properly. See Resolving the Card Jam on the Flipper Table.

Removing the Card Jam in the Printer's Magnetic Encoding Area

Symptom: A card is jammed in the magnetic encoding area of the Printer.

Step	Procedure
1	Clear the jammed card. a. Open the Top Cover and the Printhead Arm. b. Use the arrows on the LCD panel to move the card forward or backward to free the card.
2	Inspect the Card Feed Roller Motor for proper operation. a. Leave the power **ON** and open the Top Lid and Printhead Arm. b. Press the **FWD** button to advance the card or the **REV** button to reverse the card. Use these buttons to move the card through the Printer.
3	Ensure that the cards are feeding into the Encoding Module properly. a. Reset power on the Printer to clear any error messages. b. Select the Menu from the LCD. c. Select the Print Test Image from the menu. See the <u>Printing a Test Image</u>. d. Select the Magnetic Test from the menu. (**Note:** A card is fed from the Input Hopper onto the Flipper table and rotated into the Encoding Module.) e. If the card appears to jam against the components of the encoding assembly, adjust the Encoder angle of the Flipper Offset. See <u>Resolving the Card Jam on the Flipper Table</u>.
4	Adjust the Flipper Offset. a. Select **Menu** on the LCD display. b. Select **Setup Printer**. c. Select **Flipper Settings**. d. Select **Encoder Flip Angle**. e. Change the setting in small increments. (**Note:** A negative adjustment will lower the side of the Flipper Table closest to the Exit Hopper. f. Press **Done**. When it asks if you want to save, press **Yes**.

Removing the Card Jam in the Printer's Smart Card Encoding Area

Symptom: A card is jammed in the Smart Card encoding area of the Printer.

Step	Procedure
1	Clear the jammed card. a. Open the Top Cover and the Printhead Arm. b. Use the arrows on the LCD panel to move the card forward or backward to free the card.
2	Inspect the Card Feed Roller Motor for proper operation. a. Leave the power **ON** and open the Top Lid and Printhead Arm. b. Press the **FWD** button to advance the card or the **REV** button to reverse the card. (**Note:** Use these buttons to move the card through the Printer.)
3	Adjust the Flipper Offset. a. Select Menu on the LCD display. b. Select Setup Printer c. Select Flipper Offset. d. Select Encoder Flip Angle e. Change the setting in small increments. (**Note:** A negative adjustment will lower the side of the Flipper Table closest to the Exit Hopper.) f. Press **Done**. When it asks if you want to save, press **Yes**.

Resolving the Printer not reading Encoded Magnetic Track Data

Step	Procedure
1	Verify that the cards are loaded properly with the Magnetic Stripe facing down and towards the back of the Printer.
2	Verify that the card is encoded with magnetic data by using a magnetic imager or developer solution.
3	a. Use **WordPad** (a Windows 95/ 98/ ME/ NT/ 2000/XP word processing program in the Accessories Program Group), as shown on the next page. b. Open the program and type in: ~1%JULIEANDERSON^1234567890? c. Select **File > Page Setup** and click on the **Printer** button. d. Ensure that the DTC550 Series Card Printer is selected and click on **OK.** e. Change all the margin settings to **zero (0)** and click on **OK.** f. Go to **File** on Menu Bar and select **Print**. (**Note:** The Printer should then feed a card into the Encoder and magnetically encode it.)
4	⚠ **Caution:** Ensure that the Coercivity of the cards matches the setting in the driver.
5	Compare the settings for the card reader to the settings in the driver.
6	⚠ **Caution:** Ensure that the Magnetic Stripe on the card is free of scratches or voids.

See the previous procedure in this section.
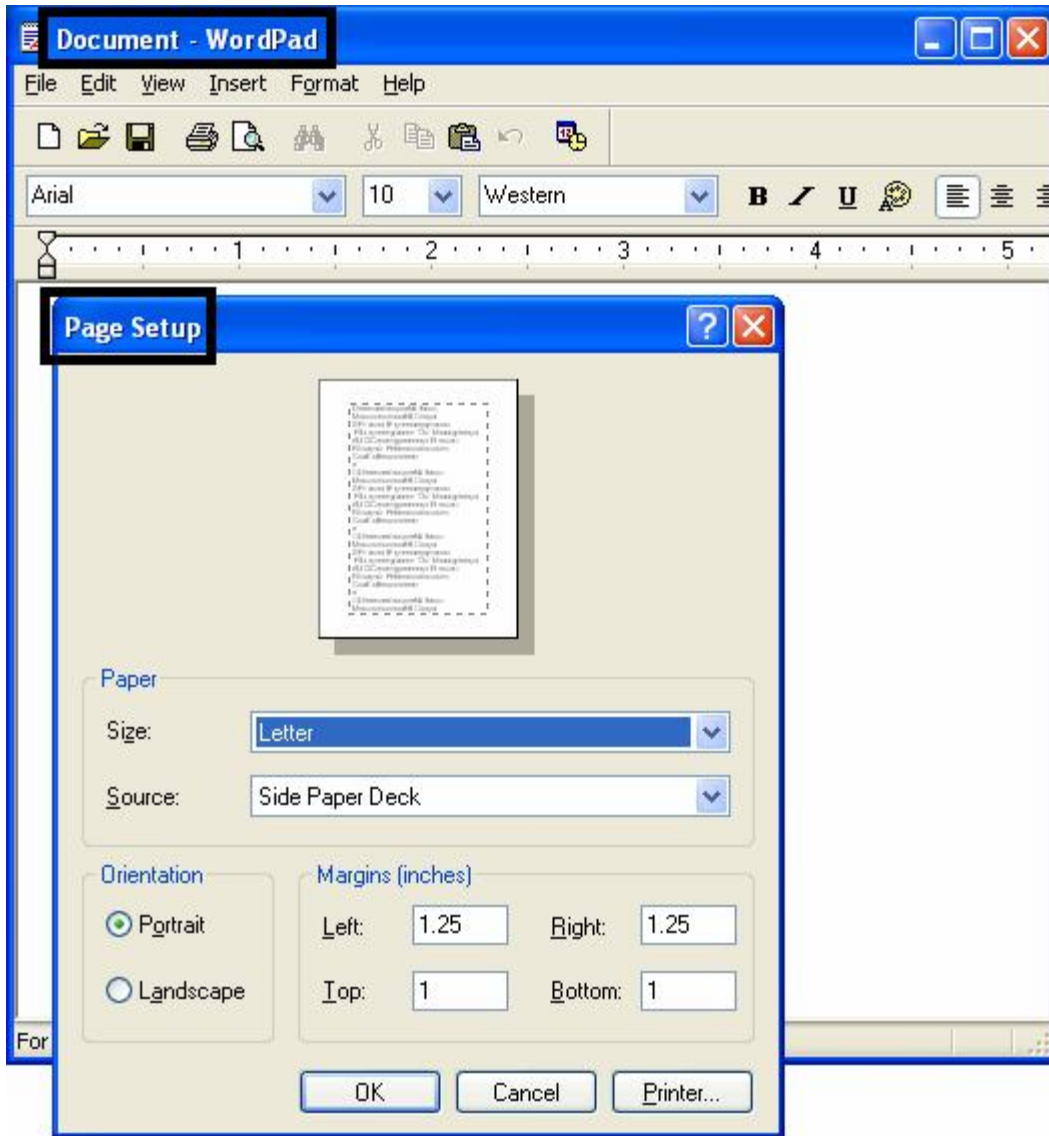
Resolving the Magnetic Stripe Data being printed on a Card problem

Step	Procedure
1	Confirm that the application is formatting the magnetic string correctly. See the [Sending the Track Information](#) procedure under Magnetic Encoding Tab.
2	a. Use **WordPad** (a Windows 2000/XP word processing program in the Accessories Program Group). See previous display. b. Open the program and type: "~1%JULIEANDERSON^1234567890?" c. Select **File > Page Setup** and click on the **Printer** button. d. Ensure that the DTC550 Series Card Printer is selected and click **OK.** e. Change all the margin settings to **zero (0)** and click **OK.** f. Go to **File** on Menu Bar and select **Print**. (**Note:** The Printer should then feed a card into the Encoder and magnetically encode it.)

Printing Process Errors

Resolving the Ribbon Alignment Error Message

Step	Procedure
1	If the Ribbon is out, install a new Ribbon and press **RESUME**.
2	If the Ribbon is broken, repair the Ribbon by taping the supply end back onto the take-up core and pressing **RESUME**.
3	Check that the Ribbon is loaded properly and completely seated on the Ribbon Hubs.
4	Ensure that the LCD supplies info matches the actual Ribbon installed. (**Note:** It could be an invalid or a wrong Ribbon ID tag.) Select Menu -> System Info -> Report Supplies -> Print Ribbon Info -> Setup Printer -> Sensor Calibration -> Cal Ribbon Sensor.
5	Verify that Ribbon jogs ahead, then rewinds and finally reports **SENSOR CALIBRATED**.
6	If successful, then retry the Ribbon operation by pressing **RESUME**.

Resolving the Print Ribbon Error Message

Symptom: The Print Ribbon is not installed properly or it has run out, jammed, broken or been damaged.

Step	Procedure
1	If the Ribbon is out, install a new Ribbon and press **RESUME**.
2	If the Ribbon is broken, repair the Ribbon by taping the supply end back onto the take-up core and pressing **RESUME**.
3	Check that the Ribbon is loaded properly and completely seated on the Ribbon Hubs.
4	Ensure that the LCD supplies info matches the actual Ribbon installed. (**Note:** It could be an invalid or a wrong Ribbon ID tag.) Select Menu -> System Info -> Report Supplies -> Print Ribbon Info -> Setup Printer -> Ribbon Sensor.
5	Verify that Ribbon jogs ahead, then rewinds and finally reports **SENSOR CALIBRATED**.
6	If successful, then retry the Ribbon operation by pressing **RESUME**.

Resolving the Print Ribbon Out Error Message

Symptom: The Print Ribbon has run out.

Step	Procedure
1	Install a new Ribbon and press **Resume** to continue.

Resolving the Ribbon Jam/Broken Error Message

Symptom: An error message is displayed on the LCD and the Ribbon is broken.

Step	Procedure
1	Verify that the Print TOF and Print EOF are set correctly.
	If the break occurs at the front portion of the Ribbon Color Panel, increase the Print TOF by 5.
	If the break occurs at the back portion of the Color Panel, reduce the Print EOF by 5.
	Print a self-test to verify operation. See the Printing a Test Print Image.

Resolving the Wrong Print Ribbon Error Message

Symptom: The Print Ribbon (installed in the Printer) does not match the Ribbon type selected in the Printer Driver.

Step	Procedure
1	Verify that the Ribbon is installed properly by ensuring that: • The Ribbon is loaded with the supply side closest to the Card Input Hopper. • The Ribbon is rolling from the bottom of the spool to the bottom of the take up spool. • The green flange of the Ribbon Core is aligned next to the green hub in the Printer.
2	Verify if the Driver has been set correctly. a. Open the Printer control panel from the computer. b. If using Windows 2000/XP, right click on the DTC550 Series Card Printer and select **Printing Preferences**. c. Click on the Device Options tab in the Printer Driver. d. Verify that the Ribbon **Type** setting that is listed matches the Ribbon that is installed in the Printer. (**Note:** It may be possible to have Driver settings that are different from those found in the Printer control panel within the application.) e. Check any page setup functions in the software to verify that the Ribbon type matches.

Resolving the Unknown Ribbon Type Error Message

Symptom: The Printer is unable to determine the type of Ribbon installed.

Step	Procedure
1	Verify the Ribbon type. Ensure that the Print Ribbon installed in the Printer is a DTC 550 Ribbon. Ensure that the green flange of the Ribbon core is aligned next to the green hub in the Printer.
2	Verify that there is an RFID tag present on the Ribbon Flange.

Resolving the Headlift Error Message

Symptom: The Printer was unable to raise or lower the Printhead.

Step	Procedure
1	Press the **Resume** button to retry.
2	If the Headlift does not rotate, check the Headlift Motor (A000124) to ensure that it is running. (**Note:** The Motor can only be replaced by an Authorized Service Provider.)

Resolving the Printer pausing between panels errors

Symptom: The Printhead Fan is not operating properly.

Step	Procedure
1	Confirm that the fan operates correctly.
2	Check the Printhead fan for pinched wires. • Inspect the wires that are routed under the Ribbon Arm to ensure that they are not pinched.
3.	Verify if the thermal Regulator on the Printhead has failed. a. Remove the Printhead and reseat cable connections. b. If problem persists, replace with a new Printhead.
4	Ensure that the Printer has received data (at the speed that it requires). See Communications Errors in this same section.

Resolving the Printhead Temp Error Message

Symptom: The Printhead Temperature Regulator is not functioning properly.

Step	Procedure
1	Confirm that the cooling fan above the Printhead is operating properly. (**Note:** Upon power up, the fan should run momentarily and shut off.)
2	Reboot the Printer. If the problem persists, remove the Printhead and ensure that the Printhead Cable is seated properly. (**Note:** The Printhead can only be replaced by an Authorized Service Provider.)
3	Replace the Printhead after checking the Printhead Cable connection at both the Printhead and the Main Print Board (if the error is still displayed on startup).
4	Replace the Main Print Board if problem still remains.

Resolving the Flipper Alignment Error Message

Symptom: A Flipper Alignment error was displayed on the LCD.

Step	Procedure
1	Check for any obstruction. a. Open the Top Lid. b. Remove the Ribbon. c. Ensure that there are no obstructions.
2	Verify the Motor operation. a. Test the Flipper Table Home Sensor (A000136) by rotating the Flipper Table off from the level position. b. Close the Top Cover. (**Note:** This should cause the Flipper Table to attempt to home itself.)

Firmware Errors

Resolving the Update Firmware Now

The System Firmware must be updated for one of these reasons:

- The previous Firmware update was unsuccessful.

- The program data is corrupt.

- The Printer model does not correspond with the installed Firmware model number.

- The revision number of the Firmware does not match on all system components.

Resolving an Upgrade Failed error

Symptom: An Upgrade Failed error is displayed on the LCD during the upgrade process

Step	Procedure
1	Determine if there is interference from an external device.
2	Ensure that the proper procedure is being used.

Resolving a Program Exception Error

Symptom: An error has occurred in the Printers Firmware causing a Program Exception Error.

Step	Procedure
1	Restart the Printer and attempt to print the card again. If no Error is displayed, continue printing. If a Program Exception is displayed again, continue to step 2.
2	Reload the Firmware.
3	Replace the Main Board. (**Note:** The Main Board can only be replaced by an Authorized Service Provider.)

Diagnosing the Image Problems

Resolving the Pixel failure problems

Symptom: A thin line or scratch travels the entire length of the card.

Step	Procedure
1	Check the card stock for scratches. Replace the cards (as needed).
2	Examine the Printhead for visible damage.
3	Clean the Printhead. Remove watches, rings, bracelets and other jewelry. Open the Top Cover and Printhead Arm. Use a Printhead Cleaning Pen from the Printer Cleaning Kit to firmly wipe back and forth across the surface of the Printhead. Close the Top Cover and Printhead Arm once the Printhead is completely dry.

Resolving the Pixel failure problems (continued)

Step	Procedure
4	Replace the Cleaning Roller. a. Open the Printer's Top Cover. b. Pull the Cleaning Cartridge out of the Printer. c. Remove the old roller from the Cleaning Cartridge and replace it with the new roller. d. Pull on the Cleaning Roller's tab to remove the backing from the tape. e. Insert the Cleaning Cartridge back into the Printer. f. Be sure to push down on the cartridge until it clicks into place.
5	Clean the Platen Roller. a. Leave the Printer power ON and open the Top Cover and Printhead Arm. b. Remove the Print Ribbon. c. Locate the Print Platen Roller. d. Use a Cleaning Pad from the Printer Cleaning Kit to wipe the Roller clean. e. Use a Cleaning Pad from the Printer Cleaning Kit to wipe the Roller clean. Press the **FWD** and **REV** buttons to move the Roller back and forth while cleaning. f. Replace the Print Ribbon. g. Close the Printer after the Rollers are clean and completely dry.
6	Replace the Printhead.

Resolving the Card surface debris problems

Symptom: Prints have spots (white or colored voids) and/or dust on them, as shown after **Step** 4 in this procedure.

Step	Procedure
1	Be sure the cards are clean and stored in a dust-free environment. **Caution:** Cards with embedded contaminants in the surface should not be used.
2	Clean the inside of the Printer. Open the Top Cover and Printhead Arm. Remove the Print Ribbon from the Printer. Use a can of compressed air to blow out all visible areas of the Printer interior. Use a cleaning pad from the Printer Cleaning Kit to wipe out all visible areas inside the Printer. Remove any debris that may be inside. Re-install the Print Ribbon. Close the Top Cover and Printhead Arm. **Caution:** Be extremely careful not to let any alcohol drip inside the Printer!

Resolving the Card surface debris problems (continued)

Step	Procedure
3	Replace the Cleaning Roller.
	Open the Printer's Top Cover.
	Pull the Cleaning Cartridge out of the Printer.
	Remove the old roller from the Cleaning Cartridge and replace it with the new roller.
	Pull on the Cleaning Roller's tab to remove the backing from the tape. Insert the Cleaning Cartridge back into the Printer.
	⚠ **Caution:** Be sure to push down on the cartridge until it clicks into place.
4	Clean the Platen Roller.
	Leave the Printer power ON and open the Top Cover and Printhead Arm.
	Remove the Print Ribbon.
	Locate the Platen Roller.
	Use a Cleaning Pad from the Printer Cleaning Kit to wipe the Roller clean.
	Press the **FWD** and **REV** buttons to move the Roller back and forth while cleaning.
	Replace the Print Ribbon and close the Top Cover and Printhead Arm after the Rollers are clean and completely dry.

Resolving the incorrect Image Darkness problems

Symptom: Printed cards are too dark or too light, as shown on the next page.

Step	Procedure
1	Run a Self-Test from the Printer. See Printing a Test Print Image. a. Select Menu from the LCD. b. Select Print Test Image from the menu. c. Select Gray/Align YMC/K Self-test from the Menu. d. If the Self test card does not appear to have the same darkness issues, continue to step 2 (Adjusting the Dye sub intensity). e. If the Self test card does appear to have the same darkness issues, continue to step 2 (Adjusting the image darkness).
2	Adjust the Dye-Sub Intensity setting within the Image Color tab of the Printer Driver. See the Using the Image Color tab. a. Open the Printer control panel from the computer. If using Windows 2000/XP, right click on the DTC550 Series Card Printer and select **Printing Preferences**. b. Click on the Image Color tab. • If the image is too light, adjust the Dye-Sub Intensity to a more positive value. • If the Image is too dark, adjust the Dye-Sub Intensity to a more negative value. **OR** Correct the Image Darkness in the LCD. See the **Using the Image Darkness Option** procedure under Using the Printer Calibration Utility. a. Select Menu from the LCD. b. Select Setup Printer and then select Image Darkness. • If the image is too light, adjust the current value to a more positive number. • If the Image is too dark, adjust the current value to a more negative number.

Resolving the incorrect Image Darkness problems (continued)

See previous procedure in this section.

Resolving the incorrect Image Darkness problems (continued)

See previous procedure in this section.
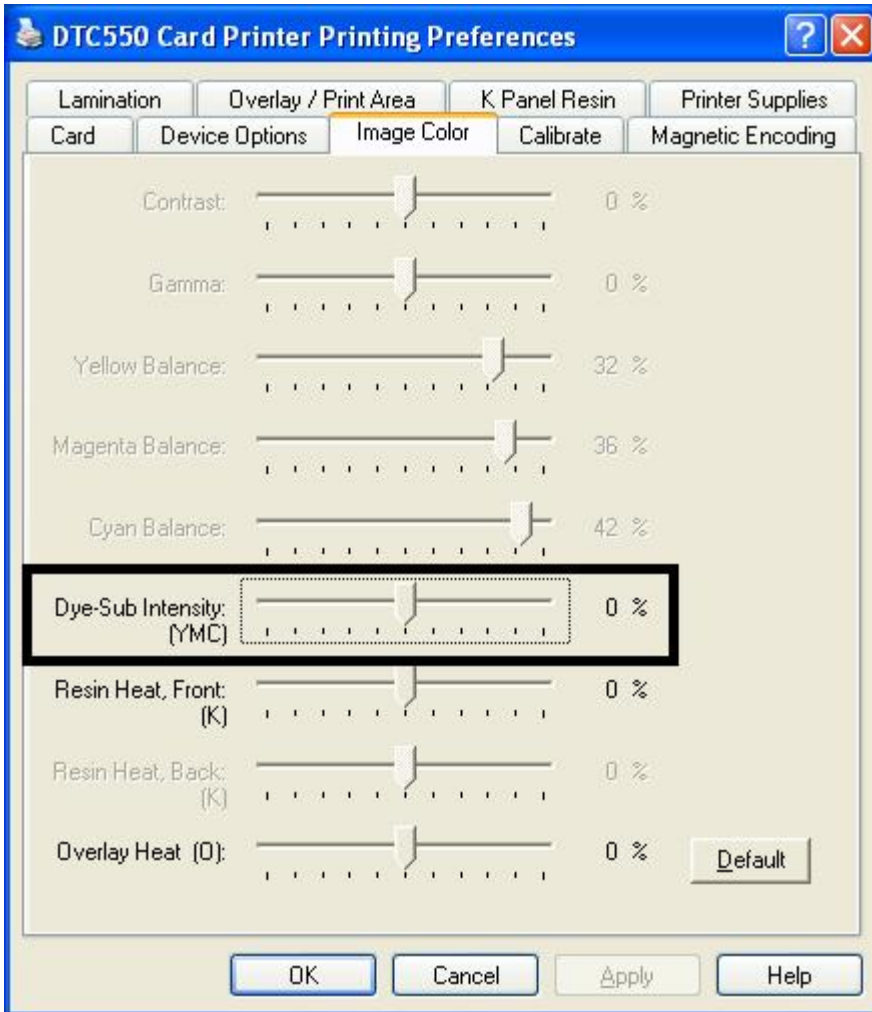
Resolving the Ribbon wrinkle problems

Symptom: Printed cards have off-colored lines or streaks on them, as shown on the next page.

Step	Procedure
1	Confirm that the Printer is using the most current driver from: http://www.fargo.com
2	Adjust the Dye-Sub Intensity setting within the Image Color tab of the Printer Driver. See the Using the Image Color tab. a. Open the Printer control panel from the computer. If using Windows 2000/XP, right click on the DTC550 Series Card Printer and select **Printing Preferences**. b. Click on the Image Color tab. c. Adjust the Dye-Sub Intensity to a more negative value in increments of 10%. **OR** Correct the Image Darkness in the LCD. See the **Using the Image Darkness Option** procedure under Using the Printer Calibration Utility. a. Select **Menu** from the LCD. b. Select **Setup Printer** and then select **Image Darkness**. c. Adjust the current value to a more negative number in increments of 2.

Resolving the Ribbon wrinkle problems (continued)

Step	Procedure
3	Adjust the Ribbon Tension. See the **Using the Ribbon Tension Option** procedure under <u>Using the Printer Calibration Utility</u>. a. Select **Menu** from the LCD. b. Select **Setup Printer**, then **Print Settings**, and then **Ribbon Tension**. c. Adjust the current value to a more positive number.
4	Check the Printhead for debris and burrs.

Resolving the excessive Resin Printing problems

Symptom: Black resin text and barcodes appear smeared or too thick, as shown below.

Step	Procedure
1	Reduce the Resin Heat setting within the Image Color tab of the Printer Driver. See the Using the Image Color tab. a. Open the Printer Control Panel from the computer. b. If using Windows 2000/XP, right click on the DTC550 Series Card Printer and select **Printing Preferences**. c. Click on the Image Color tab. d. Adjust the Resin Heat to a more negative value in increments of 5%. **OR** e. Adjust the **Resin Heat** in the LCD. See Using the Printer Calibration Utility. f. Select **Menu** from the LCD. g. Select **Setup Printer**, then **Print Settings**, and then **Resin Heat**. h. Adjust the current value to a more negative number in increments of 2.
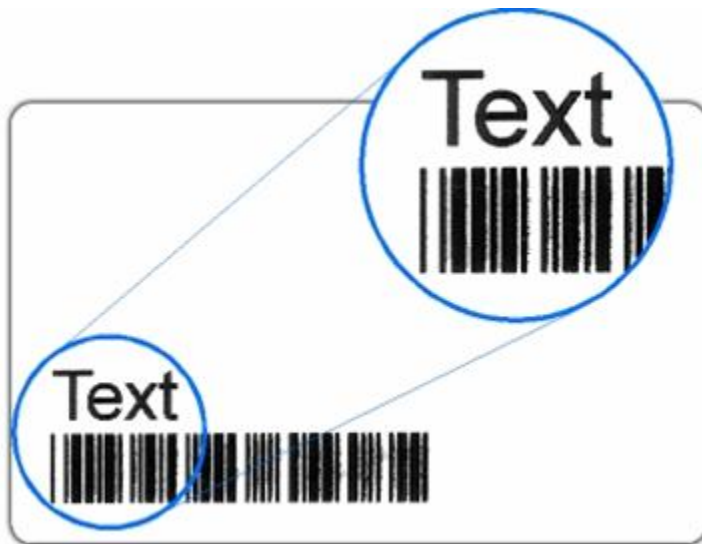
Resolving the excessive Resin Printing problems (continued)

See the previous procedure in this section.
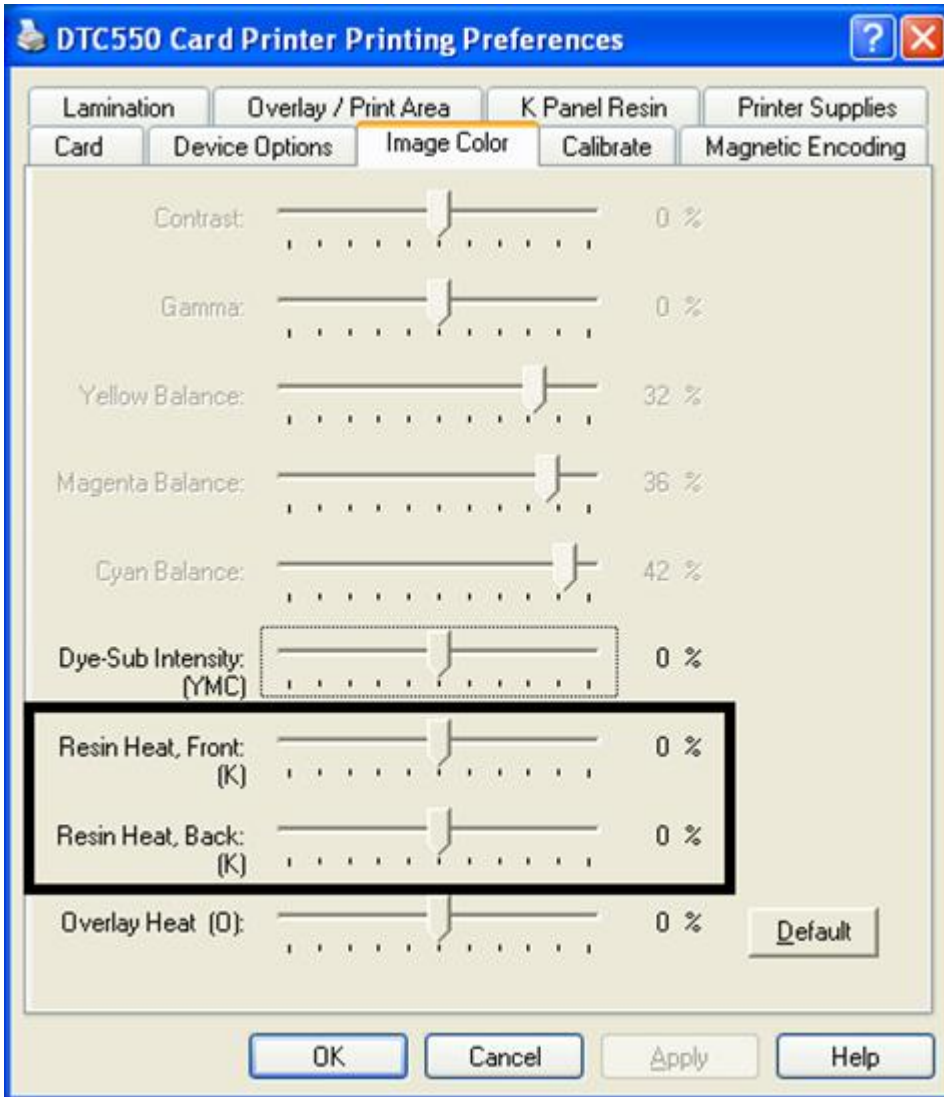
Resolving the incomplete Resin Printing problems

Symptom: Black resin text and barcodes appear faded or too light, as shown below.

Step	Procedure
1	Increase the Resin Heat setting within the **Image Color** tab of the Printer Driver. See the <u>Using the Image Color tab</u>.
	a. Open the Printer control panel from the computer.
	If using Windows 2000/XP, right click on the DTC550 Series Card Printer and select **Printing Preferences**.
	b. Click on the Image Color tab.
	c. Adjust the Resin Heat to a more positive value in increments of 5%.
	OR
	Correct the **Resin Heat** in the LCD. See <u>Using the Printer Calibration Utility</u>.
	a. Select Menu from the LCD.
	b. Select Setup Printer and then select **Resin Heat**.
	c. Adjust the current value to a more positive number in increments of 2.
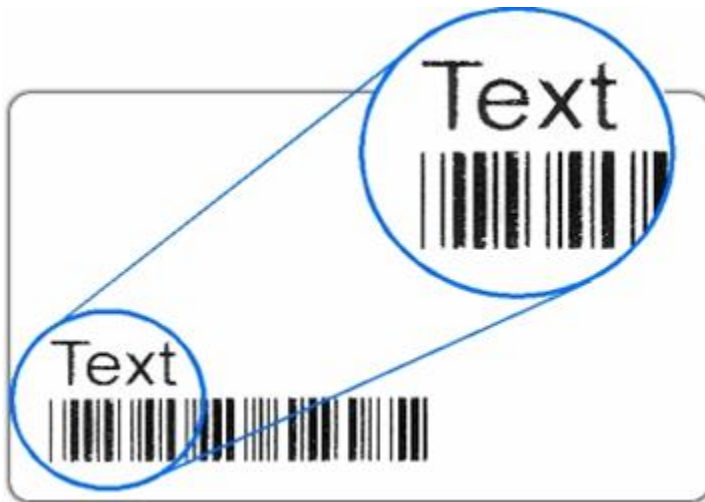
Resolving the incomplete Resin Printing problems (continued)

See the previous procedure in this section.
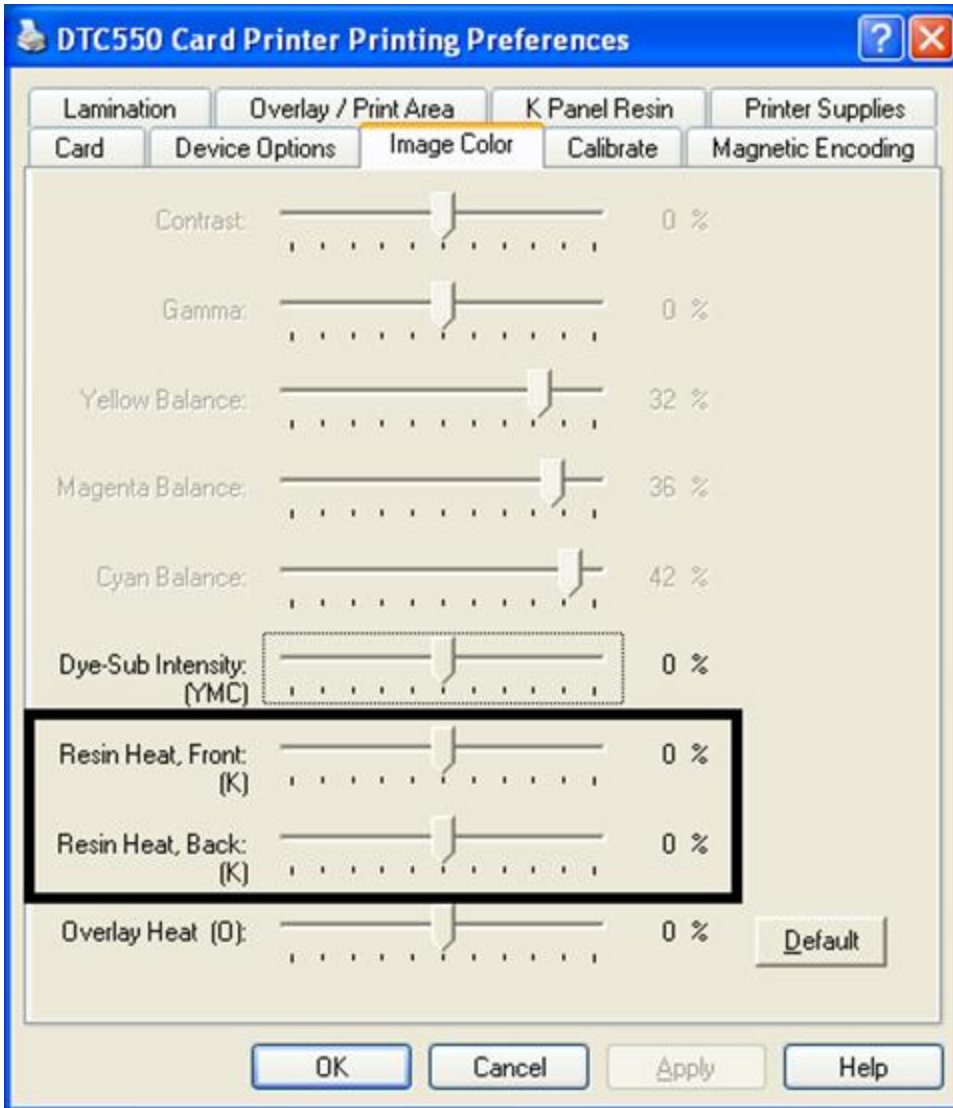
Resolving the cut off or off-center Card Image problems

Symptom: The printing is cut off or is not centered on the card. This causes a white border to appear on the card, as shown below.

Step	Procedure
1	Use the Image Position within the Calibrate tab of the Printer Driver to precisely center the image. See Displays A and B (below).

Display A - Centering the Image correctly

Resolving the cut off or off-center Card Image problems (continued)

Display B - Using the Calibrate tab to center the image
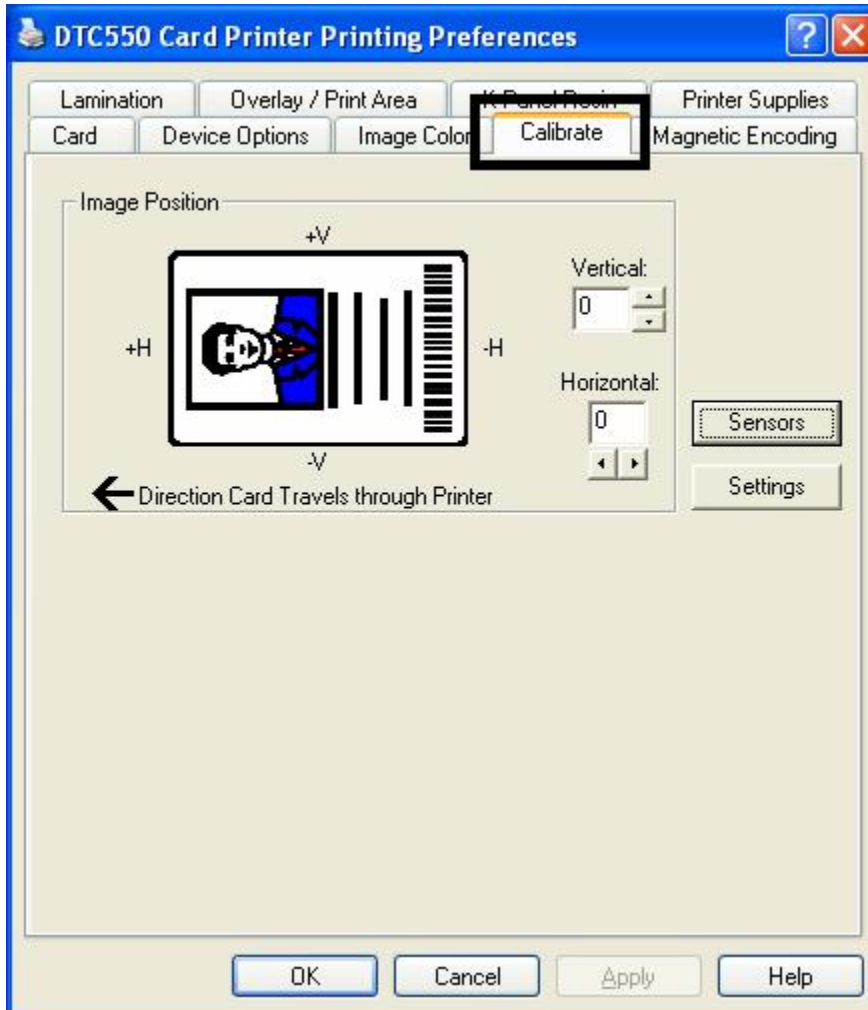
Resolving the poor Image Quality problems

Symptom: The photos on the cards look pixilated or grainy, as shown below.

Step	Procedure
1	Use a high-resolution, 24-bit color camera to always capture an image: • at a 24-bit color setting • at 300 dpi • at the same size that it will be printed on the card, (as captured either with a scanner or with a digital camera) ⚠ **Caution:** If a small or low-resolution image is stretched or blown up, a pixilated or grainy effect will occur when printing, as shown below.

Good   Bad

Printing a Test Image

Printing a Print Test Image

Step	Procedure
1	Choose **Print Test Image** to select a preset test image and press the **Menu** button. (**Note:** These images help to determine if the Printer is functioning properly.)
2	Scroll to the desired test image from the **Select Test Image** options and press the **Select** button.

Reviewing the Gray/Align YMC/K Self-Test

Step	Procedure
1	Use this card to determine Image Placement and confirm that the Printer is working properly. (**Note:** The image consists of sixteen (16) gray scale boxes and alignment arrows.)
2	Adjust the Image Placement. (**Note:** The gray boxes are composed from a composite of YMC color panels.)

Reviewing the Color/Resin YMCK Self-Test

Step	Procedure
1	Use this card to determine Image Placement and confirm that (a) the image colors are properly reproduced and (b) the Resin Panel is printing properly. (**Note:** The Image consists of twelve spot colors, YMC and RGB, as well as gray density bars and thin resin lines.)

Reviewing the Color Bars YMC Self-Test

Step	Procedure
1	Use this card to confirm that image colors are properly reproduced. Image consists of sixteen graduated steps of RGB and YMCK. (**Note:** This print will provide maximum image size, giving complete card coverage on a CR-80 sized card.)

Reviewing the Printer Settings Self-Test

Step	Procedure
1	Use this card to view Printer settings and counts for **Card Count (CC)**, **Pass Count (PC)**, **Card Cleaning Count (TC)** and others.
	The **Card Count** is the total number of cards the Printer has produced. **Pass Count** is the total number of print passes made by the Printhead. (**Note:** A pass is measured each time a single Ribbon panel is printed or passes beneath the Printhead.)

```
Image Darkness:0 [0]
Resin Heat Adj:0 [0]
Print Top Of Form:0 [0]
Print End Of Form:0 [0]
Print Left Of Form:0 [0]
Mag Top Of Form:0 [0]
Ribbon Tension:0 [0]
Print Flip Level:-5 [0]
Print Flip Angle:-8 [0]
Encoder Flip Angle:0 [0]
Model:DTC550
S/N:M0000029
FW Rev: MVT:18  Jun 24 2005
Head Resistance:3200 [3000]
Ribbon Calibration:155 [0]
Ribbon Pretension:0 [0]
Misc Flags:34312
Card Count:2502
Pass Count:4005
Card Cleaning Count:3000
```

Reviewing the Magnetic Test option

Step	Procedure
1	Use this option only if a Magnetic Encoding module is installed in the Printer. (**Note:** The Printer will feed, encode and eject a card. Be sure to have high Coercivity cards installed when running this test.)

Section 5: Card Lamination Module

Adjusting a Card Lamination Module

The Card Printer supports the attachment of an optional Card Lamination Module. This module can be ordered pre-installed on the Printer from the factory or can be ordered separately as a field upgradeable module. Once attached, the Card Lamination Module allows you to apply Fargo certified overlaminates for more secure, tamper-resistant cards. This section explains all aspects of the Card Lamination Module's operation and the overlaminate materials available.

IMPORTANT! Fargo Card Printers require highly specialized Print Ribbons to function properly. To maximize Printer life, reliability, printed card quality and durability, you must use only Fargo Certified Supplies. For this reason, your Fargo warranty is void, where not prohibited by law, if you use non-Fargo Certified Supplies. To order additional materials, please contact your authorized reseller.

Adjusting the Card Flattener

The Card Lamination Module provides an adjustable Card Flattener that allows you to fine-tune the flatness of laminated cards. This flattener works by reverse bending cards as they eject from the laminator while they are still warm.

In most cases, card warpage is only a concern when laminating on a single side of card stock which has a PVC-based core rather than a polyester-based core. Cards with a PVC-based core are not as heat resistant and are not recommended for use when laminating

By default, the Card Flattener is configured at the factory to accommodate UltraCard III type card stock. (**Note:** If you are experiencing an unacceptable amount of card warpage, please refer to the following to adjust the Card Flattener.)

Adjusting the Card Flattener (continued)

Step	Procedure
1	Open the Card Lamination Module.
2	Remove the overlaminate material if installed.
3	If laminated cards are bowing upward, turn the Card Flattener Adjustment Knob clockwise. (**Note:** This pushes the flattener Roller down to increase the reverse bending pressure. For best results, turn the knob one full rotation, then print and laminate a test card. Repeat this process as necessary.)
4	If the card is bowing downward, the reverse bending pressure may be too great. In this case, rotate the adjustment knob counter-clockwise. (**Note:** Some card types have very low heat resistance and may not be acceptable for laminating.)
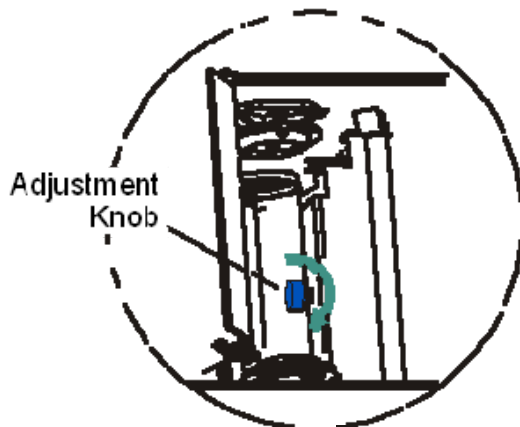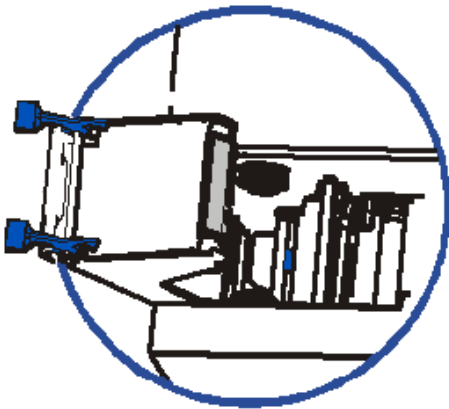
Adjusting the Card Guide Rail

If applying PolyGuard overlaminate, you may find that the individual patch from the overlaminate roll may be off-center when applied to a card. (**Note:** Although the patch placement will vary slightly from card to card, they should never hang over the edge of the card.) See Card Lamination Module.

To center the vertical placement of these patches across the card width, a mechanical adjustment can be made. If the PolyGuard patches are being applied too closely to or overlapping a card's top or bottom edge (as the card travels through the Printer), the Laminator's Card Guide Rail should be adjusted. (**Note:** This adjustment is described below.)

Step	Procedure
1	Open the Lamination Module's Top Cover and Lamination Station.
2	a. Feed a blank card into the module by inserting it through the output Hopper and reverse feeding it by pressing the Lamination module's **Resume** button. b. Manually position the card so its edge is flush with the Card Guide Rail.
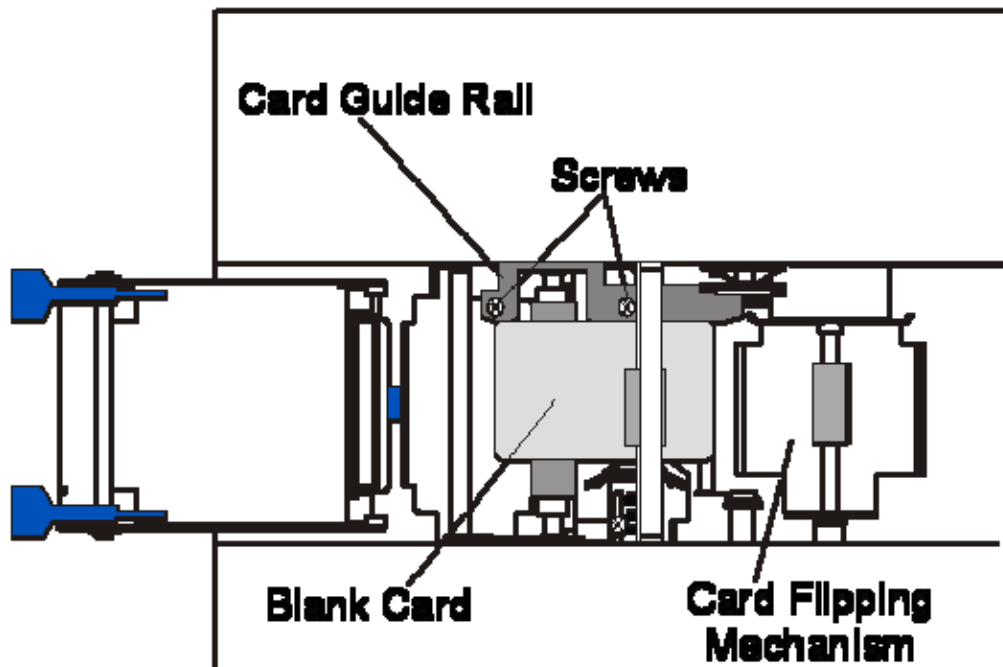
Adjusting the Card Guide Rail (continued)

Step	Procedure
3	Slightly loosen the two (2) screws which fasten the Card Guide Rail to the Printer's main chassis.
4	If the PolyGuard patch is being placed more toward a card's top edge (as shown), move the Card Guide Rail slightly toward the rear of the Printer (opposite the direction you would like the patch to move).

Adjusting the Card Guide Rail (continued)

Step	Procedure
5	If the PolyGuard patch is being placed more toward a card's bottom edge (as shown), move the Card Guide Rail slightly toward the front of the Printer (opposite the direction you would like the patch to move).
6	Always make very slight adjustments to the Card Guide Rail and run a test print after each adjustment until the optimum patch position is found. (**Note:** Be sure the Card Guide Rail always remains parallel to the card path and that the screws loosened in step 3 are retightened after each adjustment.)

Top Edge

Bottom Edge

Adjusting the Card Guide Rail (continued)

Step	Procedure
7	Once the adjustment is complete, be sure that the card is not binding between the Card Guide Rail and the Internal Card Guide. (**Note:** Depending upon how much you adjusted the Card Guide Rail, you may also need to adjust the Internal Card Guide.) When both are adjusted properly, there should be a slight space of about .010"/.25mm between the card edge and the Internal Card Guide as indicated here:
8	If necessary, adjust the Internal Card Guide as described in the remainder of this section.
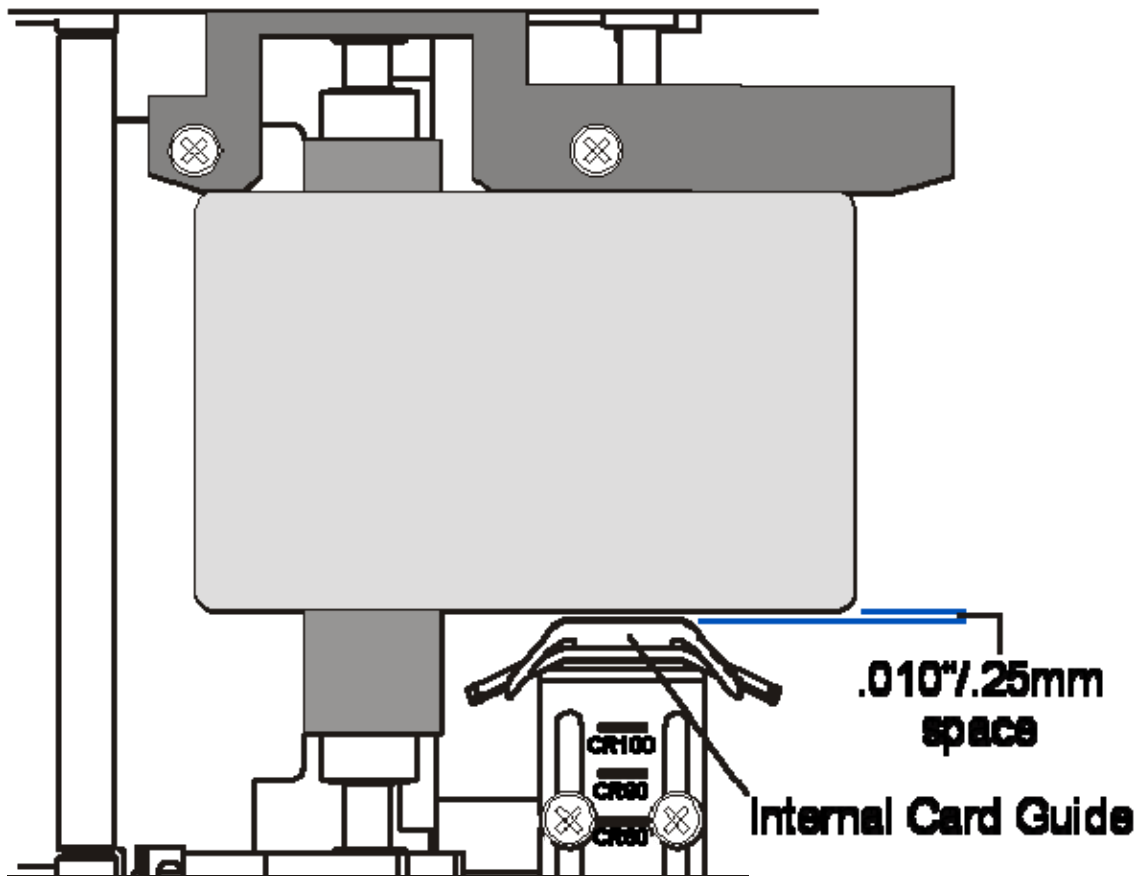
Adjusting the Internal Card Guide

The Internal Card Guide is what holds the card in position as it feeds through the Card Lamination Module.

Step	Procedure
1	Feed a blank card into the module by inserting it through the Output Hopper and reverse feeding it by pressing the Lamination Module's **Resume** button. Manually position the card so its edge is flush with the Card Guide Rail. See Display A below.
2	Slightly loosen the two screws which fasten the Internal Card Guide to the Printer's main chassis. See Display B below.
3	Move the Internal Card Guide so there is a slight space of about .010"/.25mm between the card edge and the Internal Card Guide as indicated below. When adjusting the Internal Card Guide, be sure it always remains parallel to the Card Guide Rail and card edge. See Display B below.
4	Always make very slight adjustments to the Internal Card Guide and run a test print after each adjustment until the optimum position is found. See Display B below. (**Note:** Be sure the Internal Card Guide always remains parallel to the card path and that the screws loosened in **Step** 2 are retightened after each adjustment.)

Adjusting the Internal Card Guide (continued)

Display A - Step 1

Internal Card Guide   Blank Card

Screws
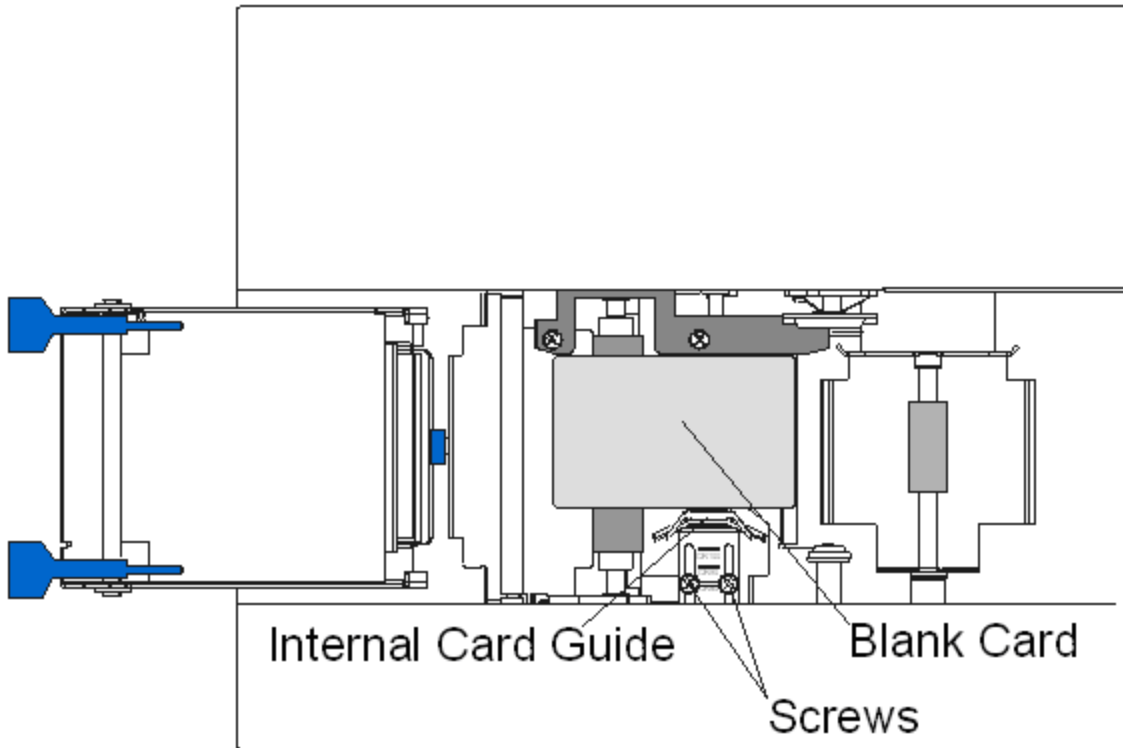
Adjusting the Internal Card Guide (continued)

Display B - Steps 2 to 4

.010"/.25mm space

Internal Card Guide

CR 100
CR 90
CR 80
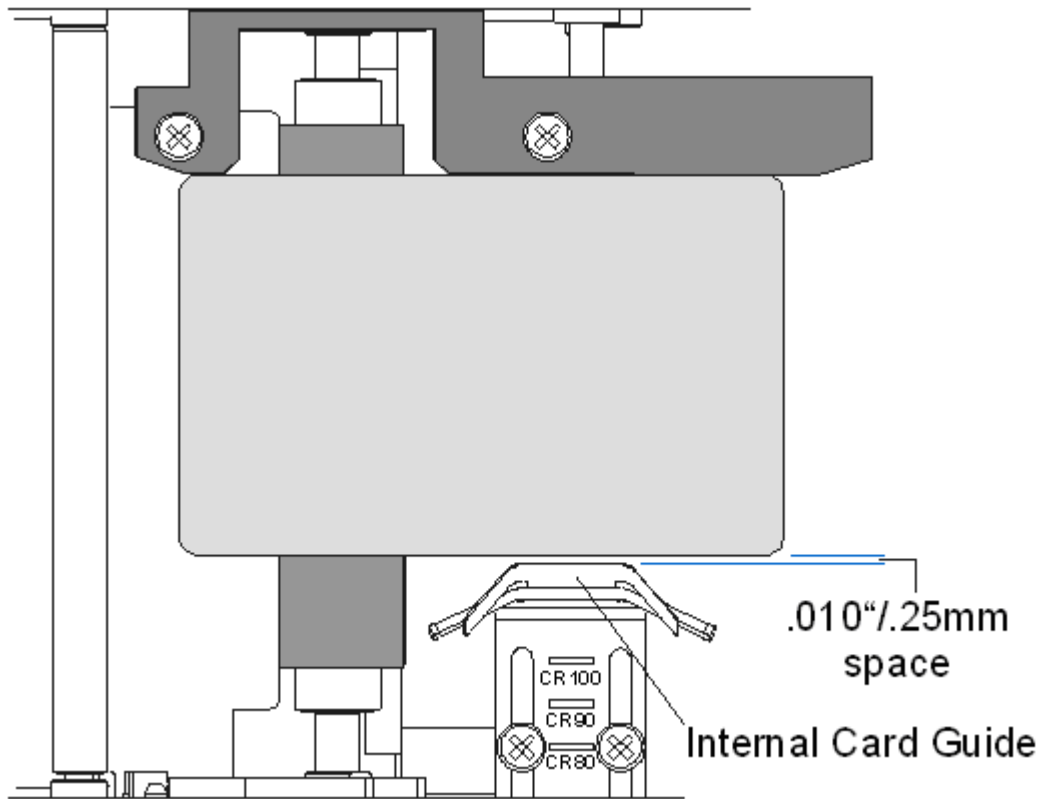
Attaching the Card Lamination Module

Reviewing the DTC550 Card Lamination Module Attachment Kit

Description	Quantity	Part Number
DTC550 Card Lamination Module	1	D855145
DTC550 Card Lamination Module Attachment Instructions	1	L000710
DTC550 Software Installation CD	1	510955
Screws (F000286)	4	F000286
Warranty Statement and Registration Card	1	L000012
Power Supply	1	E000480
Power cable (USA)	1	130063
Power cable (European, 6-foot)	1	130069
Torx Wrench	1	F000225

Performing the procedure for the DTC550 Card Lamination Module Attachment Kit

The Card Lamination Module can be attached as a field upgradeable option. This can typically be done in 20 minutes or less and with no other tools than the provided torx tool. Please refer to the following steps to attach this module.

This section applies only if you are installing the field upgradeable Card Lamination Module onto a DTC550 Printer. Your Printer model must be capable of accepting this module (since not all Printer models are compatible with this field upgradeable option). If you have questions about compatibility, please contact your authorized Fargo reseller.

Step	Procedure
1	Remove the Card Lamination Module from its packaging.
2	Disconnect the power cable from the Printer.
3	Remove the Card Output Hopper from the Printer. (**Note:** To do this, pull out on the Securing Tab located on the bottom of the Printer and slide the Card Output Hopper completely out of the Printer.)
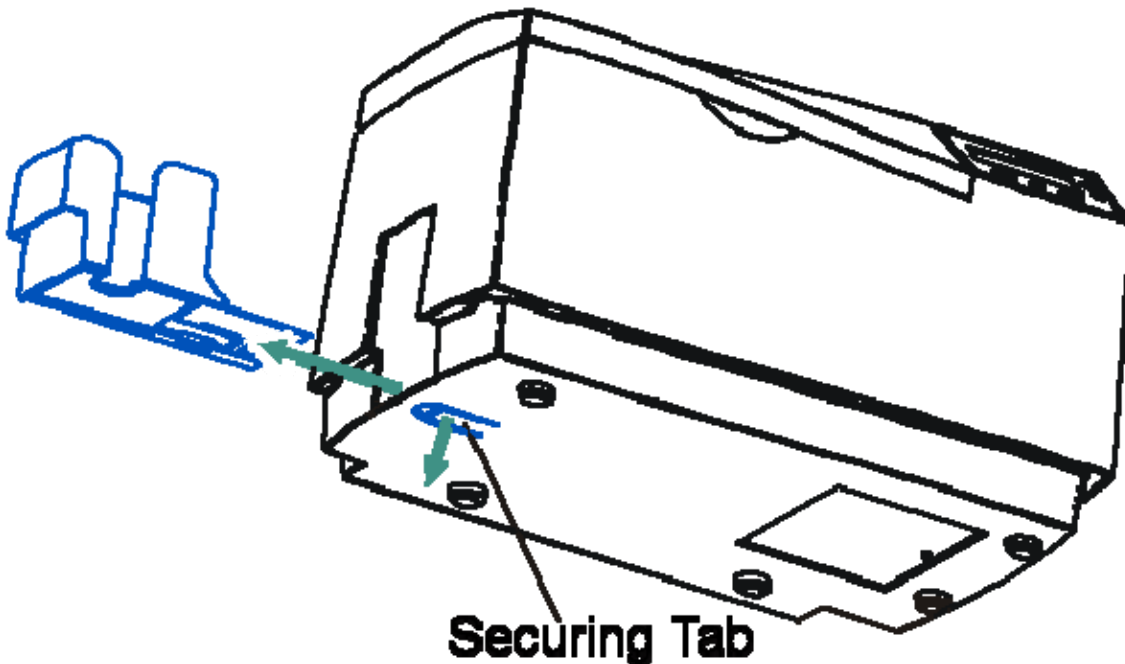
Securing Tab

Performing the procedure for the DTC550 Card Lamination Module Attachment Kit (continued)

Step	Procedure
4	Set the Printer on the Lamination Module's Baseplate (D855144) at an angle as shown. (**Note:** This position will make it easier to connect the Power and Communication cables.)
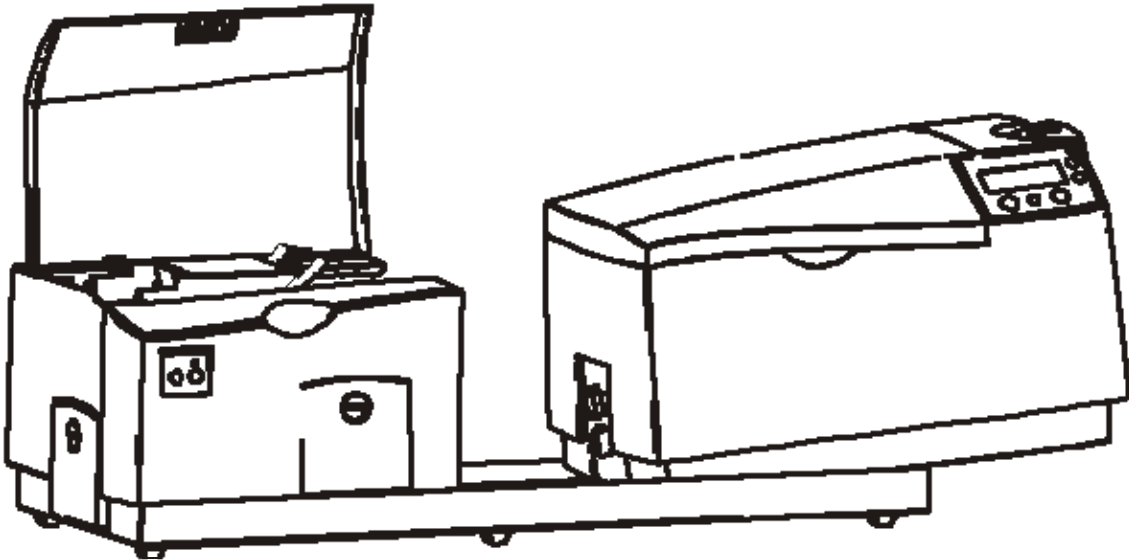
Performing the procedure for the DTC550 Card Lamination Module Attachment Kit (continued)

Step	Procedure
5	Connect the Lamination Module's Power Cable (RED) to the Printer's Power Port.
	Connect the Com Cable (GREEN) to the Printer's Com port.
	Push firmly to ensure both are securely connected. (**Note:** The port and cable are keyed for one way installation.)
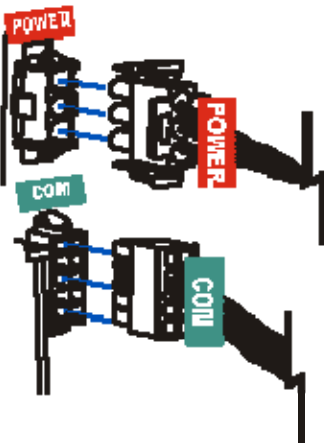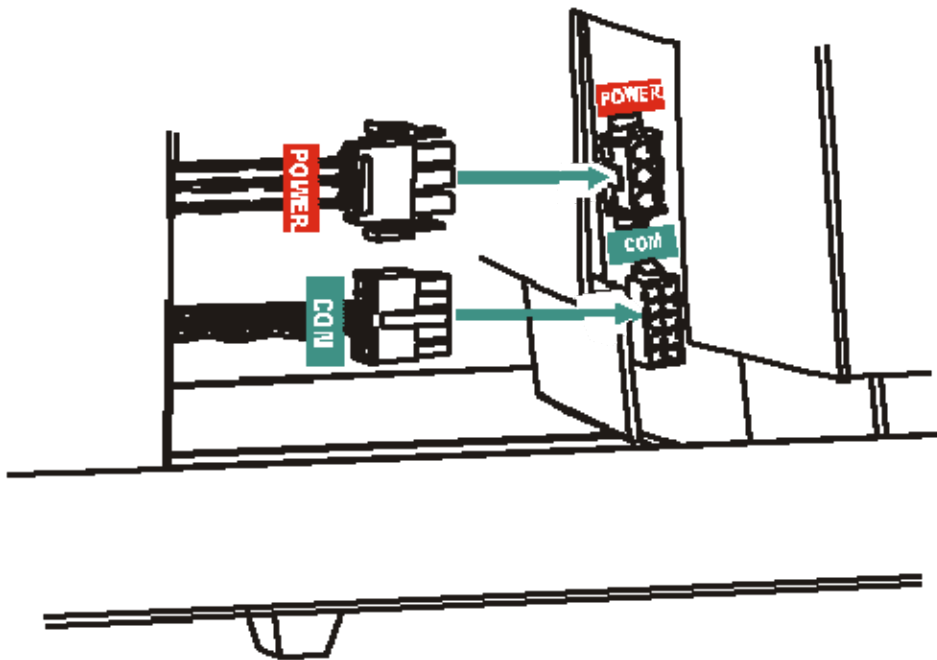
Performing the procedure for the DTC550 Card Lamination Module Attachment Kit (continued)

Step	Procedure
6	Set the Printer completely into the Lamination Module's Baseplate. (**Note:** The rubber pads on the bottom of the Printer will rest securely in the holes in the Lamination Module's Baseplate when the Printer is seated properly.)
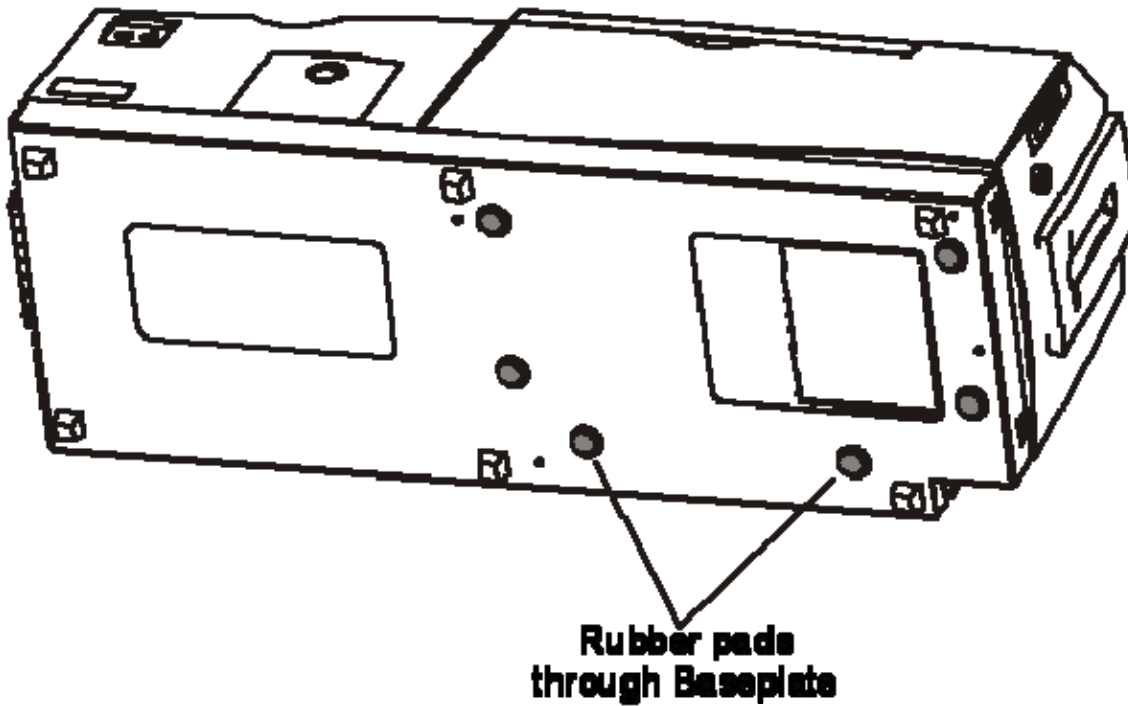
Rubber pads through Baseplate

Performing the procedure for the DTC550 Card Lamination Module Attachment Kit (continued)

Step	Procedure
7	Gently tilt the entire Printer and Lamination Module back onto its rear cover, as shown below. (**Note:** Be careful not to slide the unit around in this position as scratching could occur.)
8	Use the torx tool to insert each of the four (4) screws (F000286) into the Baseplate and tighten the screws to secure the Printer to the Lamination Module's Baseplate.

4 screws to secure printer to Baseplate

Performing the procedure for the DTC550 Card Lamination Module Attachment Kit (continued)

Step	Procedure
9	If you have not already done so, install the Laminator version of your Printer model's Printer Drive.
	For lamination-related Printer Driver options, see the Using the Lamination tab (only with Card Lamination Module).
	For overlaminate information, see the Reviewing the Overlaminates and Loading the Overlaminate.
	The packaging for the Card Lamination Module has been designed to accommodate shipping either the Lamination Module-only or the fully assembled Printer with Lamination Module.
	After assembling the complete Printer/lamination system, please re-use the Lamination Module packaging when transporting the unit.
10	Connect the plug from the power supply to the Card Lamination Module. (**Note:** There are two power supplies to the DTC550 Direct to Card Printer/Encoder with Laminator. There is one power supply to the Printer, and one power supply to the Card Lamination Module.)
11	Installation of the field upgradeable Card Lamination Module is now complete.
	• If you have not already done so, install the LC version of your Printer model's Printer Driver.
	• Refer to the included DTC550 Quick Start Sheet for instructions on installing the Printer Driver and on loading the print ribbon, cards, and overlaminates.
	• For complete overlaminate information, please refer to the Online User's Guide which installs from the Software Installation CD.

Performing the procedure for the DTC550 Card Lamination Module Attachment Kit (continued)

Step	Procedure
12	Once all print supplies are installed, apply power to the Lamination Module and run a test print to make sure installation was successful.
	You must have PolyGuard™ overlaminate and a full-color Print Ribbon installed to print this test image.
	To test, go to the Printer's LCD display and select **MENU**, **PRINT TEST IMAGE** and make sure that Lamination is set to ON. Then select any image from the test images.
	The test image will begin printing after a few seconds and will both print and laminate the card.
13	**You have completed the procedure.**

Section 6: Printer Adjustments

This section provides procedures for all DTC550 Printer Driver tabs.

Using the Card tab

Use this option to control specific Printer functions.
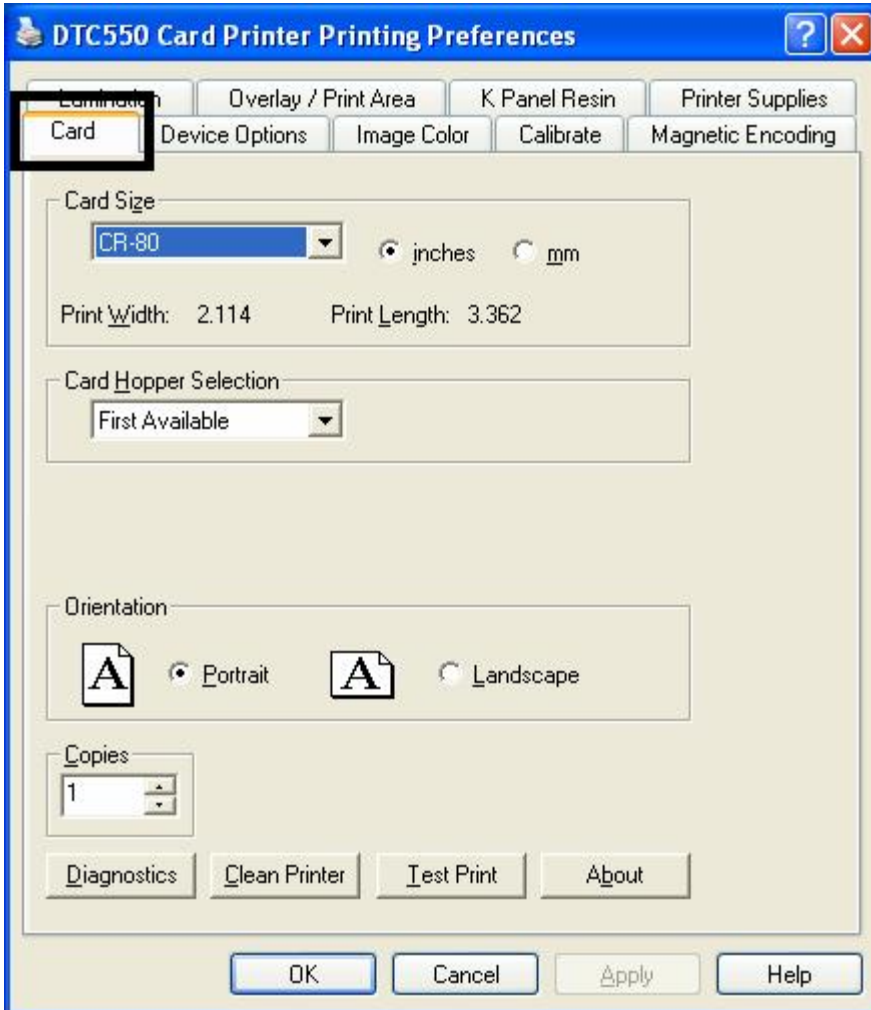
Selecting the Card Size

Select either **CR-80** or **CR-79** for the appropriate card size option from the two (2) standard card sizes.

When designing a card format, always set the card size or page size within the card design program to the exact Print Length and Width dimensions listed in the Printer Driver.

The dimensions of the total print area for each card size will appear in the Print Width and Print Length boxes.

Step	Procedure
1	Select **CR-80** to print onto standard "credit card" sized cards.
	OR
	Select **CR-79** to print onto slightly smaller CR-79 sized cards (3.303" L x 2.051W/83.9mm L x 52.1mm W). (**Note:** The CR-79 card adhesive-backed card is used in applications where they are printed and applied to thicker proximity cards.)
2	Select either the **inches** or **mm** radio button (as needed).

Selecting the Card Size (continued)

See the previous procedure in this section.

Using the Card Hopper Selection option

The Printer Driver always overrides the LCD-based Hopper selection. For example, the Printer will print from Hopper 2 even if Hopper 1 (H-1) is selected on the LCD. This is because the print job was sent with Hopper 2 (selected from the Printer Driver).

Step	Procedure
1	Select **First Available** for these purposes:
	To print from the Hopper currently selected as indicated on the Printer's LCD.
	To automatically switch (via the Printer) to the other Hopper once the current Hopper runs out of cards. (**Note:** In most cases, this option is used when both Hoppers are loaded with the same type of cards such as in higher volume batch printing applications.)
	To manually designate the Hopper just prior to each specific print job by pressing the **H-1** or **H-2** softkey buttons.
	OR
	Select **Hopper 1** to print only from Hopper 1.
	Select this option and the Hopper will not automatically switch to the other Hopper when running out of cards in Hopper 1.
	Use this option when two different types of cards are loaded separately into each Hopper in order to print onto only one of those specific cards (e.g., Mag stripe cards in Hopper 1 versus non stripe cards in Hopper 2).
	OR
	Select **Hopper 2** to print only from Hopper 2 in this same fashion.

Using the Card Hopper Selection option (continued)
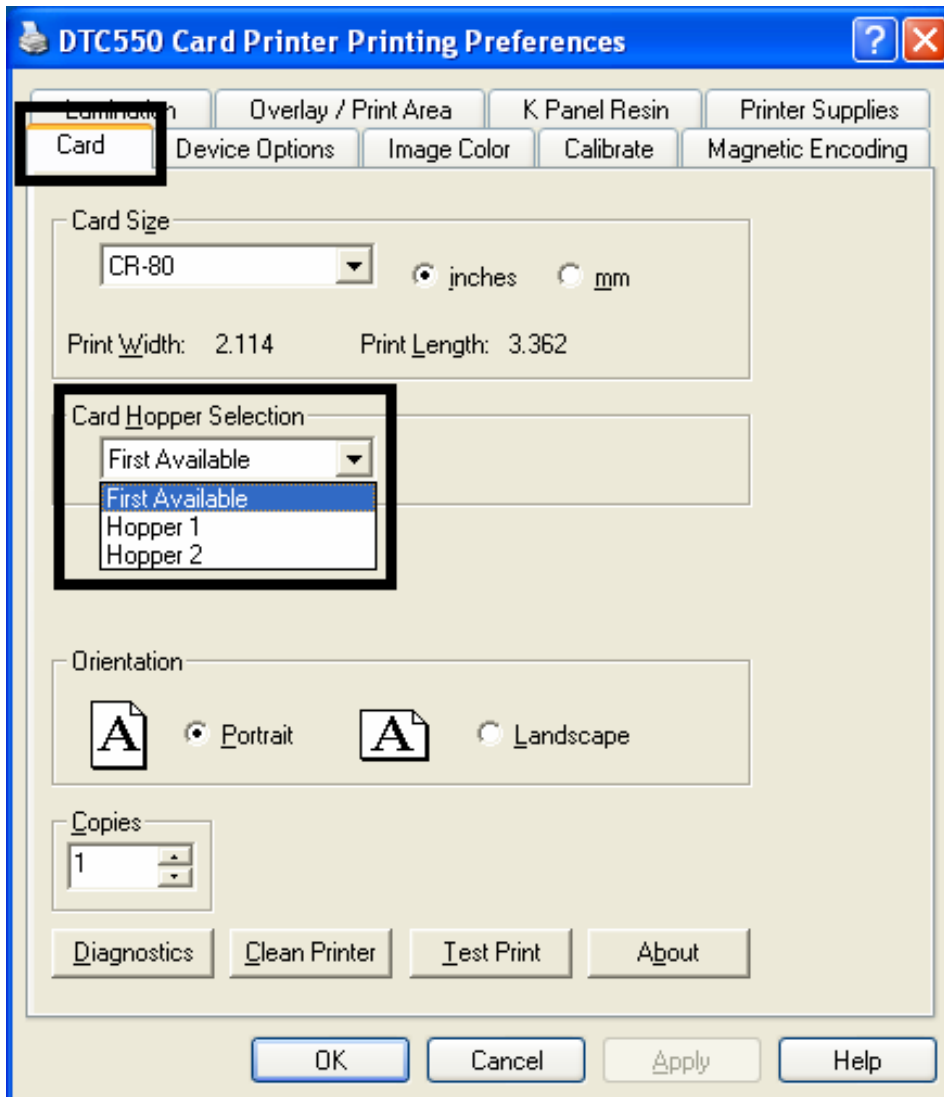
See the previous procedure in this section.

Using the Card Hopper Selection option (continued)

See the previous procedure in this section.
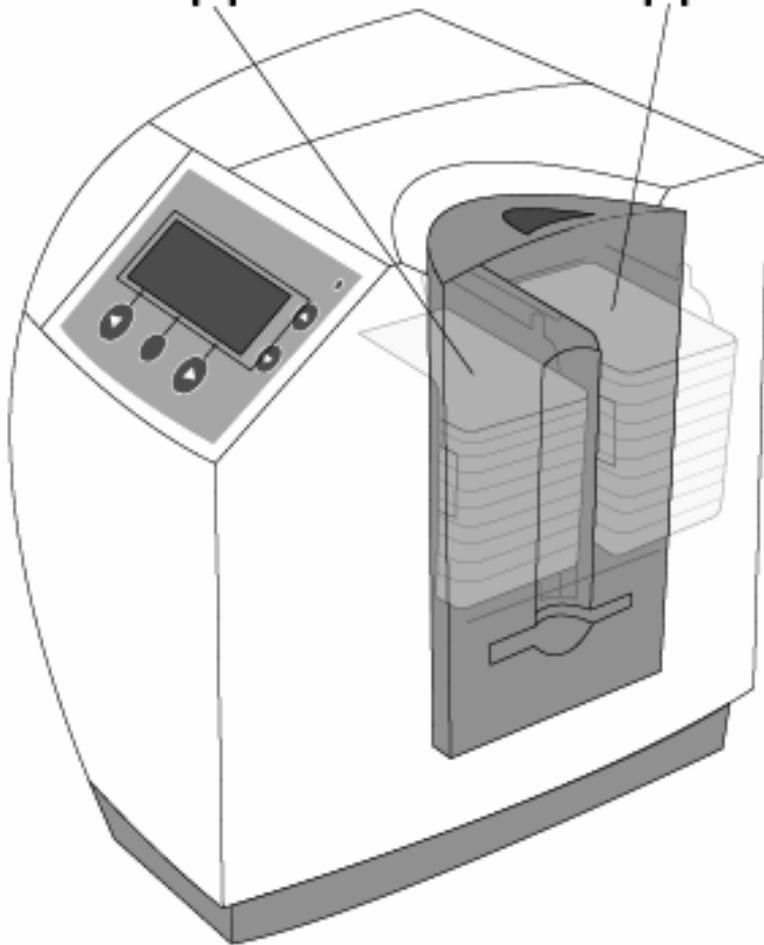
Adjusting the Orientation Option

Select either the **Portrait** or **Landscape** radio buttons for Orientation. (**Note:** An icon illustrating a printed card helps represent the difference between the two.)

Step	Procedure
1	Select **Portrait** to cause the card to print in a vertical orientation. **OR** Select **Landscape** to cause the card to print in a horizontal orientation, as shown below.
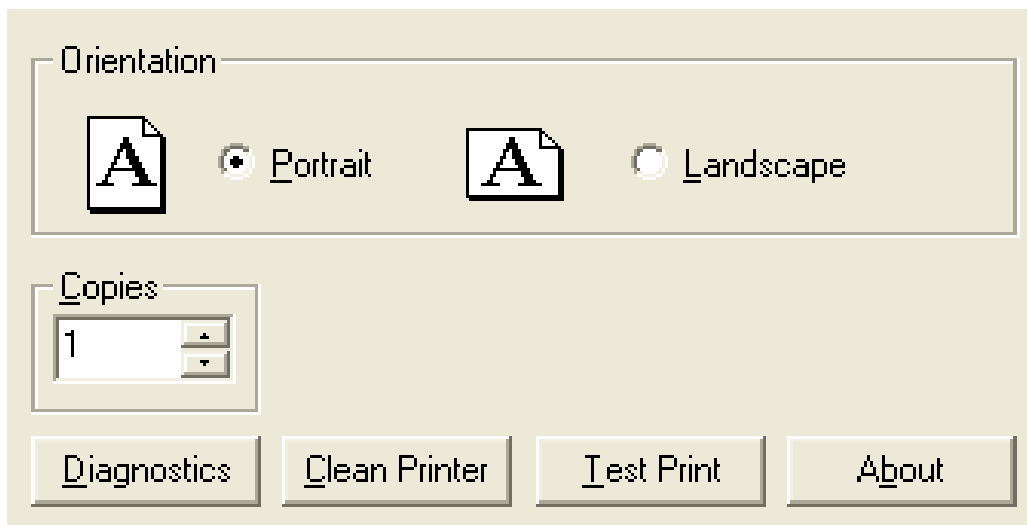
Selecting the number of Copies

Specifies the number of copies to be printed. See below.
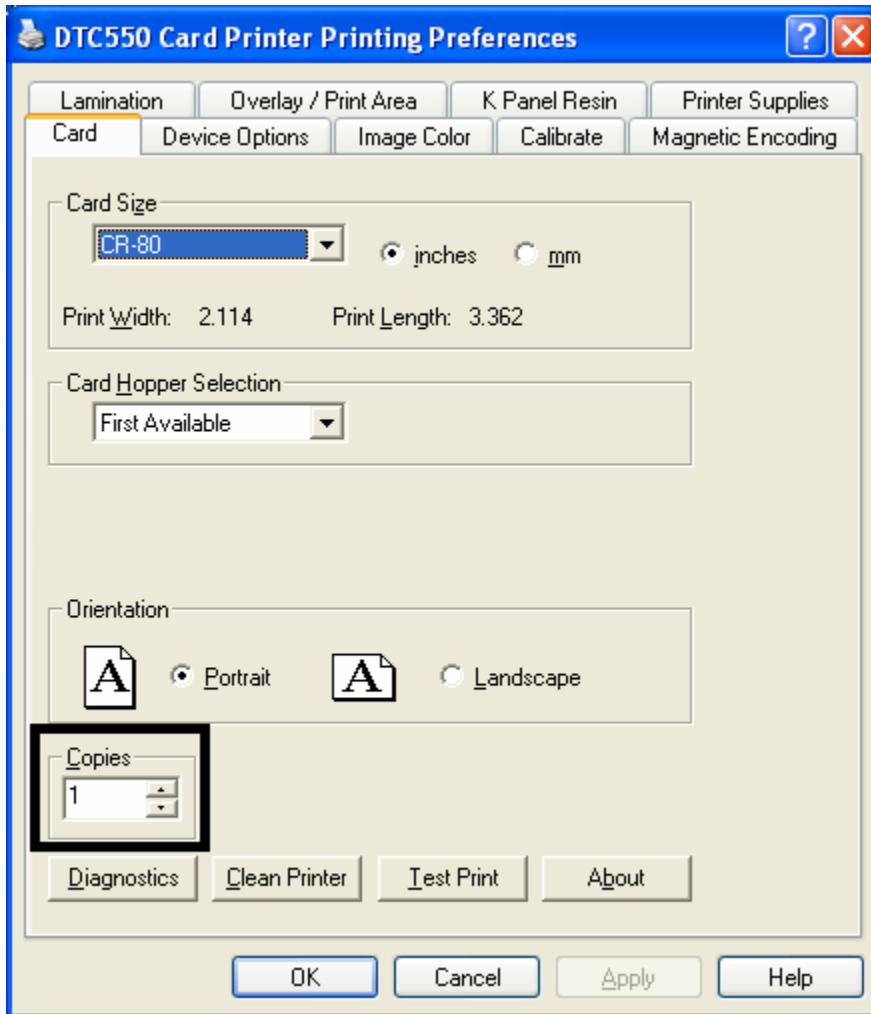
Using the Diagnostics button under the Card tab

Step	Description
1	Click on the **Diagnostic** button to bring up the Fargo Diagnostics Utility window.
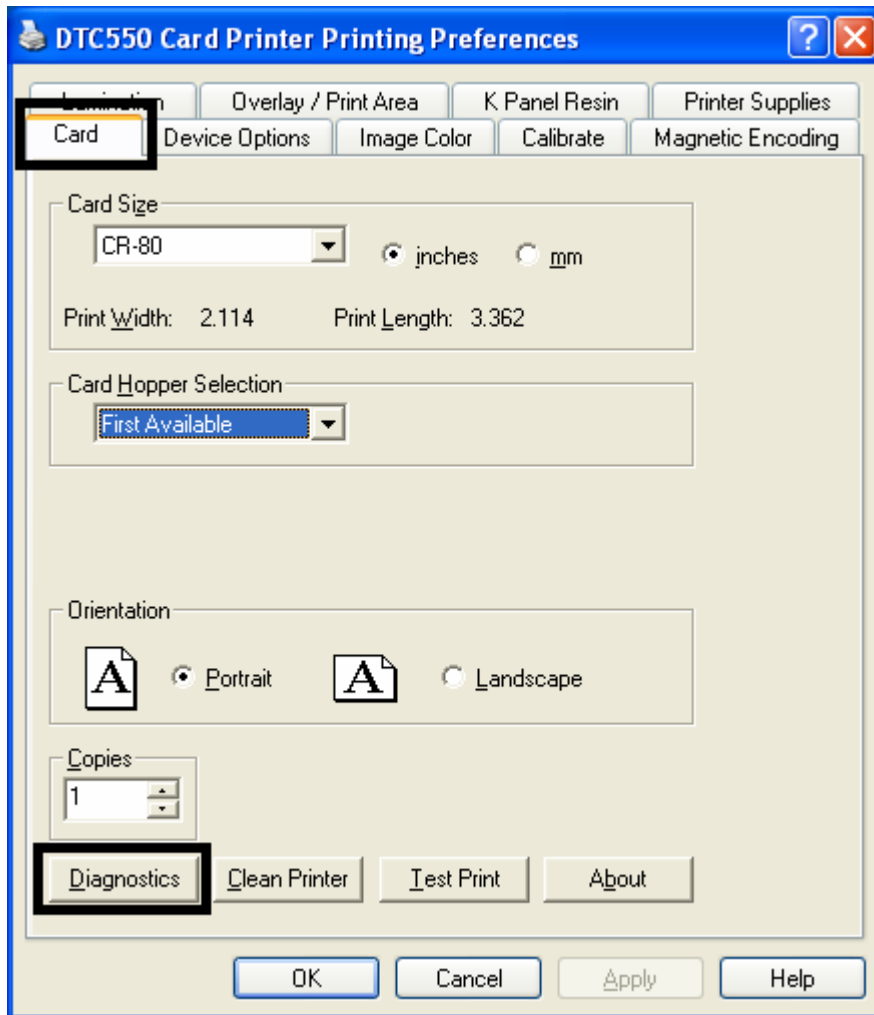
Using the Clean Printer Option

Step	Description
1	Click on the **Clean Printer** button to display the Clean Printer Utility window.
2	Open the Printer's top lid and print arm.
3	Remove the paper backing from both sides of the Cleaning Card.
4	Click on the **Clean** button at the bottom of the window. (**Note**: The Printer will begin to feed the cleaning card through the card path.)
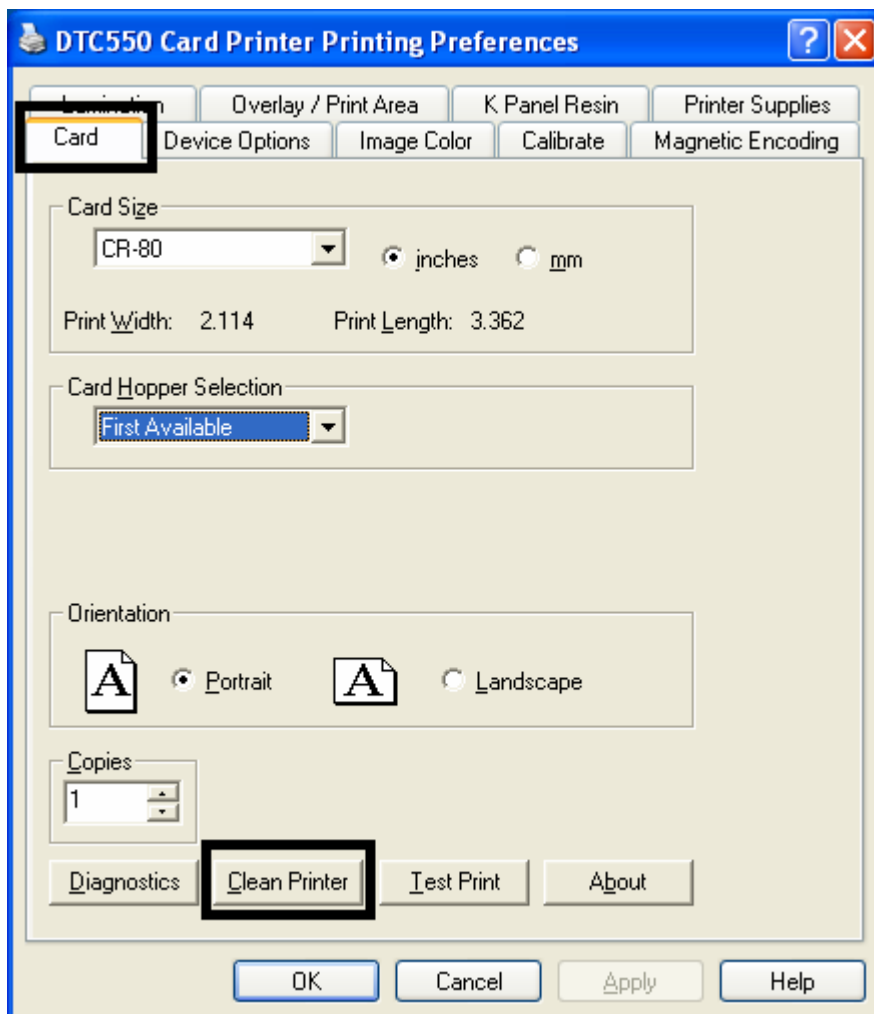
Using the Clean Printer Option (continued)

Step	Description
5	Place the Cleaning card into the Single Feed Slot.

DTC550 Card Printer - Clean Printer Utility

Instructions:

Open the Printer's Top Cover and the Printhead Arm Assembly.

Remove the paper backing from both sides of the Cleaning Card.

Insert the Cleaning Card into the Card Hopper's Exception Feed Slot. . See the diagram (below).

Press the Clean button below.

Adjust the Cleaning Card (as needed) as it feeds into the Printer.

Once the Cleaning Card has exited the Printer, close the Printhead Arm Assembly and the Top Cover.

Clean   Enable Reminder ✔

Fargo Cleaning Kit PN : 085967
Fargo Cleaning Card PN : 085974

Note: The Cleaning routine will begin after all current print jobs have completed.

Using the Test Print button

Step	Description
1	Click on the **Test Print** button to send a simple self-test print to the Printer. Ensure that either a YMCKO or YMCKOK Ribbon is installed in the Printer.
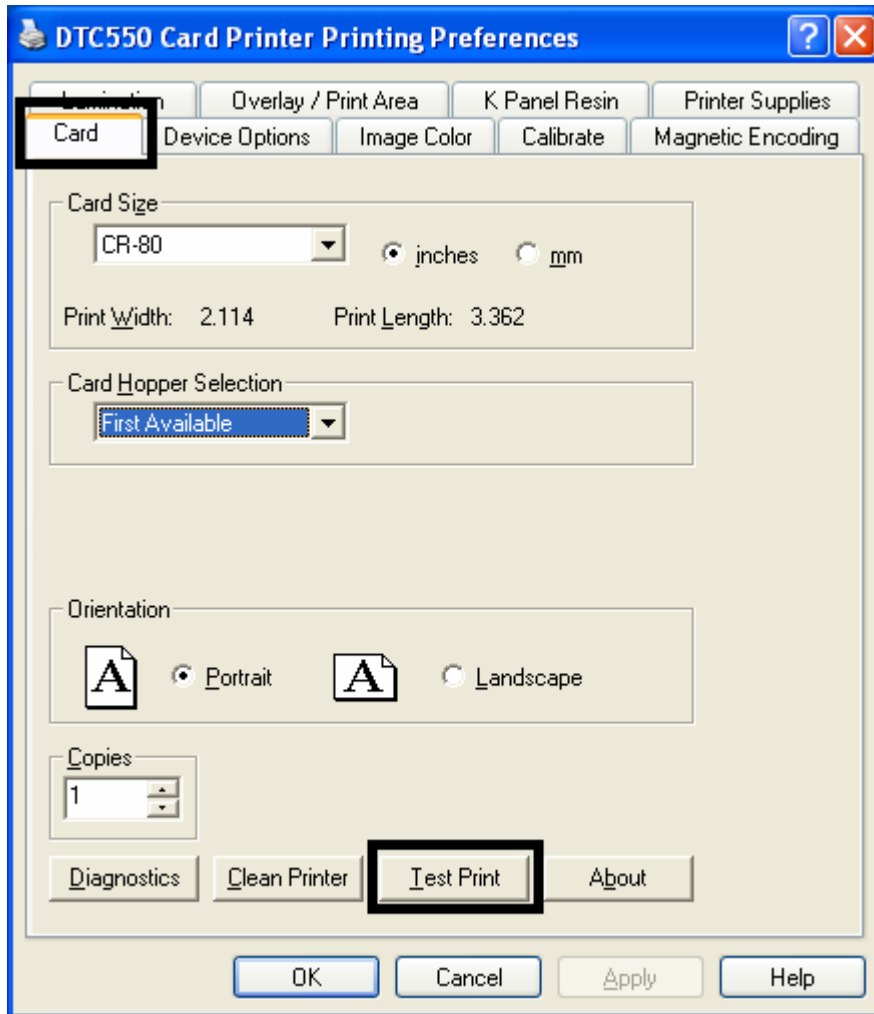
Using the About button

Step	Description
1	Click on the **About** button to open a dialog box containing specific information about this Printer Driver software (e.g., version number, copyright or licensing).
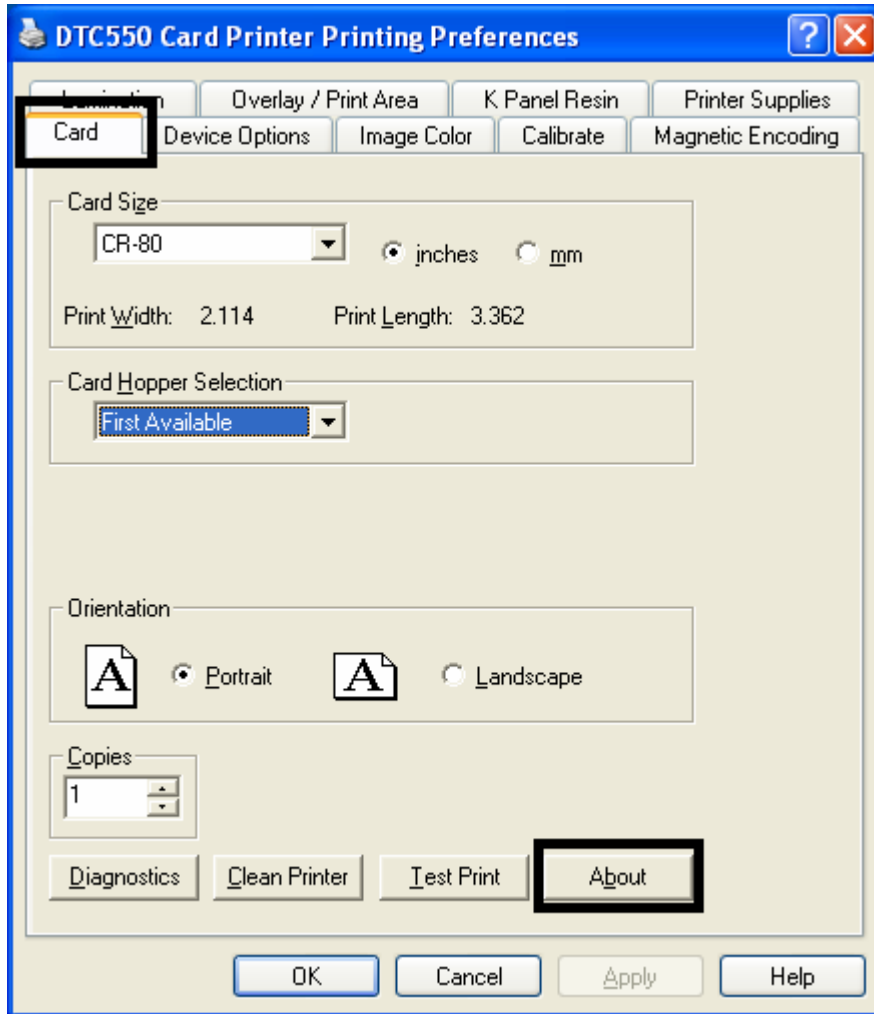
Using the Device Options tab

Use this option to control specific Printer functions.
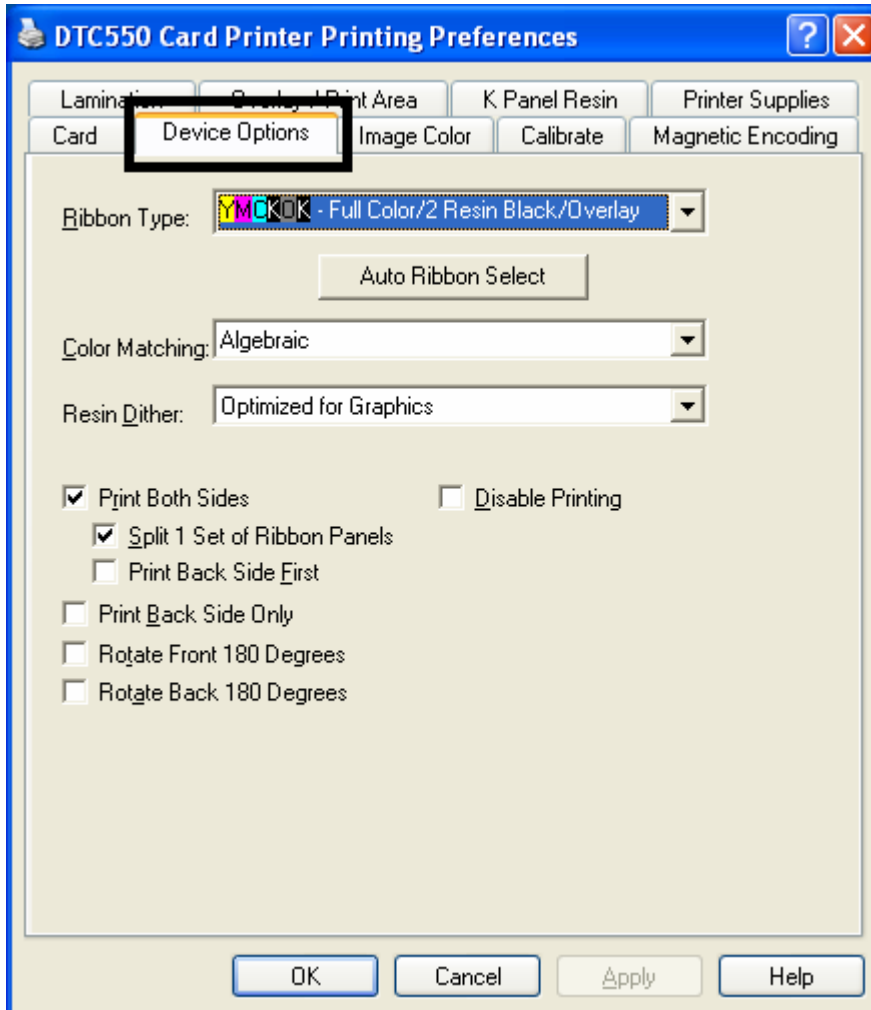
Adjusting for the Ribbon Type option

Use the Ribbon **Type** dropdown menu to match the Ribbon type.

Step	Procedure
1	Adjust to match the Ribbon **Type** selection with the Ribbon **Type** already loaded in the Printer. • **YMCKO:** Yellow, Magenta, Cyan, Resin Black, Overlay **OR** • **YMCKOK:** Yellow, Magenta, Cyan, Resin Black, Overlay, Resin Black **OR** • **KO Resin**: Black, Overlay **OR** • **K:** Standard or Premium Resin **OR** • **Colored Resin:** Colored Resin is available in Red, Blue, Green or White **OR** • **Metallic Resin:** Metallic Resin is available in Gold or Silver **OR** • **YMCFKO:** Yellow, Magenta, Cyan, Fluorescing, Resin Black, Overlay **OR** • **YMCFKOK:** Yellow, Magenta, Cyan, Fluorescing, Resin Black, Overlay, Resin Black
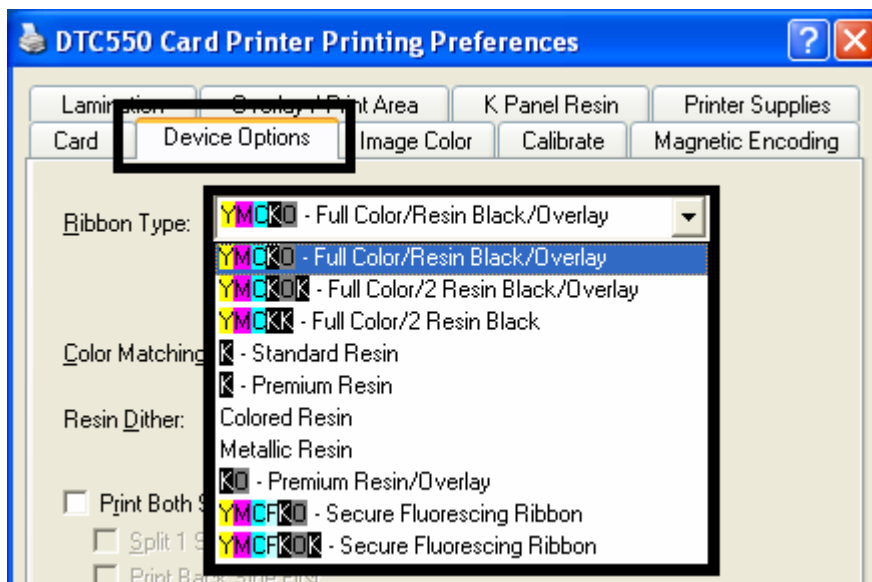
Selecting the Auto Ribbon Select option

Step	Description
1	Click on the **Auto Ribbon Select** button to verify that the Ribbon type selected matches the Ribbon installed in the Printer. (**Note**: The Printer Driver will change the Ribbon type to the correct setting or validate. It will also display a dialog that it has changed the current setting or that the current Ribbon type is correct.)
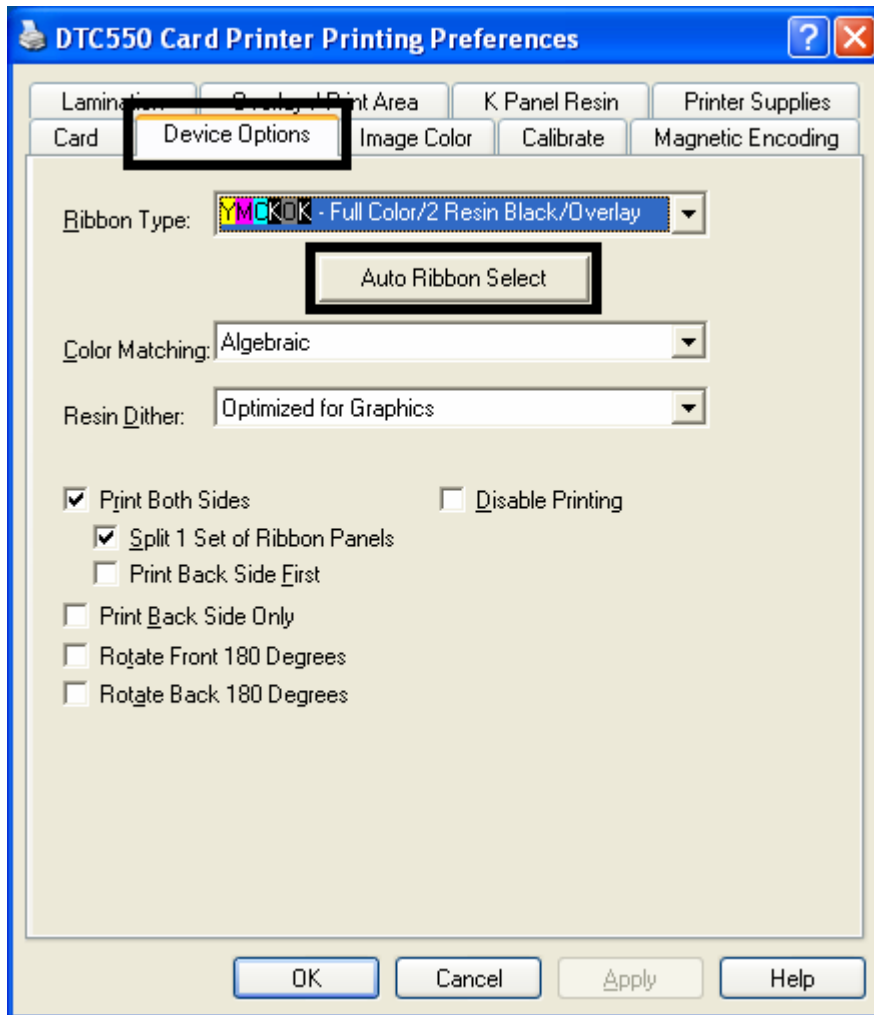
Adjusting for the Color matching

Use the Color Matching option to meet the requirements for the print job.

Step	Procedure
1	Select **None** (a) if interested in print speed rather than print color, (b) if color correcting the image for printing has already been done or (c) if using third party Color Matching software. **OR** Select **Algebraic** to allow the Printer Driver to make very simple, fast, color balance adjustments. (**Note:** This option gives a natural-looking image without slowing down the processing speed of the Printer Driver. It also allows further customization of the printed color of the cards through the Image Color tab.) **OR** Select **Monitor** to allow the Printer Driver to make color corrections similar to the Algebraic option but through an RGB color matching algorithm. (**Note:** This option shifts colors more radically so the colors in the image will more closely match how they appear on screen.) **OR** Select **System Color Management** to allow the Printer Driver to use an external color profile, installed with the printer driver, to map color output. The external color profile maps output to a set of color targets that are RGB compliant. Printed colors will be closest to what you see on the computer monitor and are compliant with Windows® Hardware Compatibility Test.
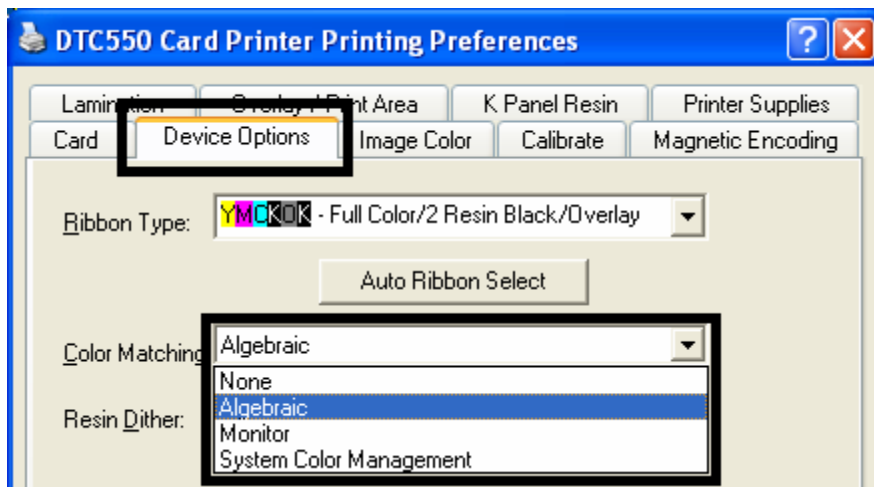
Adjusting for the Resin Dither

Use the appropriate Dither method according to the type of image to be printed. (**Note:** This option only affects those objects printed with the resin black panel.)

Step	Procedure
1	Select **Optimized for Graphics** when printing lower quality images (e.g., clipart, logos, etc.) with resin. **OR** Select **Optimized for Photo** when printing photo quality images with resin.
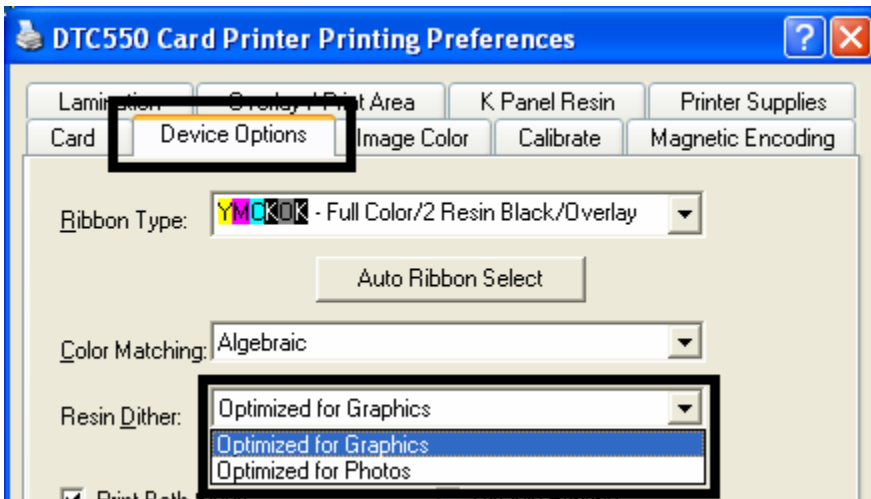
Using the Print Both Sides option

Use this option to automatically print on both the front and backside of a card.

Step	Procedure
1	Select this option in conjunction with any application program that supports a multiple-page document, duplex printing. (**Note:** The program must be able to send down two or more separate pages to be printed within the same document.)
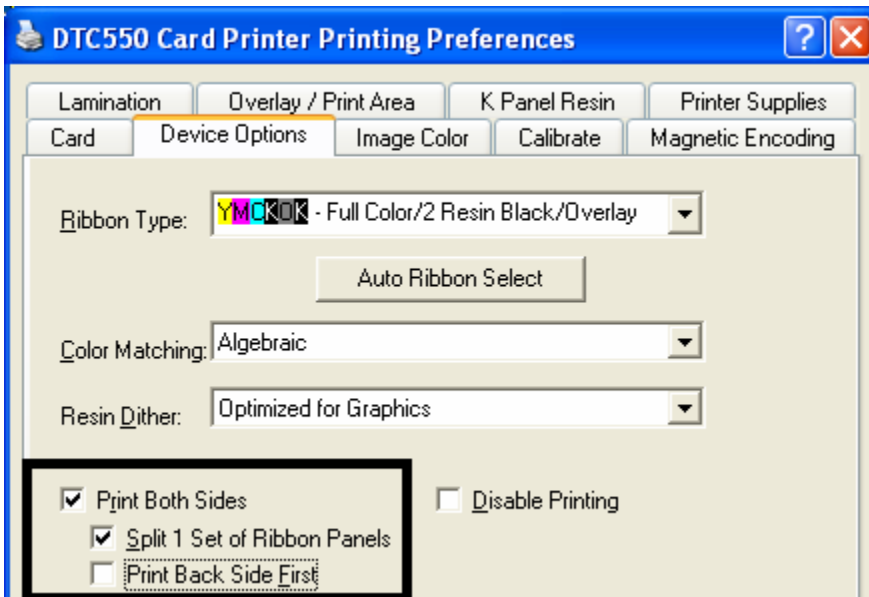
Using the Split 1 Set of Ribbon Panels option

Use this option to provide the most economical means of printing a dual-sided card since a single set of Ribbon panels is essentially split to print both the front and backsides of a card.

Step	Procedure
1	Select this option to automatically print full-color (on the front of a card) and resin black (on the back of a card), using either of the Full-Color YMCKO or YMCKOK Print Ribbons. • **YMCKO Ribbon type usage:** The front of the card is printed with the Ribbon's YMC and O panels and the back is printed with the K panel. • **YMCKOK Ribbon type usage:** The front of the card is printed with the YMCKO panels and the back is printed with the second K panel. • **YMCFKO Ribbon type usage:** The front of the card is printed with the Ribbon's YMCF and O panels and the back is printed with the K panel. • **YMCFKOK Ribbon type usage:** The front of the card is printed with the YMCFKO panels and the back is printed with the second K panel. (**Note #1:** This option is automatically enabled when the YMCKOK or YMCFKOK Ribbon type is selected.) (**Note #2:** The **Print Both Sides** option is automatically enabled when this option is selected.)
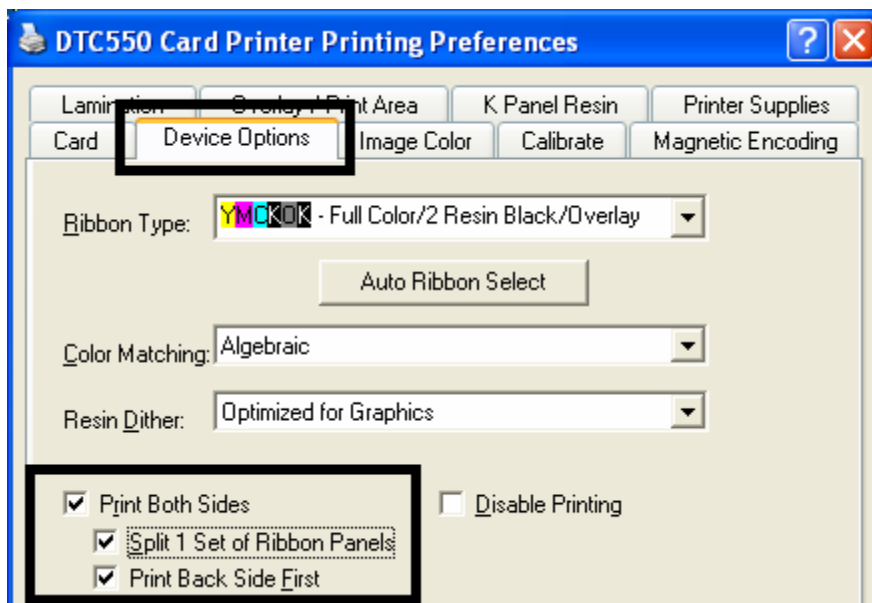
Using the Print Back Side First option

Step	Procedure
1	Select this option if you need to print the first page of a two-page document on the backside of the card.
	The second page of the document will be printed on the front side of the card.
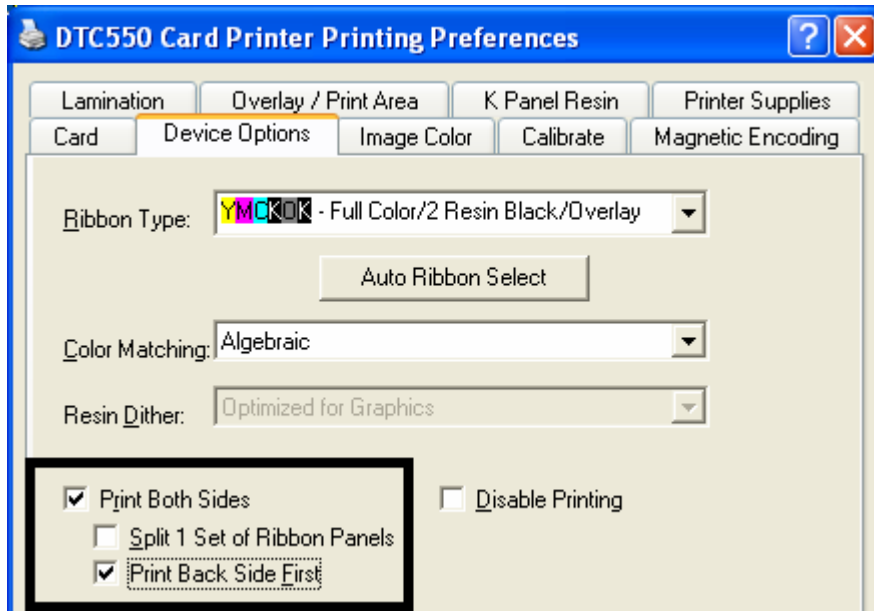
Using the Print on Back Side Only option

Use this option to print only onto the backside of cards.

Step	Procedure
1	Select this option to print only onto the backside of cards that must have their Magnetic Stripe or Smart Card chip encoded. (**Note:** Load the cards in the usual fashion.)
	When this option is selected, the **Print Both Sides** option is automatically disabled.)
	When attempting to print a two-page document (if **Print Back Side Only** is selected), the first page of the document will print on the backside of the card. The second page of the document will then be printed on the back of a second card.
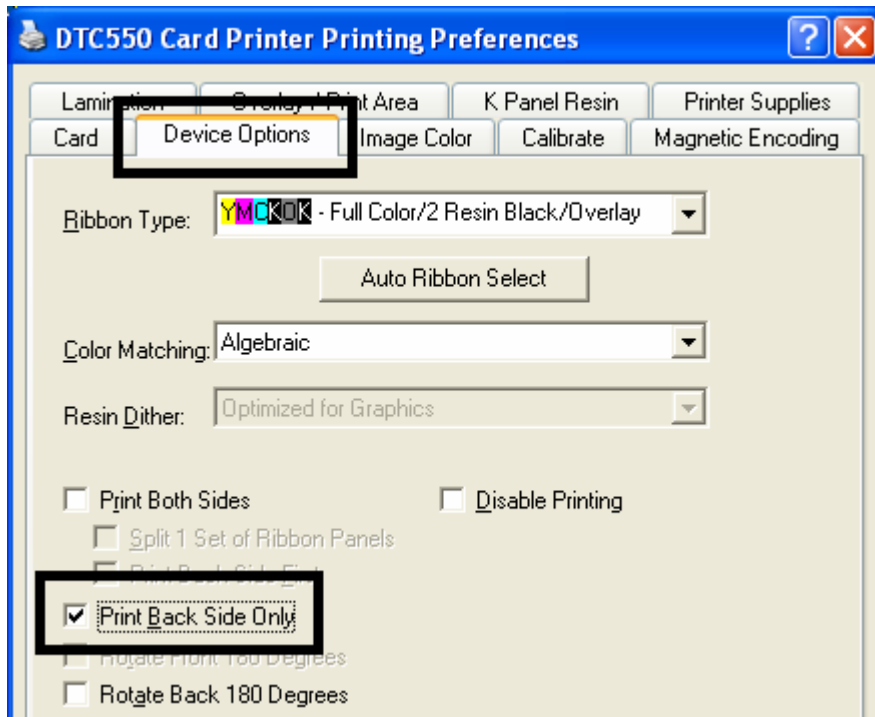
Using the Rotate Front by 180 Degrees option

Use this option to change the position of the printed image in relation to the set location of a card's Magnetic Stripe or smart chip.

Step	Procedure
1	Select the **Rotate Front 180 Degrees** option to rotate the image on the front of the card by 180 degrees when printed.
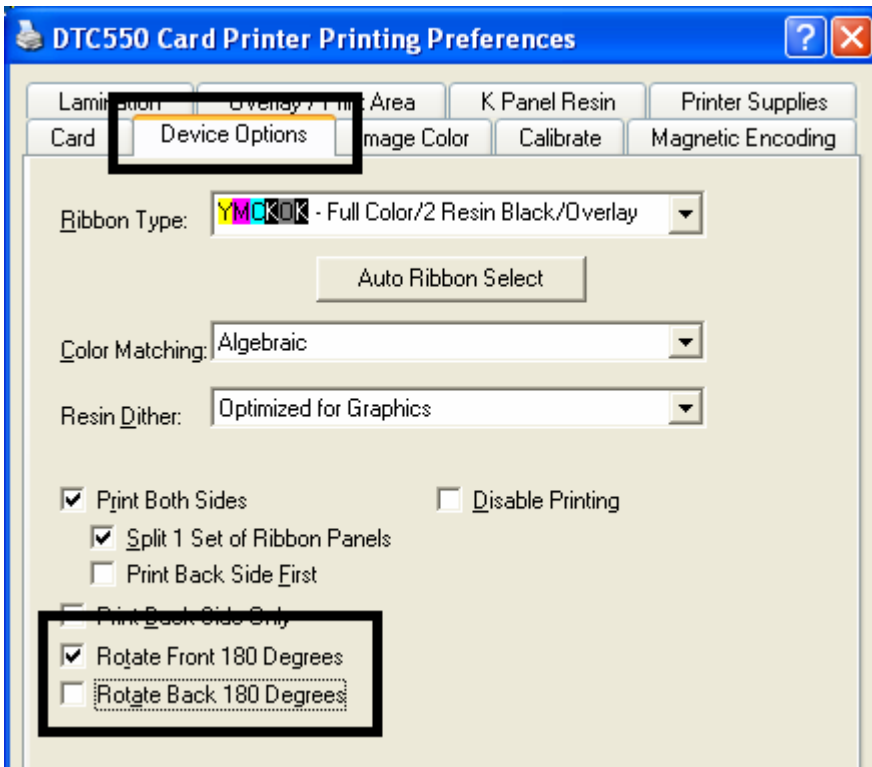
Using the Rotate Back by 180 Degrees option

Use this option to change the position of the printed image in relation to the set location of a card's Magnetic Stripe or smart chip.

Step	Procedure
1	Select the **Rotate Back 180 Degrees** option to rotate the image on the back of the card by 180 degrees when printed.
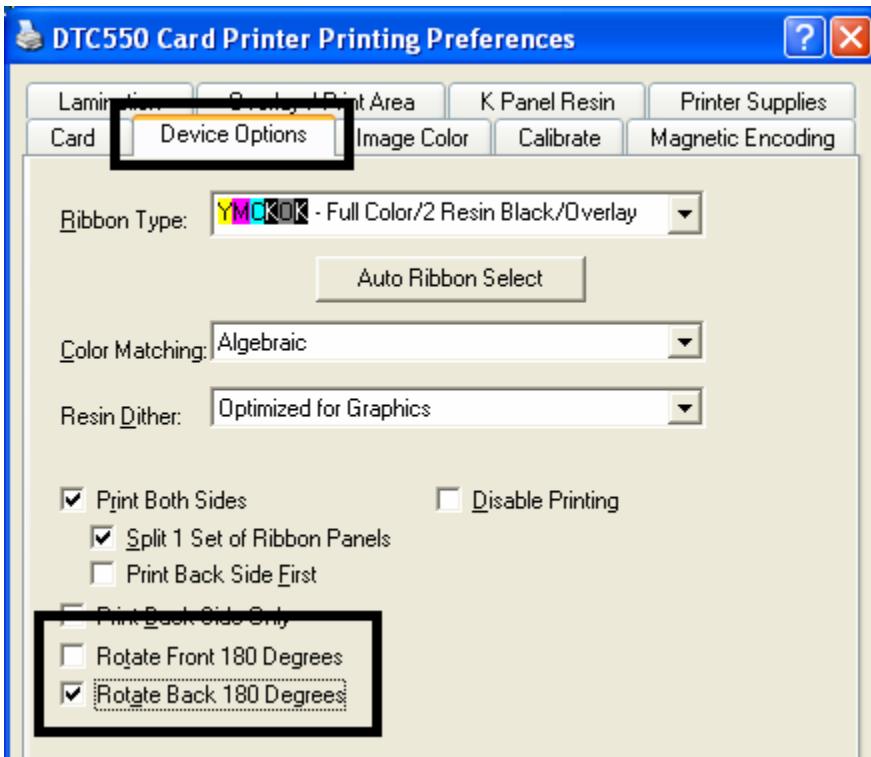
Using the Disable Printing option

Use this option to disable the printing capabilities of the Printer, yet still allow the Printer to encode cards. (**Note:** This option is useful to encode or re-encode cards without additional time, effort or printing supplies.)

Step	Procedure
1	Select this option to ensure no print data will be sent to the Printer (while all encoding instructions will be sent according to how they are configured within the software).
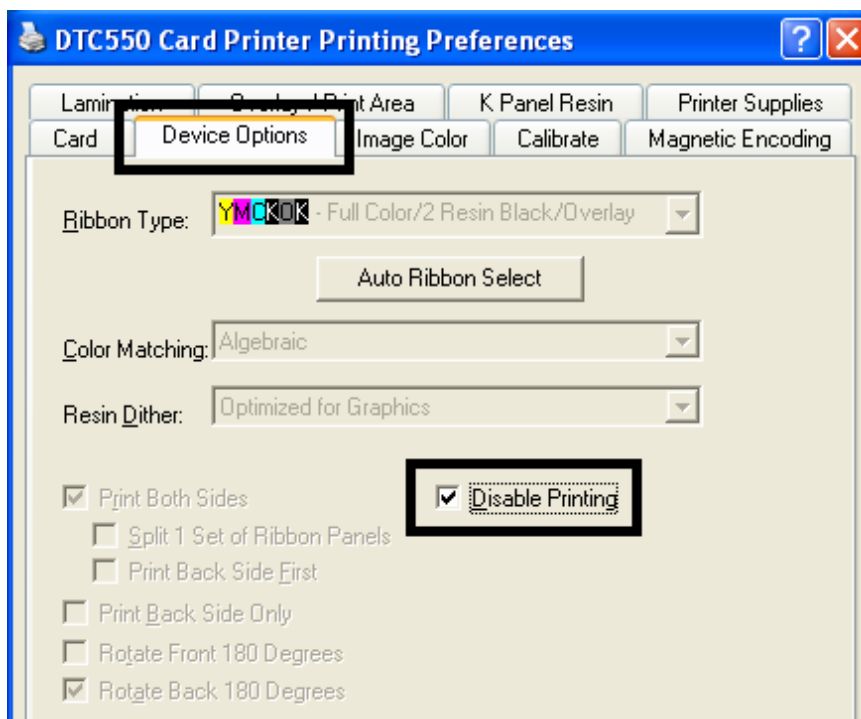
Using the Image Color tab

Use this tab to adjust the color properties.

Step	Procedure
1	Select the **Algebraic Color Matching** option (see the Device options tab window, shown below) to control the **Contrast** and **Gamma** of the printed image, as well as the individual color balance of **Yellow**, **Magenta** and **Cyan** (see the Image Color tab window, shown below).
	In most cases, the default settings of these options will suffice.

Using the Image Color tab (continued)

Step	Procedure
2	Select the **None, Monitor** or **System Color Management** option (see the Device options tab, shown below) to only display the Dye-Sub Intensity, Resin Heat sliders and Overlay Heat.
3	Control the overall darkness and lightness of the dye-sub printed image by adjusting the **Dye-Sub Intensity** slide by clicking and dragging the slide's box. • Move the slide to the left to cause less heat to be used in the printing process, thus generating a lighter print. **OR** • Move the slide to the right to cause more heat to be used, thus generating a darker print. (**Note:** This slide only affects those images printed with Dye-Sublimation Ribbon panels (YMC).)

Using the Image Color tab (continued)

Step	Procedure
4	Control the amount of heat the Printer uses (a) when printing with the resin black panel of a full-color Ribbon or (b) when printing with a resin-only Ribbon by adjusting the **Resin Heat** slide. See the Printer Components: Print Ribbons description.
	Move the slide to the left to cause less heat to be used in the printing process, causing resin images to be lighter or less saturated.
	OR
	Move the slide to the right to cause more heat to be used, causing resin images to be darker or more saturated.
	(**Note:** This control can be helpful for fine-tuning the sharpness of resin text and bar codes. See Resolving the excessive Resin Printing problems.
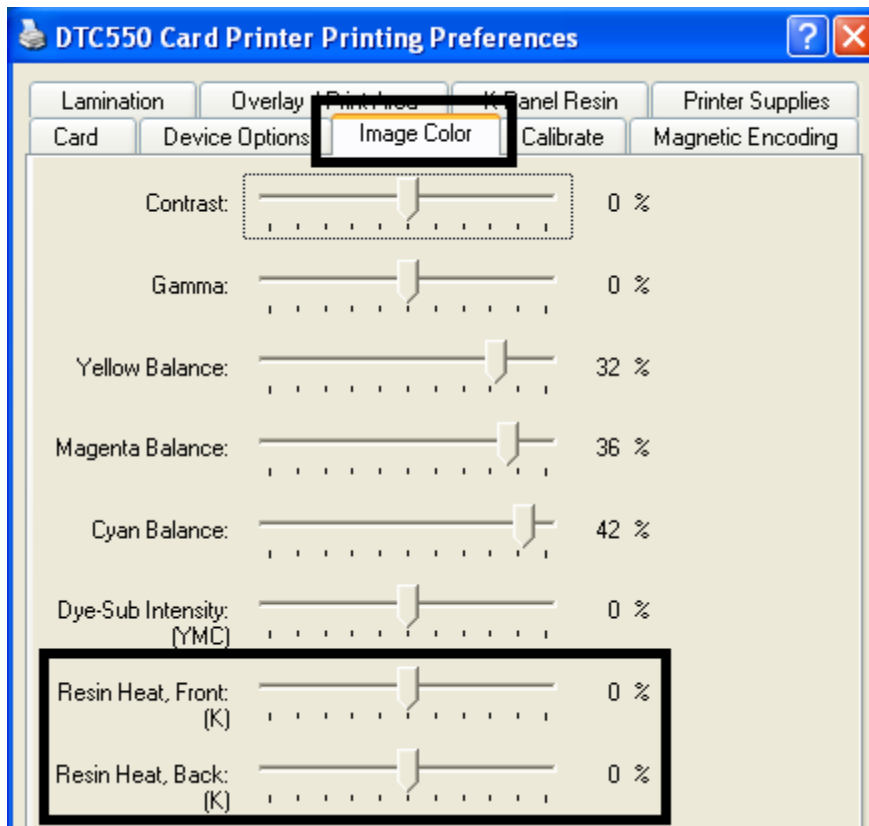
Using the Image Color tab (continued)

Step	Procedure
5	Return all options to their factory settings by clicking on the **Default** button.
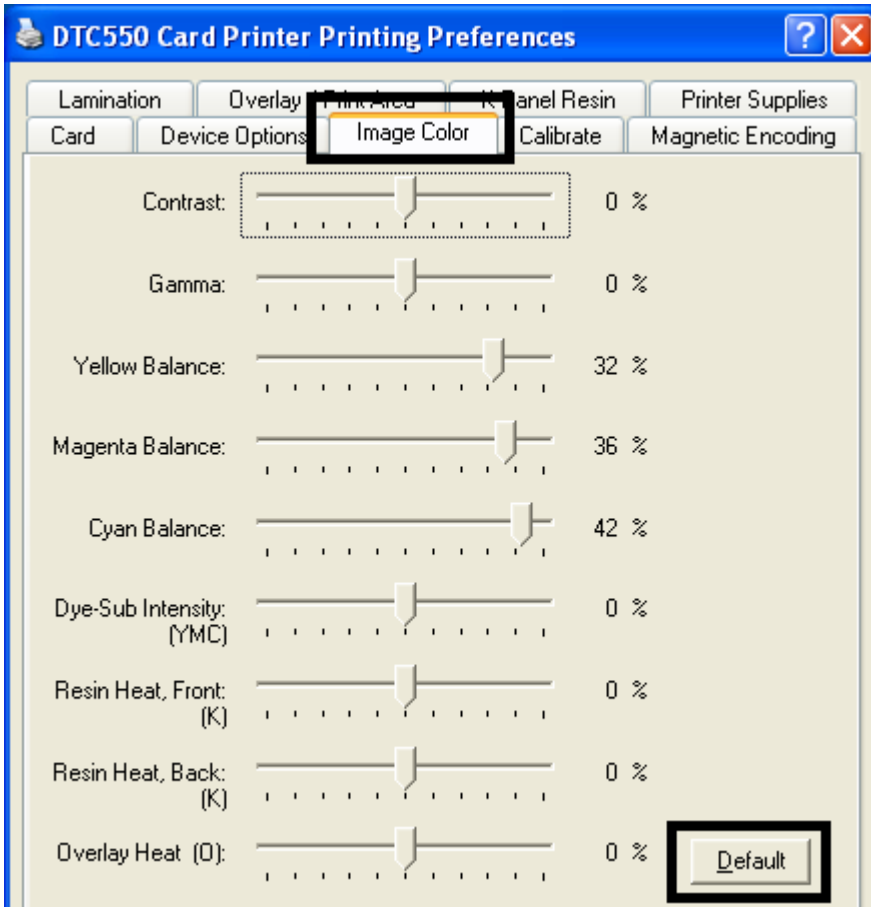
Using the Resin Heat (K) option (Front and Back)

Use this option to control the amount of heat the Printer uses when printing with the resin black panel(s) of a full-color Ribbon or when printing with a resin-only Ribbon by adjusting the **Resin Heat** slide.

Step	Procedure
1	Adjust the Resin Heat, Front (K) or the Resin Head, Back (K) as needed.
	Move the slide to the left to cause less heat to be used in the printing process, causing resin images to be lighter or less saturated.
	OR
	Move the slide to the right to (a) cause more heat to be used or (b) cause the resin image to be darker or more saturated.
	(**Note:** This control can be helpful for fine-tuning the transfer of resin text and bar codes.)
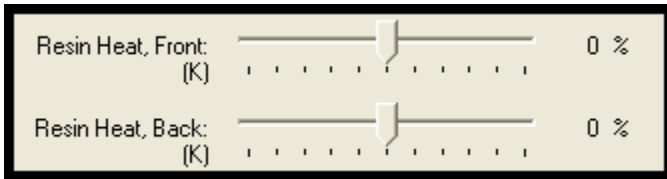
Using the Overlay Heat (O) option

Use this option to control the amount of heat the Printer uses when printing with the overlay panel of a Ribbon.

Step	Procedure
1	Move the slide to the left to cause less heat to be used in the printing process. (**Note:** Certain card types may need additional heat for better transfer of the overlay material.)
	OR
	Move the slide to the right to cause more heat to be used.
	(**Note:** This control can be helpful for fine-tuning the transfer of overlay onto the card.)
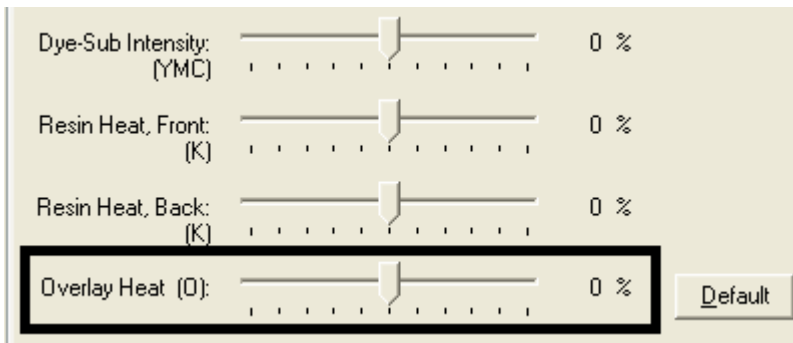
Using the Image Color option and Default button

Step	Procedure
1	To return all options to their factory settings, click on the **Default** button.
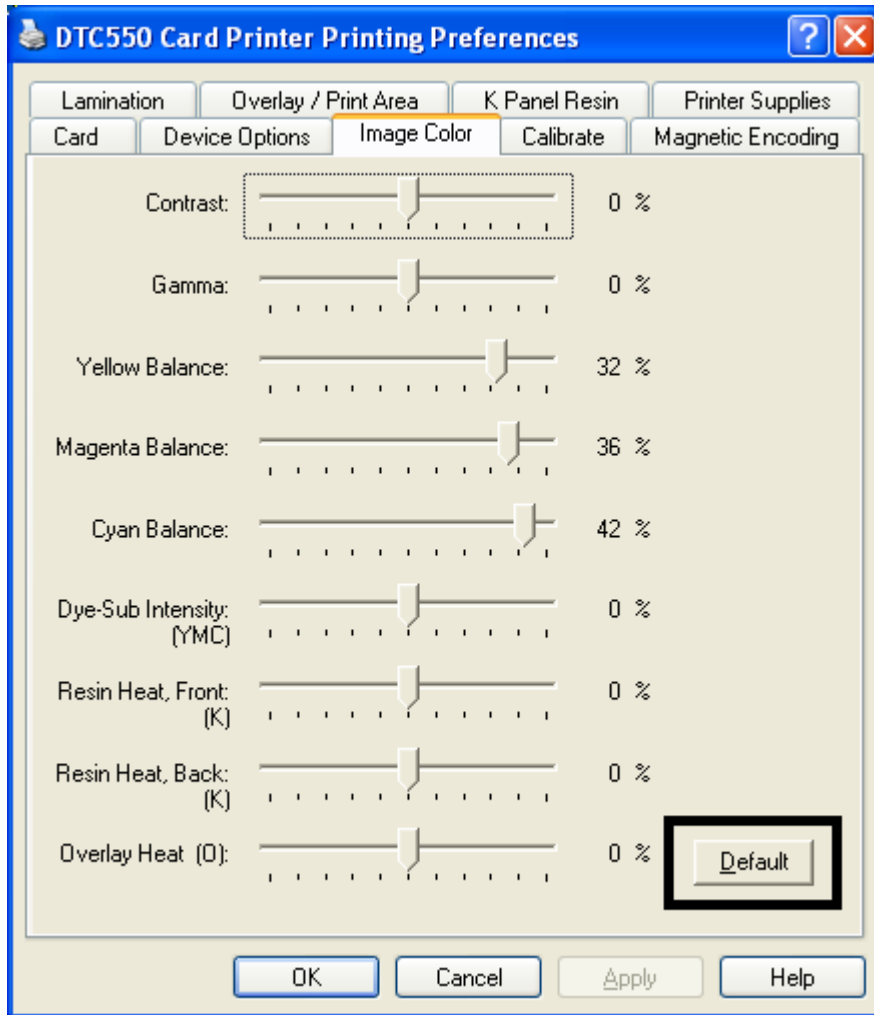
Using the Calibrate tab

Use the Calibrate tab to (a) control the position of the printable area in relation to the card, (b) calibrate Sensors and (c) adjust the internal Printer settings that are customized for every Printer and saved directly within the Printer's memory.
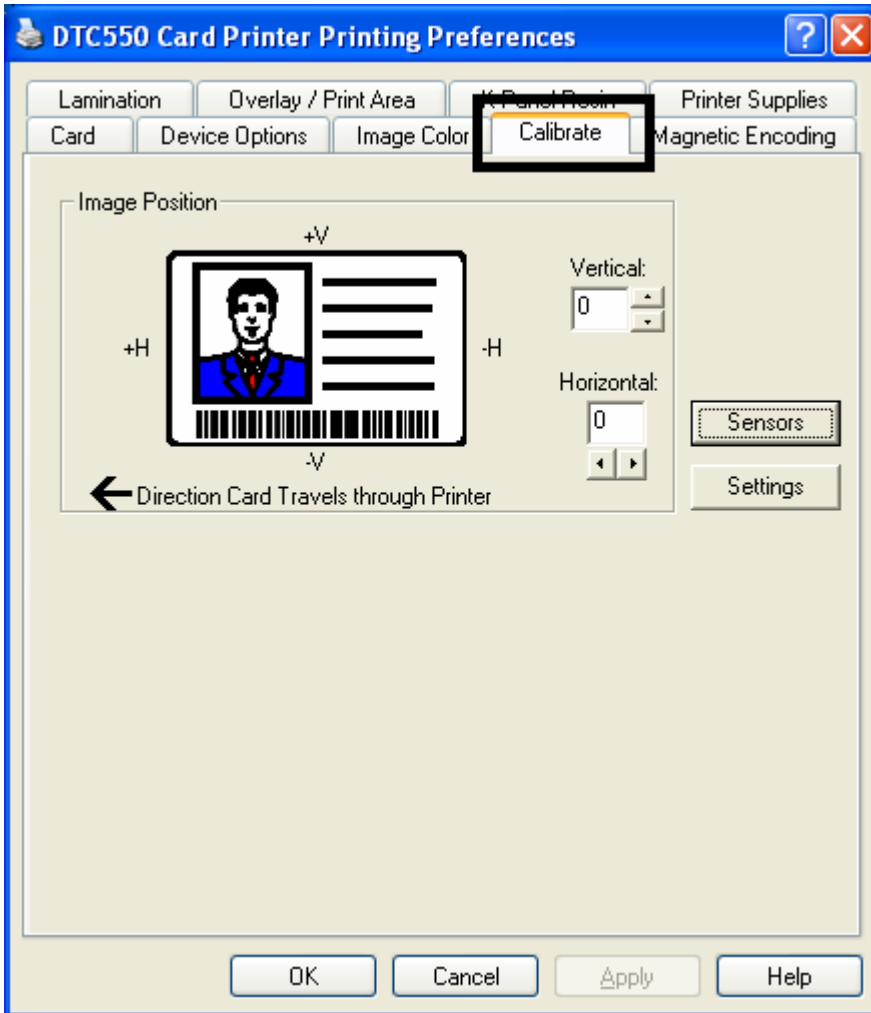
Using the Image Position Controls

Use the **Image Position** controls to adjust the position of the overall print area to be precisely centered on a card.

Step	Procedure
1	Click on the **Vertical** and **Horizontal** adjustment arrows to adjust the Image Position values. • When adjusting these values, keep in mind that cards always remain in the same position while moving through the Printer, regardless of image orientation. • To illustrate this, the card illustration shown in the Image Position box will flip and rotate according to the **Portrait**, **Landscape** or **Rotate 180 Degrees** selection. • The outline around the illustration will always remain in the same **Landscape** orientation.
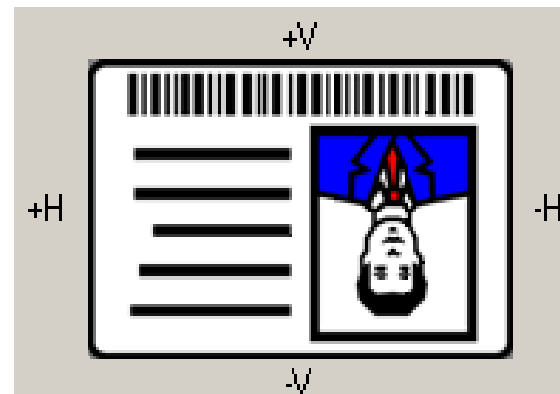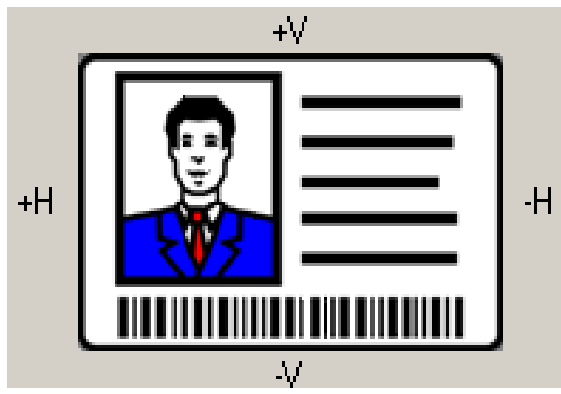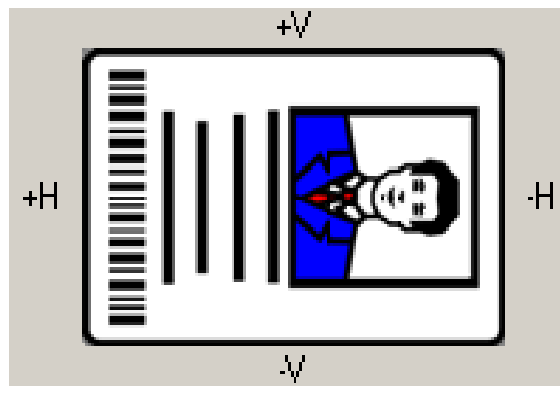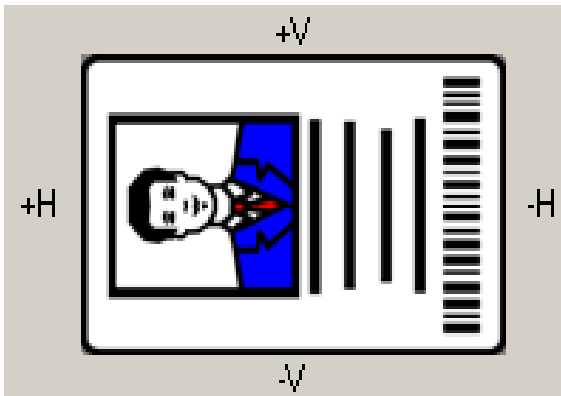
Review the Image Position diagram, which displays how the printed image will move in relation to the fixed card position as positive and negative image placement values are entered.

Step	Procedure
2	Use the **Vertical** adjustment to move the image: • Toward the rear of the Printer if a positive number is entered. • Toward the front of the Printer if a negative number is entered. **OR** Use the **Horizontal** adjustment to move the image: • Toward the card output side of the Printer if a positive number is entered. • Toward the card input side of the Printer if a negative number is entered. (**Note No.1:** The maximum value for the **Vertical** and **Horizontal** adjustments is ±100 pixels (10 pixels = about .03"/. 8mm).) (**Note No.2:** The **Vertical** and **Horizontal** adjustment arrows point to within the Image Position window, which represents the direction that the printed image moves.)
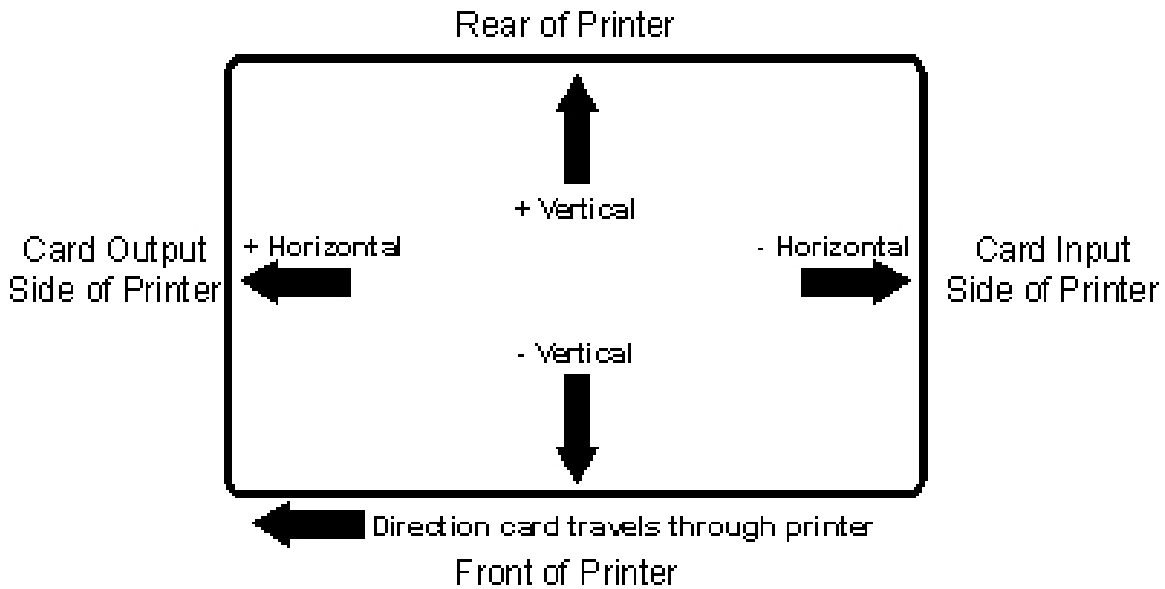
Using the Sensors button

Use the **Sensors** button to bring up a separate dialog box for calibrating the Printer's Ribbon Sensor and Lamination Sensor Calibration (see instructions in the Calibration window below).
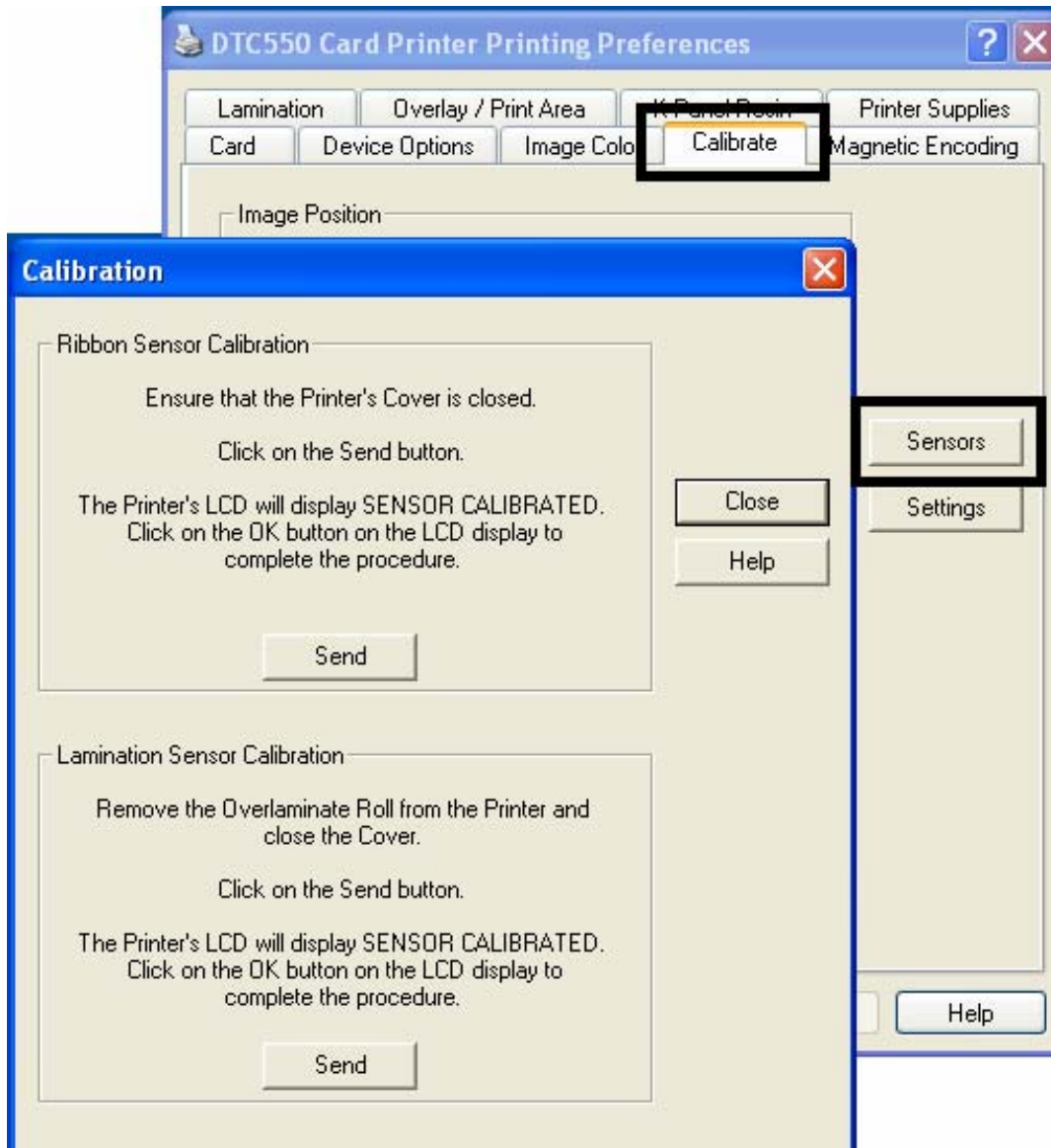
Using the Settings button

Use the **Settings** button (see above) to bring up a separate dialog box for adjusting the internal Printer settings, which are customized for every Printer at the factory and saved directly within the Printer's memory. (**Note:** You can select the Restore Defaults to restore the internal default settings.)
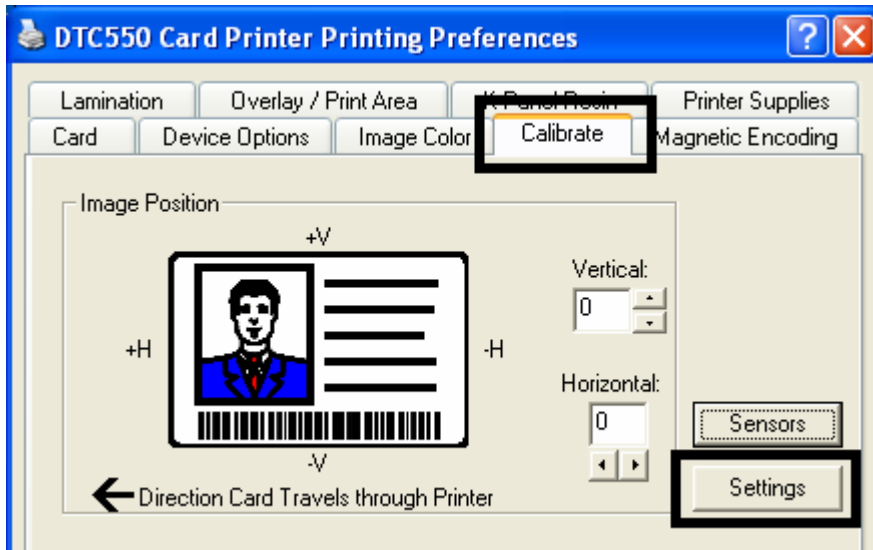
Using the Printer Calibration Utility

Access the Settings dialog box via the **Settings** button on the Calibrate tab. Use the adjustment mode to change the Printer's internal settings. (**Note:** The Card Printer is equipped with an internal adjustment mode programmable through the Settings dialog box. This dialog box is accessible only if the Printer is powered ON, it is in Ready Mode and it is properly connected to the PC.)

Caution! These settings are optimized at the factory. In most cases, these settings can be used without changing them.

Setting	Default	Current
Image Darkness	0	0
Print Top of Form	0	0
Print End of Form	0	0
Print Left of Form	0	0
Mag Top of Form	0	0
Ribbon Tension	0	0
Print Flip Level	0	0
Print Flip Angle	0	0
Encoder Flip Angle	0	0
Resin Heat Adjust	0	0

DTC550 Card Printer - Calibration Utility

Apply   Restore Defaults   Close   Help
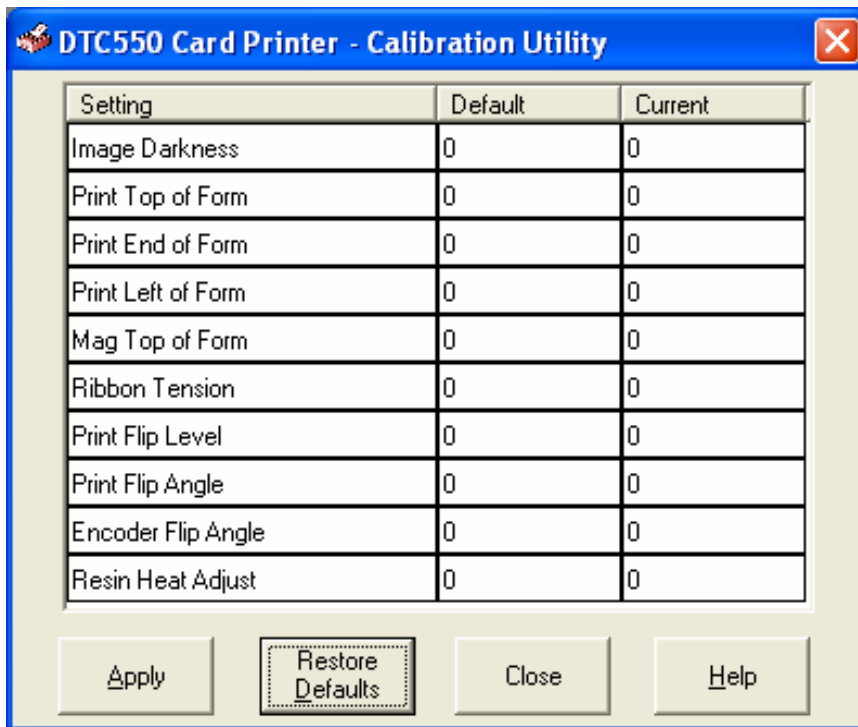
Using the Image Darkness Option

Use this option to set the overall darkness of the printed image by increasing or decreasing the amount of heat used by the Printhead when printing.

Step	Procedure
1	Lighten the printed image by clicking the down arrow ▾ to enter a negative value and decrease the amount of Printhead heat. **OR** Darken the image by clicking the up arrow ▴ to enter a positive value and increase the amount of Printhead heat. ⚠ **Caution:** If the value is set too high, the Ribbon may jam or even break.

Using the Print Top of Form Option

Use this option to adjust the lengthwise or horizontal position of the printed image on a card so it appears centered. (**Note:** When adjusting this value, keep in mind that cards always remain in the same landscape orientation while moving through the Printer.)

The diagram (below) represents how the printed image will move in relation to the fixed card position as a positive or negative Image Placement value is entered.

Step	Procedure
1	Enter a negative value to move the printed image toward the leading edge of the card or the card output side of the Printer. **OR** Enter a positive value to move the printed image toward the trailing edge of the card or the card input side of the Printer. **Maximum Adjustment Range:** The maximum adjustment range is ± 99. As a rule, 20 equals about .030"/. 8mm, which is about the same as the thickness of a standard CR-80 size card. ⚠ **Caution:** If the negative value is set too high, the Print Ribbon may break.

Rear of Printer

Card Output
Side of Printer
(Leading Edge
of Card)

Card Input
Side of Printer
(Trailing Edge
of Card)

Direction card travels through printer

Front of Printer
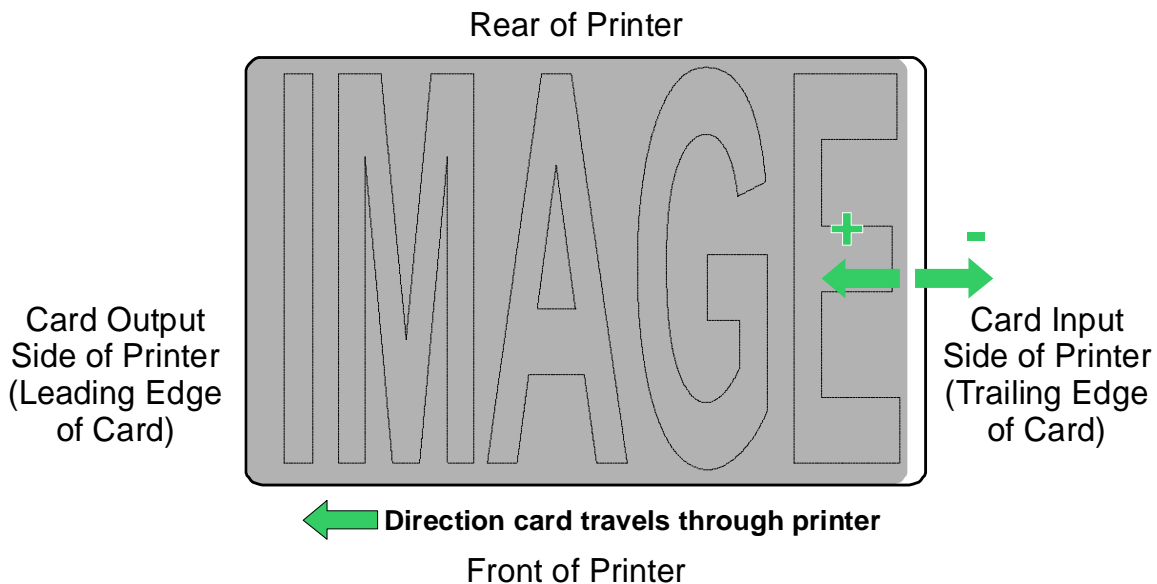
Using the Print End of Form Option

Use this option to reduce or increase the overall printable area in order to optimize edge-to-edge printing toward the trailing edge of a card. (**Note:** When adjusting this value, keep in mind that cards always remain in the same position while moving through the Printer.)

The diagram (below) represents how the end of form will move in relation to the fixed card position as a positive or negative Print End of Form value is entered.

Step	Procedure
1	Enter a negative value to reduce the Print End of Form and move the end of the printable area more toward the leading edge of the card.
	OR
	Enter a positive value to increase the print length and move the end of the printable area more toward the trailing edge of the card.
	Maximum Adjustment Range: The maximum adjustment range is ±99. As a rule, 20 equals about .030"/. 8mm, which is about the same as the thickness of a standard CR-80 size card.

Rear of Printer

Card Output
Side of Printer
(Leading Edge
of Card)

Card Input
Side of Printer
(Trailing Edge
of Card)

Direction card travels through printer

Front of Printer
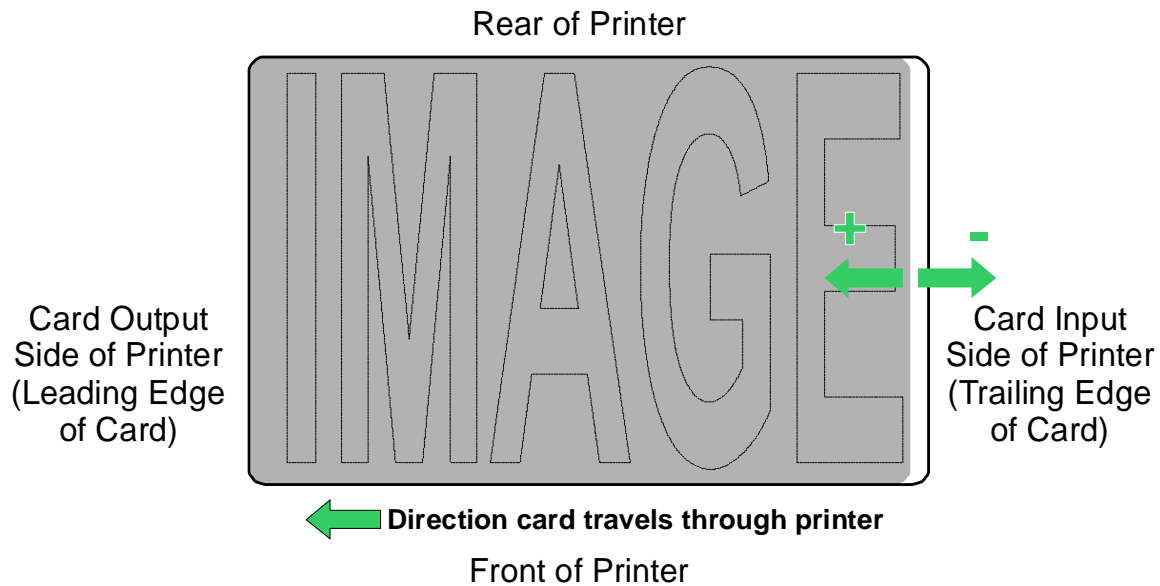
Using the Print Left of Form Option

Use this option to adjust the vertical position of the printed image on a card so it appears centered. (**Note:** When adjusting this value, keep in mind that cards always remain in the same landscape orientation while moving through the Printer.)

Step	Procedure
1	Enter a negative value to move the image towards the bottom edge of the card (See image below),
	OR
	Enter a positive value to move the image towards the back top edge of the card (see image below).
	Maximum Adjustment Range: The maximum adjustment range is ± 99. As a rule, 10 equals about .030"/. 8mm. This is about the same as the thickness of a standard CR-80 size card.
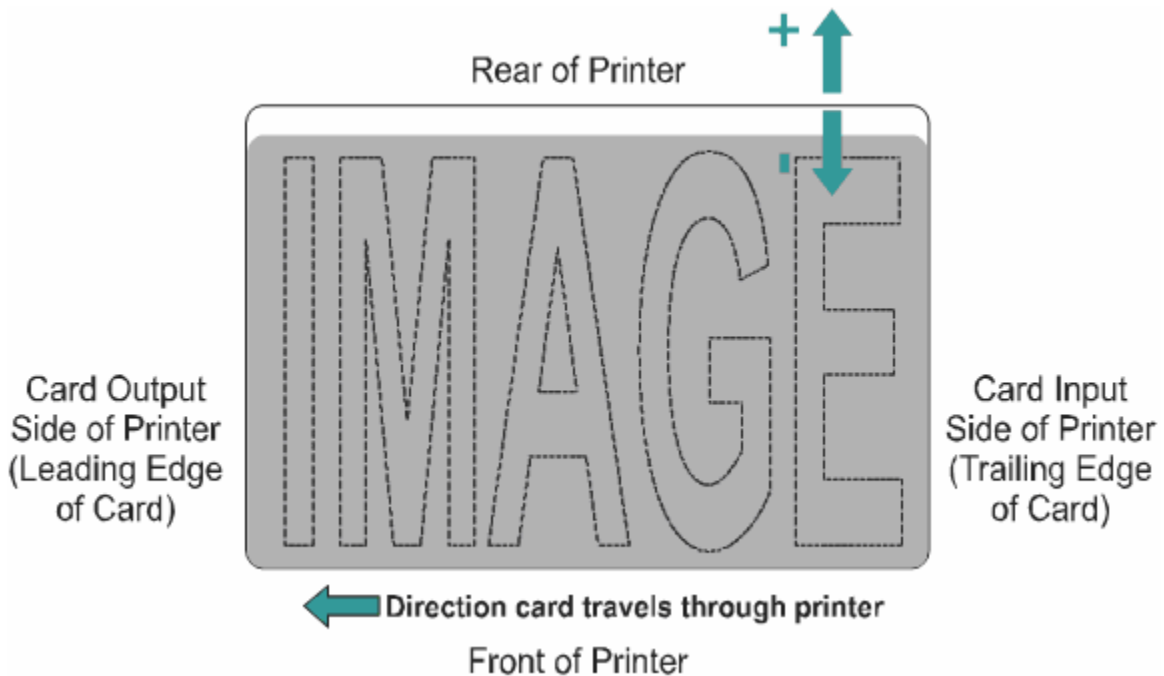
Using the Mag Top of Form Option

Use this option only if the Printer has a built-in Magnetic Stripe encoder. (**Note:** If so, use this option to shift the starting point of where the Printer will begin encoding the magnetic track data on a card's Magnetic Stripe. When adjusting this value, keep in mind that a card and its Magnetic Stripe will always remain in the same relative position as the card travels through the Printer.)

The diagram (below) represents how the magnetic data will move in relation to the fixed position of a card's Magnetic Stripe as a positive or negative Magnetic Offset value is entered. (**Note:** For this diagram, imagine that the card is transparent and the card's Magnetic stripe can be seen through the top or front side of the card.)

Step	Procedure
1	Enter a negative value to move the start of the magnetic data more toward the leading edge of the card or the card output side of the Printer. **OR** Enter a positive value to move the start of the magnetic data toward the trailing edge of the card or the card input side of the Printer. • **Magnetic Data Direction:** The arrows on these buttons indicate the direction the magnetic data will move on the card's Magnetic Stripe. • **Maximum Adjustment Range:** The maximum adjustment range is ± 99. As a rule, 20 equals about .030"/. 8mm.) (**Note:** Keep this in mind when adjusting this option to avoid over-adjusting.) ⚠ **Caution:** If the negative value is set too high, the Printer may start encoding before the card's Magnetic Stripe reaches the encoding head.

Using the Mag Top of Form Option (continued)

DTC550 Card Printer - Calibration Utility

Setting	Default	Current
Image Darkness	0	0
Print Top of Form	0	0
Print End of Form	0	0
Print Left of Form	0	0
Mag Top of Form	0	0
Ribbon Tension	0	0
Print Flip Level	0	0
Print Flip Angle	0	0
Encoder Flip Angle	0	0
Resin Heat Adjust	0	0

Apply   Restore Defaults   Close   Help

Rear of Printer

−   +

Card Output Side of Printer (Leading Edge of Card)

Magnetic Track Data

Card Input Side of Printer (Trailing Edge of Card)

Direction card travels through printer

Front of Printer

Using the Ribbon Tension Option

Step	Procedure
1	Use the Ribbon Tension option to increase the amount of tension (drag) on the Ribbon during printing.
	Enter a negative value to decrease the amount of tension that is placed on the Ribbon during printing
	OR
	Enter a positive value to increases the amount of tension that is placed on the Ribbon during printing.
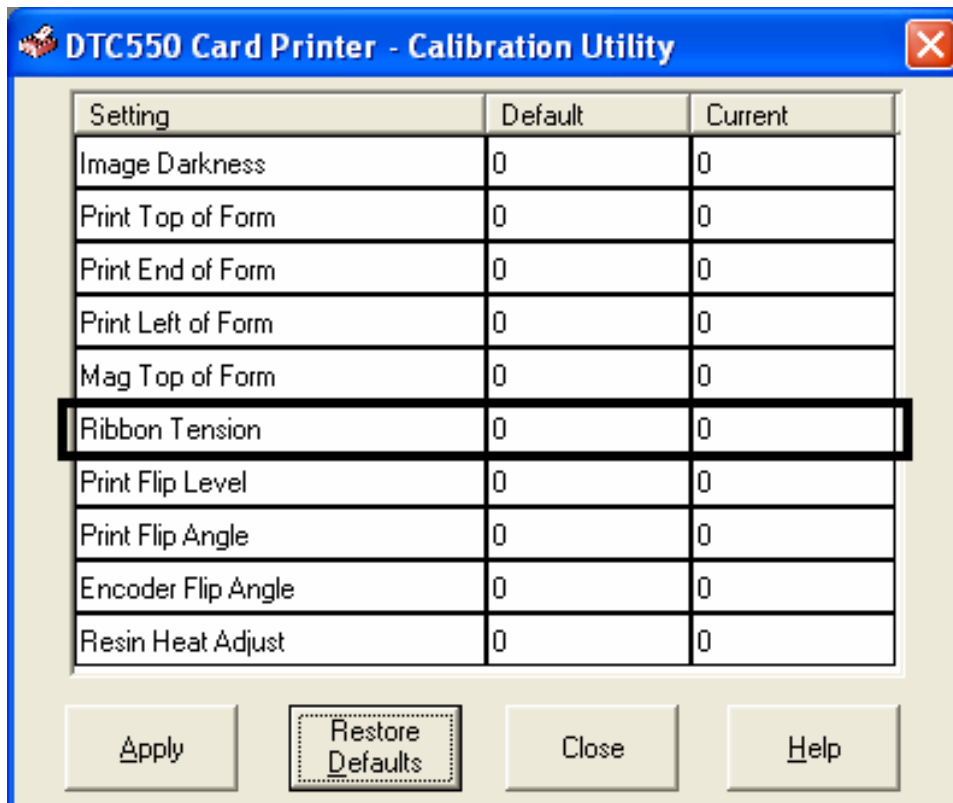
Using the Magnetic Encoding tab

Use these options only if the Printer has an optional Magnetic Stripe Encoding Module installed.

Step	Procedure
1	Select the **Magnetic Encoding** tab to display options for controlling the Magnetic Stripe encoding process. (**Note:** The following describes these options and the Printer's magnetic encoding process.)
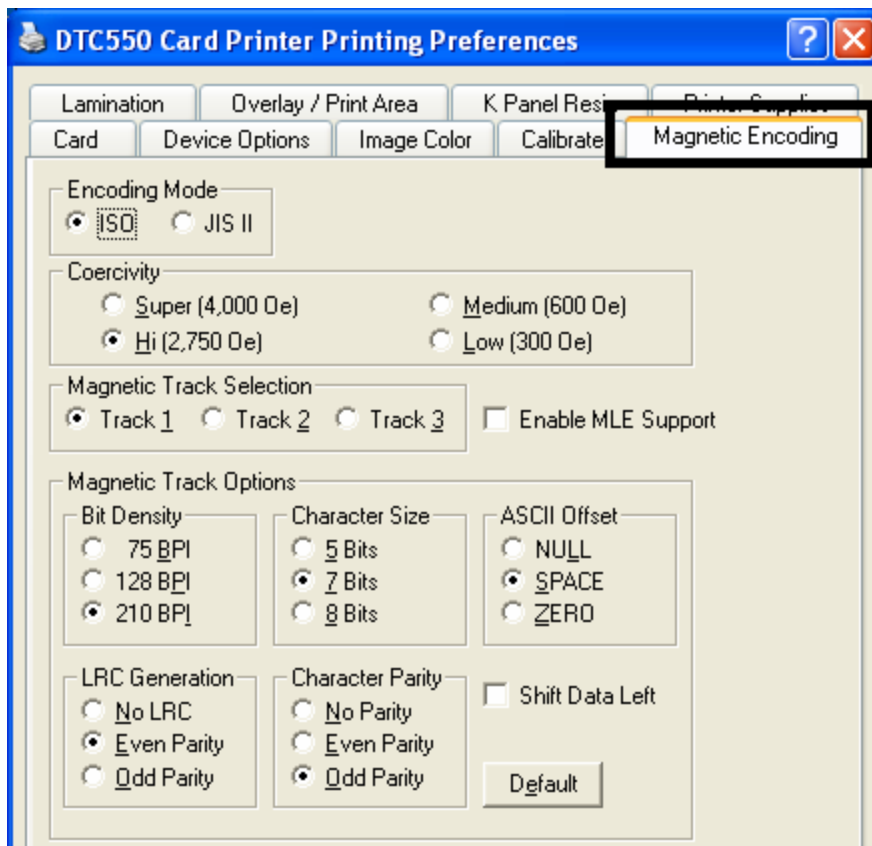
Using the Encoding Mode option

Use the **Encoding Mode** option to specify which magnetic encoding standard to use.

- The DTC550 Card Printer can be installed with one of two types of factory-installed Magnetic Stripe Encoding Modules.

- Change the encoding mode and coercivity setting or modify the ISO standards for tracks 1, 2 and 3, by correctly modifying these Magnetic Encoding options.
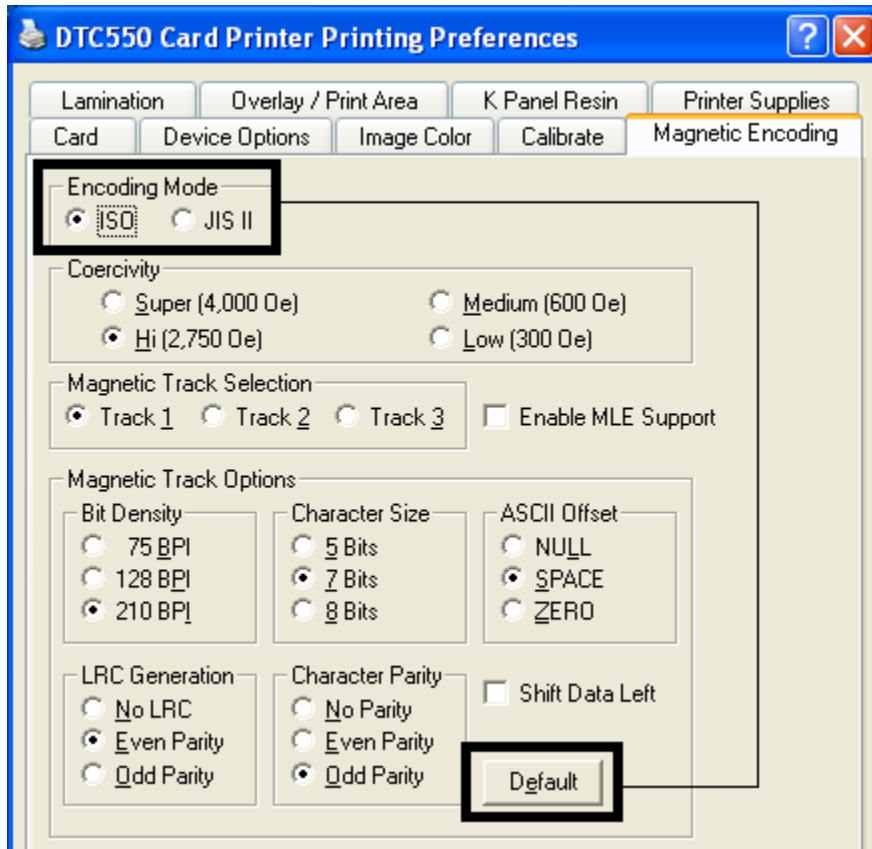
Using the Encoding Mode option (continued)

Step	Procedure
1	Select the ISO Standard Encoding Module with a dual-coercivity (high or low) encoding head. (**Note:** By default, the Printer Driver is set to encode according to ISO standards onto high-coercivity Magnetic Stripes.)
	OR
	Select the JIS II Standard Encoding Module commonly used in Japan. Select the **JIS II** mode to encode only Track 2.
	(**Note #1:** The **JIS II** option provides encoding compatibility with the JIS C 6220 Type II cards commonly used in Japan. No encoding customization options are available with the JIS II mode.)
	(**Note #2:** A JIS II Magnetic Head must be installed in the Printer to use any of the JIS II options in the Driver.)
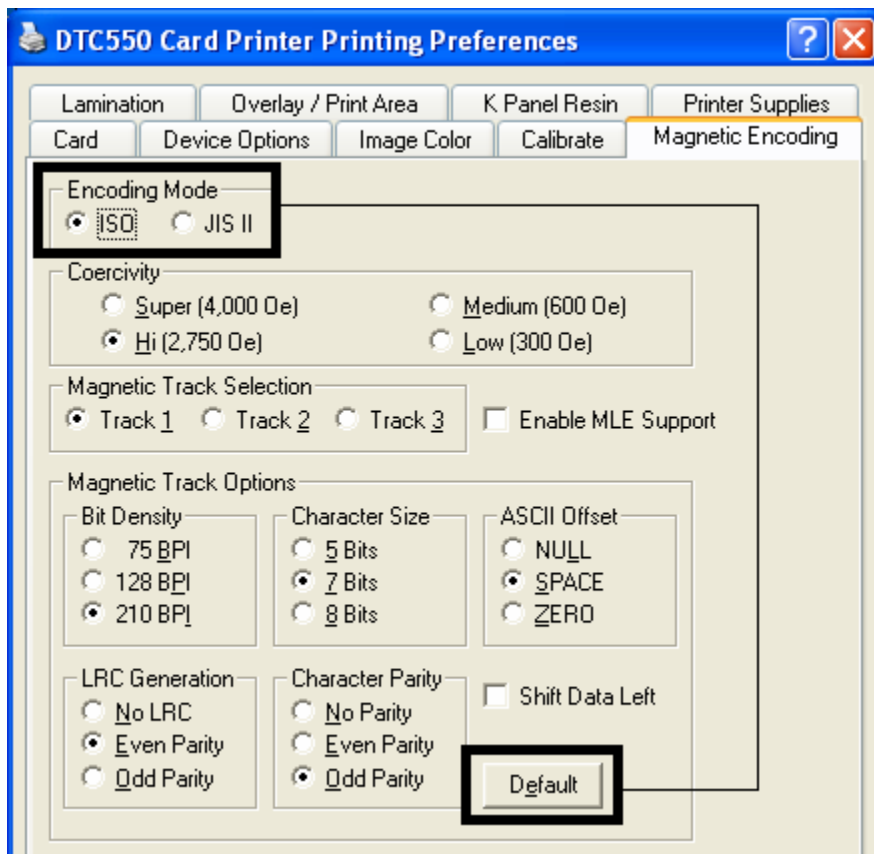
Using the Coercivity Selection

Use the options in this tab for encoding capability for either high- or low-Coercivity cards on tracks 1, 2 and 3.

Step	Procedure
1	Select the Coercivity option to select the Magnetic Stripe type that matches the card type. • Super (4,000 Oe) = 4,000 Oersted • Hi (2,750 Oe) = 2,750 Oersted (Fargo's High Coercivity UltraCards are 2750 Oe) • Medium (600 Oe) = 600 Oersted • Low (300 Oe) = 300 Oersted (Fargo's Low Coercivity UltraCards are 300 Oe)
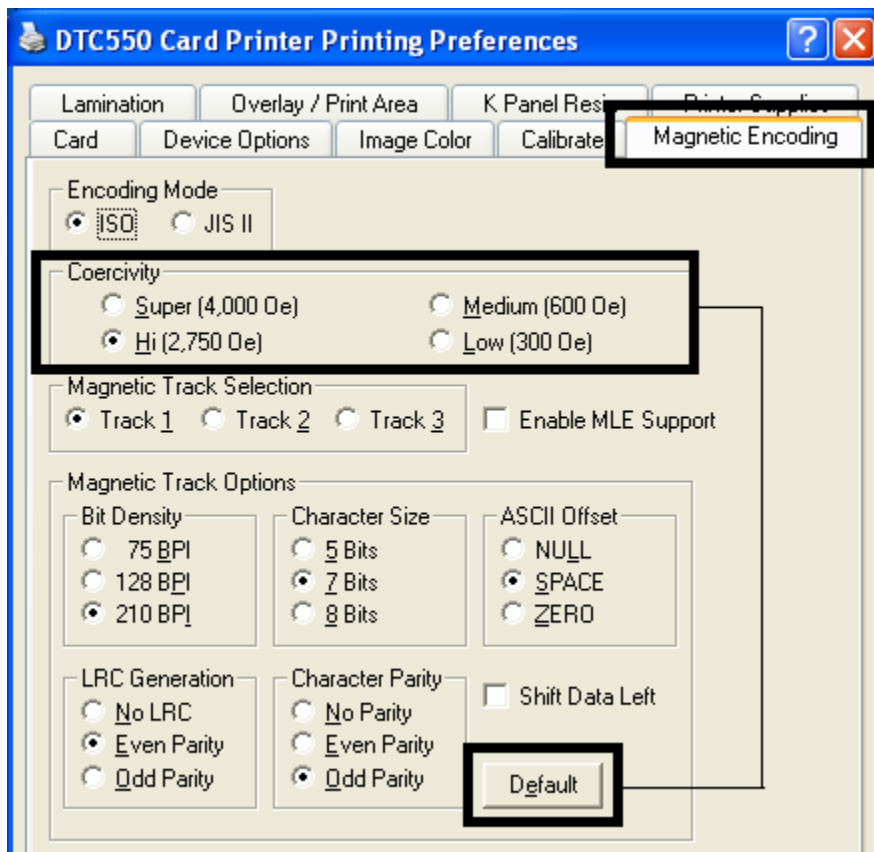
Using the Magnetic Track Selection option

Use these options to customize the ISO encoded data format for each of the Magnetic Stripe's three tracks.

Step	Procedure
1	Select the **Magnetic Track Selection** option to specify which track is to be configured through the **Magnetic Track** options (if the application being used requires customization of the standard ISO encoding process).
2	Customize these options if the application requires it; even though, the default **Magnetic Track** options should be correct for most applications. (**Note:** All options must be changed separately for each of the three individual tracks.) • Set these options back to the ISO standard settings once they have been changed by selecting the **Default** button for each of the separate tracks.
3	Specify which of the three (3) tracks to customize by selecting one of the three track options. After making the required selection, the **Magnetic Track** options box displays the current set of customization options for the selected track. Remember that each track must be customized independently of the other two tracks.
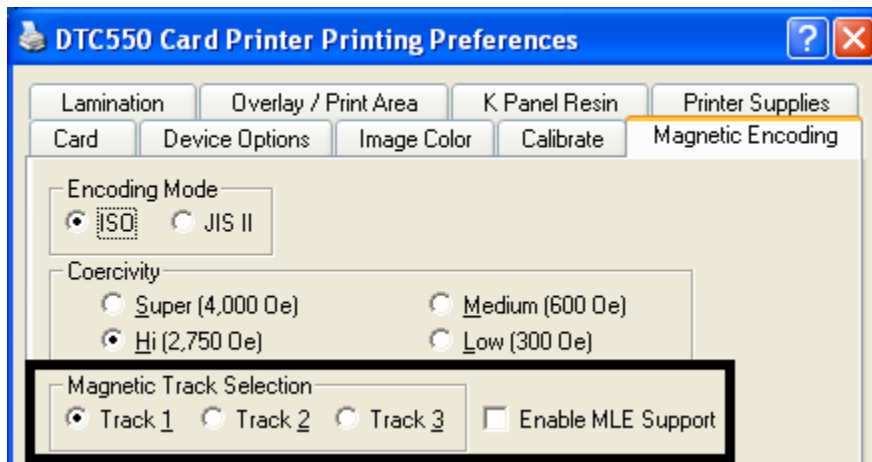
Reviewing the Enable MLE Support checkbox

Multi-Language Extension (MLE) support in Windows XP can cause text strings to be broken up into fragments. This fragmentation of the text string prevents magnetic encoding.

Step	Procedure
1	Check this box to allow the Driver to process the fragmented text.
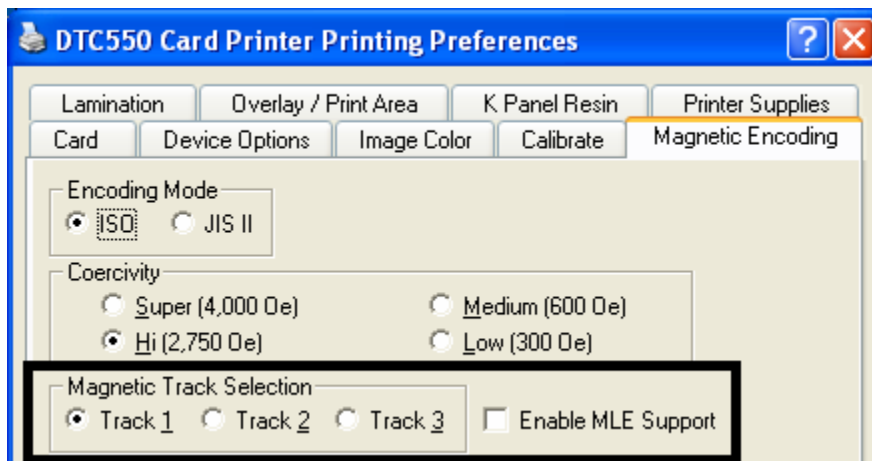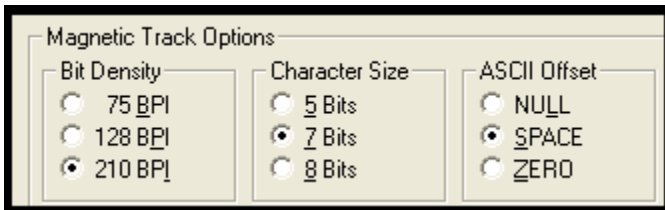
Using the Magnetic Track Options

Use the **Magnetic Track** options for these purposes:

- Customize the ISO encoded data format for each of the Magnetic Stripe's three tracks.

- Customize each track independently of the other two.

- Specify which of the three tracks to customize by selecting one of the three track options.)

(**Note #1:** After making the required selection, the Magnetic Track options box displays the current set of customization options for the selected track.)

(**Note #2:** For most applications, the default settings for these options do not need to be changed.)
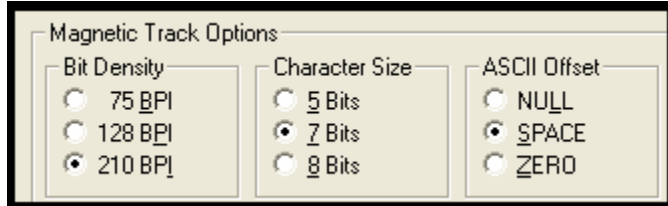
Using the Bit Density radio buttons

Use this option to customize the Bit Recording Density (Bits per Inch) used to encode the magnetic data on the currently selected track. The default ISO Standard selections for this option are as follows:

Step	Procedure
1	• Select 75 BPI to change the bits per inch to 75 BPI. **OR** • Select 128 BPI to change the bits per inch to 128 BPI. **OR** • Select 210 BPI to change the bits per inch to 210 BPI.

Using the Character Size radio buttons

Use this option to customize the Character Data Size (Bits per Character) used to encode the magnetic data on the currently selected track. (**Note:** This character size includes the parity bit (if enabled).)

Step	Procedure
1	• Select 5 Bits to change the bits per character to 5 BPC. **OR** • Select 7 Bits to change the bits per character to 7 BPC. **OR** • Select 8 Bits to change the bits per character to 8 BPC.
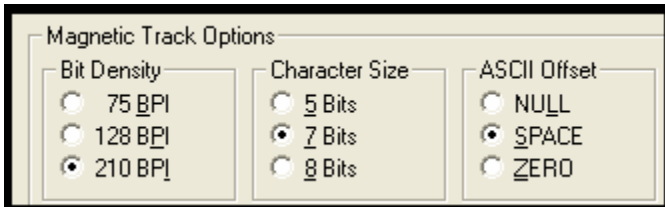
Using the ASCII Offset radio buttons

Use this option to customize the Character ASCII Offset used to encode the magnetic data on the currently selected track. (**Note:** This character-offset value is subtracted from the ASCII value of each Magnetic Stripe data character prior to encoding on the track.)

Step	Procedure
1	• Select NULL to change the ASCII Offset to NULL.
	OR
	• Select SPACE to change the ASCII Offset to SPACE.
	OR
	• Select ZERO to change the ASCII Offset to ZERO.
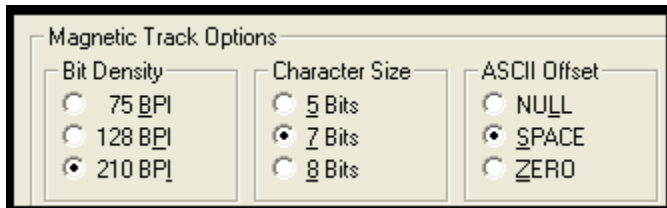
Using the LRC Generation radio buttons

Use this option to customize the LRC Generation Mode (used to encode the magnetic data on the currently selected track).

Step	Procedure
1	• Select NO LRC to change the LRC Generation to none. **OR** • Select Even Parity to change the LRC Generation to Even Parity. **OR** • Select Odd Parity to change the LRC Generation to Odd Parity.
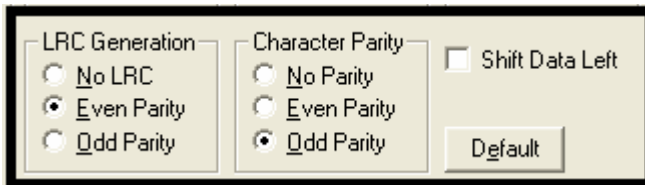
Using the Character Parity radio buttons

Use this option to customize the Character Data Parity (used to encode the magnetic data on the currently selected track).
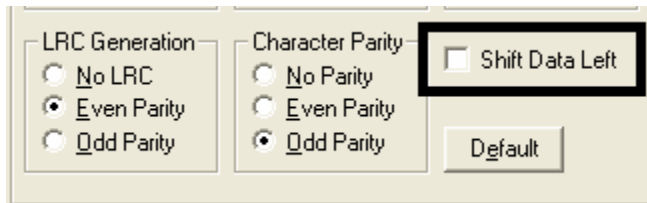
Step	Procedure
1	• Select No Parity to change the Character Parity to none. **OR** • Select Even Parity to change the Character Parity to Even Parity. **OR** • Select Odd Parity to change the Character Parity to Odd Parity.
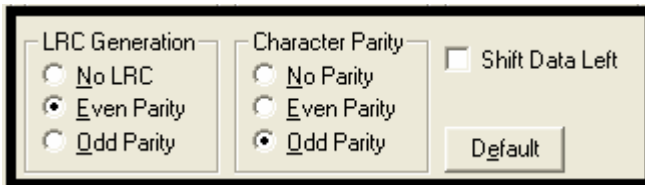
Reviewing the Shift Data Left

Use the **Shift Data Left** option, which applies to all tracks when selected.

Step	Procedure
1	Select this option to shift the recorded magnetic data to the left-hand side of the card's Magnetic Stripe. (**Note:** This is useful in situations that require cards to be readable with insert type readers.)

Reviewing the ISO Track Locations

The magnetic Encoding Module encodes onto tracks in accordance with an ISO 7811-2 Magnetic Stripe. For track locations, review the display below.
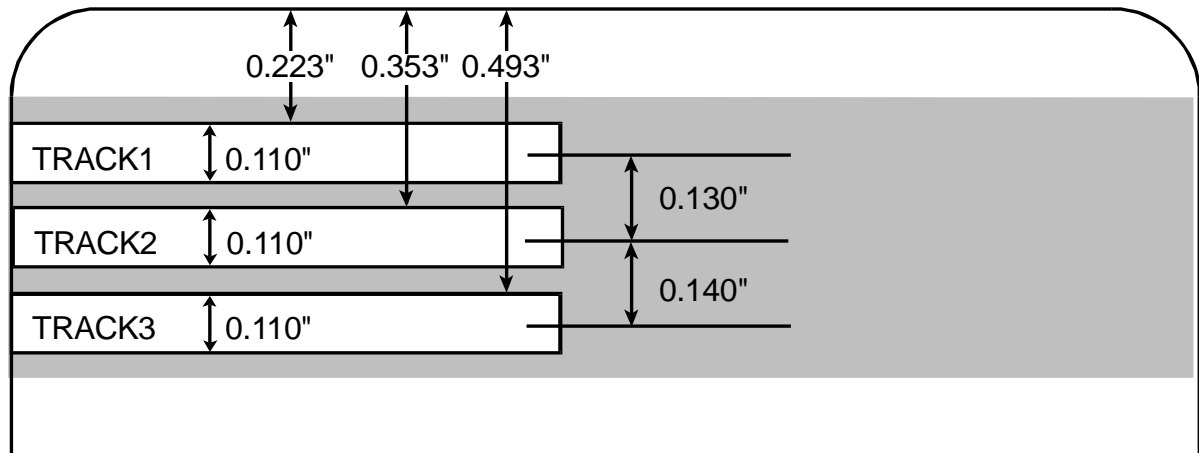
Reviewing the Sample String

- Sending Data to Track 1: ~1%JULIEANDERSON^1234567890?

- Sending Data to Track 2: ~2;1234567890987654321?

- Sending Data to Track 3: ~3;1234567890987654321?

Track	Start Sentinel	End Sentinel	Field Separator	Valid Characters	Maximum Number of Characters
Track 1	%	?	^	ASCII 32-95	78
Track 2	;	?	=	ASCII 48-63	39
Track 3	;	?	=	ASCII 48-63	106

Sending the Track Information

Magnetic track data is sent in the form of text strings from the application software to the Printer Driver. Specific characters must be added to the magnetic data (to be encoded) in order for the Printer Driver to differentiate between Magnetic Track data and the rest of the printable objects. (**Note:** These specify the data and the tracks to encode and mark the start and the stop of the data string.)

- **Automatic:** In some cases, these specific characters are automatically added to the string of track data by ID software applications.

- **Manual:** In most cases, the User must manually add these characters to the string of Magnetic Track data. (**Note:** If these characters are not added to the track data, the text intended for the Magnetic Track will appear as printed text on the card.)

To avoid this, track information must be entered as described below.

Step	Procedure
1	When entering track data, the "~" (tilde) character is entered first, followed by the track number (1, 2 or 3) on which the data should encode. This is followed by the data to be encoded. • **Start Sentinel and End Sentinel:** The first character of this data string must be the track's specific Start Sentinel (SS) and the last character must be the specific End Sentinel (ES). (**Note:** The characters or data in between the SS and ES can include all of the valid characters specific to each track.) • **Maximum Character Capacity:** The number of these characters, however, is limited by each track's maximum character capacity. • **Field Separator:** When segmenting track data, the appropriate Field Separator (FS) must be used. (**Note:** See the table below, which displays the SS, ES, FS and the valid characters defined for each track.)

Reviewing the ASCII Code and Character Table

ASCII Code	Character	ASCII Code	Character	ASCII Code	Character
32	space	56	8	80	P
33	!	57	9	81	Q
34	"	58	:	82	R
35	#	59	;	83	S
36	$	60	<	84	T
37	%	61	=	85	U
38	&	62	>	86	V
39	'	63	?	87	W
40	(	64	@	88	X
41	)	65	A	89	Y
42	*	66	B	90	Z
43	+	67	C	91	[
44	'	68	D	92	\
45	-	69	E	93	]
46	.	70	F	94	^
47	/	71	G	95	_
48	0	72	H		
49	1	73	I		
50	2	74	J		
51	3	75	K		
52	4	76	L		
53	5	77	M		
54	6	78	N		
55	7	79	O		

Using the Lamination tab (only with Card Lamination Module)

Use this option to control specific Printer functions. The Lamination Tab appears only if the Printer is equipped with the Card Lamination Module. These options allow you to control the Printer's lamination process.
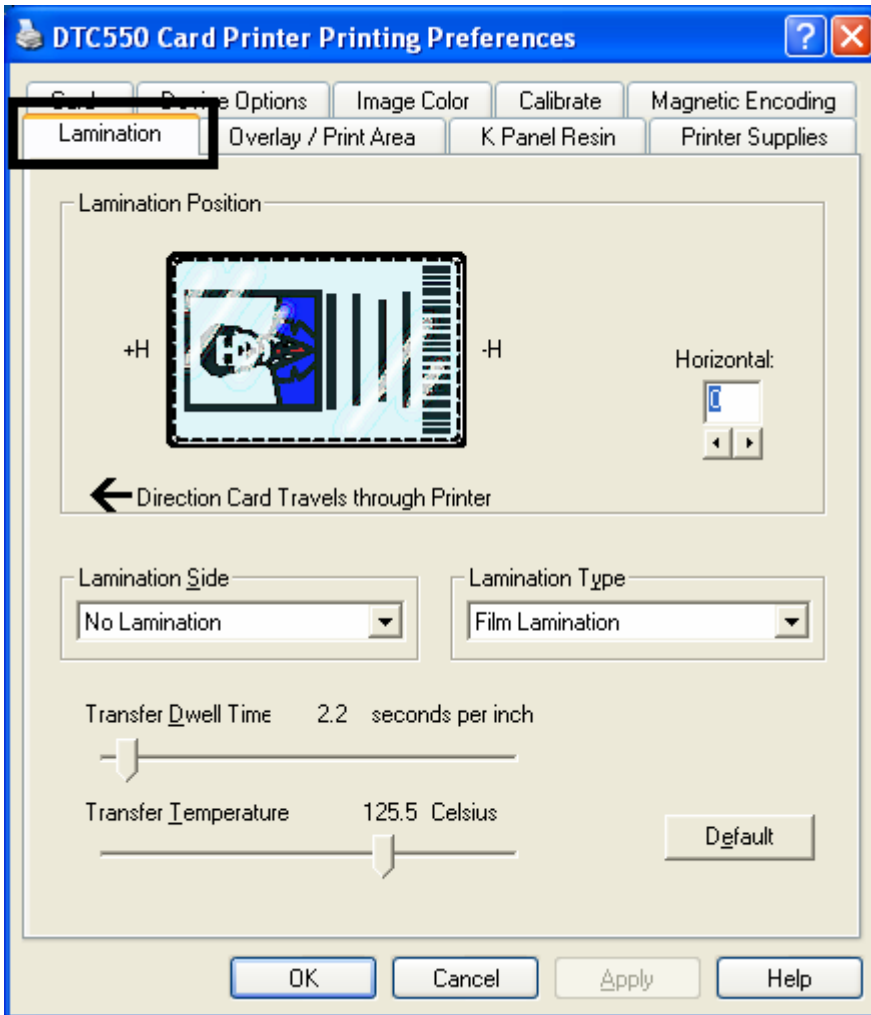
Selecting the Lamination Position

Step	Procedure
1	The Lamination Position control allows you to adjust the horizontal position of the PolyGuard overlaminate. This control functions in the exact same fashion as the Image Position controls, except only the horizontal position of the overlaminate requires adjustment.
	• To adjust the lamination position, click on the Horizontal adjustment arrows.
	• To move the overlaminate more toward the Card output side of the Printer, enter a positive number.
	• To move the overlaminate more toward the card input side of the Printer, enter a negative number. (**Note:** The adjustment arrows point in the direction the patch will move on the card. The maximum value for the Horizontal adjustment is ±100 pixels (10 pixels = about .03"/.8mm).)
	• To adjust the Vertical placement of the PolyGuard overlaminate, see .the Loading the Overlaminate procedure.
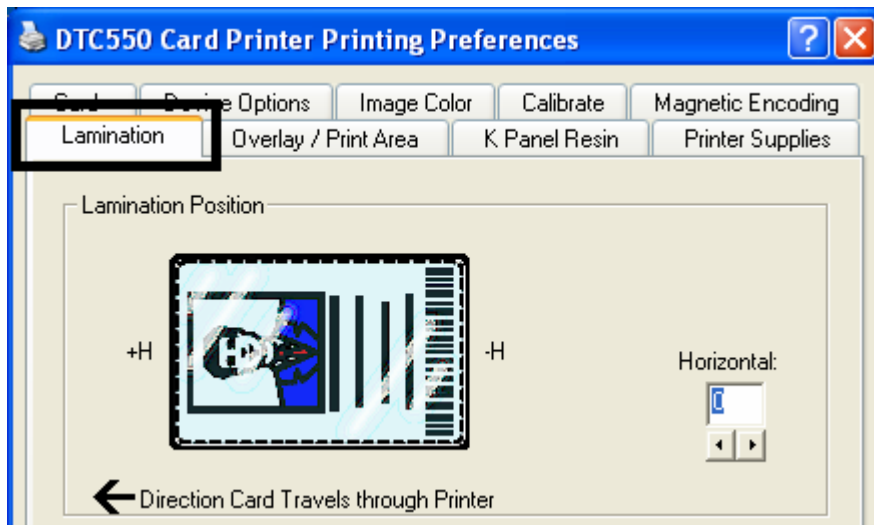
Selecting the Lamination Side

Step	Procedure
1	a. Select the **No Lamination** option if you do not want to use the Printer's built-in laminator.
	b. Select **Laminate Front Side**, **Laminate Back Side** or **Laminate Both Sides** to specify the side(s) of the card to laminate.
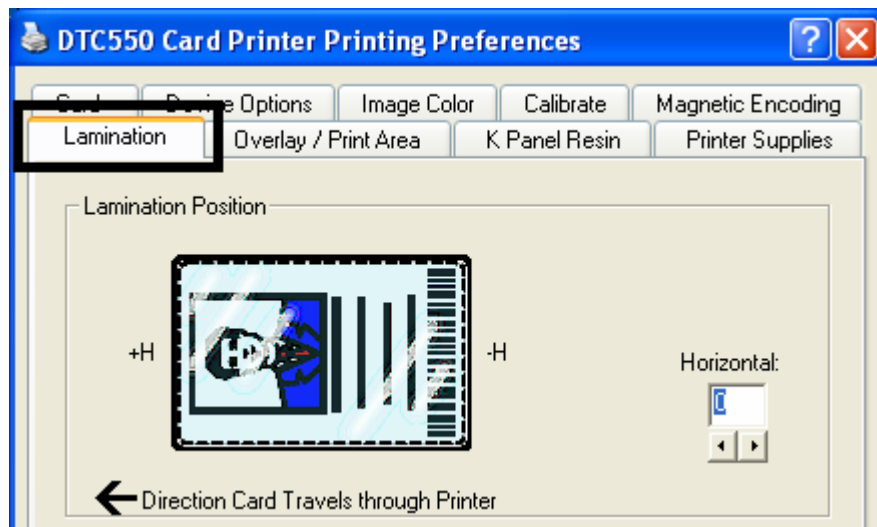
Selecting the Lamination Type

Select one of the **Lamination Type** options, according to which type of lamination media is currently installed. Two types of overlaminates are supported by the driver: Film Lamination and PolyGuard lamination. Custom versions of each type are also available.

Step	Procedure
1A	Select the **Film Lamination** option if the Thermal Transfer Film Overlaminate type is installed in the Lamination Module. • The Film Lamination may be applied with or without the application of an additional overlay from a paneled, full-color Print Ribbon. • The Overlay (O) Panel provides additional Ultra-Violet (UV) light protection and additional abrasion resistance not found when using film laminations alone; however, it requires use of a Print Ribbon with an Overlay (O) Panel. • If using Film lamination, the additional protection of the Print Ribbon's overlay panel is recommended. • If the **Film Lamination** option is selected, the film lamination is applied to the printed card, then the card is ejected. (**Note:** This is the fastest way to apply the film lamination, yet it provides the lowest film durability.)
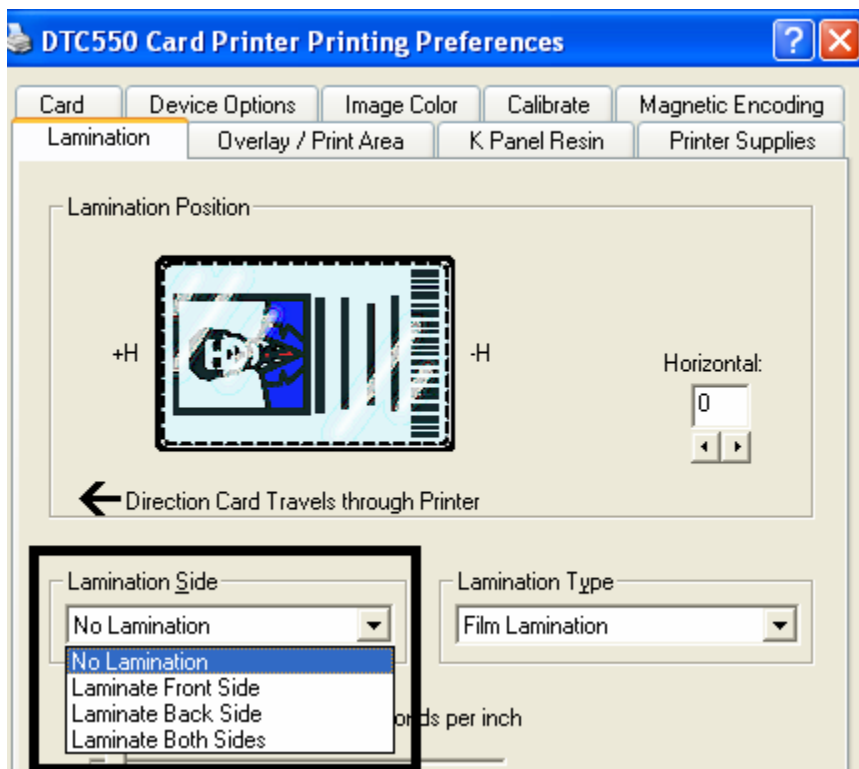
Selecting the Lamination Type

Step	Procedure
1B	Select the **0.6 PolyGuard Lamination** option or **1.0 PolyGuard Lamination** option for either patch thickness. (**Note:** These both offer equivalent protection but require different heat settings and lamination speeds. • Select the appropriate option according to the thickness of the PolyGuard material you are using. **OR** • Select the **PolyGuard Alternating Patch** option only if using PolyGuard material that has alternating patch configurations on the same roll (e.g., full patch on the front of the card and half patch on the back).
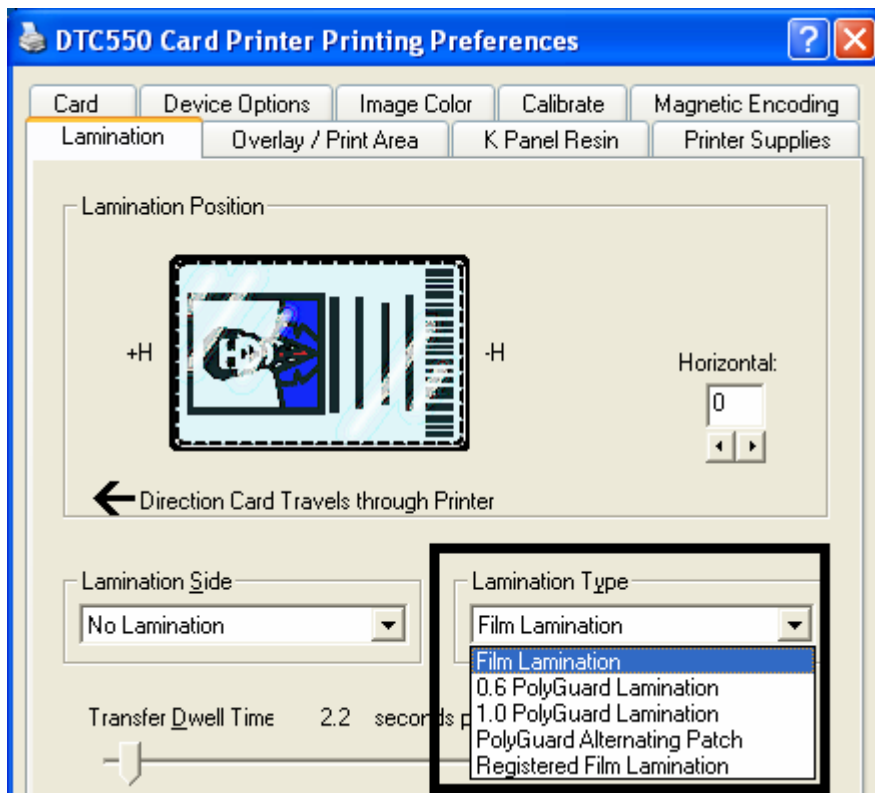
Adjusting the Transfer Dwell Time and Transfer Temperature

Step	Procedure
1	Adjust the Transfer Dwell Time and the Transfer Temperature to control the Lamination Dwell Time or through-put speed of a card in seconds/inch and the Lamination Temperature.

Selecting Default button

Step	Procedure
1	Select the **Default** button to return the Transfer Dwell Time and Transfer Temperature to their default settings.
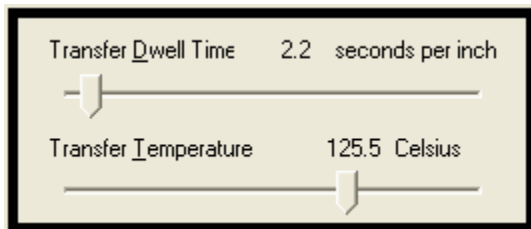
Using the Overlay/Print Area tab

Use this option to control how the Overlay (O) Panel and/or the print area will appear on a card. (**Note:** This option is helpful if it is necessary to omit the overlay or printing around a card's smart chip or Magnetic Stripe. By default, this option is set to print and overlay the entire card.)
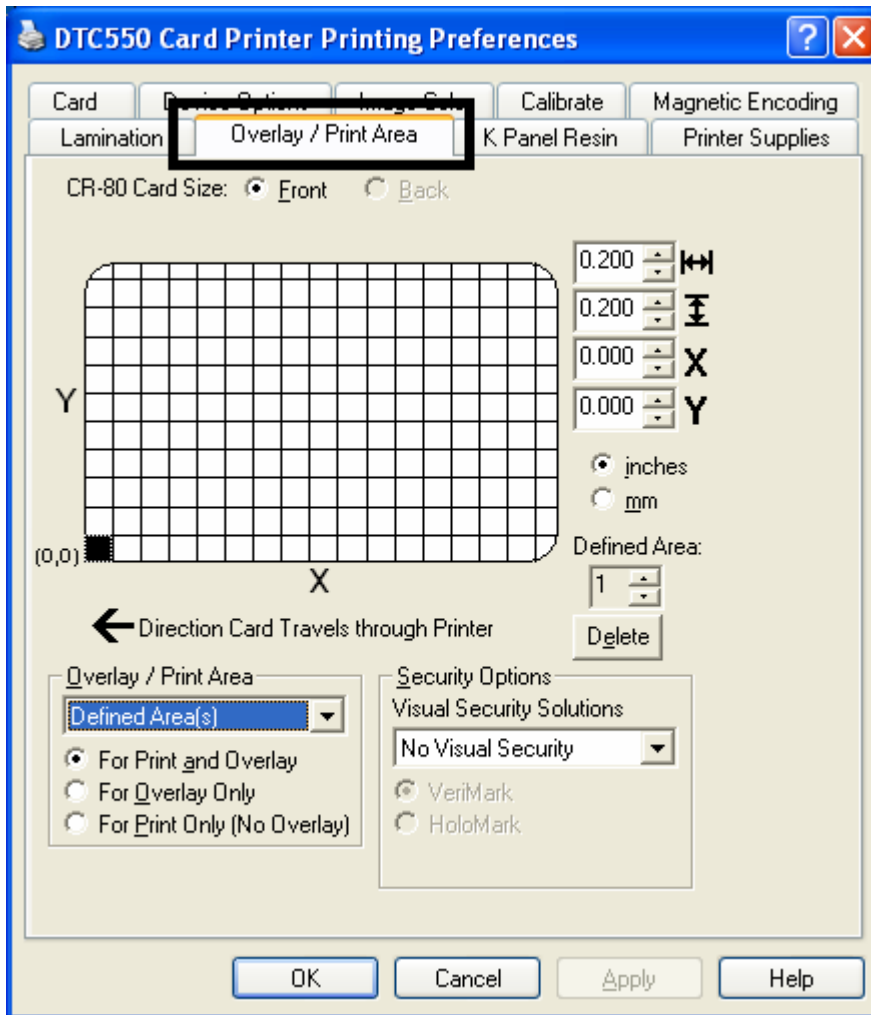
Using the Overlay/Print Area dropdown menu

Step	Procedure
1	• Select the **Full Card** option for the Printer to overlay and/or print the entire card. **OR** • Select the **Defined Area(s)** option for the Printer to overlay and/or print only in the selected and defined area or areas. **OR** • Select the **Undefined Area(s)** option for the Printer to overlay and/or print only in the space outside the selected and defined area. **OR** • Select the **Omit Smart Chip Area** option for the Printer to overlay and/or print only in the space outside the standard location of a smart chip. **OR** • Select the **Omit Mag Stripe Area** option for the Printer to overlay and/or print only in the space outside the standard location of an ISO Magnetic Stripe. **OR** • Select the **Omit Signature Area** option for the Printer to overlay and/or print only in the space outside the standard location of a signature panel. (**Note:** In the card grid, black indicates the area in which the overlay and/or printing will be applied.)
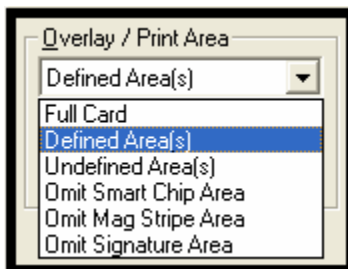
Using the Overlay/Print Area radio buttons

Use these **Overlay**/**Print Area** options to control both the print and overlay together or control each individually.

Step	Procedure
1A	Select **For Print and Overlay** for the defined area to apply to both the printing and overlay process. **OR** Select **For Overlay Only** for the defined area to apply only to the overlay process. (**Note:** In this mode, printing will still be allowed over the entire card and only the overlay will be affected.) **OR** Select **For Print Only (No Overlay)** for the defined area to apply only to the print process. (**Note:** In this mode, the overlay is completely disabled; so it will not be applied.) ⚠ **Caution:** An overlay or an overlaminate must protect Dye-Sublimation printing or it will quickly begin to wear or fade.
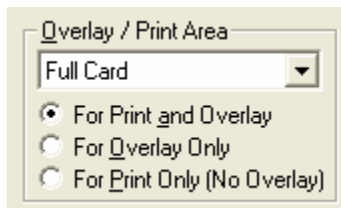
Using the Overlay/Print Area (continued)

Step	Procedure
1B	Select the **Defined Area(s)** option to activate the card grid in the upper half of the window. (**Note:** This allows defined areas to be created. It is through this card grid that up to five areas can be defined.)

Using the Overlay/Print Area (continued)

Step	Procedure
2	When the card grid is first activated, a small black square will appear at its default size of .2" x .2"/5mm x 5mm and at its default location in the lower left-hand corner (0,0). (**Note:** This square represents the first defined area.)
	Determine the area size by actually printing a card and looking at it in the same orientation as when it exits the Printer.
3	Measure the total size of the desired area and enter those dimensions into the Dimension boxes. (**Note:** The minimum size an area is .2" x .2"/5mm x 5mm.)
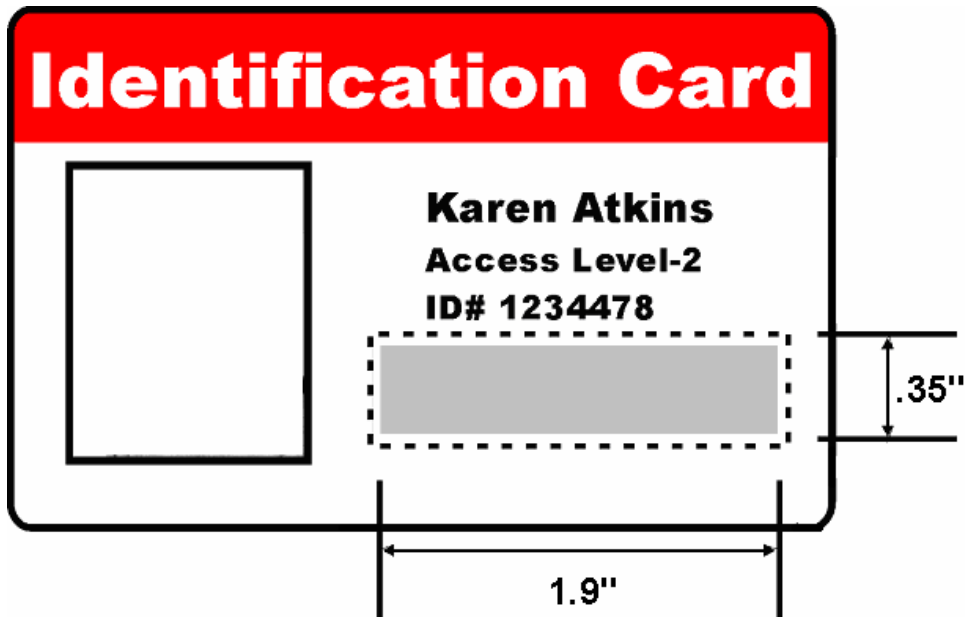
Using the Overlay/Print Area (continued)

See the previous procedure in this section.

Using the Overlay/Print Area (continued)

See the previous procedure in this section.

Step	Procedure
4	Follow this procedure once the area is sized properly. a. Measure the location where this desired area is to be positioned on the card. b. Measure from the lower left corner of the card (up and over) to the lower left corner (for the defined area to begin). c. Enter these values into the X and Y boxes. (**Note:** The card grid lines are spaced at .2 inch/5mm intervals.)

Using the Overlay/Print Area (continued)

See the previous procedure in this section.

Step	Procedure
5	a. Print the card design.
	b. Observe how the image is oriented on the card as it ejects from the Printer. (**Note:** The location of a defined area is based on the card orientation as it exits the Printer.)
	c. Measure the defined area location based on the printed card. (**Note:** If selecting the Rotate Front 180 Degrees option, the image will appear upside down as it exits the Printer.)
	d. Position the defined area according to the measurement of the onscreen card design. (**Note:** This design will appear right side up.)
6	a. Use the Defined Area arrows to navigate back and forth from area to area. (**Note:** The active area will always be highlighted with a dotted outline.)
	b. Define another area by clicking on the Defined Area UP arrow.
	Another .2" x .2"/5mm x 5mm area will appear in the lower left-hand corner. (**Note:** This is the location in which all newly defined areas will first appear.)
	Up to 5 areas can be defined. However, additional areas cannot be added until the most recently created area has been moved or sized. (**Note:** For this reason, size and position each area as it is created.)
	c. Define areas for both the front and back sides (as needed) if printing onto both sides of the card.
	d. Delete an area by using the Defined Area arrows to select the area and click on the **Delete** button. (**Note:** If all areas are deleted, the **Overlay/Print Area** options will automatically be deselected.)

Using Security Options (Visual Security Solutions)

The Visual Security Solutions dropdown menu list will be used to enable and select which type of visual security will be used. The Visual Security dropdown list will be selectable only on the Front side (see below). Visual Security is not an option for the back side.

The following actions will occur when one of the Visual Security locations is selected.

- The Overlay/Print Area will be disabled.

- SmartShield will be disabled.

- The Foil Options become selectable.
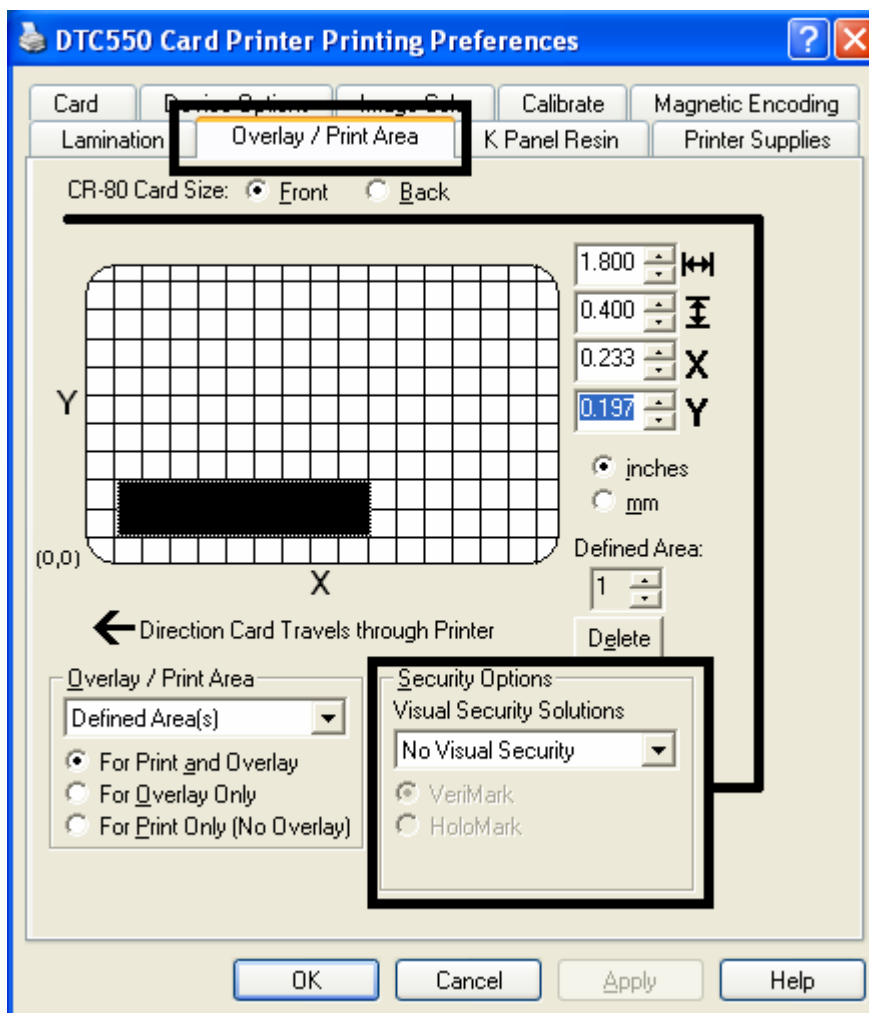
Selecting Orientation - Landscape under Card tab

Step	Procedure
1	Select the Landscape radio button (below) under Orientation under the Card Size tab to use the Visual Security Solutions (A to D), as shown in this window.
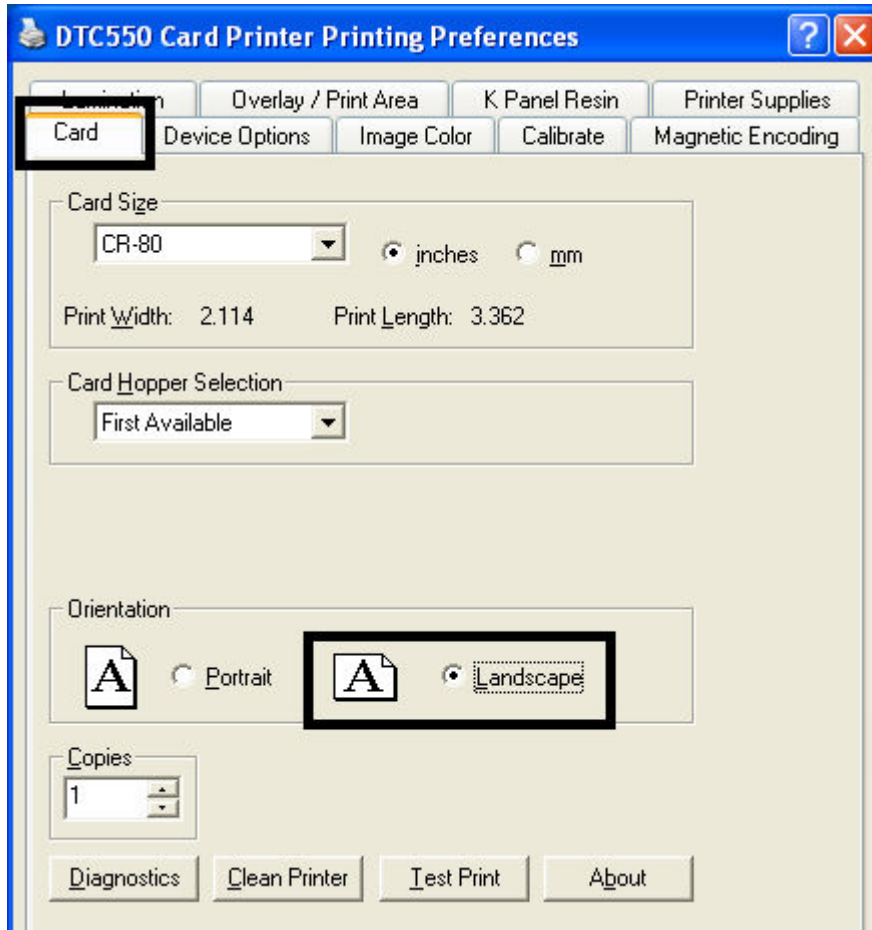
Selecting the Visual Security Solutions dropdown menu (A to D)

Step	Procedure
1	Click on the Visual Security Solutions dropdown menu (below) under the Overlay/Print Area tab to use the options shown in this display.
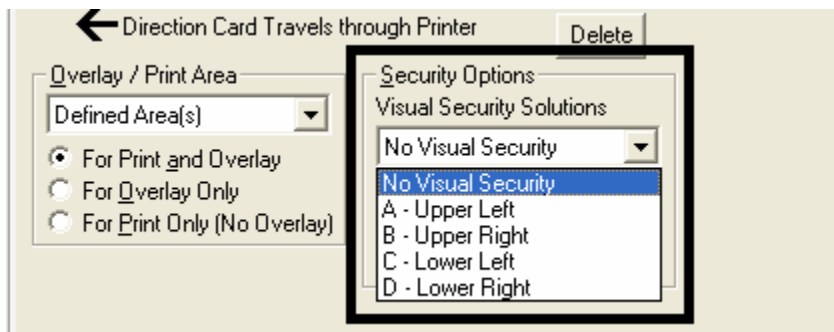
Selecting Orientation - Portrait under Card tab

Step	Procedure
1	Select the **Portrait** radio button (below) under Orientation under the Card tab to use the Visual Security Solutions (E to H), as shown in this window.
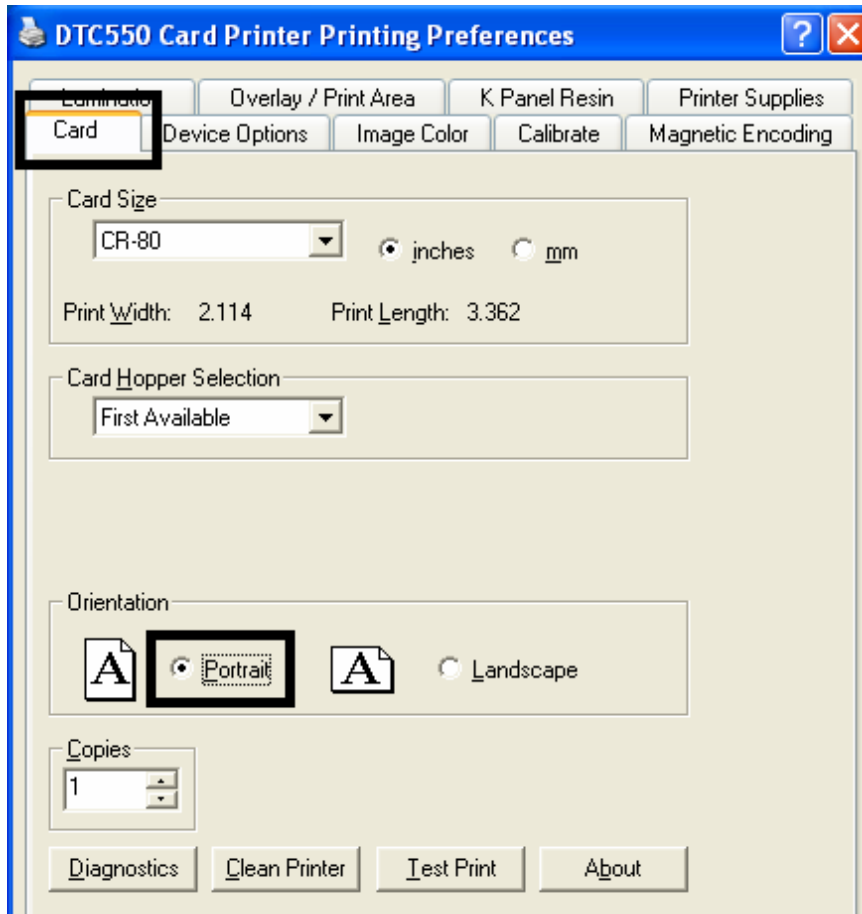
Selecting the Visual Security Solutions dropdown menu (E to H)

Step	Procedure
1	Click on the Visual Security Solutions dropdown menu under the Overlay/Print Area tab to use the options shown below.
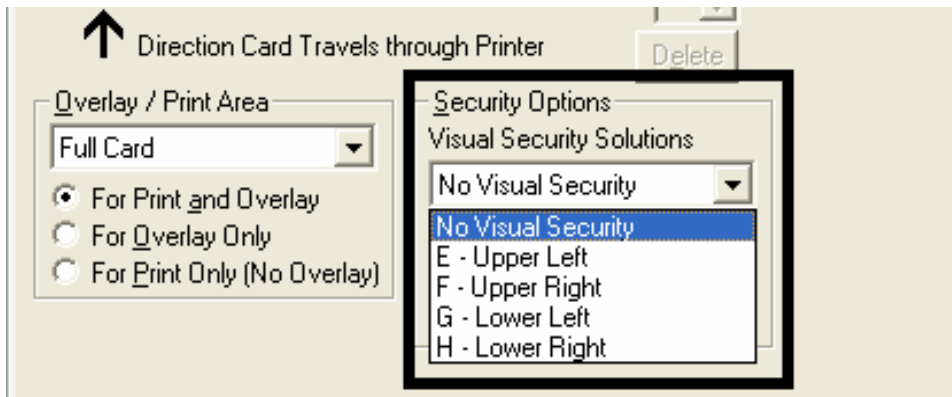
Selecting the VeriMark radio button

Step	Procedure
1	Click on either the **VeriMark** or **HoloMark** radio button, as shown below. The foil options are used to control the size of the exclusion area. (**Note:** When VeriMark is selected a rectangle-sized area is excluded, HoloMark uses a square sized area.)
2	Click on the **VeriMark** radio button (below) for the rectangle-sized area.
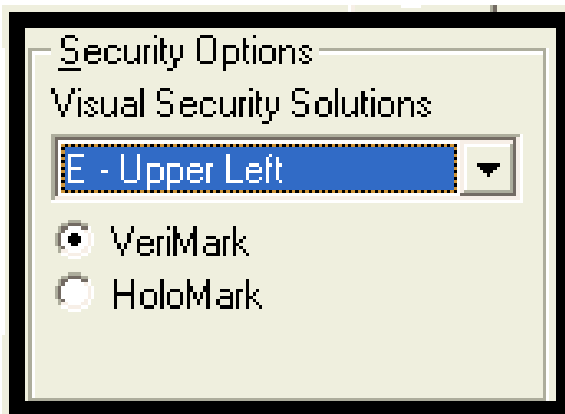
Selecting the HoloMark radio button

Step	Procedure
1	Click on the **HoloMark** radio button (below) for the squared-area size.

Reviewing the Custom VeriMark and HoloMark Cards

Description - VeriMark Cards (see below)

The custom VeriMark image is stamped on blank, standard-sized cards. You can select one of eight positions (A to H), as shown in the Portrait and Landscape samples below.

Sample 1: VeriMark Card (Landscape - Orientation) - 4 positions (below)
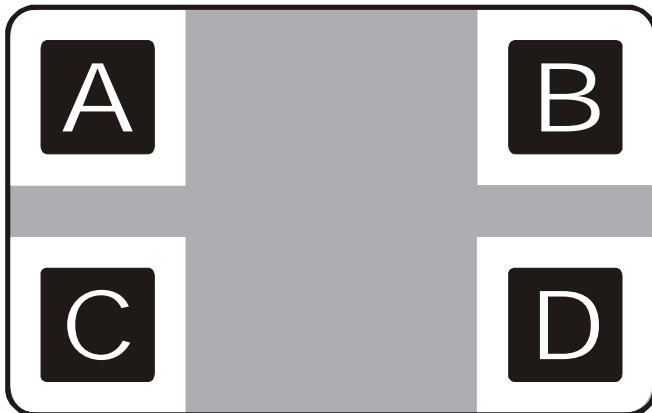
Sample 2: VeriMark Card (Portrait - Orientation) - 4 positions (below)
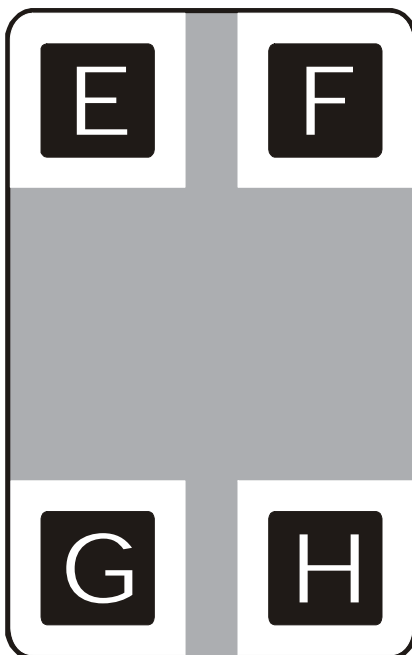
Reviewing the Custom HoloMark Card

Description - Custom HoloMark Cards (see below)

The custom HoloMark image is stamped on blank, standard-sized cards. You can select one of eight positions (A to H), as shown in the Portrait and Landscape samples below.

Sample 1: HoloMark Card (Landscape - Orientation) - 4 positions (below)
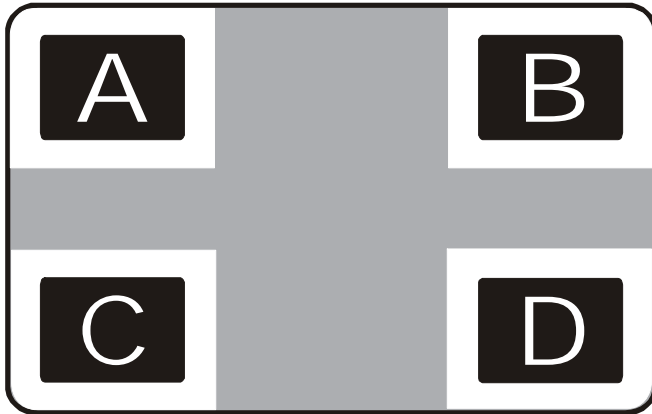
Sample 2: HoloMark Card (Portrait - Orientation) - 4 positions (below)
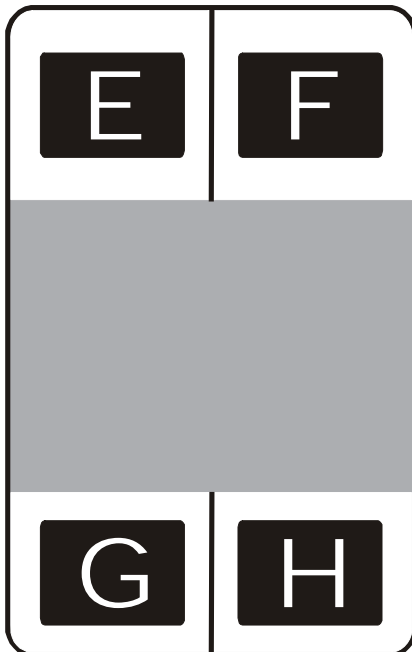
Using the K Panel Resin tab

Use this tab to adjust the Print All Black with K Panel (options) and the Defined Areas. Use this tab to control where the resin black (K) panel of a full-color Ribbon is printed.

- Resin black text is desirable due to its sharp, saturated color and resin black barcodes are required to ensure readability when scanned by an infrared barcode reader. (**Note:** The Printer Driver will automatically print all True**Type** black text and True**Type** barcodes only with the resin black (K) panel of the Print Ribbon by default.)

- If printing black text or barcodes that are not True**Type** fonts or black graphics, select one of the three options listed under **Print All Black with K Panel**. See below. (**Note:** The Printer Driver will print areas of the image where it finds black coloring with the Print Ribbon's resin black (K) panel, as specified by each of the following options.)
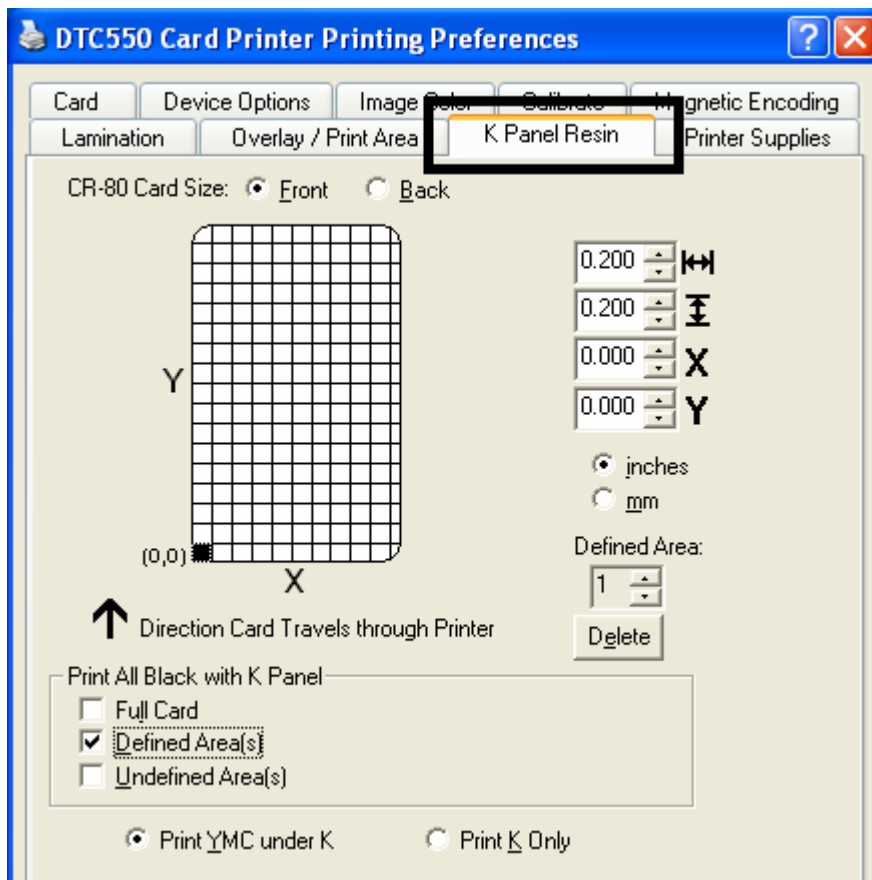
Selecting the Full Card with the K Panel Resin tab

Step	Procedure
1	Select the **Full Card** option to print the resin black (K) panel for all black found within all areas of the image, as shown below.
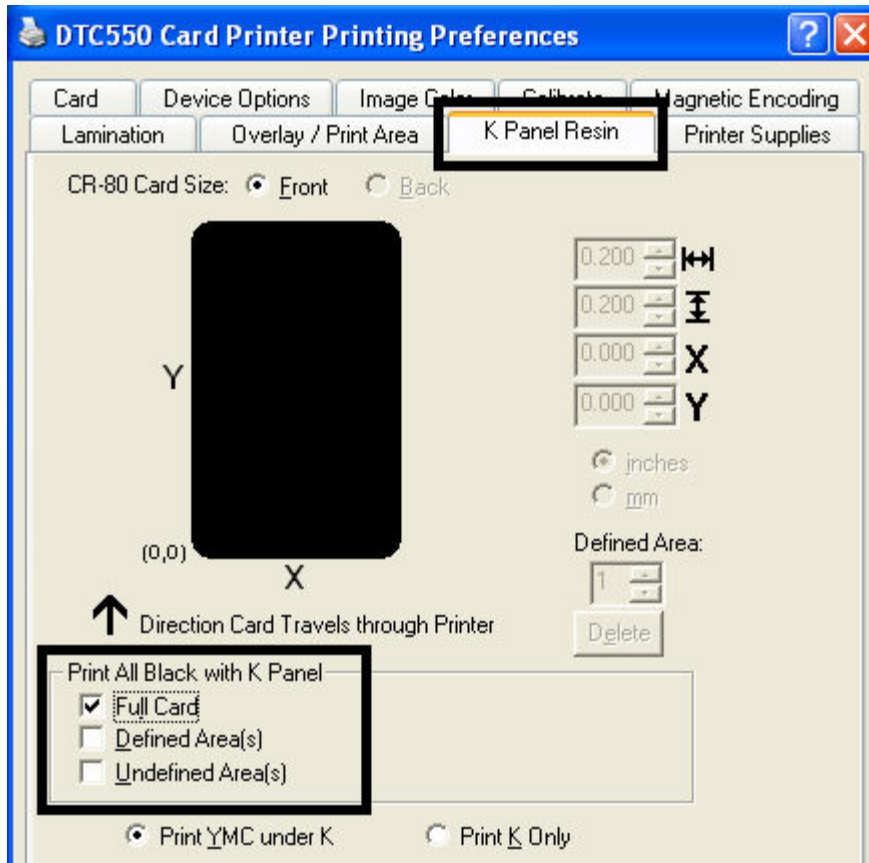
Selecting the Defined Area(s) with the K Panel Resin tab

Step	Procedure
1	Select the **Defined Area(s)** option to print the resin black (K) panel for all black found only in an area or areas defined, as shown below.
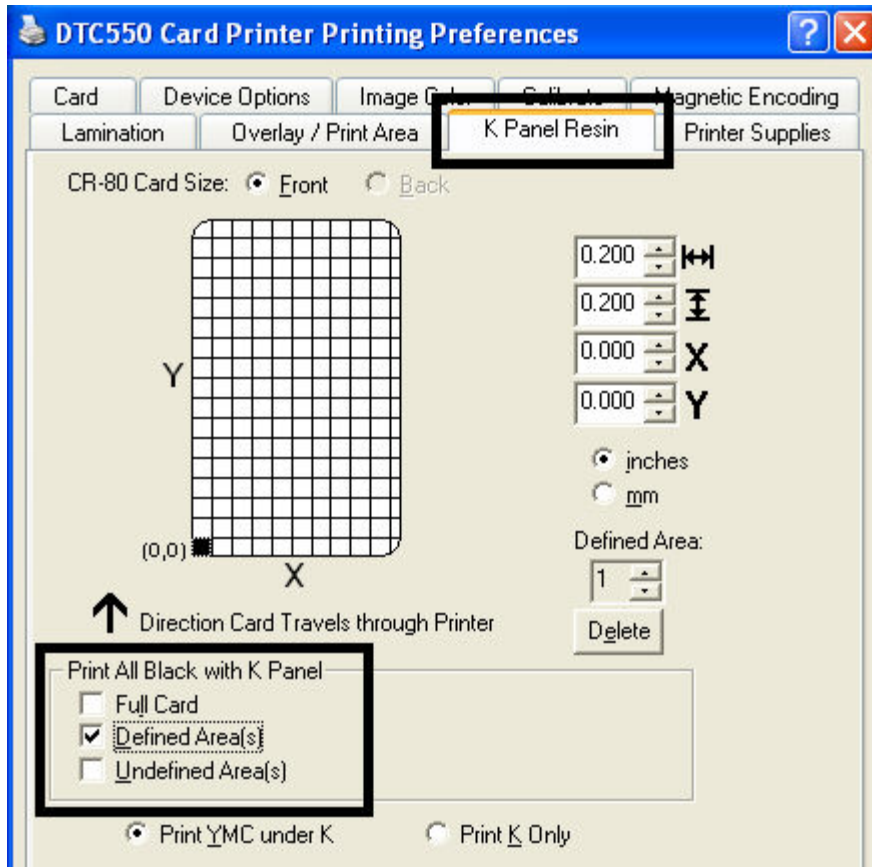
Selecting the Undefined Area(s) with the K Panel Resin tab

Step	Procedure
1	Select the **Undefined Area(s)** option to print the resin black (K) panel for all black found only in the space outside the areas defined, as shown below. (**Note:** In the card grid, black indicates the area in which the resin black (K) panel will be printed.)
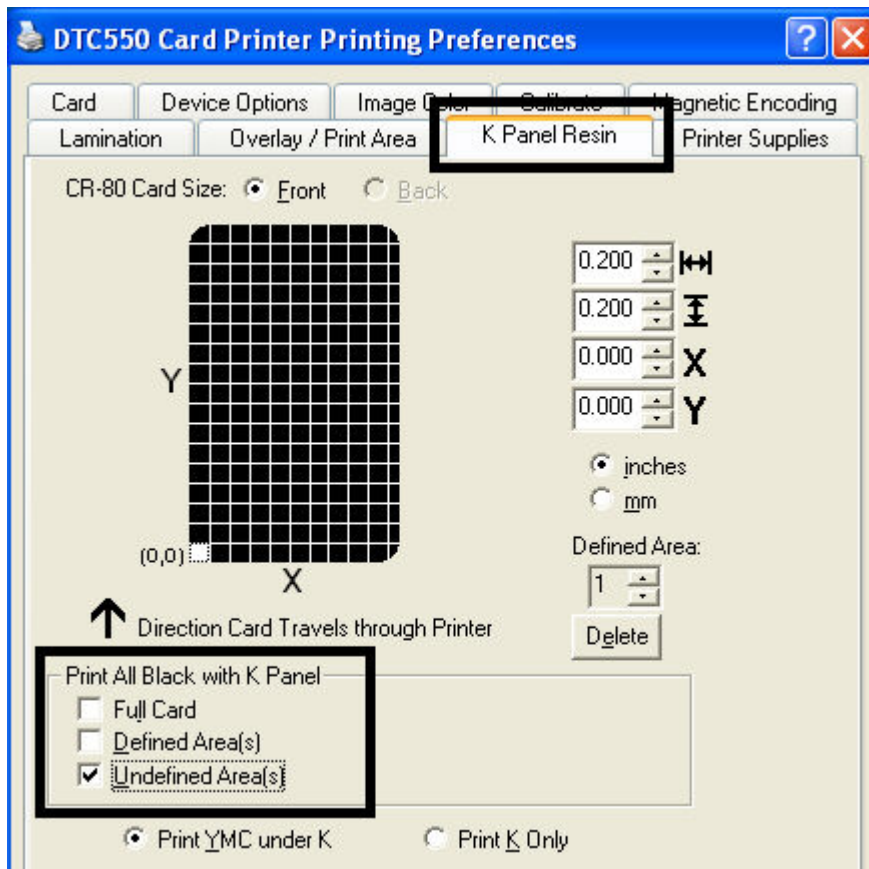
Defining the Area to activate the Card Grid

Step	Procedure
1	Select on the appropriate **Defined Area** (see below) to activate the card grid in the upper half of the window. (**Note:** It is through this card grid that up to five areas can be defined, as shown below.)
	When the card grid is first activated, a small black square will appear at its:
	• default size of .2" x .2" (5mm x 5mm)
	• default location in the lower left-hand corner (0,0)
	(**Note:** This square represents the first defined area.)
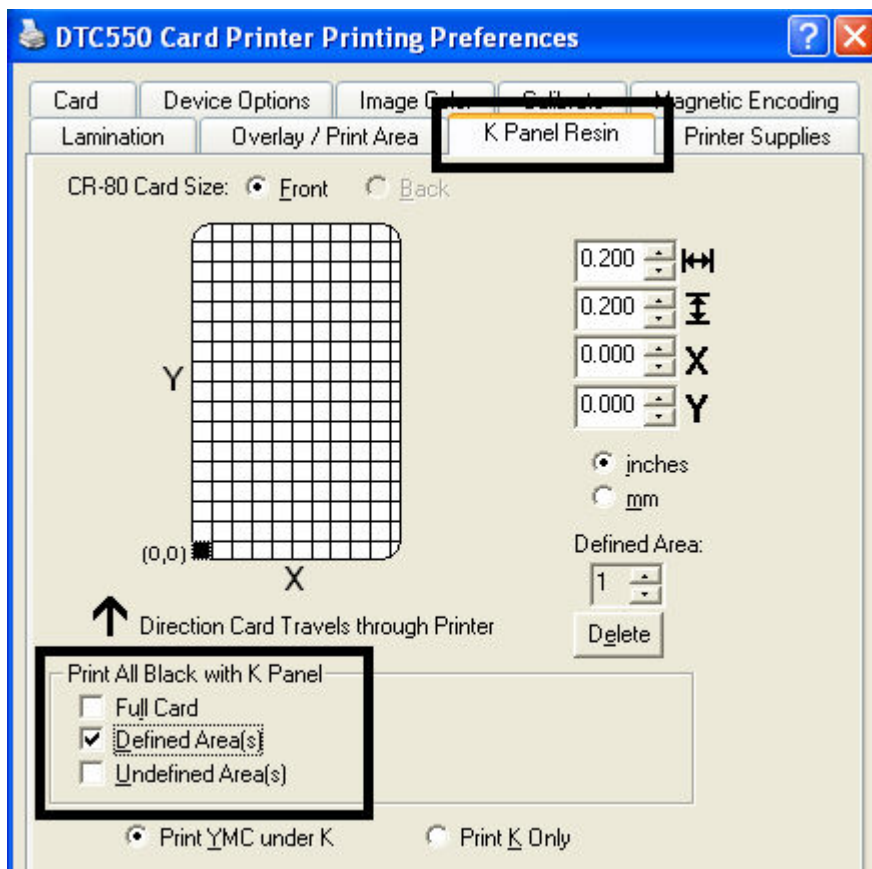
Measuring the Total Card area

Step	Procedure
1	Determine the area of the card to define. (**Note:** This area is indicated by the dashed outline, as shown below. The easiest way to determine the size of this area is to actually print a card and look at it in the same orientation as when it exits the Printer.)
2	Measure the total area and enter those dimensions into the Dimension boxes, as shown below.
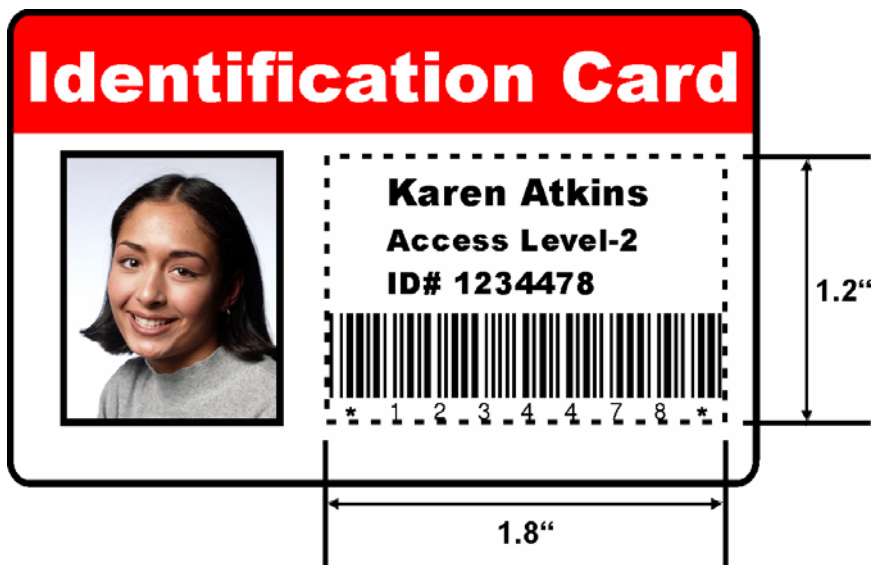
Measuring the Total Card area (continued)

See the previous procedure in this section.
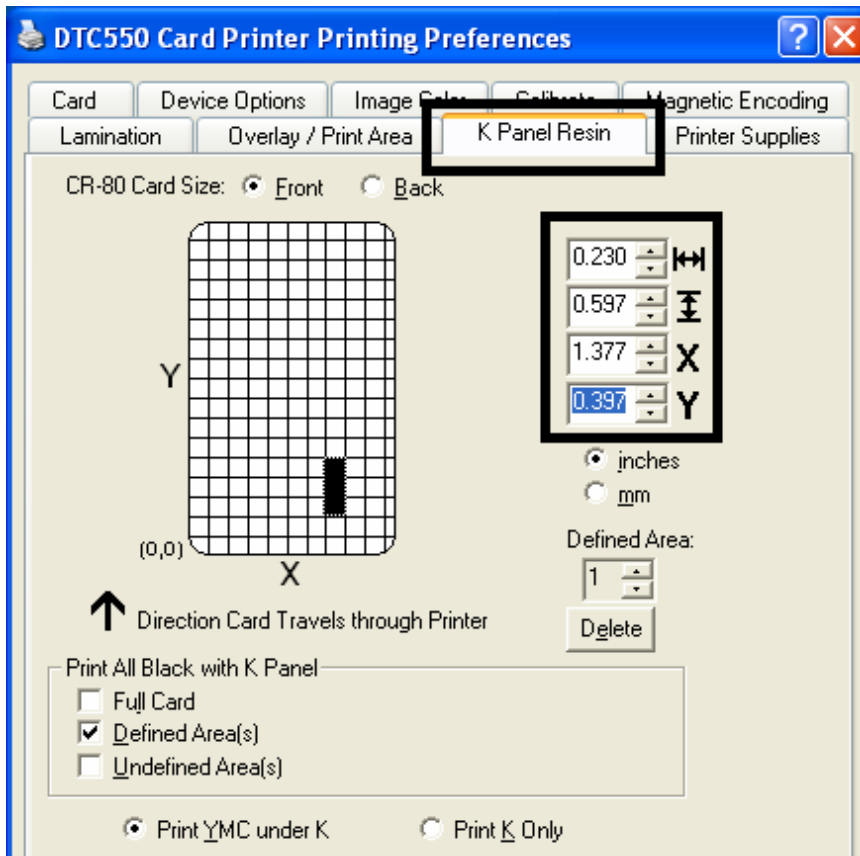
Defining the positioning of the area on the Card

Step	Procedure
1	Once the area is sized properly, measure the location where this area is to be positioned on the card. a. Measure from the lower left corner of the card up and over to the lower left corner of where the defined area is to begin. b. Enter these values into the X and Y boxes, as shown below. c. Note that the card grid lines are spaced at .2" (5mm) intervals.

Identification Card

Karen Atkins
Access Level-2
ID# 1234478

* 172355*

X=1.4"   **Y=0.2"**

Defining the positioning of the area on the Card (continued)

See the previous procedure in this section.
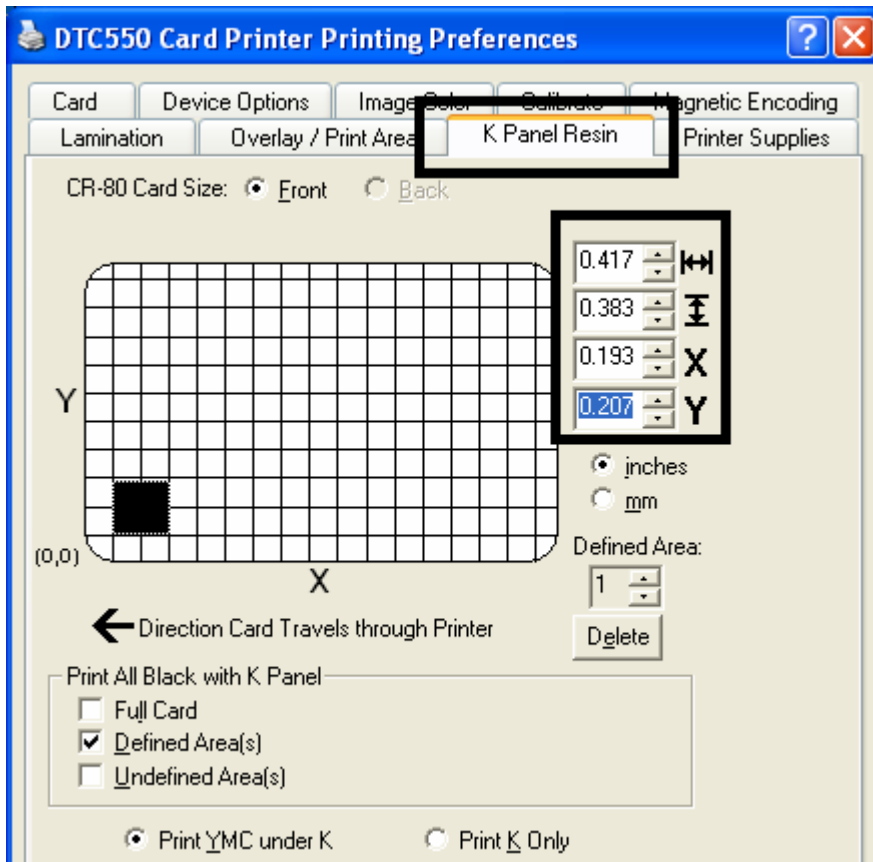
Selecting the Print YMC under the K and Print K Only options

Step	Procedure
1	Select the **Print YMC Under K** option to print all black in the designated areas with the Yellow (Y), Magenta (M) and Cyan (C) Ribbon panels directly beneath the resin black (K) panel. (**Note:** Select this option if printing resin black text or barcodes onto a colored background to provide a more gradual transition between the two.) **OR** Select the **Print K Only** option (a) to print all black in the designated areas only with the resin black (K) panel or (b) to print resin black onto a white background to maximize the sharpness of printed text and barcodes.
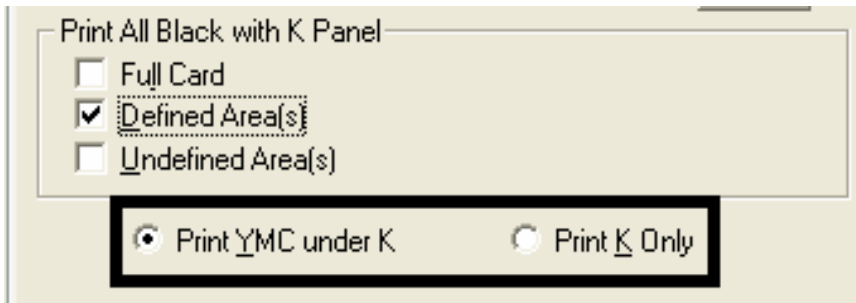
Selecting the Print YMC under the K and Print K Only options (continued)

See the previous procedure in this section.
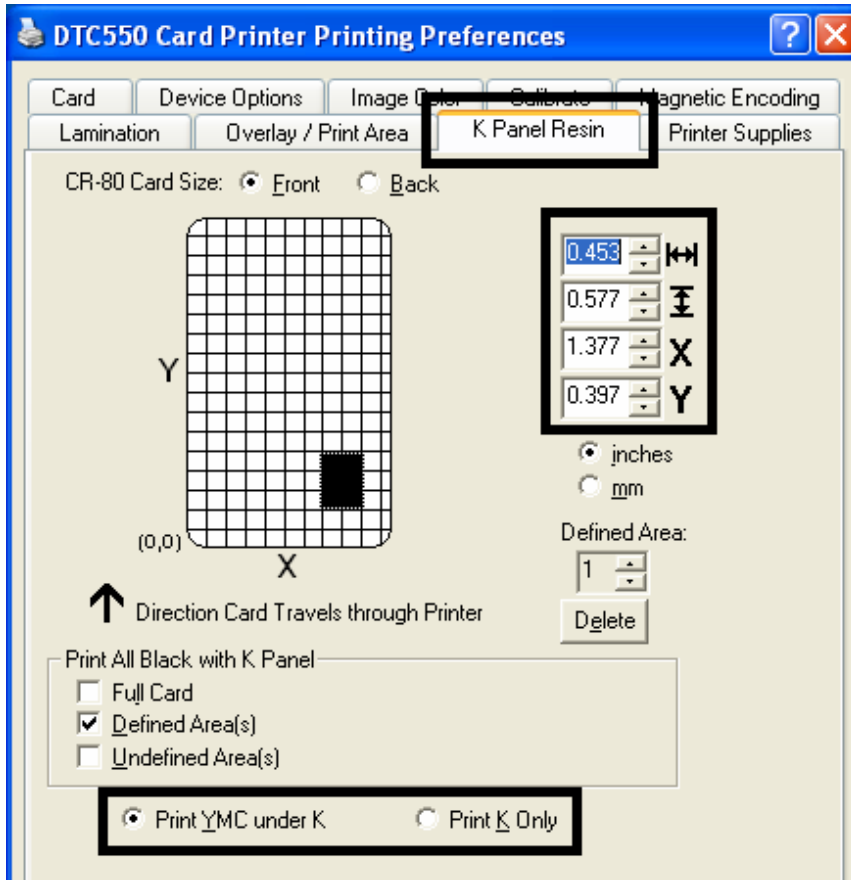
Using the Printer Supplies tab

Use the options on this tab to view information about the Ribbon installed in the Printer.
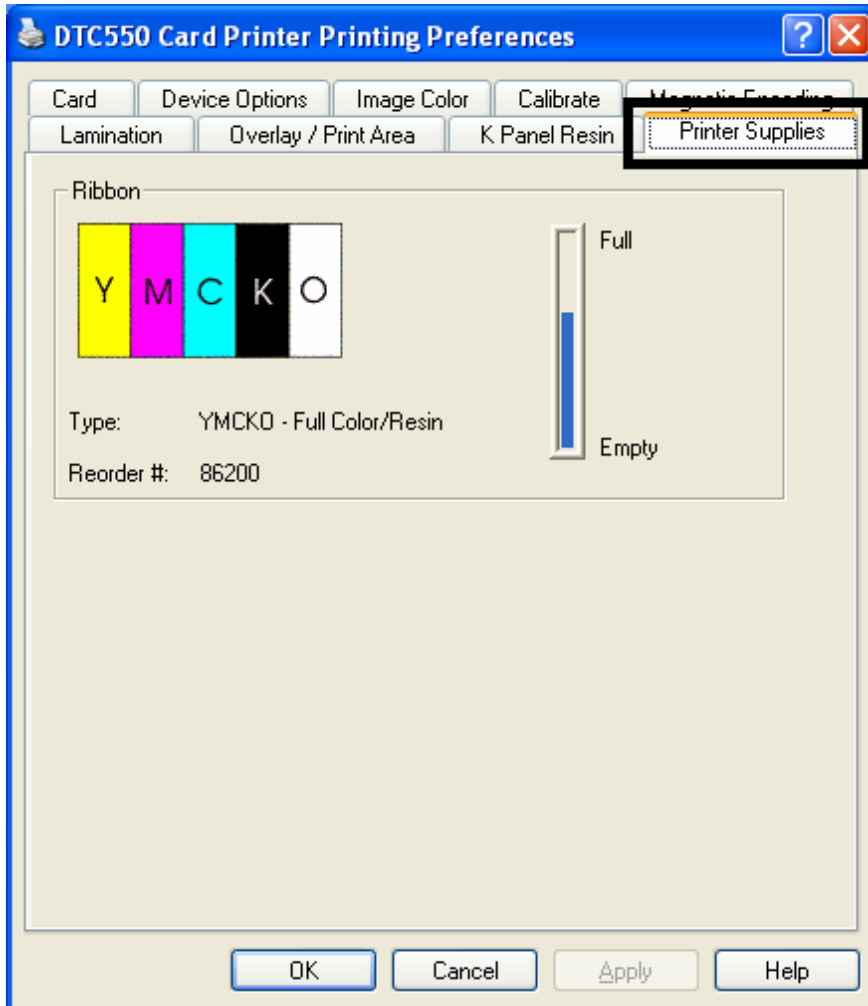
Reviewing the Ribbon Information

Step	Procedure
1	Use the Ribbon information to determine which Ribbon is being used to print with and its part number.
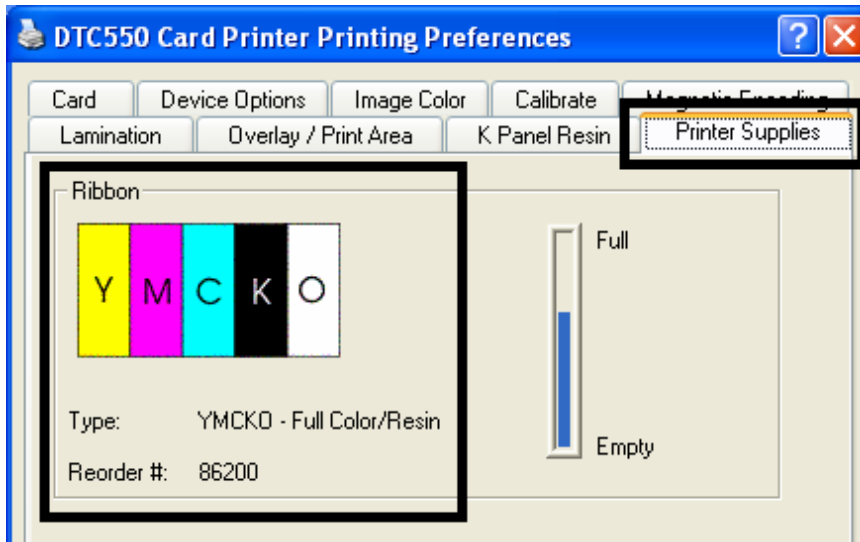
Reviewing the Ribbon Level Indicator

Step	Procedure
1	Use the Ribbon Level indicator to view approximately how much Ribbon is left.
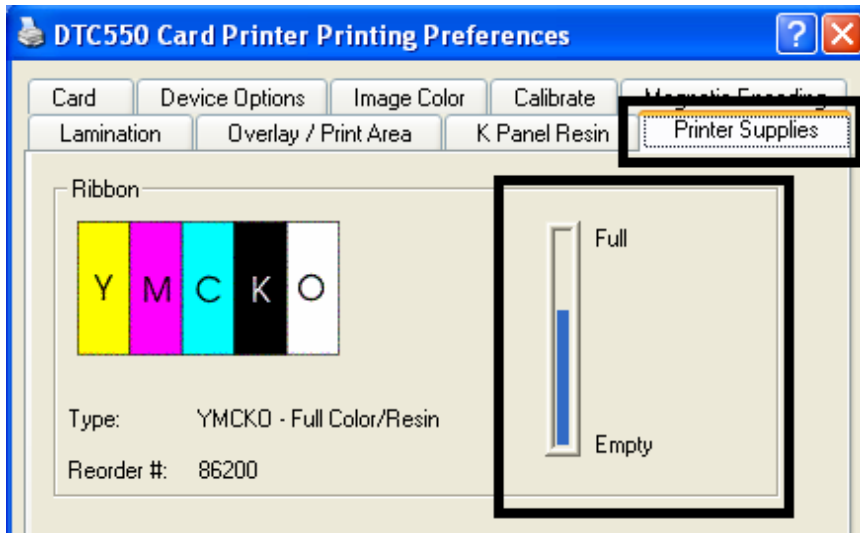
Section 7: Ethernet Option Section

Introduction

The Ethernet option includes the Ethernet port and the internal Printer Server. See the DTC550 Direct to Card Printer/Encoder Ethernet Upgrade Kit (D855177) Installation Guide (Rev. 1.0).

- **Printer Management:** The Printer Driver provides bi-directional status information so you can monitor and manage the Printer just as you would any other networked Printer.

- **Compatibility:** The Fargo Ethernet option provides compatibility with TCP/IP and 802.3 Ethernet protocols with an IEEE 802.3 10/100Base-T Ethernet female RJ45 connector.

- **Application:** The Ethernet Option applies to the Fargo DTC550 Direct-to-Card Printer Encoder. With the Ethernet Option properly installed and configured, these printers are able to print in the same manner as a printer directly connected to the PC via a USB interface.

Technical Specification - Ethernet Option

Here are the system requirements for Ethernet.

Caution: For safety purposes, Ethernet is not intended for a direct connection outside of the building.

Function	Requirement
Network	An IEEE 802.3 10/100 Base-T Ethernet network is required.
Printer	A Fargo Printer with the Ethernet option installed is required.
Printer Configuration	Since TCP/IP is used for the network communication, the Printer must be configured with an IP address and a subnet mask (before it can be seen on the network). An additional network setting for the Default Gateway can also be configured, which allows communication across the subnets.
Host Computer	A PC running Windows 2000 / XP / Server 2003 connected to the network is required.
Host Printer Driver	The host PC must have installed the correct Printer Driver with Ethernet support. (**Note:** This Driver must be configured for printing to the IP address of the Printer.)

Functional Specification - Ethernet Option

The Fargo Ethernet option includes these features.

Feature	Description
Simultaneous Printing	Provides the ability to simultaneously print from multiple PCs to the network printer.
Printer Feedback	Provides status information from the network Printer to the PC.
Web Pages	Provides easy Printer configuration with any web browser.
Log Messages	Provides logging of usage and error events via e-mail, UDP or TCP/IP.
Password Security	Provides security with passwords and configurable User permission levels.
Telnet	Provides a Telnet command line interpreter for Printer configuration.
SNMP	Provides an SNMP agent that supports MIB-II.
Upgrades	Provides support for Firmware upgrades over the network.
Troubleshooting	Provides a Ping client for network troubleshooting.
IP Tracer	Provides a utility (IP Tracer) used to find Fargo Printers with Ethernet connection on a local network. (Note: This utility is included on the CD-ROM and online at www.fargo.com.)

Network Services - Overview

The Ethernet option provides the services described in this section. (**Note:** Other additional services include a Ping client, address assignment and Printer discovery functions.)

Reviewing the Print Server

The Print Server provides printing services in the same manner as a printer connected directly to a USB interface except that the Printer is connected through the local area network to the client PC. The Print Server must be properly configured in order to provide this printing capability.

The Print Server is capable of queuing up to eight (8) client PCs while printing. Communications between each PC and the Ethernet-enabled Fargo Printer are implemented over a bi-directional TCP/IP interface.

All clients are able to send print jobs to the Printer and monitor Printer jobs and errors with the standard Windows printing system using the Fargo Printer Driver installed on their local PC. In this way, the User knows whether or not a print job has been successful. Also, the User knows what problems have been encountered while processing the print job. Printing using Ethernet works in a manner similar to the USB-connected PC/printer.

Reviewing the Web Page Server

An HTTP service serves web pages that provide an interface through which to configure and monitor the Printer. (**Note:** Users may also monitor all print jobs that have been sent to the Printer from any client PC.)

Reviewing the Network Management Interface

The Ethernet enabled Printer operates as an SNMP agent to allow central administrators to monitor and configure the network interface and the Printer. (**Note:** A standard host MIB-II is implemented to maximize the utility of the Printer on the network.)

Reviewing the Telnet Server

The Ethernet interface has a command line interpreter. (**Note:** The User can connect to the Printer using a Telnet session on their PC, issue commands to the Printer and receive response from the Printer.)

The Telnet commands are primarily used for network administration, and they will not be used by most Users. (**Note:** These commands will query the state of the Printer and configure various settings for the Printer. These include network settings, logging setting, User names and User passwords.)

Network Management Interface

The SNMP interface is described below.

Interface	Description
SNMP	• The Ethernet interface is a fully-manageable SNMP agent that supports MIB-II. • The Ethernet interface is MIB II compliant, allowing SNMP managers to monitor protocol, network and routing statistics.

Telnet Command Line Interface

Initiating a Telnet Session

This procedure shows how to initiate a Telnet session from a PC in order to access the Telnet services provided by the Printer.

	Description

Initiating a Telnet session	Follow these instructions to issue Telnet commands.
	
	1. Identify the IP address of your Printer. (**Note:** See Accessing the IP Address.)
	
	2. Initiate a Telnet session from a DOS window on your PC. At the DOS prompt, enter telnet [IP Address]
	
	    • **Example:** C:\>telnet 192.168.11.12
	
	    • All Telnet responses from the Printer will then be displayed in the Telnet session on the PC.
	
	    • All commands entered will be sent to the Telnet client in the Printer.
	
	3. Enter "help" or "?" to get an on-window list of supported Telnet commands.

Reviewing the Telnet Command Table

The following table describes available Telnet commands. (**Note:** You can enter partial full-word commands: the Printer will respond with additional help. For example, you can enter "list", and the Printer will respond with all subcommands to the list command.)

Telnet Command	Command Purpose	Command Format
? help	Display help for Telnet commands.	?
reset	Reset the Ethernet interface for the DTC550 printer/encoder.	reset
ping	Send a ping command to another IP address as a test of the Ethernet interface.	ping <IPADDR>

Reviewing the Telnet Command Table (continued)

Telnet Command		Command Purpose	Command Format
list	all	Display all information about this Printer.	list all
	diff	Display all differences between current and stored network settings.	list diff
	uptime	Display how long since the interface was last reset.	list uptime
	sysinfo	Display information about the Printer (i.e., model, label, contact, location, Firmware version and date, and serial number).	list sysinfo
	ribbon	Display information about the installed Ribbon in the Printer.	list ribbon
	net	Display information about the current network settings of the Ethernet interface.	list net
	stored	net	Display information about the stored network settings of the Ethernet interface.	list stored net
	default	net	Display information about the default network settings of the Ethernet interface.	list default net
	user	Display information about the defined User names and their type (root or guest privileges).	list user

Reviewing the Telnet Command Table (continued)

Telnet Command		Command Purpose	Command Format
lpq		Display information about print jobs and their settings.	list lpq
printer		Display information about the Printer (i.e., model number, Firmware version and serial number).	list printer
printer	sm	Display information about the Secure Mark settings of the Printer.	list printer sm

Reviewing the Telnet Command Table (continued)

Telnet Command			Command Purpose	Command Format
set	sysinfo	contact	Set the contact string.	set sysinfo label [<STRING>]
		location	Set the location string.	set sysinfo location [<STRING>]
		label	Set the label string.	set sysinfo label [<STRING>]
		from	Set all strings from default or current settings.	set sysinfo from default|current
	syslog	name	Change the name of a system log path	set syslog <LOG_NAME> name <NEW_NAME>
		type	Change the type of a system log path. This starts or stops logging on start of jobs or on faults.	set syslog <LOG_NAME> type [[-]job] [[-]pfault]
		dest	Change the destination of a system log path. This may be set to none, e-mail, udp or tcp.	set syslog <LOG_NAME> dest none|email|udp|tcp
		email	Change the e-mail address for e-mail notification for a system log path. It must specify a valid e-mail address.	set syslog <LOG_NAME> email <EMAIL>
		udp	Specify the IP address of the UDP system logging program.	set syslog <LOG_NAME> udp <IPADDRESS>
		from	Restore system log path settings from the default or current settings.	set syslog from default|current

Reviewing the Telnet Command Table (continued)

Telnet Command			Command Purpose	Command Format
set	user	add	Add a new User definition. The DTC550 allows only two (2) User definitions.	set user add <NAME>
		del	Delete a User definition.	set user del <NAME>
		passwd	Define a new password for a User.	set user passwd <NAME> [<PASSWORD>]
		type	Specify a User as root or guest. Only root Users have administrative rights to change network interface settings.	set user type <NAME> root|guest
		from	Restore User setting from default or stored settings.	set user from default|stored

Reviewing the Telnet Command Table (continued)

Telnet Command			Command Purpose	Command Format
store	net	addr	Store a new IP address.	store net addr <ADDRESS>
		mask	Store a new address mask.	store net mask <MASK>
		gateway	Store a new default gateway.	store net gateway <ADDRESS>
		dns	Store a new DNS server address.	store net dns <ADDRESS>
		domain	Store a new DNS domain suffix.	store net domain <STRING>

		opts	Enable or disable automatic address assignment using DHCP. Static (non-automatic) addresses will come from the stored or default settings, depending on the other settings.	To enable automatic address assignment:
				  store net opts dhcp
				To disable automatic address assignment:
				  store net opts -dhcp

		from	Restore the network settings from either the default settings or the current settings.	store net from default|current
	ifc	mode	Specify the Ethernet interface mode as: automatic, full or half duplex; 10 or 100 mHz. (NOTE: 100 mHz. is not supported by the DTC550).	store ifc mode auto|10half|10full|100half|100full
		from	Set the Ethernet mode settings from the default or current settings.	store ifc from default|current

Reviewing the Telnet Command Table (continued)

Telnet Command	Command Purpose	Command Format
save	Save all current settings as the stored settings in the permanent memory.	save
load	Take the settings from the stored memory and make them the current settings.	load
lpstat	Display information about the Printer status. This includes the status and device response. See the Printer web page description.	lpstat
cancel	Cancel a specific print job from the print queue.	cancel 10
quit	Stop the current Telnet session.	quit

Ethernet Web Pages – Standard Procedures

Reviewing Web page security

You can use the web pages from your Fargo Ethernet-connected Printer to view several attributes about the Printer. Users must have administrative rights, and they must enter the correct password to alter settings of the Printer. See the Reviewing the Web Page Server section.

Logging In

When a User attempts to change any setting, they are asked for a User name and password. (**Note:** The Guest Users can only view settings.)

Step	Procedure
1	Enter the correct User name: • The default administrative User name is **root**. • The default non-administrative User name is **guest**. • Non-administrative Users can only view settings.
2	Enter the correct password: • The default password is an empty string. If the password has not been changed, leave the field blank. • See **Password** page procedure for changing passwords.
3	Press **Enter** or click on the **OK** button.
4	If the name and password is not accepted, another login prompt will appear on screen. Repeat this procedure with the correct User name and password.

Accessing the Home pages

Step	Procedure
1	Open a window for your network browser application on your local PC.
2	Find the IP address of the Printer. (**Note:** See the section See Accessing the IP Address as needed to get this from the LCD of the Printer.)
3	Enter the IP address of the Printer you want to access into the address bar of the browser.
4	Press **Enter** or click on **GO**.
5	View the Home page. The Home pages display general information about the Printer, as shown in Displays A, B and C.

Accessing the DTC550 Home Page

You can access this home page by typing in the link, as shown below.
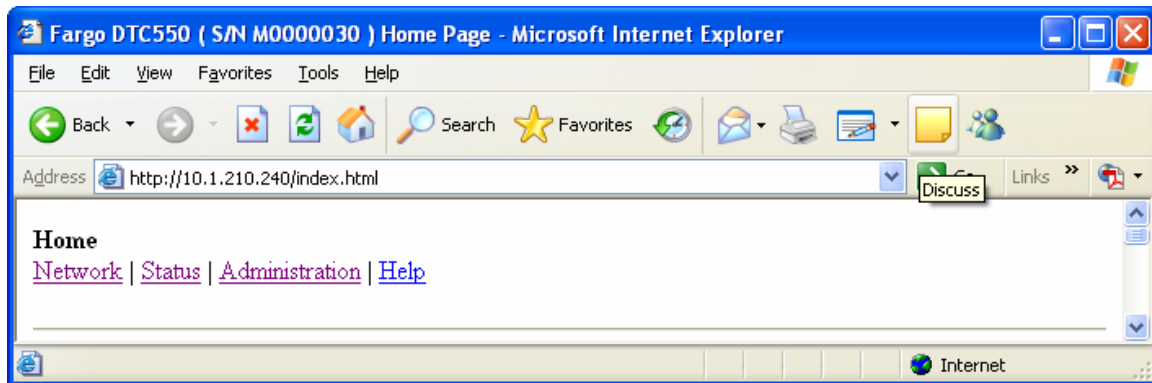
Reviewing the Ethernet Home Pages

This section provides displays of home pages for the DTC550.

Reviewing the DTC550 Home Page

Reviewing the Home Page Categories and Fields (table)

You can view these categories and fields in the following table.

Category	Field	Purpose
Fixed for Printer	Serial Number	Displays the unique fixed serial number of the Printer.
	Hardware Address	Displays the unique fixed hardware address (MAC) of the Printer, which is the unique Ethernet device identifier.
Set by User (May be configured via Telnet or from the Administration web page.)	Label	Indicates the label that the User assigns to the Printer.
	Location	Indicates the location string that the User assigns to the Printer.
	Contact	Indicates the contact person string that the User assigns to the Printer.
Set by Firmware	Printer Firmware Version	Displays the current Firmware version.
	Boot Loader Firmware Version (DTC550 only)	Displays the current boot loader Firmware version.

Configuring the Network Settings

The procedures needed to configure the network settings are presented in this section.

Accessing the Network Settings page

The Network page displays the current network settings and allows the User to change the settings.

Step	Procedure
1	Select the **Network** link from any web page of the Printer.
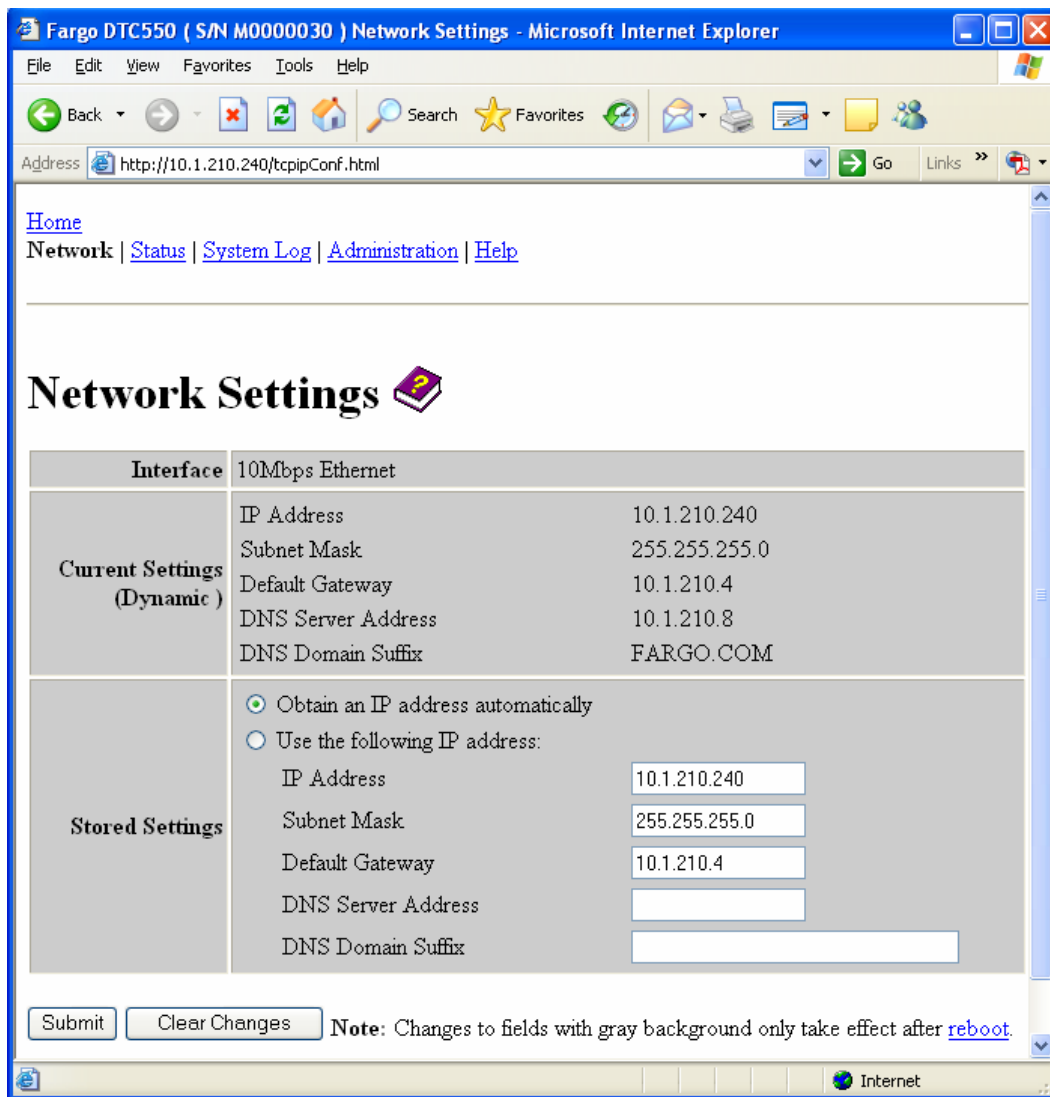
Reviewing the Interface

The Interface display indicates the network speed supported by the Printer.
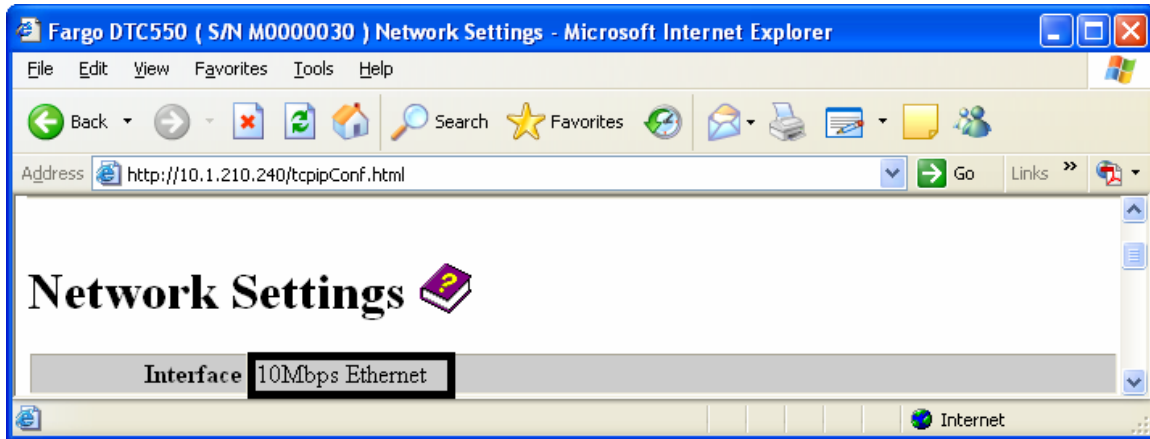
Reviewing the Current Settings

The Current Settings page section displays the current active network settings for the Printer.

- These are also labeled as "Dynamic" if they were provided by DHCP or "Static" if they came from the Stored Settings.

- The current settings will be "Dynamic" only if **Obtain an IP address automatically** was selected when the Printer was restarted last.
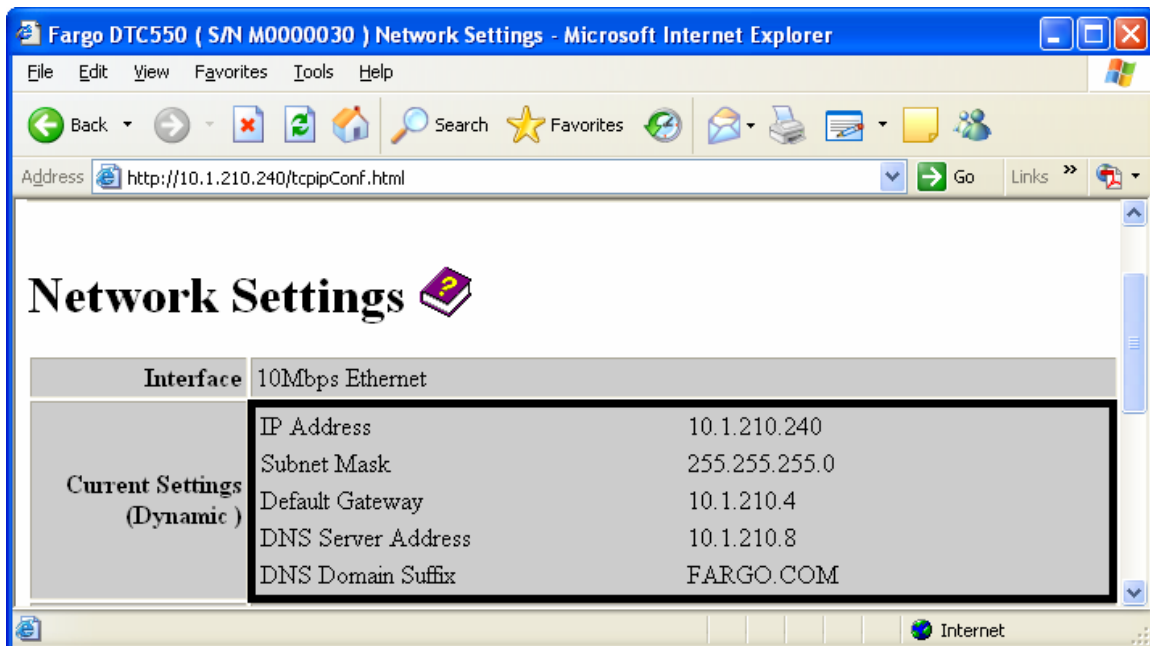
Switching to the automatic IP address mode

Step	Procedure
1	Select the **Network** link from any web page of the Printer.
2	Select the **Obtain an IP address automatically** radio button to enable the DHCP/BOOTP, which automatically assigns the network settings. Even with this button selected, the User can enter Stored Settings, and the Stored Settings will remain in memory. See below. (**Note:** This is the default method.)
3	Click on the **Submit** button to save this setting.
4	Login as a root User if you are so prompted. (**Note:** Any change of setting will only be accepted after you have successfully logged in.)
5	Reboot the Printer to affect this change. See the procedures in Using the Reboot pages.

Changing to the static IP address mode

Step	Procedure
1	Select the **Network** link from any web page of the Printer.
2	Select the **Use the following IP address** radio button, which prepares the Printer to use network settings that the User has manually set. These manual settings will then be used the next time the Printer is rebooted.
3	Enter the network settings which are required for Ethernet communications from within the same subnet. With only these entries the User will be unable to print from a subnet other than the subnet on which the Printer is connected. These required settings are the following: • IP Address • Subnet Mask
4	Enter the optional network settings for Ethernet communications across a router from other subnets. These are the following: • Default Gateway
5	Enter the optional network settings for DNS. These are the following: • DNS Server Address • DNS Domain Suffix
6	Select the **Submit** button to save these changes to stored settings in the memory of the Printer. (**Note:** These settings will not be lost if the power is removed from the Printer.)

Changing to the static IP address mode (continued)

Step	Procedure
7	Login as a root User if you are so prompted. (**Note:** Any change of setting will only be accepted after you have successfully logged in.)
8	Reboot the Printer to effect this change. See the Reviewing Web page security procedure.
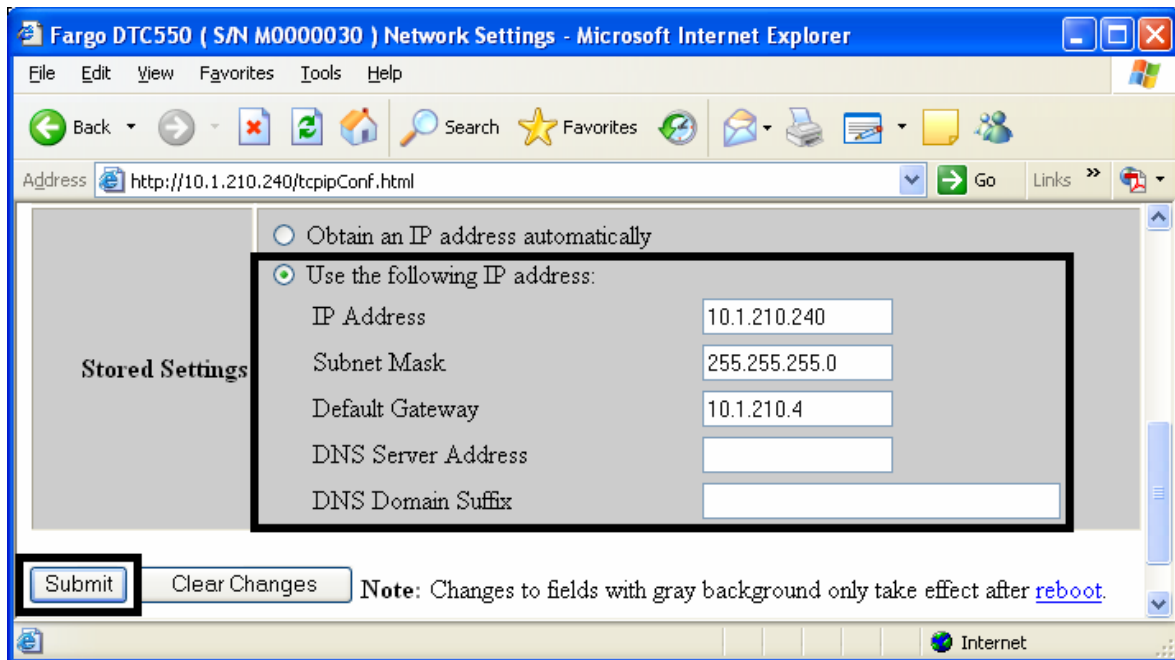
Using the Clear Changes button

Step	Procedure
1	Click on the **Clear Changes** button to delete the information in the textboxes in Stored Settings area. See the lower left corner of this display.
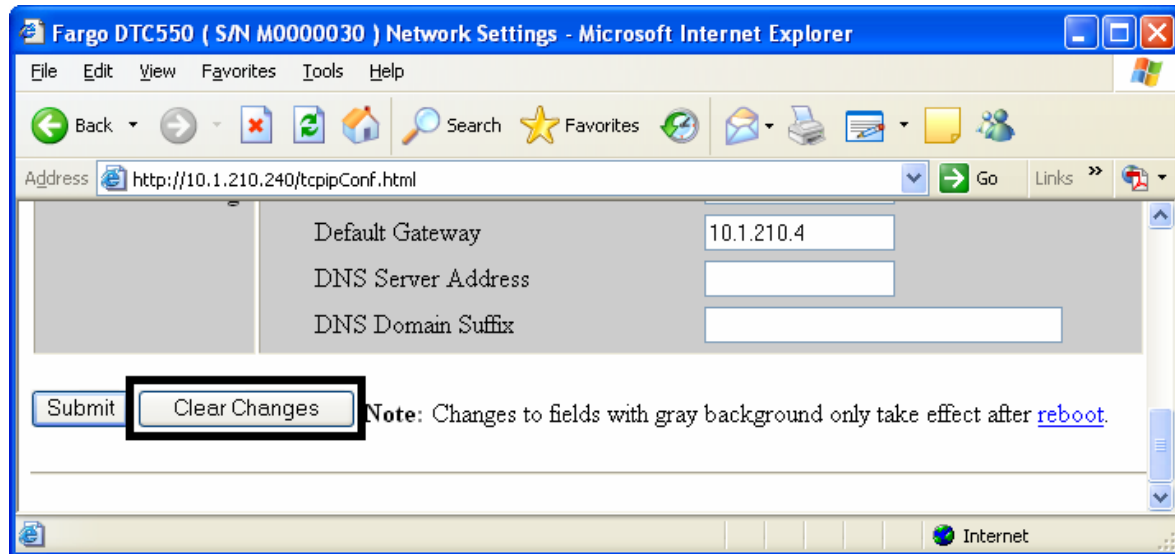
Using the Ribbon Information page

The Ribbon page displays Ribbon information about the Ribbon (currently installed in the Printer).

Step	Procedure
1	Select the **Status** link from any web page of the Printer.
2	Select the **Ribbon** page link.
3	View currently-installed Ribbon information pertaining to the following: • Part Number • SecureMark Part Number • Percent Remaining • Ribbon Type
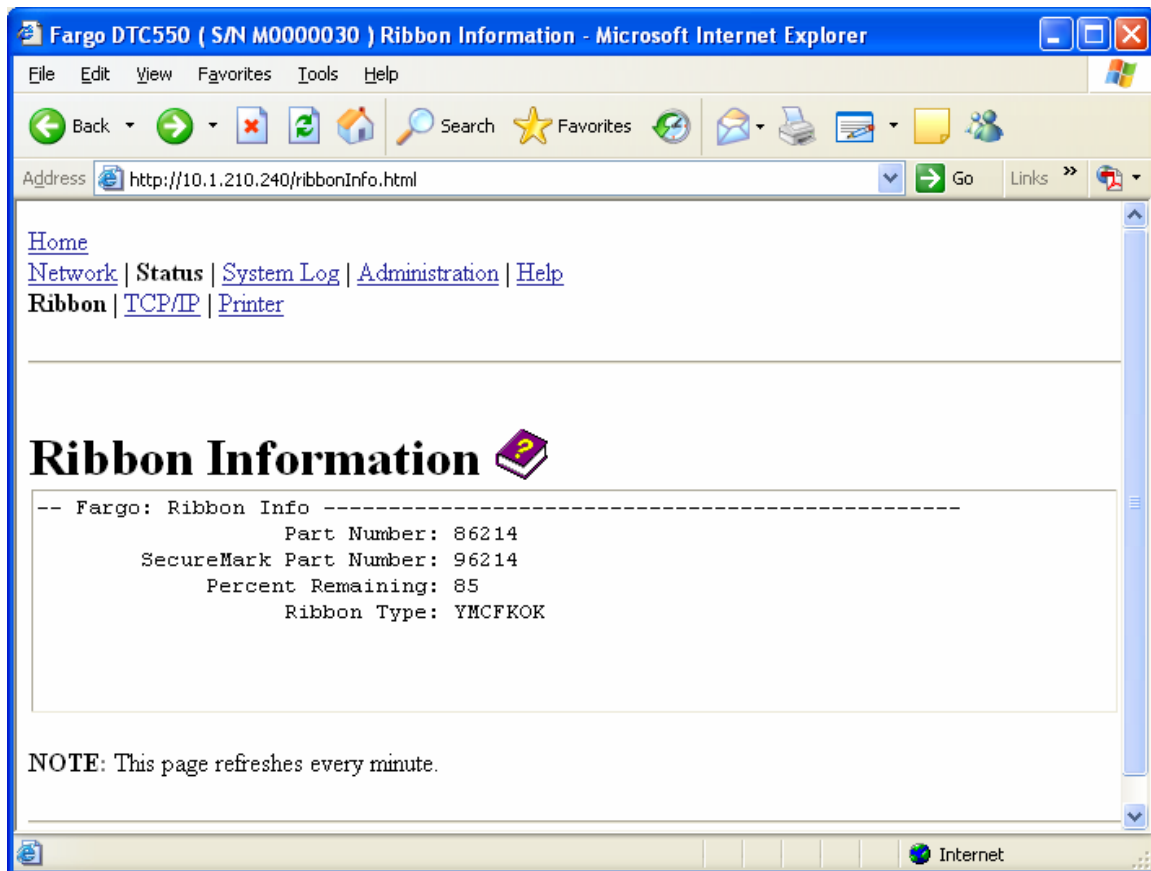
Using the TCP/IP page

The TCP/IP page displays the TCP/IP Status of each Printer connection, which are not configurable. See the next two pages for displays.

Step	Procedure
1	Select the **Status** link from any web page of the Printer.
2	Select the **TCP/IP** page link.
3	View information on all current network connections in the **TCP connections** area.

Continued on the next page

Using the DTC550 TCP/IP Status Web Page

See the Using the TCP/IP page procedure.

Using the Printer page

You can use the Printer page to review current information about the Printer device settings and print jobs. Device settings includes the following:

- The **status** which displays information about the current print job.

- The **device** which displays information about the Printer.

The fields are described below. See the next page to view the entire Printer page.

Field	Status	Description
status	Idle	Indicates that no print job is active.
	Printing	Indicates that the job is being sent to the Printer.
	printing – waiting	Indicates that the communication is being slowed by print operations.
	printing – blocked	Indicates that the communication has been stopped by some condition.
	canceled	Indicates that the current job was canceled and is being rerouted.
device	online	Indicates it is ready to print.
	offline	Indicates that the Cover is open or the Printer is not ready to print.
	Printer – error	Indicates that an error is detected.
	Busy	Indicates that printing is in progress.
Print Jobs		This is a display of the current print jobs that have been sent to the Printer. (**Note:** The current job that is being received by the interface is displayed as the active job.)

Cancel a specific print job by selecting the appropriate **Cancel** button, which appears when a print job is queued. |

Reviewing the Printer page (continued)

See the previous page for descriptions of the fields.

Using the System Log page

The System Log page displays the current system log settings and allows the User to change the settings. (**Note:** These settings configure how system logging occurs. There are two logs.)

Changing the Log Name

By default the names are log1 and log2. However, you can rename them from this page.
(**Note:** This also updates the link to the corresponding web page.)

Step	Procedure
1	Select the **System Log** link.
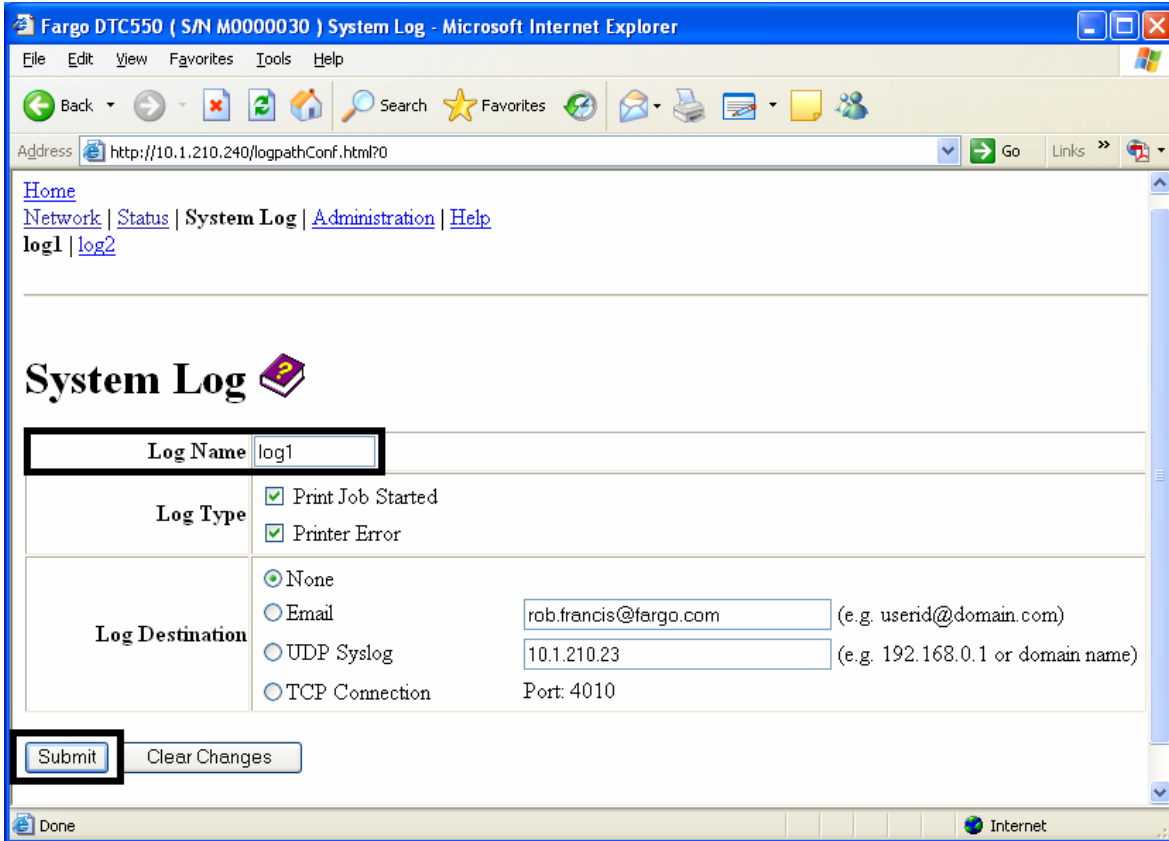
Changing the Log Name (continued)

Step	Procedure
2	Select the link for the log name you want to view or configure (the default choices are **log1** or **log2**). See the previous page.
3	Enter a new log name in textbox.
4	Click on the **Submit** button to save this change.
5	Login as a root User if you are so prompted. (**Note:** Any change of setting will only be accepted after you have successfully logged in.)

Selecting the Log Type

Step	Procedure
1	Select the **System Log** link. See the next page.
2	Select the link for the log name you want to view or configure (the default choices are **log1** or **log2**).
3	Select the **Print Job Started** checkbox to generate the log entries for each Print Job Started.
4	Select the **Printer Error** checkbox to generate the log entries for each Printer Error.

Selecting the Log Type (continued)

Step	Procedure
5	Select the **Submit** button.
6	Login as a root User if you are so prompted. (**Note:** Any change of setting will only be accepted after you have successfully logged in.)
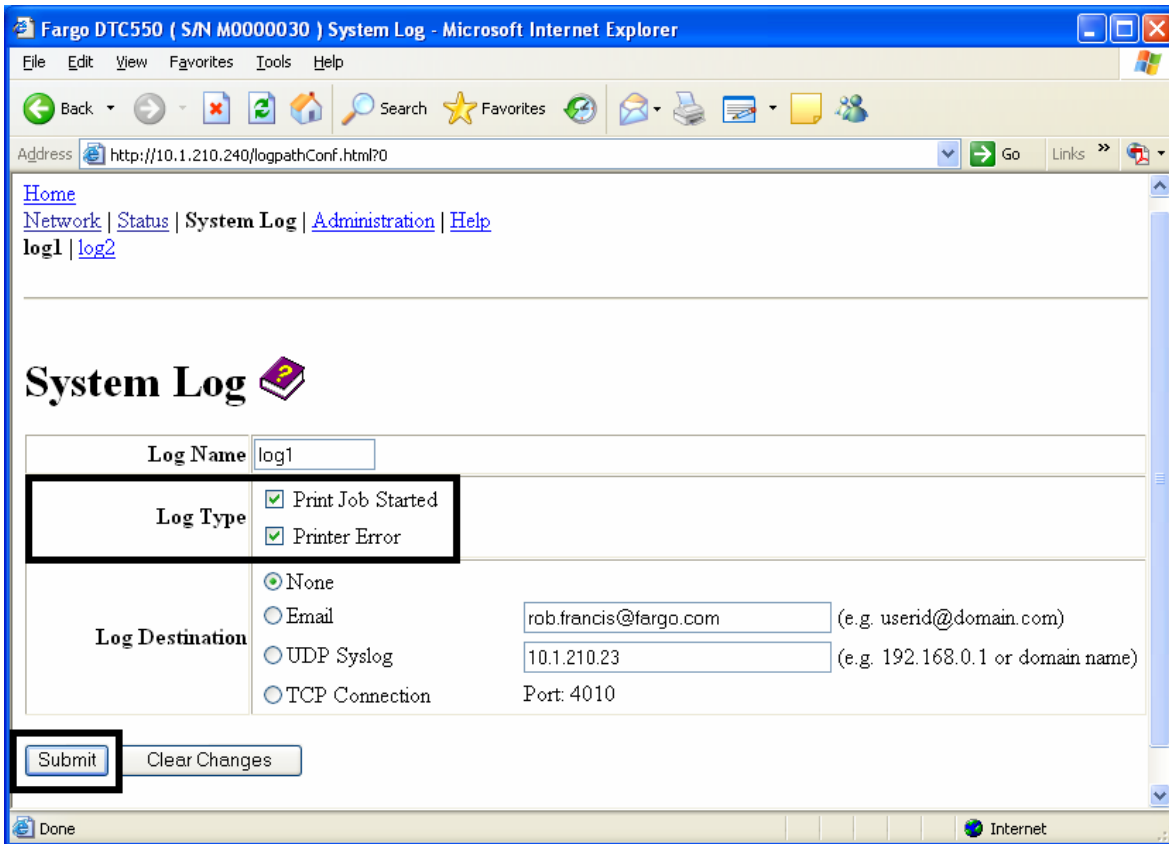
Selecting the Log Destination

Specify one destination for the log.

Step	Procedure – No event logging.
1	Select the **System Log** link.
2	Select the link for the log name you want to view or configure (the default choices are **log1** or **log2**).
3	Select the **None** radio button when no log is required. (**Note:** This is the default.)
4	Select **Submit**.
5	Login as a root User if you are so prompted. Any change of setting will only be accepted after you have successfully logged in.
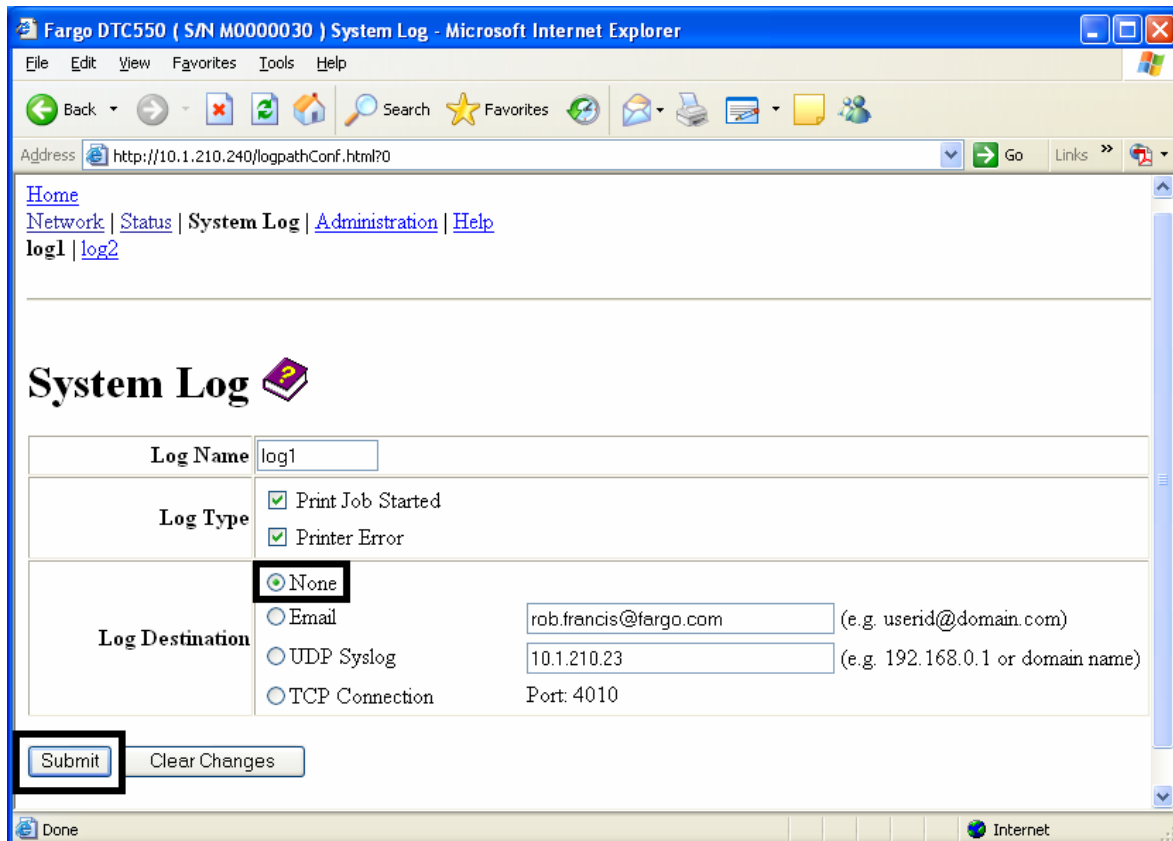
Setting up Email Event logging

Follow this procedure to enable logging using email notification:

Step	Procedure – Specify email logging.
1	Select the **System Log** link.
2	Select the link for the log name you want to view or configure (the default choices are **log1** or **log2**).
3	Select the **Email** radio button to choose email log notification.
4	Enter a valid e-mail address in the associated textbox.
5	Select **Submit**.
6	Login as a root User if you are so prompted. (**Note:** Any change of setting will only be accepted after you have successfully logged in.)

Specifying UDP Event logging

Follow this procedure to enable logging to a UDP Syslog program.

Step	Procedure
1	Select the **System Log** link. • The messages will be sent via UPD packets to the Syslog port (514) of the specified host. • It is up to the host program to listen to these messages for processing. • A syslog host program is necessary to use this method, such as, Kiwi Syslog Daemon or WinSysLog.
2	Select the link for the log name you want to view or configure (the default choices are **log1** or **log2**).
3	Select the **UDP Syslog** radio button.
4	Enter a valid IP address or domain name.
5	Select **Submit**.
6	Login as a root User if you are so prompted. (**Note:** Any change of setting will only be accepted after you have successfully logged in.)

Specifying TCP Event logging

Follow this procedure to send logging messages to a pre-existing IP connection made on the TCP port.

Step	Procedure
1	Select the **System Log** link.
2	Select the link for the log name you want to view or configure (the default choices are **log1** or **log2**).
3	Select the **TCP Connection** radio button.
4	Select **Submit**.
5	Login as a root User if you are so prompted. Any change of setting will only be accepted after you have successfully logged in.
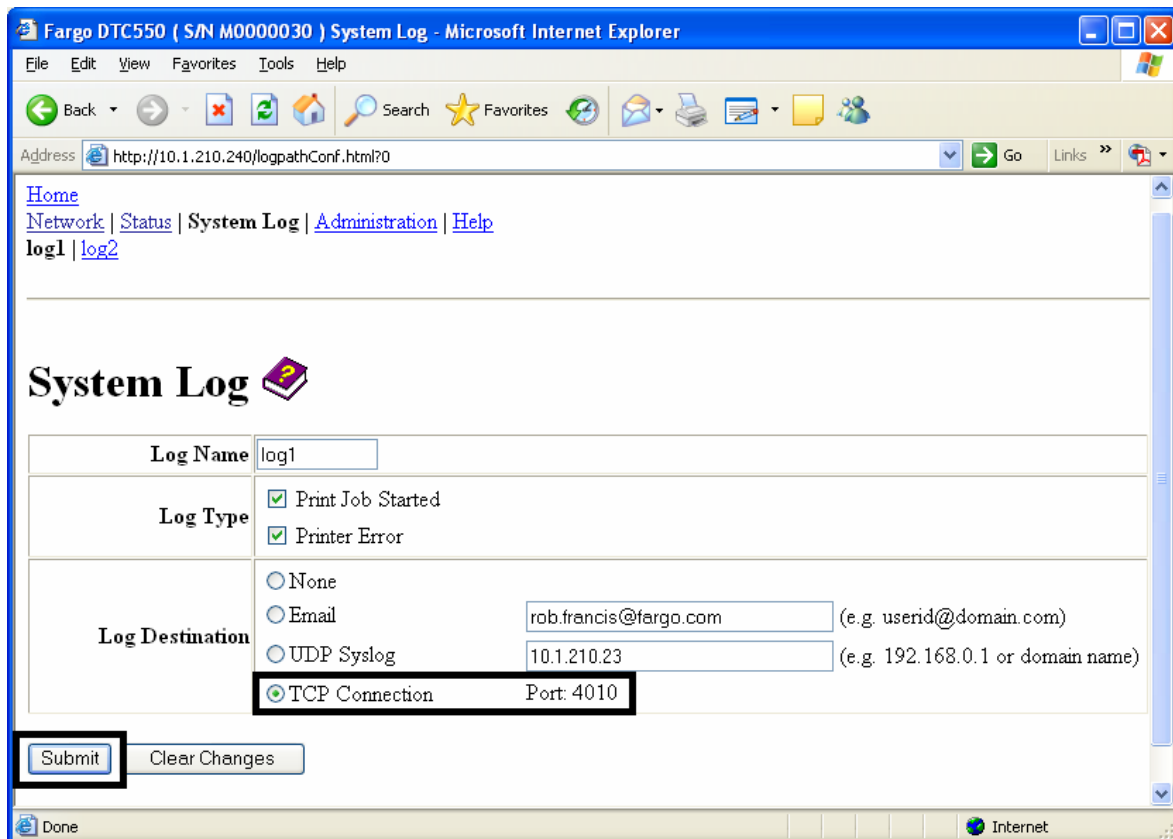
Specifying TCP Event logging (continued)

Step	Procedure
6	Use a host program such as Telnet to receive these TCP logging messages (**Note:** Other programs such as HyperTerminal are also used to monitor TCP connections). See below.
	• **Telnet Client:** You can use a Telnet client connected to the TCP port (log1 = 4010, log2 = 4011) rather than the default Telnet port (23).
	• **Telnet Session:** If there is a Printer at IP address 192.37.23.155 (and you have configured log1 for TCP logging), then you could initiate a Telnet session from a DOS window of a PC by entering Telnet 192.37.23.155 4010.
	• **Log Messages:** All system log messages would then be displayed in that Telnet session window. (**Note:** This is a one way connection for logging only. Any input to the Printer on this connection is ignored.)

Using the Administration pages

The purpose of the Administration pages is to allow the User to upgrade, reboot, modify passwords and enter User-specified system information strings.

Using the System Information page

The System Information page displays the current system information and allows the User to change the system information (which appears on the Home page). See the Using the Home page for definitions.

Step	Procedure
1	Select the **Administration** link.
2	Log in as a root User (using the old password) if you are so prompted. (**Note:** Any change of setting will only be accepted after you have successfully logged in.)
3	Select the link for the **System** web page.

Using the System Information page (continued)

Step	Procedure
4	To change an attribute, type the new entry in one of these boxes: • **Label** textbox • **Location** textbox • **Contact** textbox
5	Select the **Submit** button.
6	Login as a root User if you are so prompted. Any change of setting will only be accepted after you have successfully logged in.
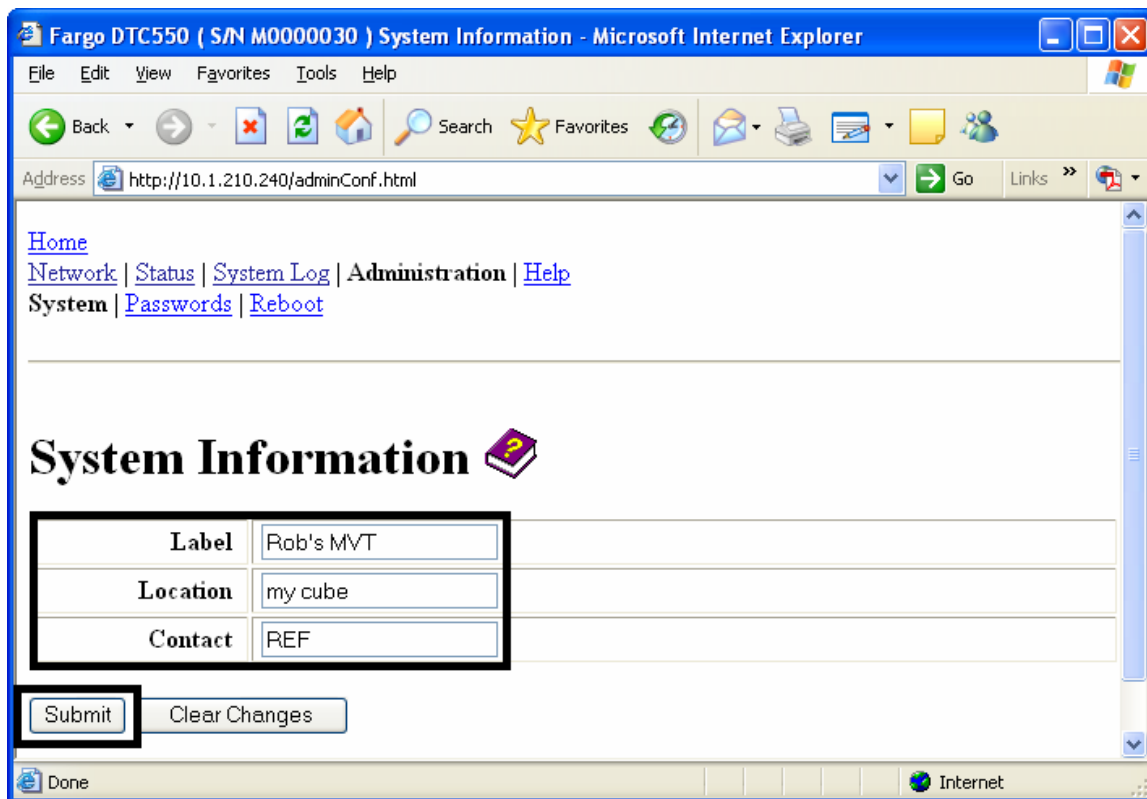
Changing the Root Password

The Passwords page allows the User to change the passwords needed to login as a User. Changes to all settings require a login. (**Note:** However, these changes are only protected by password after the password has been set. Users can only be added or removed using Telnet commands.)

Step	Procedure
1	Select the **Administration** link.
2	Log in as a root User (using the old password) if you are so prompted. (**Note:** Any change of setting will only be accepted after you have successfully logged in.)
3	Select the **Passwords** link to get to the Password web page.
4	Enter the current password in the **Root Password Old** textbox or leave it blank if no password has been previously set.
5	Enter the new password in the **Root Password New** textbox or leave it blank if you want to remove the old password.
6	Re-enter the new password in the **Root Password Confirm** textbox or leave it blank if you want to remove the old password.

Continued on the next page

Changing the Root Password (continued)

Step	Procedure
7	Select the **Submit** button.
8	Log in as a root User (using the old password) if you are so prompted. (**Note:** Any change of setting will only be accepted after you have successfully logged in.)

Using the Reboot pages

Rebooting the DTC550 restarts the complete printer, which includes the Print Server.

Rebooting the Printer (DTC550 only)

The Reboot page allows the DTC550 User to reboot or reset the Printer and/or enter the upgrade mode.

Step	Procedure
1	Select the **Administration** link.
2	Log in as a root User (using the old password) if you are so prompted. (**Note:** Any change of setting will only be accepted after you have successfully logged in.)
3	Select the **Reboot** link.
4	Select the **Reboot** button.
5	Click **Yes** when prompted.
6	Wait for the Printer to reboot and display the home page. See the Reviewing the DTC550 Home Page display.
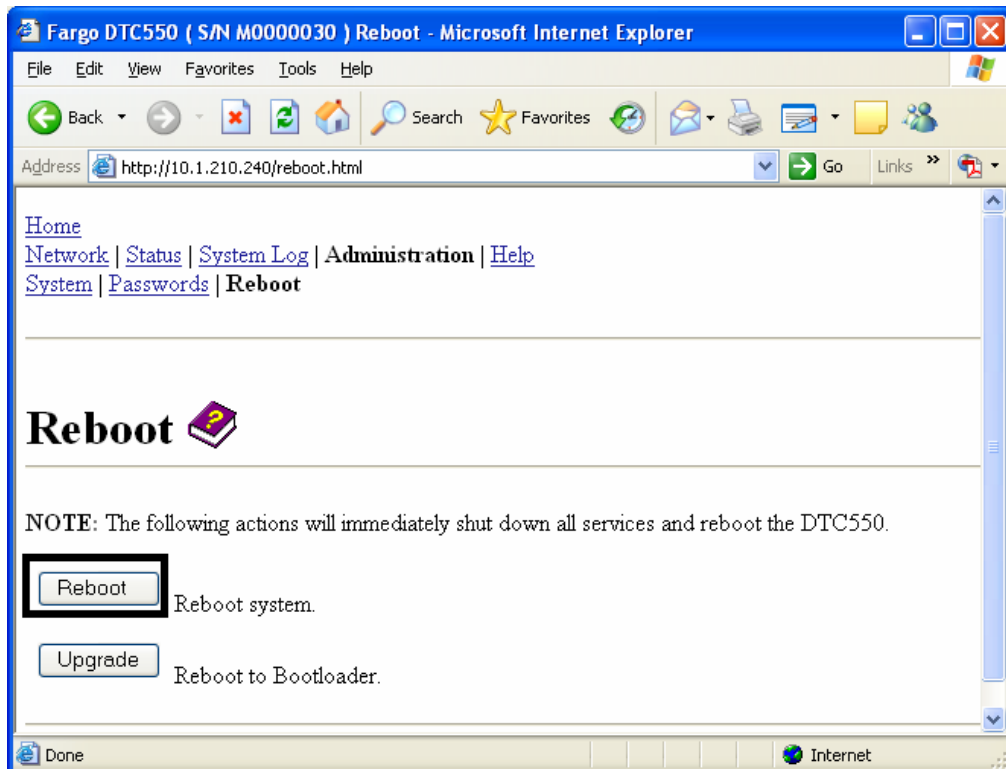
Upgrading the Main Firmware

The Upgrade page allows the User to upload new Firmware to the Printer. For the DTC550 printer/encoder, this Upgrade page provides for upgrading the main Printer Firmware which includes the Print Server Firmware.

It is only available to the DTC550 after the Printer has been rebooted into the upgrade mode.

Step	Procedure
1	Select the **Administration** link.
2	Go to step 7 if the **Upgrade** link is shown.
3	Select the **Reboot** link if the Upgrade link is not shown.
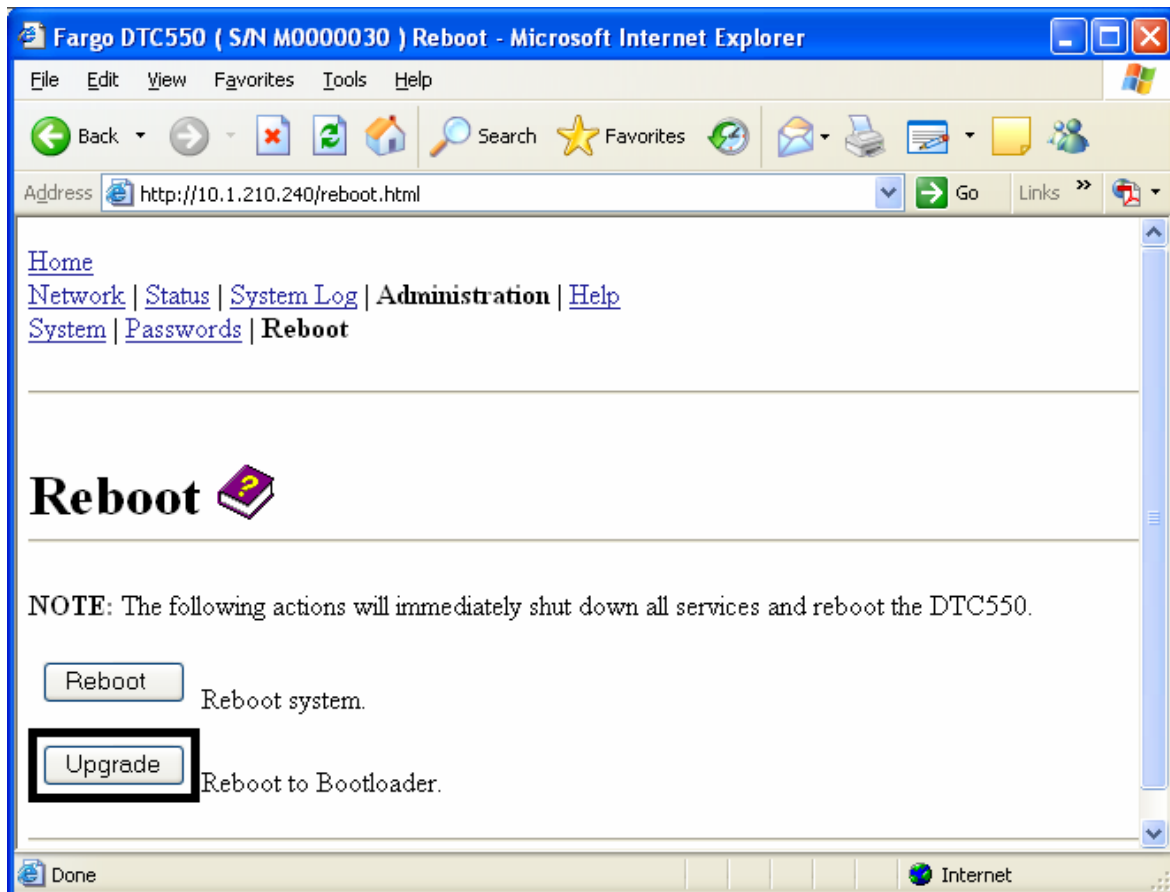
Upgrading the Main Firmware (DTC550 only) (continued)

Step	Procedure
4	Select the **Upgrade** button to get Printer into the upgrade mode.
5	Select the **Yes** button and wait for reboot, as shown below in Displays A and B.

Display A – Rebooting into the Upgrade Mode
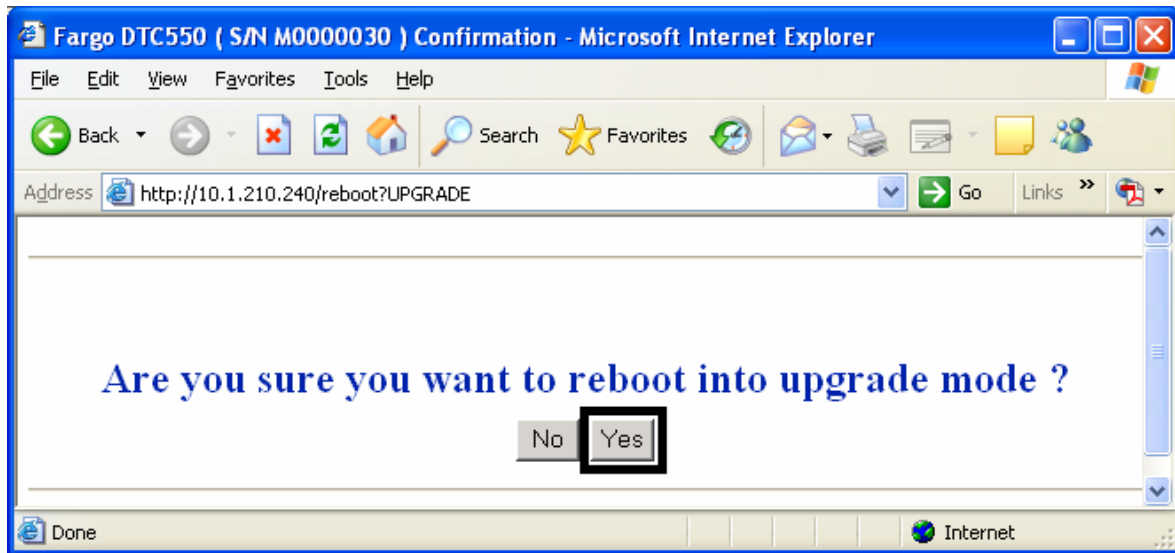
Display B – Waiting for the Upgrade Mode
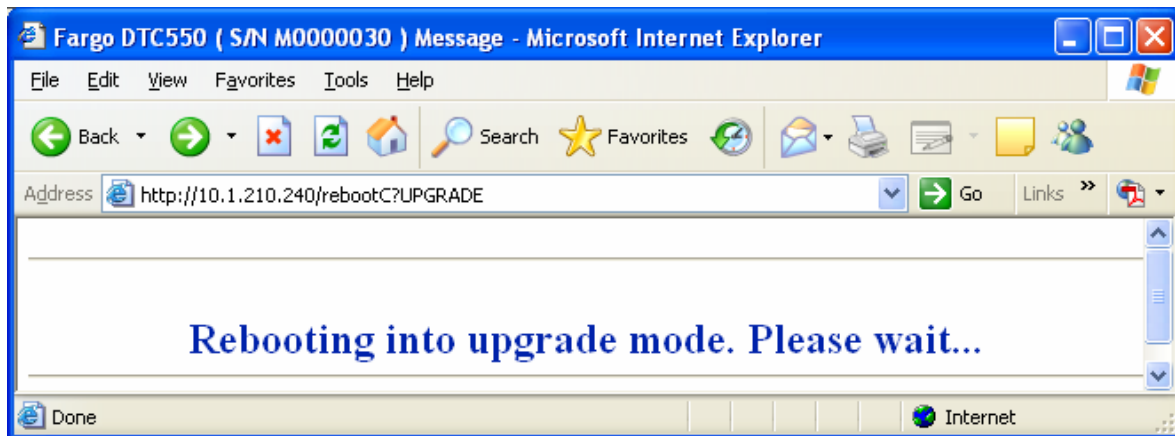
Upgrading the Main Firmware (DTC550 only) (continued)

Step	Procedure
6	Select **Administration** when the Home page appears. See Display A below.
7	Select **Upgrade** to get to the upgrade page. See Display B below.

Display A – Selecting Administration
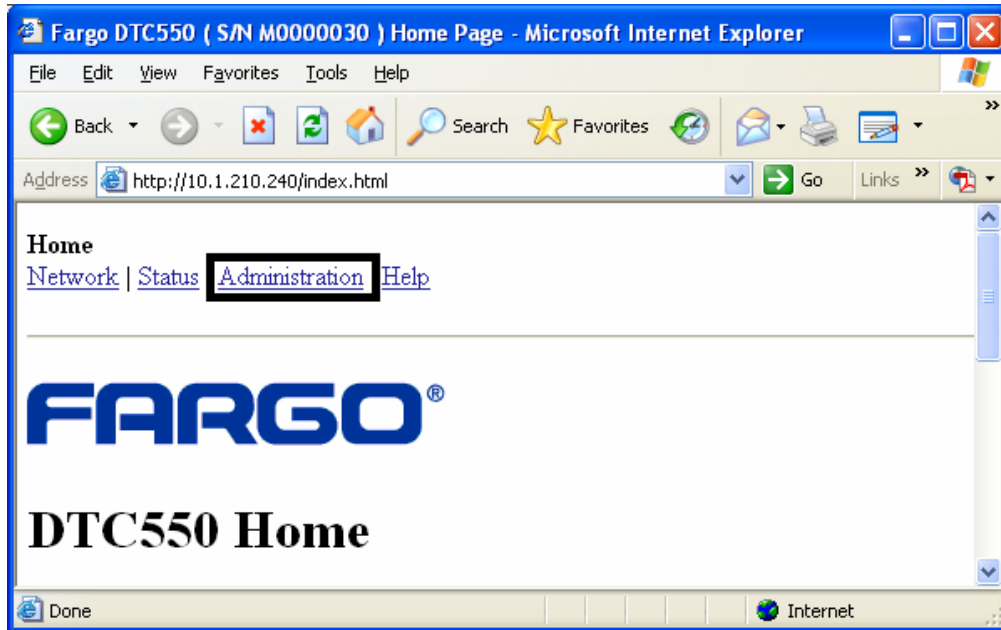
Display B – Selecting Upgrade
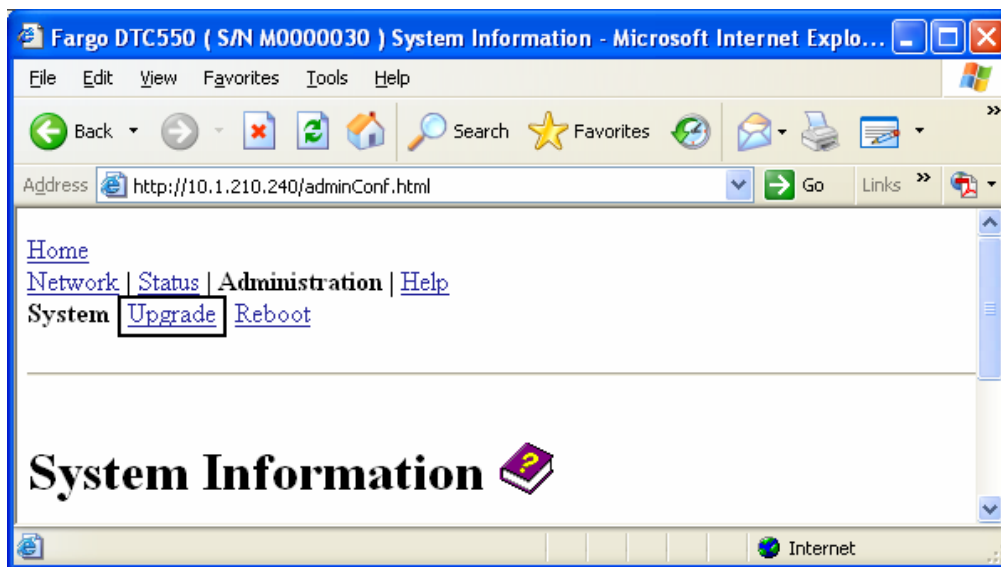
Upgrading the Main Firmware (DTC550 only) (continued)

Step	Procedure
8	Select the **Browse** button. See Display A below.
9	Navigate to and select the appropriate file to upload.
10	Select the **Upgrade** button to start the Firmware upload. See Display A below.
11	Select Reboot when requested. See Display B below.

Display A – Selecting the Browse and Upgrade buttons.
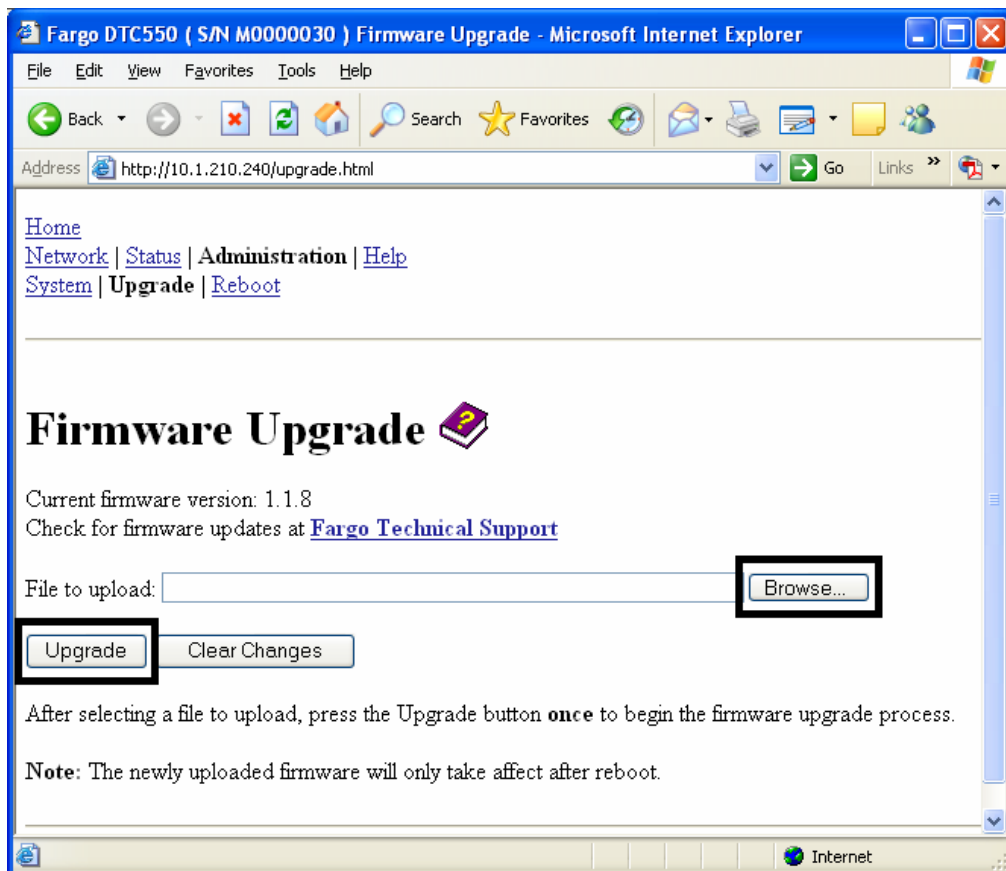
Display B – Continuing to reboot
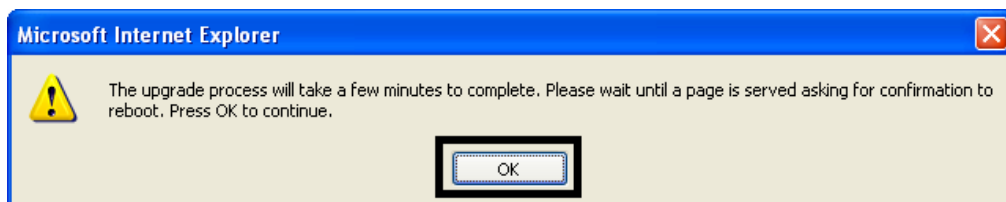
Using the Help page

The Help page displays the **Help** information.

Step	Procedure
1	Open this web page at the appropriate location by clicking on the Help book icon at the top of each page. See below.
2	Review the web interface for the Ethernet-enabled Printer.

Additional Procedures

Reviewing LED and Dipswitch Tables

The LEDs and dipswitches can be found on the back of Printers.

Reviewing the DTC550 LED and Dipswitch Table

Reviewing the DTC550 LED Table

LED	Flash Rate	Indicates
Green LED (Left)	On	The Network link is present.
	Off	The Network link is not present.
Amber LED (Right)	Off	There is NO network traffic to this IP address.
	Blinking	There is Network traffic to this IP address.

Upgrading the Main Firmware with the Fargo Diagnostics Utility

The Main Printer Firmware upgrades are done with the same procedure as the USB-connected Printer. The PC doing the upgrade must have a Driver installed for the Fargo Printer to be upgraded. (**Note:** Alternatively, a DTC550 User can upgrade the DTC550 Main Printer Firmware by using the DTC550 Upgrade web page.)

Step	Procedure
1	Run the Fargo Diagnostic Utility by selecting from the start menu the following: Start -> Programs -> Fargo -> Fargo Diagnostic Utility
2	Select the Fargo Printer to upgrade from the drop-down box.
3	Go to the Firmware Updates tab.
4	If you need to download the update file from the Internet, then select the **Download Firmware** button.
5	Choose the update file with the **Select Firmware** button.
6	Put your Printer into the upgrade mode. Refer to the appropriate service manual for your specific Fargo card printer.
7	Select the **Send Firmware** button.

Upgrading the Main Firmware with the Fargo Diagnostics Utility (continued)

See the procedure on the previous page.
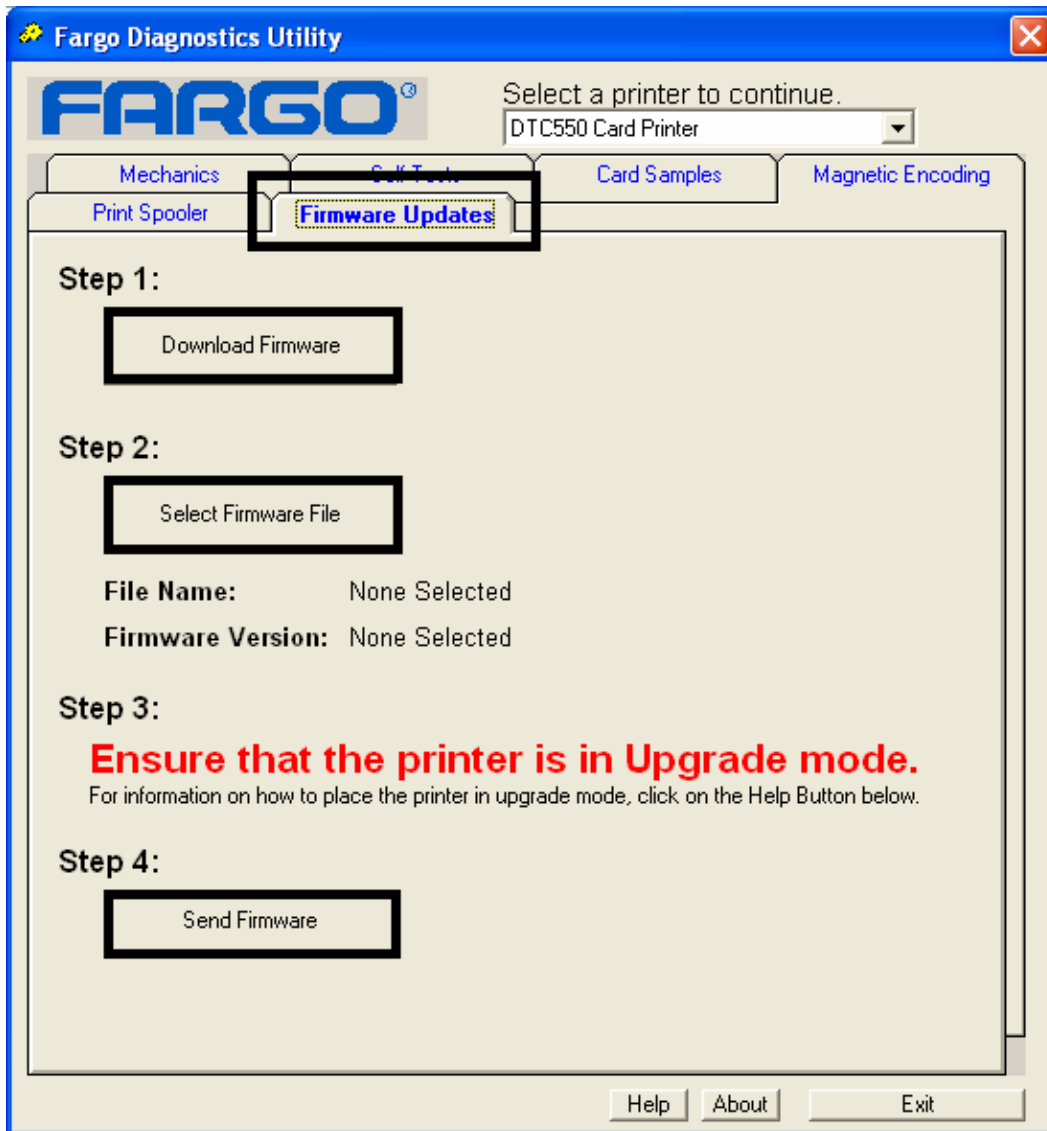
Restoring the Factory Settings for Ethernet

There may be times when you are unable to use the current configuration of the Ethernet interface. (**Note:** This could be because you have lost the password for your Printer or you just cannot get it to work properly.)

Resetting the DTC550 settings

The DTC550 has a menu selection that allows the User names and passwords to revert to default. To reset these settings, select: Menu : Setup Printer : Network Settings : Reset Passwords.

Reviewing the DTC550 Network Settings

The DTC550 printer/encoder will display new menu entries when the Ethernet option is installed, and the Printer has established communications to a host device. You can use these procedures to view network settings by using the new LCD settings.

Reviewing the DHCP setting

Step	Procedure
1	See the Accessing the DTC550 IP address procedure to access the **Network Info** menu (**MENU -> System Info -> Network Info**).
2	Select the **up or down arrow** on the LCD to view the **DHCP** menu entry. • DHCP Enabled indicates that automatic IP assignment is selected. • DHCP Disabled indicates that static IP assignment is selected.

Reviewing the Gateway Setting

Step	Procedure
1	See the Accessing the DTC550 IP address procedure to access the **Network Info** menu (**MENU -> System Info -> Network Info**).
2	Select the **up or down arrow** on the LCD to view the **GW:** menu entry. DHCP Enabled indicates that automatic IP assignment is selected. DHCP Disabled indicates that static IP assignment is selected.
3	View the gateway address displayed as a dotted quad number. **Example:** GW: 168.192.1.1

Reviewing the Subnet Mask Setting

Step	Procedure
1	See the Accessing the DTC550 IP address procedure to access the **Network Info** menu (**MENU -> System Info -> Network Info**).
2	Select **up or down arrow** on the LCD to view the **SN:** menu entry.
3	View the subnet mask displayed as a dotted quad number. **Example:** IP: 168.192.1.1

Reviewing the MAC Address

The MAC address is a unique address assigned to the Printer that gives the device a unique network identity.

Step	Procedure
1	See the Accessing the DTC550 IP address procedure to access the **Network Info** menu (**MENU -> System Info -> Network Info**).
2	Select **up or down arrow** on the LCD to view the **MAC Address:** menu entry.
3	View the MAC address on the next LCD line displayed as six colon-separated hexadecimal numbers. **Example:** 00 : 13 : 44 : 1a : 2b : 3c

Reviewing the ANEG Setting

The ANEG status indicates the current setting of the network configuration of the Ethernet interface.

- This value can be set explicitly by the User to force the Ethernet interface configuration in cases where auto negotiation fails.

- Failure of the automatic network configuration can cause slow data transmission, longer print times or network connection problems.

Follow the procedure provided below.

Step	Procedure
1	See the Accessing the DTC550 IP address procedure to access the **Network Info** menu (**MENU -> System Info -> Network Info**).
2	Select **up or down arrow** on the LCD to view the **ANEG:** menu entry.
3	View the current ANEG setting for the Printer which will be one of the following: - **ANEG: AUTO:** Allow auto negotiation between the Printer and the host Ethernet interface. - **ANEG: FD:** Forces full duplex communications between the Printer and the host Ethernet interface. - **ANEG: HD:** Forces half duplex communications between the Printer and the host Ethernet interface.

Changing the DTC550 LCD Network Settings

The DTC550 printer/encoder will display new menu entries when (a) the Ethernet option is installed and (b) the Printer has established communications to a host device. You can use these procedures to change network settings by using the new LCD menus.

Accessing the Network Setup Menu

Step	Procedure
1	Apply power to the Printer.
2	Ensure that the Printer is connected to your network.
3	Wait up to one (1) minute to allow the Printer to configure the IP address.
4	Select **MENU** on the LCD.
5	Select **Setup Printer** on the LCD.
6	Select **down arrow** on the LCD to highlight the **Network Settings** menu entry.
7	Select **Network Settings** on the LCD.

Changing the DHCP Setting

Step	Procedure
1	See the Accessing the Network Setup Menu procedure to access the **Network Settings** menu (**MENU -> Setup Printer -> Network Settings**).
2	Select **down arrow** on the LCD to view the **DHCP** menu entry. • DHCP Enabled indicates that the automatic IP assignment is selected. • DHCP Disabled indicates that the static IP assignment is selected.
3	Press the **Select** button to switch the DHCP setting.
4	If you change the setting, you will be prompted to reboot the Printer.

Changing the ANEG setting

The ANEG status indicates the current setting of the network configuration of the Ethernet interface.

- This value can be set explicitly by the User to force the Ethernet interface configuration in cases where auto negotiation fails.

- Failure of the automatic network configuration can cause slow data transmission, longer print times or network connection problems.

Follow the procedure provided below.

Step	Procedure
1	See the Accessing the Network Setup Menu procedure to access the **Network Settings** menu (**MENU -> Setup Printer -> Network Settings**).
2	Select **down arrow** on the LCD to view the **ANEG:** menu entry.
3	Press the **Select** button to change the auto negotiation setting for the Printer, which will rotate between the following: • **ANEG: AUTO:** Allows the auto negotiation between the Printer and the host Ethernet interface. • **ANEG: FD:** Forces the full duplex communications between the Printer and the host Ethernet interface. • **ANEG: HD:** Forces the half duplex communications between the Printer and the host Ethernet interface.
4	If you change the setting, you will be prompted to reboot the Printer.

Saving addresses

Step	Procedure.
1	See the <u>Accessing the Network Setup Menu</u> procedure to access the **Network Settings** menu (**MENU -> Setup Printer -> Network Settings**).
2	Select **down arrow** on the LCD to view the **Save Addresses** menu entry.
3	Press the **Select** button to save the current network settings (IP address, GW, SN Mask) as the stored settings which will be used when automatic address assignment using DHCP is disabled.

Resetting Passwords

Step	Procedure
1	See the <u>Accessing the Network Setup Menu</u> procedure to access the **Network Settings** menu (**MENU -> Setup Printer -> Network Settings**).
2	Select **down arrow** on the LCD to view the **Reset Passwords** menu entry.
3	Press the **Select** button to reset the User passwords to the default settings of empty strings. (**Note:** This can be used when the passwords are not known.)

Accessing the IP address of your Printer

The additional LCD menus for Ethernet-enabled Printers are provided to view the IP address of the Printer. Follow these procedures to access the IP Address of your Printer model.

Accessing the DTC550 IP address

Step	Procedure
1	Apply power to the Printer.
2	Ensure that the Printer is connected to your network.
3	Wait up to one (1) minute to allow the Printer to configure the IP address.
4	Select **MENU** on the LCD.
5	Select **System Info** on the LCD.
6	Select the **down arrow** on the LCD to highlight the **Network Info** menu entry.
7	Select **Network Info** on the LCD.
8	Select **down arrow** on the LCD to highlight the **IP:** menu entry.
9	View the IP address displayed as a dotted quad number. **Example:** IP: 168.192.1.1

Ethernet Printer Troubleshooting Procedures

Troubleshooting procedures

If you are having trouble connecting to your Ethernet Printer or printing to it, you should go through each of the following procedures.

Step	Procedure
1	Follow the <u>Verifying the Printer Connection</u> procedure.
2	Follow the <u>Verifying the Printer IP address</u> procedure.
3	Follow the <u>Verifying that your PC can access the Printer using the ping command</u> procedure.
4	Verify that you are choosing the correct Printer Driver. (**Note:** The Driver must match the model of the Printer.)
5	Verify that the port configuration of the PC Printer Driver is set to communicate to the Printer over the correct IP address. See <u>Frequently-asked Questions</u>.
6	Follow the <u>Printing a test page</u> procedure.

Verifying the Printer Connection

Step	Procedure
1	Ensure that your Printer has a valid network connection.
2	Verify that the DTC550 has the green LED on solidly and the amber LED is flashing with network activity.
3	If the LEDs do not indicate connection, verify the network connection with another device.
4	If the connection is OK, then something may be wrong with the Ethernet option installation. See the Ethernet Setup and Printer Driver Installation procedure.
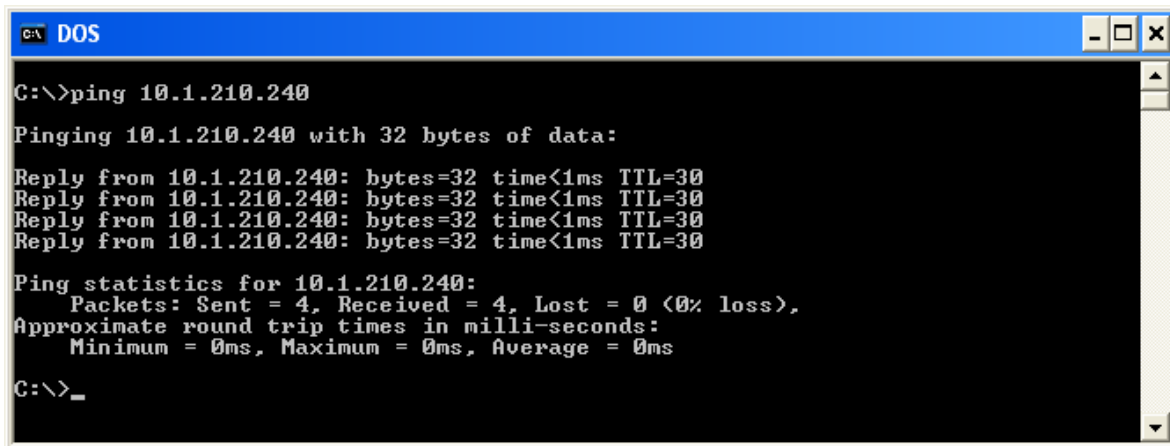
Verifying the Printer IP address

Step	Procedure
1	Check the LCD for a valid IP address (0.0.0.0 in not valid). If the IP address is valid go to step 4. If the IP address is not valid go to step 2.
2	If your network is using DHCP, then verify that the Printer has not been configured to use a static address (unless you have a known unused static IP address assigned to this Printer).
3	If you are using a static IP address, verify that there is no other device using the same address by removing your Fargo Printer and ping to the desired address. If any device responds, then you must find a different available IP address.
4	If the Printer reports an IP address, verify that it matches subnet of the network where it is connected. If your Printer has DHPC disabled, then the static IP address may have been previously set for a different subnet.

Verifying that your PC can access the Printer using the ping command

Step	Procedure
1	Follow these instructions to issue a ping command to the Printer:
	At a DOS prompt, enter **ping [IP Address]**
	Example: C:\>ping 210.1.10.240
	• If the ping response is successful, move on to the next troubleshooting procedure. See Display A below.
	• If the ping response is not successful, continue to step 2 of this procedure. See Display B below.

Display A - Example of sending a ping to the Printer with a successful response
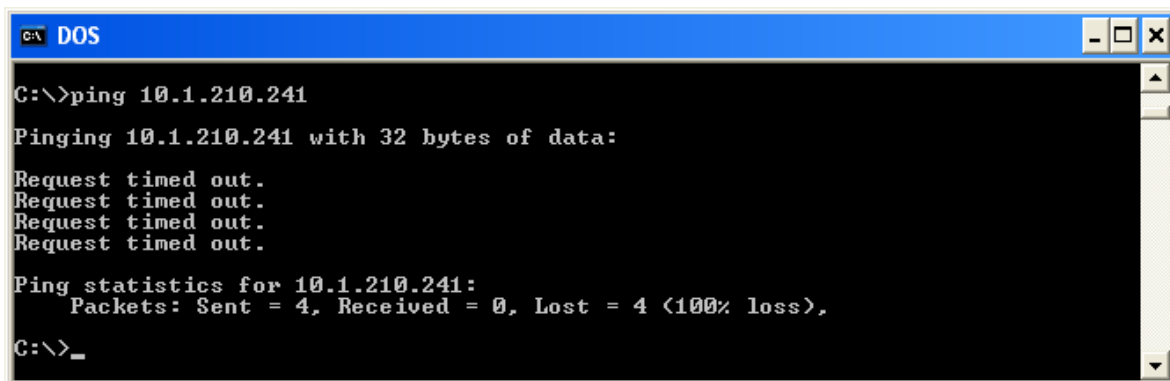
Display B - Example of ping timeout to an invalid IP address

Verifying that your PC can access the Printer using the ping command (continued)

Step	Procedure
2	Verify that the PC and the Printer are connected to the same network.
3	You may be on different subnets of your network and some of the network settings for the Printer are not correct. See your network administrator about this. (**Note:** The subnet mask must be the same as other devices on the network, and that the unique IP address is part of the network specified by the subnet mask.)

Printing a test page

Step	Procedure
1	Try printing a test page from the Printer Driver properties window. See Frequently-asked Questions.
2	If you cannot print a test page, then consider the following: • There may be an error at the Printer. • There may be a job in the Windows print queue which has stalled. • The Printer may be paused or set to operate offline in the Windows print queue.

Reviewing Frequently-asked Questions

Question	Answer
How do I know if my Printer has the Ethernet option installed?	If your Printer has the RJ45 connector installed on the back of the Printer, then it has this Ethernet option installed.
Can my Printer be upgraded to have an Ethernet interface?	The DTC550 printer/encoder can have the optional Ethernet interface installed. This upgrade can only be installed by trained and certified Fargo Service Providers. For the DTC550, this option co-exists with the standard USB interface.
What PC operating systems work with my Ethernet Printer?	The Windows 2000/ XP / Server 2003 operating systems work with your Ethernet Printer.
How do I connect my Printer to my network?	You can connect from the RJ45 network connection on the back of your Printer to an available connection on your network (not directly to your PC). You can use a good CAT-5 or better cable to make this connection.
How can I find the MAC address of my Ethernet Printer?	• If you know the IP address of your Printer, you can also access this through the home web page of the Print Server. **OR** • If you do not know the IP address or the Printer does not work with a usable IP address, then the MAC Address can be found using the tool Fargo IP-Tracer. (**Note:** This can be installed and used to locate all the Fargo compatible Printers on your network.) The DTC550 displays the MAC address of the Printer in the LCD the Ethernet option is functioning properly. It can be found under this path: **Menu: Printer Settings: Network Settings: MAC Address**

Continued on the next page

Reviewing Frequently-asked Questions (continued)

Question	Answer
How can I find the IP address of my Ethernet Printer?	You can find it in the LCD of the Printer if the Ethernet option is functioning properly. • For the DTC550, it can be found under this path: **Menu : System Info : Network Info : IP Address**
Can I print from my PC to multiple Ethernet Printers?	Yes. Follow this procedure: 1. You can install multiple Printer Drivers by using the add Printer wizard. 2. Run the Fargo Add Printer Wizard program by choosing in from the Start menu: Go to the start -> Programs-> Fargo -> Fargo Add Printer Wizard. 3. Select **Next** on the first window. 4. On the second window, specify the type of Fargo Printer you want and ask for a network connected Printer. Select **Next**. 5. Enter the IP address of your new Printer connection. Select **Next**. 6. Select **Finish**.
Can multiple PC's print to my Ethernet Printer?	Yes. Each PC must install the Printer Driver software for the specific Fargo Ethernet-enabled Printer and connect to the intended Printer, using the correct IP address.
Can I print from my PC to an Ethernet Printer on a different network segment?	Yes. If you know the IP address of the Printer on any segment of your network, you will be able to print to it.
Can I use Fargo IP-Tracer to locate Printers on a different network segment?	No. The IP-Tracer can only locate Fargo-compatible Printers located in the same network segment (as the PC running IP-Tracer).

Reviewing Frequently-asked Questions (continued)

Question	Answer
How do I upgrade the Printer Firmware in my Ethernet-enabled Printer?	This is done in the same manner as a USB-connected Printer. The PC doing the upgrade must have a Driver installed for the Fargo Printer to be upgraded. Follow this procedure. 1. Run the Fargo Diagnostic Utility from the start menu: Go to the Start -> Programs -> Fargo -> Fargo Diagnostic Utility. 2. Select the Fargo Printer to upgrade from the drop-down box. 3. Go to the Firmware Updates tab. 4. If you need to download the update file from the Internet, select the **Download Firmware** button. 5. Choose the update file with the **Select Firmware** button. 6. Put your Printer into the upgrade mode. See the instructions for your specific Fargo Printer. 7. Select the **Send Firmware** button.
How do I upgrade the Print Server Firmware for my DTC550 Printer?	Since the Print Server is integrated into the main print Firmware on the DTC550, there is not a separate Firmware upgrade for the Print Server. (**Note:** Therefore, the upgrades are done with the main Printer Firmware.)
What is the default User name and password for the Printer?	The default passwords are blank (i.e., an empty string). • The default Users are as follows: **root** as the administrative User and **guest** as a non-administrative User. • The DTC550 supports two (2) Users.

Continued on the next page

Reviewing Frequently-asked Questions (continued)

Question	Answer
What if I lose the password for my Printer or it is not accepted?	The DTC550 has a menu selection that allows the User names and passwords to revert to default (**Menu : Setup Printer : Network Settings : Reset Passwords**).
What do I do if the IP address of my Printer is being changed by my network?	Follow this procedure: 1. Contact your network administrator. Ask that your current IP address be reserved or ask that they provide a specific IP address that you can use to configure the Ethernet interface. **OR** 2. Choose an IP address that you know will not be used by any other PC, server or network device. Use those settings to configure your Printer with static network settings. (**Caution:** Do not do this unless you know that these settings will always be available.)

Reviewing Frequently-asked Questions (continued)

Question	Answer
How do I reconfigure my PC Printer Driver to connect to a different Printer or different IP address?	Follow this procedure. 1. Run the Fargo Add Printer Wizard program by choosing from the Start menu: Go to the Start -> Programs -> Fargo -> Fargo Add Printer Wizard. 2. Select **Next** on the first window. 3. On the second window, specify the type of Printer you want and ask for a network connected Printer. Select **Next**. 4. Enter the IP address of your new Printer connection. Select **Next**. 5. Select **Finish**.
How can I verify/change what IP address my installed Printer Driver is expecting to find my Printer?	Follow this procedure. 1. Open the Printer Driver properties window. 2. Select Start -> Settings -> Printers and Faxes -> [your Printer Driver] -> Properties. 3. From the Ports tab, select **Configure Port**.The Host name will indicate IP address of the connected Printer. (**Note:** If this does not match your Printer's IP address, you can change it from this window.) 4. Enter the correct IP address. 5. Select **OK**. 6. Select **Apply**. 7. Select **Close**. 8. Specify the new IP address. 9. Select: **Next**, **Next**, **Finish** and **Close**. 10. Select **Apply**. 11. Select **Close**.

Continued on the next page

Reviewing Frequently-asked Questions (continued)

Question	Answer
How do I configure my Printer's IP settings?	• By default, the Printer is configured for dynamic IP address assignment. That is, it will try to get its IP address and other settings from your network. If it is given valid network settings, it will use them. **OR** • You can choose to configure the Printer, using a static IP address and network settings. (**Note:** This can be entered using the Network web page of the Printer or the Fargo IP Tracer program.)
How do I choose a static IP address for my Ethernet Printer?	You can use the web pages if you know the current IP address. See the Accessing the DTC550 Home Page procedure. **OR** You can use Fargo IP-Tracer which allows you to find Fargo-compatible Printers and specify their addresses. The DTC550 also allows you to save the current network settings as static settings via the LCD menu (Menu : Setup Printer : Network Settings : Save Addresses [select]). (**Note:** You can save static addresses. However, they are not used until you reconfigure the Printer to use those static addresses and reboot the Printer.)
How do I set the Printer to work with a static IP address?	You can use the web pages if you know the current IP address. • Select the **Use the following IP address** button on the Network web page. **OR** • Use Fargo IP-Tracer, which allows you to find Fargo compatible Printers and specify their addresses. The DTC550 also allows you to use the LCD menus to save the current IP addresses as static (see above) and then switch DHCP (dynamic IP address selection) to DISABLED (Menu : Setup Printer : Network Settings : DHCP [select]).

Continued on the next page

Reviewing Frequently-asked Questions

Question	Answer
What do the LEDs by the Ethernet connection on the back of the Printer indicate?	• **On the DTC550 Printer:** The green LED indicates a valid Ethernet connection. The amber LED indicates network activity.
How do I print a test page from Windows to verify the Ethernet configuration of the Printer and Printer Driver?	Follow this procedure. 1. Open the Printer Driver properties window. 2. Select Start -> Settings -> Printers and Faxes -> [your Printer Driver name (i.e., DTC550 Card Printer)] -> Properties. 3. Ensure that the printing preferences are set correctly for the Ribbon installed in your Printer. Then select the **Print Test page** button.

Glossary of Terms

Term	Purpose
MAC (Media Access Control)	The unique numeric value address associated with a network device that gives the device a unique identity. This address is assigned by the device manufacturer to ensure its uniqueness.
TCP (Transmission Control Protocol)	The Network protocol that allows reliable network communications between devices.
IP (Internet Protocol)	The Network protocol that identifies devices and messages by addresses so that communications can occur between devices on different local networks.
TCP/IP	Network communications using TCP and IP protocols.
ICMP (Internet Control Message Protocol)	The Basic message protocol for the internet.
DHCP (Dynamic Host Configuration Protocol)	The protocol used by a network to automatically assign network settings to connected devices so that they will work together.
DNS (Domain Name System)	Defines the Network protocol that allows devices to find IP addresses from a network name server.
DNS Server Address	This is the address of the server that provides the translation from a descriptive name to an IP address.
DNS Domain Suffix	This is the suffix to be added to the domain name make a complete name.

Glossary of Terms (continued)

Term	Purpose
SNMP (Simple Network Management Protocol)	This is protocol for the network management services. This protocol provides a means for network compliant devices, called agents, to store data about themselves in <u>Management Information Bases (MIBs)</u> and return this data to the SNMP requesters.
MIB (Management Information Base)	A formal description of the way an agent can be accessed using SNMP and the functions that can be managed.
Network Settings	The basic network parameters needed to configure the network interface. (**Note:** These include the IP Address, the Subnet Mask, the Default Gateway, the DNS Server Address and the DNS Domain Suffix.)
IP addresses	Specifies the current IP addresses that are 32-bit values that are normally expresses in dotted-quad format. (**Note:** This address must not be the same as another device on the same local network.)
Subnet mask	Specifies a 32-bit value that routers use to send a message to the correct subnet.
Default gateway	Specifies the address of the <u>router</u> (in a network using <u>subnets</u>) that forwards <u>traffic</u> to a destination outside of the subnet of the transmitting device.
Telnet	This is a common terminal emulation program that allows a User to send commands to a TCP/IP connected device and receive the responses.
UDP (User Datagram Protocol)	Defines a protocol for sending and receiving messages on a network.
Syslog	The standard method for logging system events.
Root User	A User with administrative rights to change any Printer settings.
Guest User	A User without rights to change Printer settings.
Ping	A common utility or command that sends a message to network devices asking for a return message. (**Note:** This is used to diagnose if the device is on the network or to troubleshoot the connection.)

Section 8: Cleaning

Cleaning Kit Instructions - DTC550 Printer

Introduction

The special cleaning supplies contained in this Cleaning Kit include recommended cleaning procedures for the DTC550 printer.

Supplies Included

- Two (2) Printhead Cleaning Pens pre-moistened with 99.99% isopropyl alcohol for cleaning the Printhead.

- Ten (10) Cleaning Cards with an adhesive backing for cleaning the Printer's Platen and Card Feed Rollers.

- Ten (10) Cleaning Pads pre-moistened with 99.9% isopropyl alcohol for cleaning the Printer's interior and exterior.

- Ten (10) Cleaning Roller replacement loops for replacement of the Cleaning Cartridge tape.
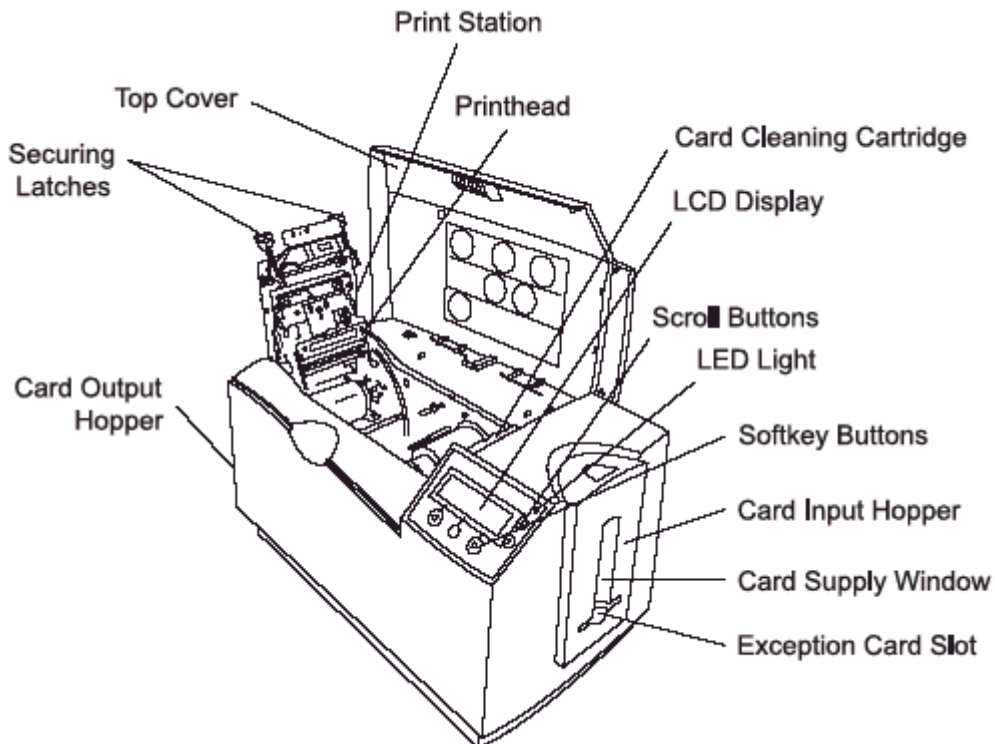
Cleaning the Printhead (D855055)

⚡ **Caution:** Perform this procedure during every Ribbon change or after every **1,000 prints** to maintain consistent print quality. Perform this procedure for streaks on the card where the color was not transferred correctly.

Step	Procedure
1	Open the Printer's Top Cover and Print Station.
2	Using a Printhead Cleaning Pen from the Printer Cleaning Kit, firmly wipe back and forth across the surface of the Printhead.
3	Once the Printhead is completely dry, close the Printer.
4	If a streak persists, replace the Printhead Assembly (D855055).

Printhead
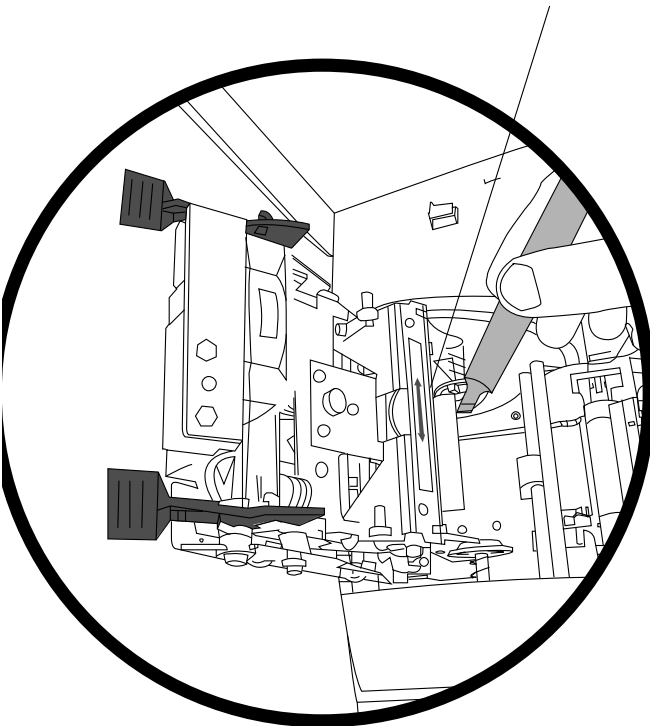
Replacing the Card Cleaning Roller

⚡ **Caution:** Replace the Card Cleaning Roller with every Ribbon change, depending on the cleanliness of the card stock or the environment in which the Printer is located.

Step	Procedure
1	Open the Printer's Top Cover.
2	Pull the Cleaning Cartridge out of the Printer, as shown below.
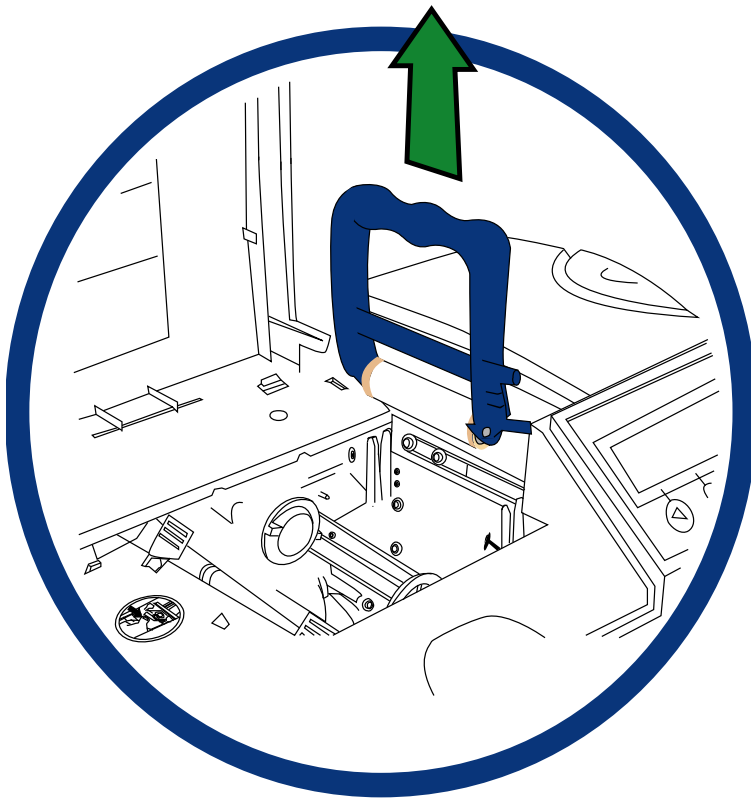
Replacing the Card Cleaning Roller (continued)

Steps	Procedure
3	Remove the gray Roller from the Card Cleaning Cartridge, as shown below.
4	Remove the old cleaning roller from the gray Roller, as shown below.
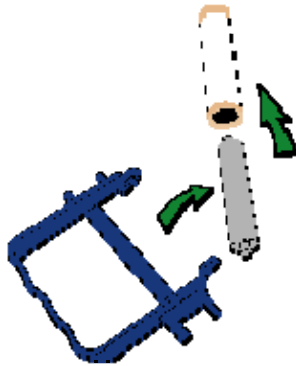
Step	Procedure
5	Install the new Cleaning Roller onto the gray Roller, as shown below.
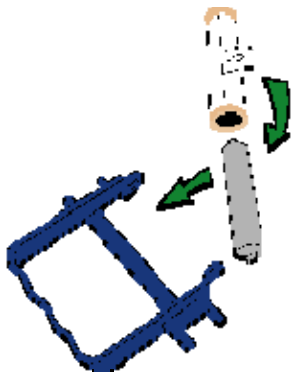
Replacing the Card Cleaning Roller (continued)

Step	Procedure
5	Remove the cover sheet to the Cleaning Roller, as shown below.
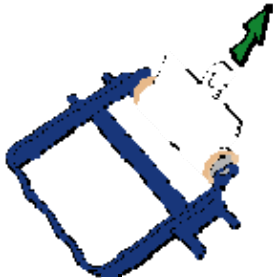
Step	Procedure
6	Insert the Cleaning Cartridge back into the Printer.
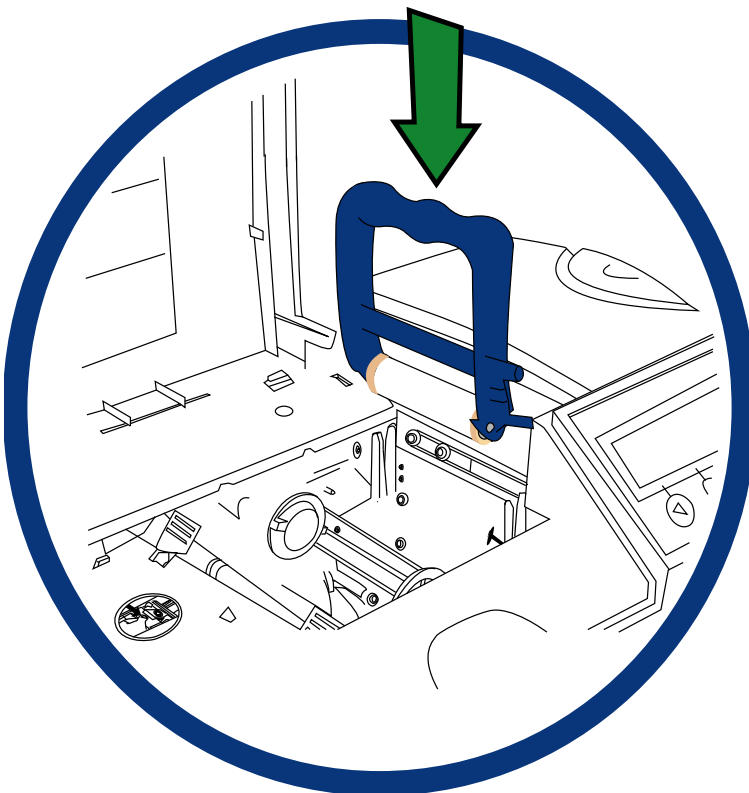
Replacing the Card Cleaning Roller (continued)

Step	Procedure
7	⚡ **Caution:** Be sure to push down on the cartridge until it clicks into place.
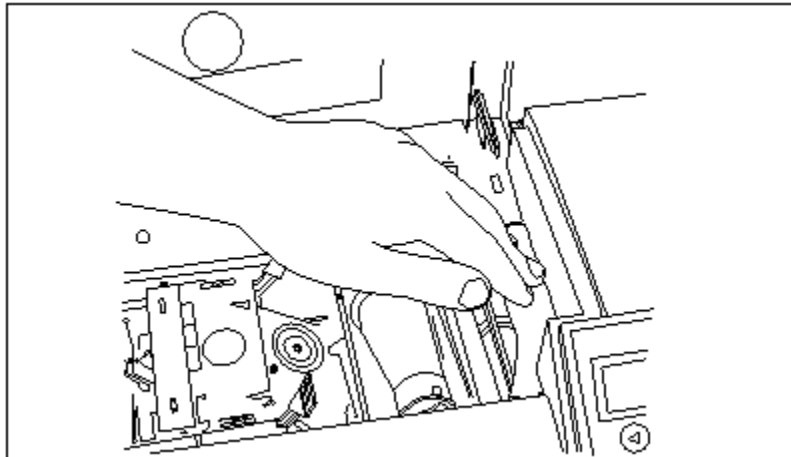
Cleaning the Platen and Card Feed Rollers

⚠ **Caution:** Clean the black, rubber Platen Roller and all of the gray (or black), rubber Card Feed Rollers within the Printer approximately every **2,000-3,000 prints**, depending on the cleanliness of the card stock or the environment in which the Printer is located. Clean if the Rollers appear dirty to prevent card jams and maintain the best print quality.

With the Printer power ON, use the following steps to clean the Rollers:

Step	Procedure
1	Open the Printer's Top Cover and Print Station. ⚠ **Caution:** Do not remove blank cards, Print Ribbon or the Card Cleaning Cartridge from the Printer for this procedure.
2	Get a Cleaning Card from the Printer Cleaning Kit and remove its adhesive backing paper.
3	Make sure the Card Hopper Door is closed. From the Control Panel, select **Menu > Clean Printer > Clean**. Insert the Cleaning Card into the Exception Card Slot until the card is fed into the Printer, as shown below. You can use the Printer Driver or the LCD to begin this automated routine. See the next step.

Slot
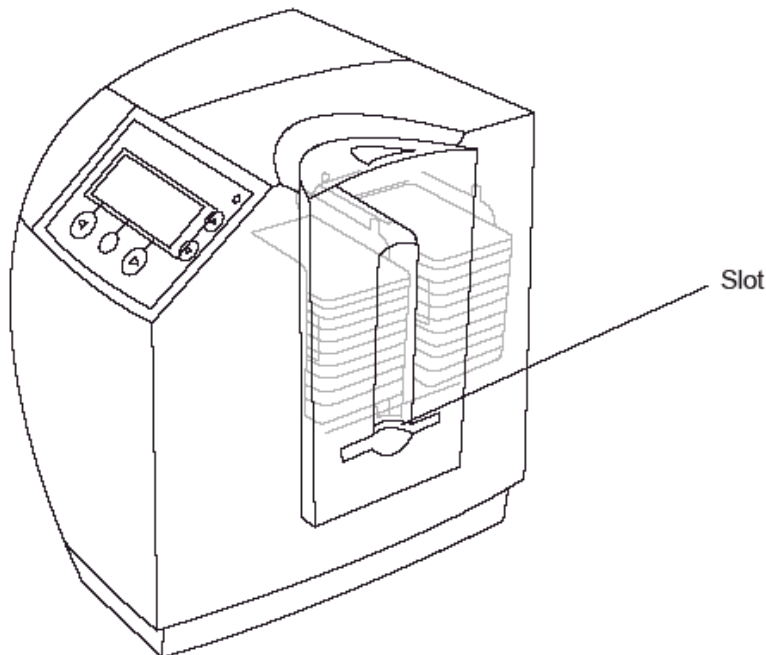
Cleaning the Platen and Card Feed Rollers (continued)

Step	Procedure
4	Open the Printer Control Panel from the Computer.
	If using Windows 98SE/Me, right click on the DTC550 Card Printer icon and select Properties.
	If using Windows 2000/XP, right click on the DTC550 Card Printer and select Printing Preferences.
5	Select the Card tab in the DTC550 printer driver, as shown in Display A (below).
	Click on the **Clean Printer** button, as shown in Display A (below).
6	Click on the **Clean** button, as shown in Display B (below).
7	If the Rollers require more cleaning, continue to the next step.

Cleaning the Platen and Card Feed Rollers (continued)

Display A - Card tab (DTC550 printer driver)
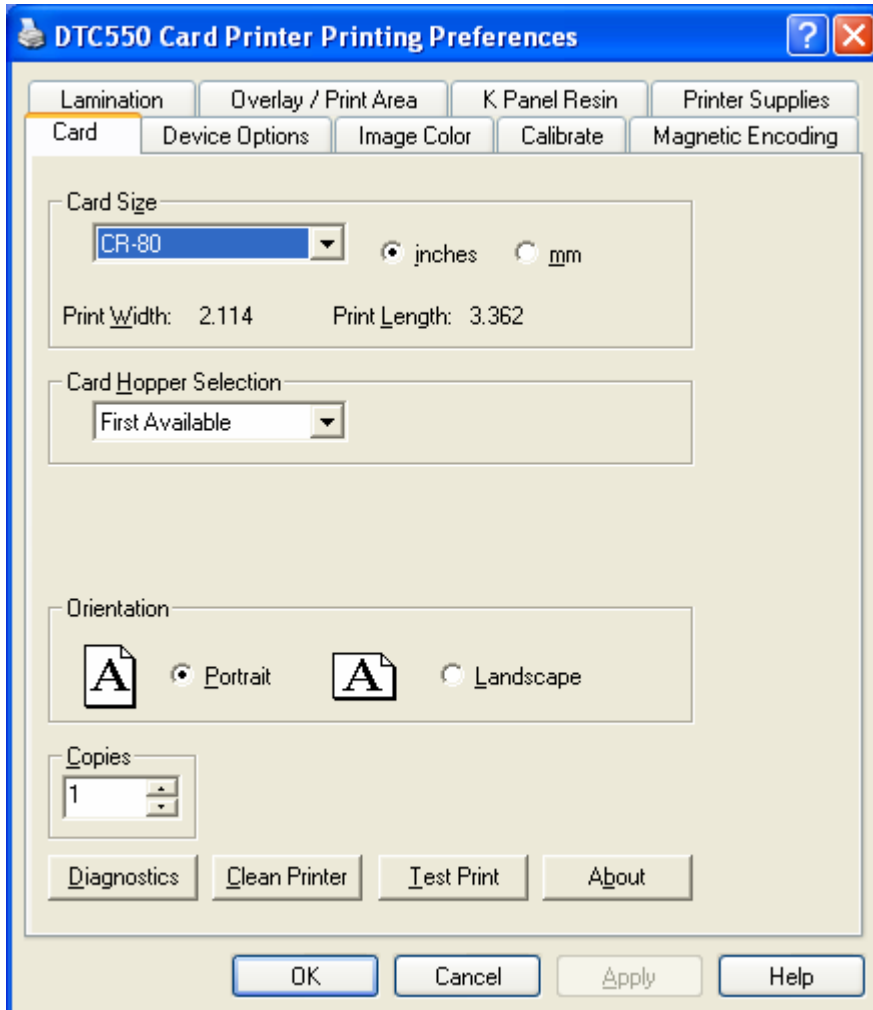
Cleaning the Platen and Card Feed Rollers (continued)

Display B - Clean Printer Utility

DTC550 Card Printer - Clean Printer Utility

Instructions:

Open the Printer's Top Cover and the Printhead Arm Assembly.

Remove the paper backing from both sides of the Cleaning Card.

Insert the Cleaning Card into the Card Hopper's Exception Feed Slot. See the diagram (below).

Press the Clean button below.

Adjust the Cleaning Card (as needed) as it feeds into the Printer.

Once the Cleaning Card has exited the Printer, close the Printhead Arm Assembly and the Top Cover.

Clean   Enable Reminder ☑
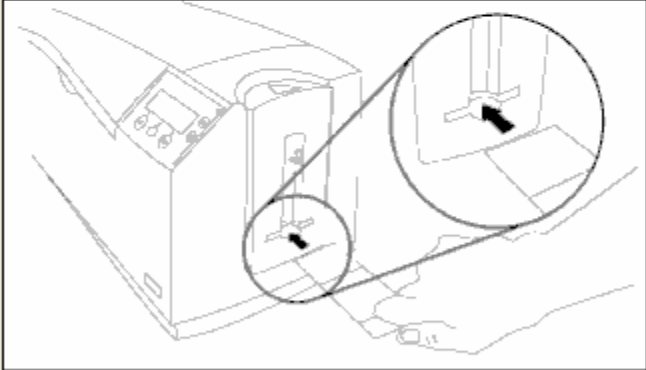
Fargo Cleaning Kit PN : 086003
Fargo Cleaning Card PN : 085974

Note: The Cleaning routine will begin after all current print jobs have completed.

Cleaning the Platen and Card Feed Rollers (continued)

Step	Procedure
8	Open the Printer's Top Cover and Print Station. (**Note:** You do not need to remove the blank cards, the Print Ribbon or the Card Cleaning Cartridge from the Printer for this procedure.)
9	Remove the Print Ribbon.
10	Locate the Platen Roller.
11	Use a Cleaning Pad from the Printer Cleaning Kit to wipe the roller clean. Press the **FWD** and **REV** buttons to move the Platen Roller back and forth while cleaning.
12	After the Platen Roller is clean and completely dry, replace the printing supplies and close the Printer.
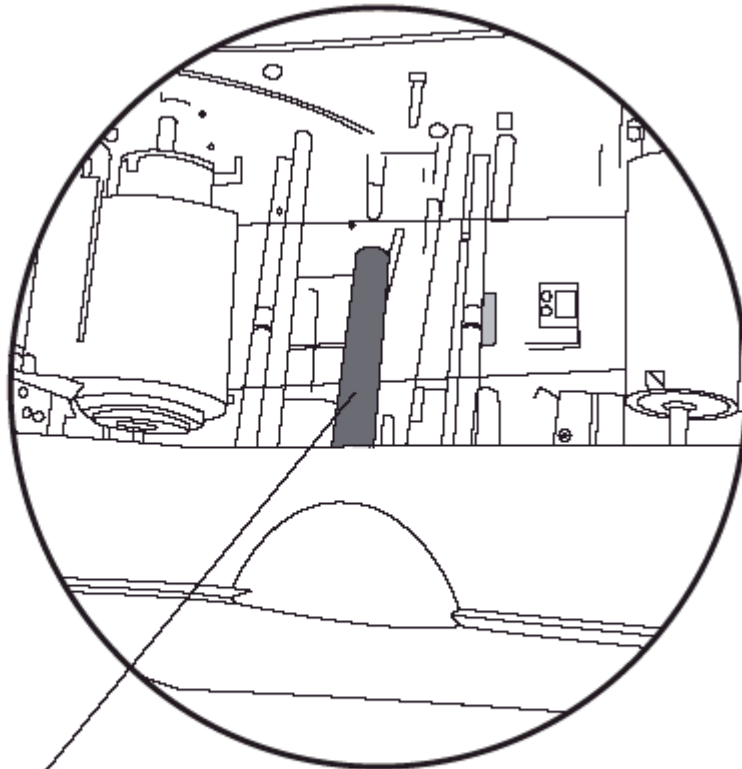
Platen Roller

Cleaning the Platen

The Printer's Platen Roller should be cleaned approximately every 250 prints. (**Note:** This helps prevent jams and maintain the best print quality. Perform this procedure if the roller is visibly dirty.)

Step	Procedure
1	Leave the power ON and open the Printer's Top cover and Print Station.
2	Remove the print ribbon.
3	Locate the Platen Roller.
4	Use a **Cleaning Pad** from the Printer Cleaning Kit to wipe the roller clean. Press the **FWD** and **REV** buttons to move the roller back and forth while cleaning.
5	After the roller is clean and completely dry, replace the printing supplies and close the Printer.

Card Feed Roller

Platen Roller
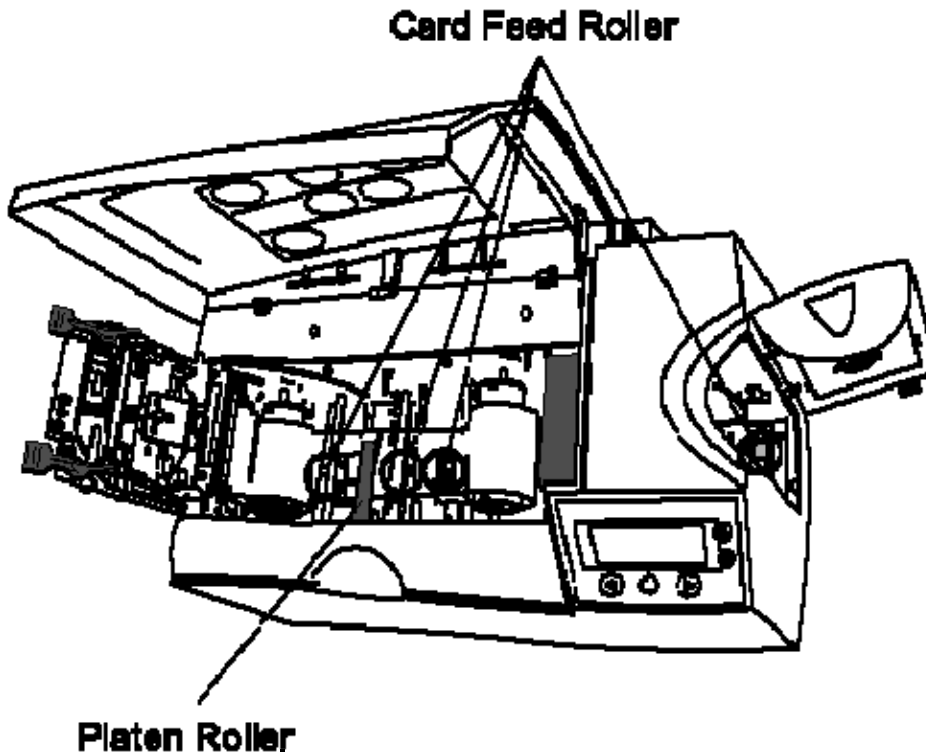
Cleaning the Printer's Exterior

The Printer has a durable casing that should retain its luster and appearance for many years. Clean it only with a Cleaning Pad from the Printer Cleaning Kit. (**Note:** See the next section for a photo of Printer's exterior.)

⚠ **Caution:** Do not use cleaning solvents of any kind or spray the printer with a cleaner!

Cleaning the Printer's Interior

⚠ **Caution:** Dust and other particles can accumulate inside the Printer. These particles are attracted to the Print Ribbon or blank card by static produced during printing and can contaminate the printed card causing spots or speckles to appear.

Periodically, use the following procedure to remove dust and other contaminants:

Step	Procedure
1	Open the Printer's Top Cover and Print Station.
2	Remove the Print Ribbon from the Printer.
3	Use a Cleaning Pad from the Printer Cleaning Kit to wipe out all visible areas inside the Printer. Remove any debris within its interior. ⚠ **Caution:** Be extremely careful not to let any alcohol drip inside the Printer.
4	Re-install the printing supplies and close the Printer.

Cleaning the Printer's Interior (continued)

This is a display for the Print Station (how to open it).
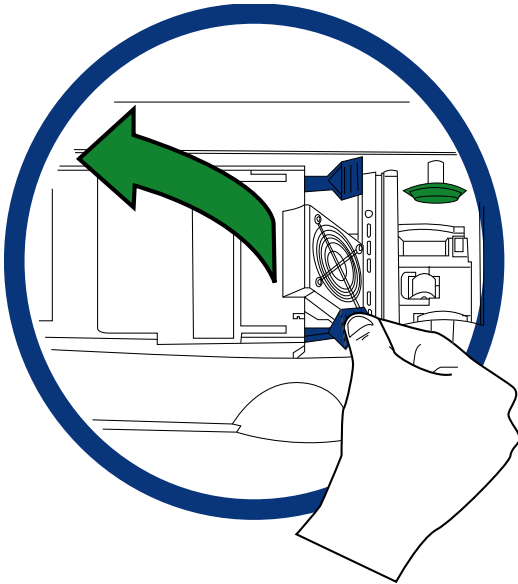
This is a display for the Print Station (how to close it).
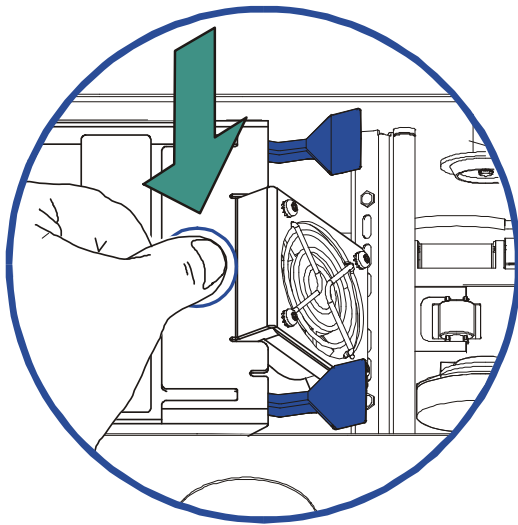
Section 9: Diagnostic Tool Utility

Selecting the Self Tests tab

Use these options to run the internal Printer Self Tests.

Step	Procedure
1	Select the **Self Test** tab to bring up the Printer Self Tests.
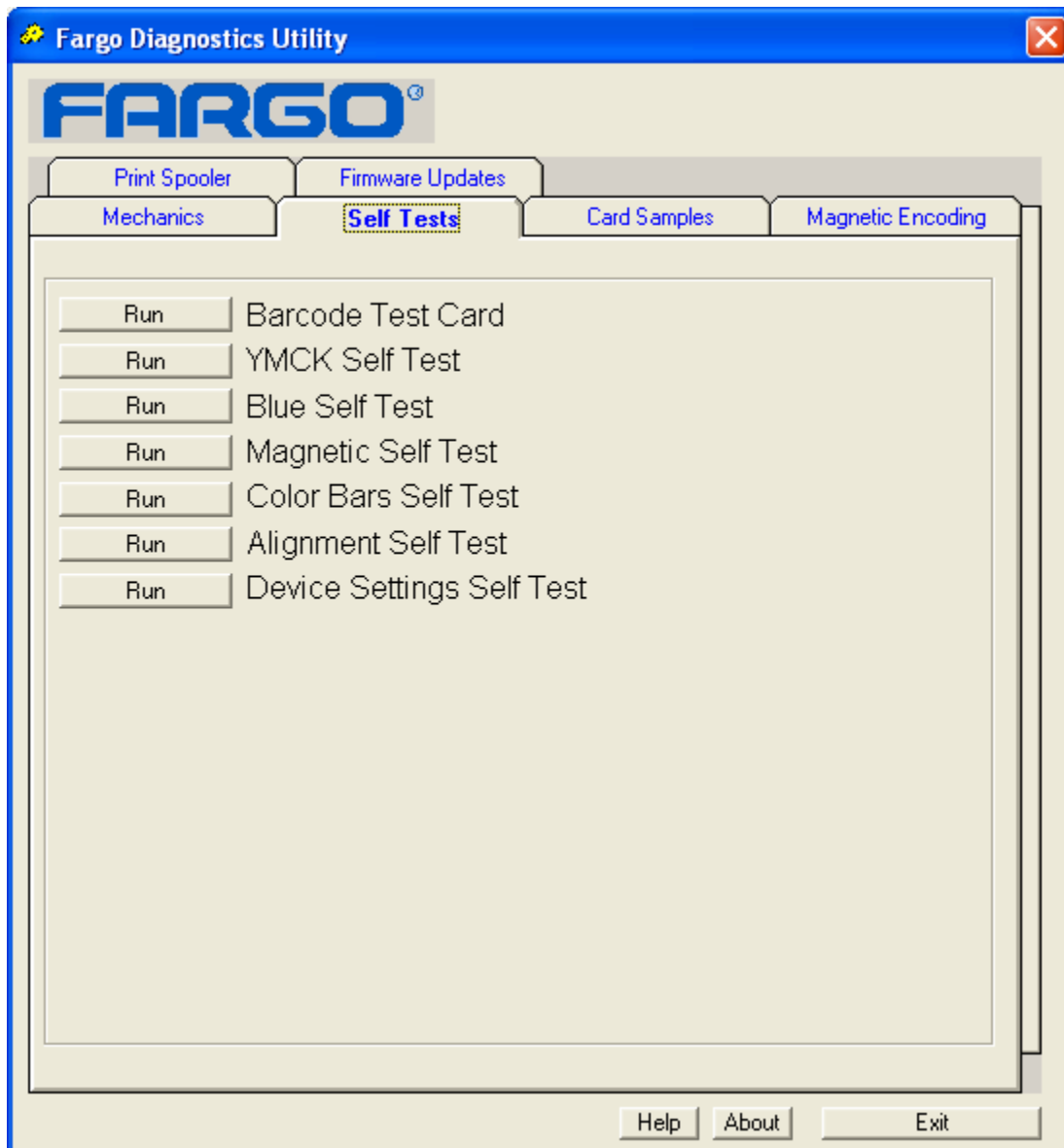
Selecting the Barcode Test Card button

Step	Procedure
1	Use this card to test the resin printing capabilities of the Printer (**Note:** A full Color Ribbon (YMC) with a Resin Panel (K) or a Resin Ribbon is required for this test.)

Selecting the YMCK Test Card Self Test button

Step	Procedure
1	Use this card to determine Image Placement and confirm that (a) the image colors are properly reproduced and (b) the Resin Panel is printing properly. (**Note:** The Image consists of twelve spot colors, YMC and RGB, as well as gray density bars and thin resin lines.)

Selecting the Magnetic Self Test button

Step	Procedure
1	Use this card to test the Magnetic Encoding capabilities of the Printer. Be sure to have Magnetic Stripe Cards installed in your Printer when running this Test.

Selecting the Color Bars Self Test button

Step	Procedure
1	Use this card to confirm that image colors are properly reproduced. Image consists of sixteen graduated steps of RGB and YMCK. (**Note:** This print will provide maximum image size, giving complete card coverage on a CR-80 sized card.)

Selecting the Alignment Self Test button

Step	Procedure
1	Use this card to determine Image Placement and confirm that the Printer is working properly. (**Note:** The image consists of sixteen (16) gray scale boxes and alignment arrows. The gray boxes are composed from a composite of YMC color panels.)

Selecting the Device Settings Self Test button

Step	Procedure
1	Use this card to keep a record of the settings held in the LCD of the printer.

Section 10: Packing the DTC550 Card Printer

Packing the Printer

The purpose of this section is to provide the User with a specific packing procedure for the DTC550 Card Printer.

Follow this instruction to pack the Card Printer for transport.

Step	Procedure
1	a. Clean the inside of the Printer with deionized air. b. Wipe it down with a lint-free cloth.
2	Clean the Printhead with a Printhead pen.
3	Pack the Printer in the original carton and packing materials.
4	Be sure to enclose any necessary paperwork, test cards, etc.

Section 11: LCD On-Line Menu Navigation

Entering the LCD Menu and selecting the Option

The purpose of this section is to provide the User with specific procedures for LCD On-Line Menu Navigation, Test Image Printing and Printer Setup for the DTC550 Card Printer.

The **MENU** option is above the center softkey button, as shown below. This allows access to several test, setup and reporting functions. The Selecting from the Menu Option Structure Tree shows the available menu options. A description of each option and its function is included on the pages following the on-line menu.

Step	Procedure
1	Press the **MENU** button to bring up the **Select Function** screen, as shown here.
2	Use the scroll buttons to move up or down through the menu options, as shown below. (**Note:** The brackets appear on either side of the active Menu option.)
3	Press the button below Select to choose an option. Choose from these four (4) categories: **Print Test Image**, **Setup Printer**, **System Info** and **System Upgrade**.

```
          Ready


H-1              MENU              H-2
```

```
          SELECT FUNCTION
         [Print Test Image]
            Setup Printer
  HELP          SELECT          EXIT
```
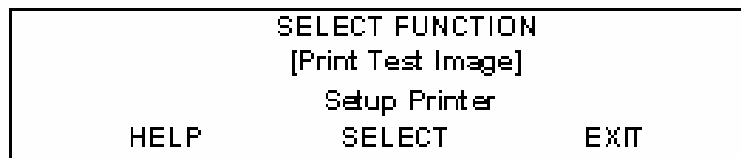
Using the Softkey and Scroll buttons

Step	Procedure
1	The Printer has three Softkey buttons that appear below the LCD display. Their current function is indicated by the words appearing above them. This function will change according to the Printer's current mode of operation. Press the corresponding softkey button under the choice you wish to select. (**Note:** If no word appears above a particular button, this indicates it has no function in that particular mode of operation.)
2	The Printer has another type of button on its control pad called Scroll buttons. These buttons are located just to the right of the LCD display. Use these buttons to scroll through the help text, to navigate through the Printer's menu and to adjust certain Printer settings. (**Note:** The Printer will indicate when the scroll buttons are active by displaying a symbol on the right-hand side of the LCD display. If scrolling through a list, this symbol will change if you have reached the bottom of the list or if you have reached the top.)
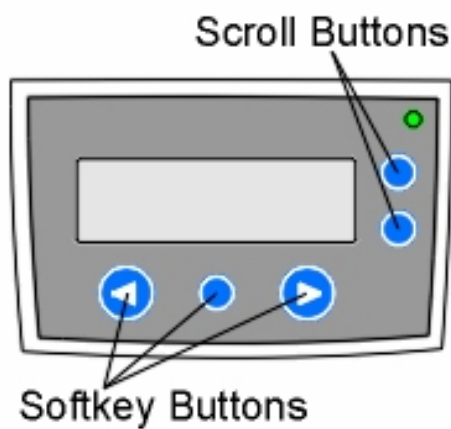
Accessing the Menu Option Structure Tree

When the Printer is powered on and sitting idle, a **MENU** option appears above the center softkey button. Use this menu option to access several test, setup and reporting functions. Refer to the Menu Option Structure Tree for all available menu options.

Selecting from the Menu Option Structure Tree (displayed, below)

Part 1

See the next page. Please review the display at 150% or 200%.

Print Test Image	→	Gray/ Align YMC YMCK Card Test YMC Color Bars Magnetic Test Standard Resin YMC Gray Card YMC Blue Card Printer Settings
	Lamination →	Yes / No
	Resin on Back →	Yes / No

Setup Printer

Print Settings

Image Darkness	→	-25 min +25 max Current Value X
Resin Heat	→	-25 min +25 min Current Value X
Print Top of Form	→	-99 min +99 min Current Value X
Print End of Form	→	-99 min +99 min Current Value X
Print Left of Form	→	-99 min +99 min Current Value X
Ribbon Tension	→	-50 min +50 max Current Value X
Ribbon Pre Tension	→	-50 min +50 max Current Value X
Head Resistance		2400 min 3600 max Current Value X
White Level	→	0 min 25 max Current Value X

Lam Settings

Lam Temp	→	-25 min +25 max Current Value X
Lam TOF	→	-99 min +99 max Current Value X
Lam EOF	→	-99 min +99 max Current Value X
Lam Flip Offset	→	-25 min +25 max Current Value X
Lam Invert Offset	→	-25 min +25 max Current Value X
Sensor Manual	→	-99 min +99 max Current Value X
Sensor Automatic		

Encoder Settings

Magnetics	→	None / Yes
E-Card Docks	→	None / Yes
Contact	→	None / Yes
HID Prox	→	None / Yes
IClass	→	None / Yes
Mifare	→	None / Yes
Magnetic TOF	→	-99 min +99 max Current Value X
Mag Verify	→	On / Off

Hopper Settings

Card Sensor	→	On / Off
Exception Feed	→	On / Off

Flipper Settings

Print Flip Level	→	-25 min +25 max Current Value X
Print Flip Angle	→	-25 min +25 max Current Value X
Encoder Flip Angle	→	-25 min +25 max Current Value X

LCD Settings

Brightness	→	-5 min +5 max Current Value X
Contrast	→	-5 min +5 max Current Value X

MENU →

Accessing the Menu Option Structure Tree (continued)

Part 2

See the next page. Please review the display at 150% or 200%.

Continued from the
previous page

MENU

Setup Printer

Diagnostics
- Prn Head Up/Down
- Flipper Home
- Print Ribbon Unit
- Switch Hoppers
- Roll Print Platen

Sensor Calibration
- Cal Ribbon Sensor
- Cal Hopper Sensor
- Adjust Ribbon Sensor
- Read Ribbon Sensor
- Cal Lam Sensor

-5 min   +500 max
Current Value X

Restore Settings

System Info

Installed Options

Lamination	Yes / No
Flipper	Yes / No
Magnetics	Yes / No
Ethernet	Yes / No
SecureMark	Yes / No
E-Card Dock	Yes / No
Contact Smart	Yes / No
HID Prox	Yes / No
IClass	Yes / No
MIFARE	Yes / No

Show S/N
PCB Serial Number
[Mxxxxxxx]

Show Card Count
Card Counts
[CC: xxxx]
PC: xxxxx
LC: xxx
TC: x

Report Supplies
- Print Ribbon Info
  Print Ribbon
  [Type: xxxxx]
  P/N: xxxxx
- Overlaminate info
  Overlaminate
  [Type: xxxxx]
  P/N: xxxxx

Firmware Info
- Printer Firmware
  Printer Firmware
  [00.00.00]
  Month/Day/Year
- Boot Ldr Firmware
  BootLDR Firmware
  [00.00.00]
  Month/Day/Year
- Lam Firmware
  Lam Firmware
  [00.00.00]

Network Info
DHCP Enabled/Disabled
IP: 0.0.0.0
GW: 0.0.0.0
SN: 0.0.0.0
Save Addresses
Reset Passwords
Mac Address
00:00:00:00:80
ANEG: Auto/Full/Half

System Upgrade
System Upgrade
Are you sure you
Want to Continue?
Yes   No

Restarting System

System Upgrade
Start or Cancel

Print TOF and Print EOF Alignment Procedures

The Print TOF and Print EOF adjustment procedures must be performed as a single alignment process. The goal of these procedures is to align the printed image to precisely line up with the edges of the card as shown below. Notice that when aligned properly, the test print's Alignment Arrows will fall just inside the edges of the card.

This information pertains to the two procedures on the next page:

- **Alignment Test Image:** The alignment test image is designed for setting these parameters. Be sure to run this test after each adjustment. Run the Alignment Test Image by selecting the following options: **MENU**, **Print Test Image** and **Gray/Align YMC/K**

- **Value and Settings Changes:** Change the settings in the procedures below by choosing the following options: **MENU**, **Setup Printer**, **Print Settings** and the parameter to be changed. Change the value by pressing the appropriate scroll button and press **SELECT** to save the value.
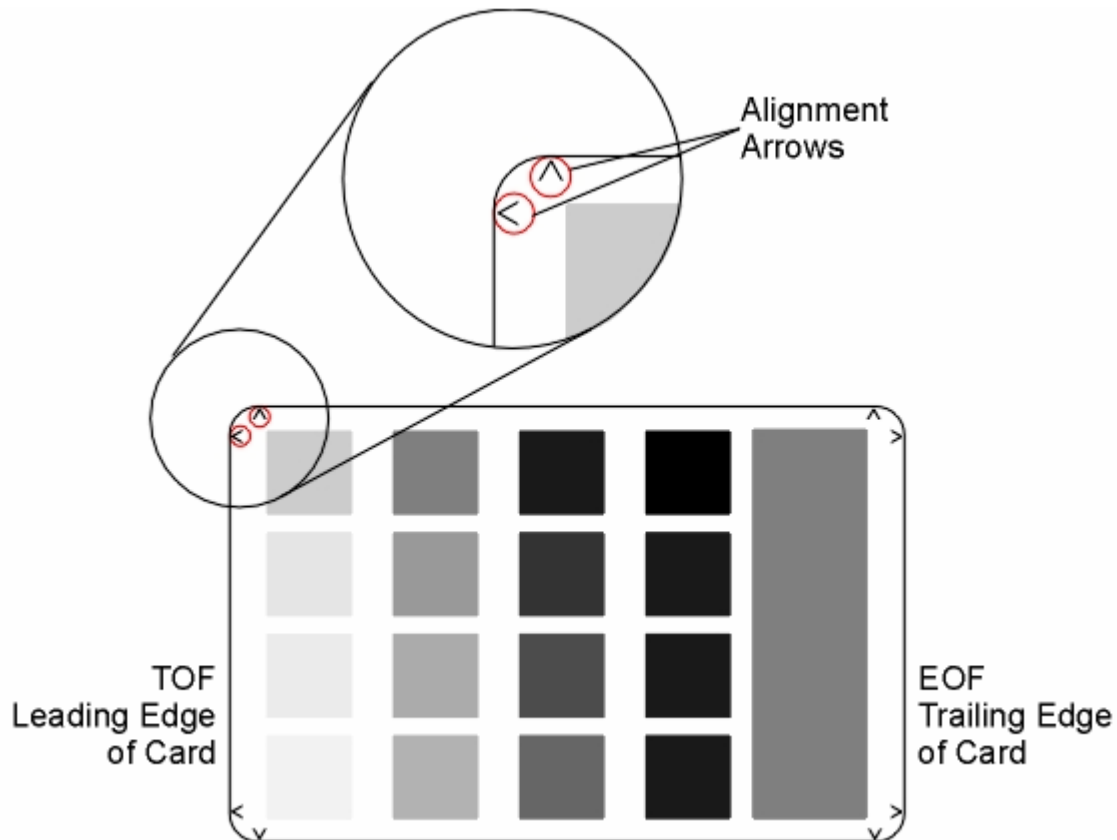
Using the LCD Menu

Step	Procedure
1	To enter the Printer's LCD menu, press the center button labeled **MENU**. (**Note:** The Select Function screen will appear.)
	• Use the scroll buttons to scroll up or down the list of menu options. (**Note:** Brackets will appear on either side of the active menu option.)
	• Press the **SELECT** button to enter or select the desired option.

Printing the Self-test

Use this option to print a variety of preset test images that can be helpful in ensuring your Printer is functioning properly.

Once the print Ribbon and cards are installed, a self-test should be performed to check for proper operation of the Printer.

The standard self-test function requires only that a full-color print Ribbon and at least one card be installed. (**Note:** The Printer will begin printing this image as soon as the image has finished processing.)

Step	Procedure
1	When the Printer is powered ON and is sitting idle, its READY screen will display on the LCD. Press the **MENU** button to enter the MAIN **MENU** screen.
2	Press the **SELECT** button to enter the PRINT TEST IMAGE menu.
3	Use the scroll buttons to scroll to the type of self-test you would like the Printer to perform. • Note the name of each self-test indicates the Ribbon panels required in order for the self-test to print. For example, the Color/Resin YMCK self-test can be printed with either a YMCKO or YMCKOK full-color print Ribbon. • Press the **SELECT** button to begin printing. The self-test print will begin as soon as the test image is processed.

Reviewing the Gray/Align YMC/K Self-Test

Reviewing the Color/Resin YMCK Self-Test

Step	Procedure
1	Use this card to determine Image Placement and confirm that (a) the image colors are properly reproduced and (b) the Resin Panel is printing properly. (**Note:** The Image consists of twelve spot colors, YMC and RGB, as well as gray density bars and thin resin lines.)

Reviewing the Card Count YMC Self-Test

Step	Procedure
1	Use this card to view Printer settings and counts for Card Count (CC) and Pass Count (PC).
	• The Card Count is the total number of cards the Printer has produced. Pass Count is the total number of print passes made by the Printhead. (**Note:** A pass is measured each time a single Ribbon panel is printed or passes beneath the Printhead.)

Image Darkness:0 [0]
Resin Heat Adj:0 [0]
Print Top Of Form:0 [0]
Print End Of Form:0 [0]
Print Left Of Form:0 [0]
Mag Top Of Form:0 [0]
Ribbon Tension:0 [0]
Print Flip Level:-5 [0]
Print Flip Angle:-8 [0]
Encoder Flip Angle:0 [0]
Model:DTC550
S/N:M0000029
FW Rev: MVT:18 Jun 24 2005
Head Resistance:3200 [3000]
Ribbon Calibration:155 [0]
Ribbon Pretension:0 [0]
Misc Flags:34312
Card Count:2502
Pass Count:4005
Card Cleaning Count:3000

Reviewing the Standard Resin Self-Test

Step	Procedure
1	Print this card with any resin Ribbon. However, it will work best with a standard resin black Ribbon.
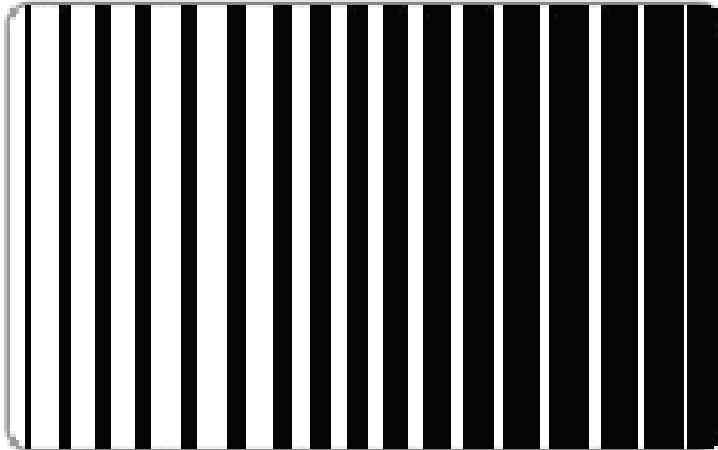
Using the Magnetic Test option (only with Magnetic Encoding Module)

Use this option only if Magnetic Encoding Module is installed in your Printer.

Step	Procedure
1	Select this option to test the module. (**Note:** This test will not print on a card, but will simply feed, encode and eject a blank card.)
	Be sure to have HI-CO Magnetic Stripe cards installed in your Printer when running this test.

Setting up the Printer

In most cases, these settings should only be modified by qualified service personnel.

- If adjustment is necessary, refer to trained Service personnel who have access to the DTC550 User Guide.

- If you would like to make small adjustments to Print TOF/EOF (offset) or Image Darkness, first try making these changes through the Printer driver's Image Position and Image Color controls prior to changing the internal Printer settings.

 See three cautions below:

- **Caution #1:** These settings are optimized at the factory and will rarely need to be changed.

- **Caution #2:** Do not alter these settings unless it is absolutely necessary.

- **Caution #3:** If you do need to change these settings, it is important to note that the factory settings for each specific Printer are recorded on a label inside the main enclosure of the Printer. This label can be seen by opening the Top Cover. There is a RESTORE SETTINGS option in the LCD that allows you to do this automatically.

Use this option to change the Printer's internal settings for controlling the procedures in this section.

Adjusting the Print TOF and Print EOF

Step	Procedure
1	Before starting the alignment procedures, you must first establish a baseline from which to start your adjustments.
	To do this, select **MENU**, **Setup Printer**, **Print Settings** and set these starting parameters in each of the following Setup Printer options: Print TOF: +30 and Print EOF: -30.

Setting the Print TOF

Step	Procedure
1	Choose **MENU**, **Print Test Image** and **Gray/Align YMC/K** to print a test card.
2	Select **MENU**, **Setup Printer**, **Print Settings** and **Print TOF**.
3	Record the Print TOF value on the test card (you just printed).
4	Examine the test card. (**Note:** When centered properly, the Alignment Arrows should appear just at the edge of the card's leading edge. If your test card does not look like the sample shown below, go to Step 5 to adjust the Print TOF.)

Setting the Print TOF (continued)

Step	Procedure
5	Decrease the Print TOF value to move the printed image more toward the leading edge of the card. **OR** Increase the Print TOF value to move the printed image more toward the trailing edge of the card. • The numbers being entered for the settings are in ½ pixels. • The number of pixels is equal to the measurement in inches times 600 or the measurement in mm times 23.6. (For example, 0.100 inches or 2.54mm equals 60 increments on the LCD.)
6	Press **DONE** to save the value and print another test card. Press **YES** when asked to save the change.
7	Repeat Steps 1 to 6 until the test image is correctly positioned as shown above.
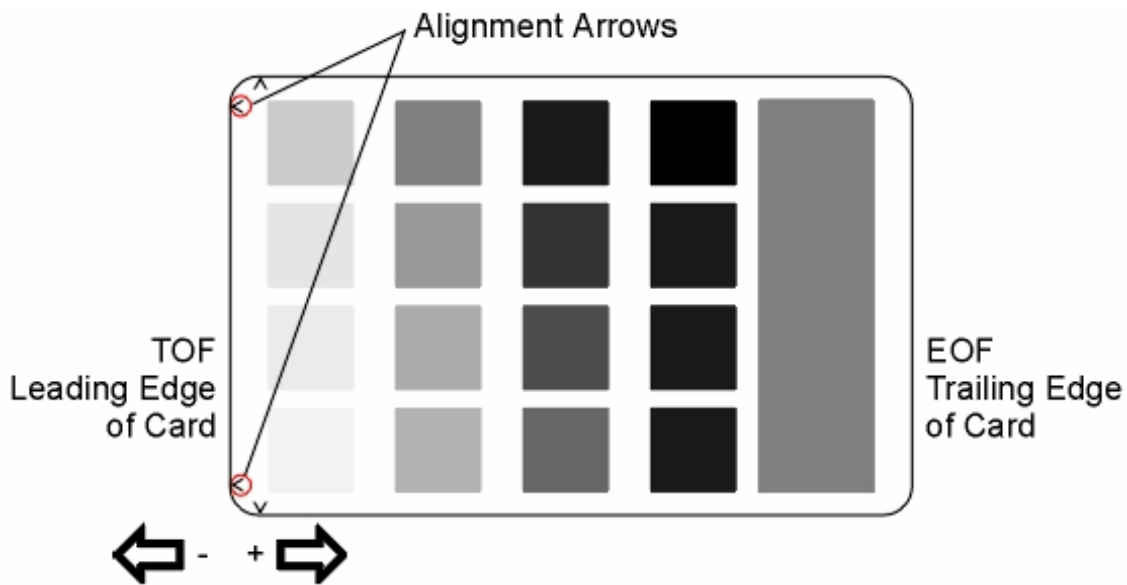
Setting the Print EOF

This procedure positions the printed image correctly on the trailing edge of the card.

Step	Procedure
1	Choose **MENU**, **Print Test Image** and **Gray/Align YMC/K** to print a test card.
2	Select **MENU**, **Setup Printer**, **Print Settings** and **Print EOF**.
3	Record the Print EOF value on the test card you just printed.
4	a. Examine the test card. b. If the test card does not look like the sample shown below, go to Print EOF.
5	Decrease the Print EOF value to move the printed image more toward the leading edge of the card. **OR** Increase the Print EOF value to move the printed image more toward the trailing edge of the card. • The numbers being entered for the settings are in ½ pixels. • The number of pixels is equal to the measurement in inches times 600 or the measurement in mm times 23.6. (For example, 0.100 inches or 2.54mm equals 60 increments on the LCD.)

Setting the Print EOF (continued)

Step	Procedure
6	Press **DONE** to save the value. Press **YES** when asked to save the change. Print a test card as described in Step 1.
7	Repeat Steps 1 to 6 (above) until the Test Image is correctly positioned.
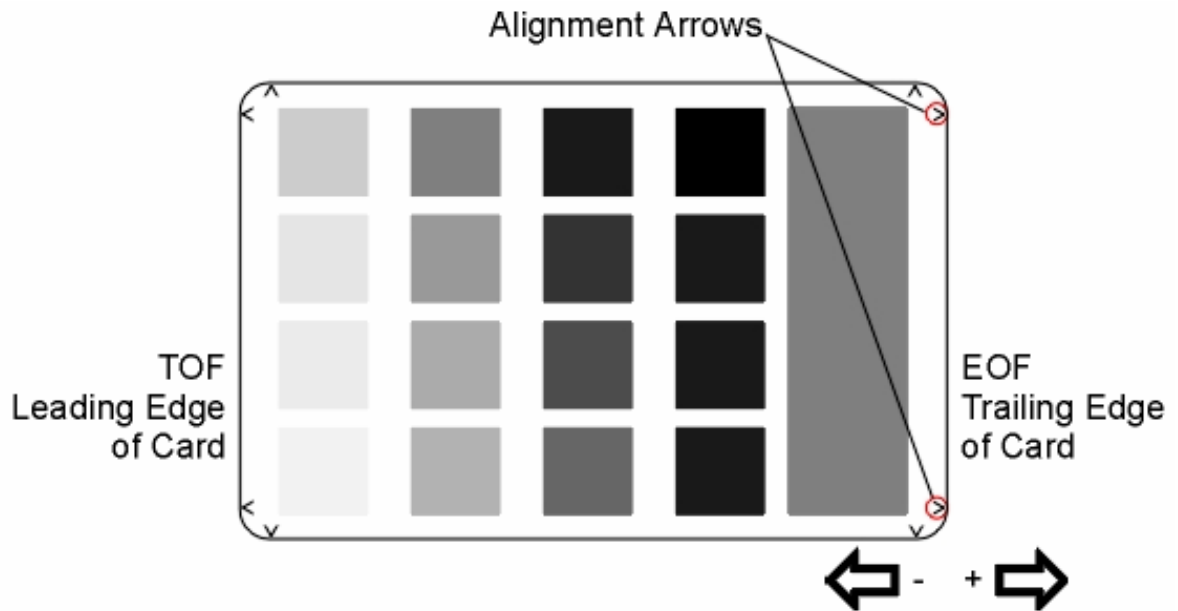
Adjusting the Ribbon Tension

Step	Procedure
1	Choose **MENU**, **Print Test Image** and **Gray/Align YMC/K** to print a test card.
2	Select **MENU**, **Setup Printer**, **Print Settings** and **Ribbon Tension**.
3	Record the Ribbon Tension value on the test card (you just printed).
4	Examine the test card. (**Note:** When centered properly, the Alignment Arrows should appear just at the edge of the card's Trailing edge. If the test card does not look like the sample shown below, go to step 5 to adjust the Ribbon Tension.)
5	Decrease the Ribbon Tension value to move the end of the image toward the leading edge of the card if the alignment arrows are not printing on the card. **OR** Increase the Ribbon Tension value to move the end of the image toward the trailing edge of the card. ⚠ **Caution:** Be sure to make adjustments in small increments of ±2, to avoid over-adjusting this setting. For example, the Ribbon may jam or break if the setting is set too high.

Adjusting the Ribbon Tension (continued)

Step	Procedure
6	Press **DONE** to save the value and print another test card. Press **YES** when asked to save the change.
7	Repeat Steps 1 to 6 until the test image is correctly positioned. See the previous page.
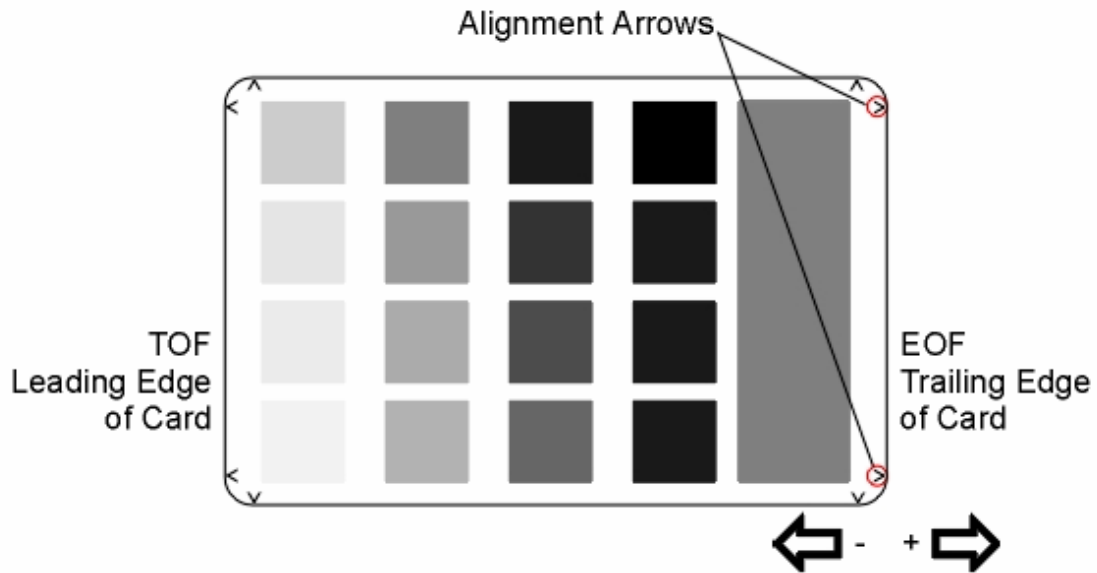
Setting the Printhead Resistance

Step	Procedure
1	Locate the Printhead Setting Number on the bottom of the Printhead. The number reads R=XXXX.
2	Select **MENU**, Setup Printer, Print Settings and Printhead Resistance. Enter the given value for the Printhead.
3	Press the **DONE** button to save the value. Press **YES** when asked to save the change.

Adjusting the Image Darkness

Step	Procedure
1	Choose **MENU**, Print Test Image and Gray/Align YMC/K to print a test card.
2	Select **MENU**, Setup Printer, Print Settings and Image Darkness.
3	Record the Image Darkness value on the test card last printed.
4	Examine the test card.
5	Adjust the Image Darkness value if needed. Enter a negative value to lighten the printed image. **OR** Input a positive value to darken the printed image. ⚠ **Caution:** Be sure to make adjustments in small increments of ± 4, to avoid over-adjusting this setting. The Ribbon can jam or break if the setting is too high.
6	Press **DONE** to save the value. Press **YES** when asked to save the change.
7	Print a test card as described in Step 1.
8	Repeat Steps 1 to 7 until the image darkness is correct.

Changing the Encoder Settings

Use this option to choose the settings that coincide with the Printer's current encoding configuration. Use the scroll buttons to select the option (you want to change).

Step	Procedure
1	Select **MENU**, Setup Printer and Encoder Settings.
2	Change the desired option as needed. • **Mag:** Press the **CHANGE** button to select **None** or **Yes** according to whether or not a Magnetic Stripe Encoder is installed. • **Contact:** Press the **CHANGE** button to select **None** or **Yes** according to whether or not a Smart Card Encoder is installed. • **Prox:** Press the **CHANGE** button to select **None** or **Yes** according to whether or not a Prox Card Encoder is installed.
3	Press **EXIT** to save the value.

Adjusting the Magnetic TOF

Use this setting to position the magnetic data at the correct distance from the leading edge of the card.

- The Magnetic TOF is the distance from the edge of the card to the Start Sentinel (SS).

- The Start Sentinel marks the beginning of the encoded data. (**Note:** According to the magnetic recording standard (ISO 7811), the correct Start Sentinel distance is 0.293 inches ± 0.020 inches (7.44 mm ± 0.51 mm) from the leading edge of the card.)

Step	Procedure
1	From the application program, print and encode a test card. • Measure this distance by making the data visible using a magnetic viewer or developer solution. • Alternatively, use a Magnetic Card Analyzer to measure the Start Sentinel distance.
2	• If the Start Sentinel is too far from the leading edge of the card, reduce (or make negative) the Magnetic TOF. **OR** • If the Start Sentinel is too close to the leading edge of the card, increase (or make positive) the Magnetic TOF.
3	Select **MENU**, **Setup Printer**, **Encoder Settings** and **Magnetic TOF**.
4	Record the **Magnetic TOF** value on the test card last printed.

Setting the Magnetic TOF (continued)

Step	Procedure
5	Enter a **Magnetic TOF** value appropriate for the direction for the magnetic data to move. • As a rule, a shift of ±27 equals about .0625" (1/16") or 1.6mm. (**Note:** Keep this in mind when adjusting this option to avoid over-adjusting.) • If the negative value is set too high, for example, the Printer may start encoding before the card's Magnetic Stripe reaches the encoding head.
6	Repeat steps 1 to 5 until the Magnetic TOF is correct.
7	Press **DONE** to save the value. Press **YES** when asked to save the change.

.293" / 7.44mm

Magnetic Track Data

Trailing Edge
of Card

Leading Edge
of Card

+   -

Disabling the Mag Verify process on the DTC550 Printer

The LCD tree shows a method to disable verification of the magnetic encoding on all encoded cards. See Selecting from the Menu Option Structure Tree.

Caution: This setting should <u>not</u> be used under normal circumstances (since this setting will discontinue any indication of success or failure for the Magnetic Encoding). Contact Fargo Technical Support to use this control.

Adjusting the White Level

Use this option to reduce any noticeable image transfer in the white areas of the card image.

Step	Procedure
1	Select **MENU**, **Setup Printer**, **Print Settings** and **White Level**.
2	Press the UP arrow to increase this setting, which will reduce the background darkness.
3	Press the DOWN arrow to decrease this setting, which will increase the background detail.
4	• Press the **DONE** button to save the value. • Press **YES** when asked to save the change.

Changing the Hopper Settings

Use this option to choose settings related to your Printer's Card Input Hopper. Use the scroll buttons to select the option to change.

Step	Procedure
1	Select **MENU**, Setup Printer and Hopper Settings.
2	Change the desired option as needed for Card Sensor. Press the **SELECT** button to turn the Hopper's Card Sensor On or Off. • **Note #1:** The default setting is for this Sensor to be turned ON. This Sensor only needs to be turned OFF if you are using blank cards with pre-printed backs, non-white, dark colored blank cards or with cards that have a Magnetic Stripe in the non-ISO standard position. • **Note #2:** In some cases, these types of cards cannot be seen by the Sensor. This leads the Printer to assume that the Card Input Hopper is empty and that cards will not feed. Turn the Sensor to OFF to correct this problem.
3	Change the desired option as needed for Exception Feed. Press the **CHANGE** button to turn the Hopper's Exception Card Feed feature On or Off. • **Note #1:** The default setting is for this feature to be turned OFF. In this case, the Card Input Hopper rests in the DOWN position when the Printer is sitting idle as this promotes easier card loading. • **Note #2:** If you would like to use the exception feed feature, change this setting to ON. This will cause the Card Input Hopper to rest in the UP position, allowing the necessary space (below the Hopper) for exception cards to be inserted. The only caution when using this feature is that cards must be loaded properly.

Adjusting the Flipper Offset

Step	Procedure
1	Select **MENU**, Setup Printer and Flipper Settings.
2	Select Print Flip Level, Print Flip Angle or Encoder Angle. • Use the **Print Flip Level** option to set the position of the Flipper so it is level with the card path. • Use the **Print Flip Angle** option to set the position of the Flipper to ensure it is level when the card is flipped. • Use the **Encoder Flip Angle** option to fine tune the position of the Flipper in relation to the Printer's built-in Encoder if your Printer is equipped with this option.
3	Change these settings in small increments if the card is not feeding correctly off the Card Flipper onto the card path or into the Encoder. • Decrease the setting to lower the lip of the Flipper. • Increase the setting to raise it.
4	Press the **DONE** button to save the value. Press **YES** when asked to save the change.

Viewing the Report Supplies

Step	Procedure
1	When using monochrome resin-only print Ribbons, use this option to view all of the following information about the print Ribbon installed in the Printer.
2	When using Dye-Sublimation print Ribbons, it is possible to view only the **Type**, Part Number fields and Prints Left. Select the Menu > System Info > Report Supplies. • **Type:** This displays the name or type of print Ribbon installed. • **Prints Left:** This displays the approximate number of prints remaining on your Ribbon. This information is helpful for determining about how many cards you can produce before the next Ribbon change. (**Note: Prints Left** is displayed as a percentage remaining for monochrome resin-only Ribbons.) • **Part Number:** This displays the specific part number for your Ribbon which can be helpful when re-ordering.

Showing the Card Count

Step	Procedure
1	Choose **SHOW CARD COUNT** to view counts for **Card Count (CC)** and **Pass Count (PC)**. **OR** Select the Menu > System Info > Show Card Count. • Card Count is the total number of cards the Printer has produced. • Pass Count is the total number of print passes made by the Printhead. (**Note:** A pass is measured each time a single Ribbon panel is printed or passes beneath the Printhead.)

Selecting the System Upgrade (Firmware Upgrade)

This option is used to upgrade the Printer Firmware.

Step	Procedure
1	Perform the upgrade by selecting Menu and then **SYSTEM UPGRADE**. The LCD will prompt: **Are you sure you want to continue?**
2	Select **YES** to begin the System Upgrade. **OR** Select **NO** to return to the **SELECT** FUNCTION screen.

Section 12: Fargo Technical Support

The purpose of this section to provide the User with an efficient, step-by-step procedure to be used when contacting Fargo Technical Support as needed for the DTC550 series Card Printer.

Contacting Fargo Technical Support

Step	Procedure
1	Read the suggested Sections of the Technical Service and Maintenance Manual in order to troubleshoot this Printer. As needed, contact the Fargo Technical Support Group for additional, technical assistance: • by phone at (952) 941-0050. **OR** • by fax at (952) 941-1852. **OR** Contact Fargo Technical Support via the Web: www.fargo.com
2	Position a phone near the Printer and Computer so Fargo technicians can help troubleshoot the Printer(s).
3	Please have a self-test and a sample card ready when calling Fargo Technical Support.

Reading the Serial Numbers on a Fargo Printer

The purpose of this section is to provide updated instructions for reading serial numbers on a Fargo Printer.

Finding out when a Fargo Card Printer was manufactured

You can determine when your Card Printer was manufactured by reading directly from the serial number (affixed to your Card Printer).

1. **Year Built:** The first two digits in the serial number indicate the year that the Printer was manufactured.

2. **Week Built:** The second two digits indicate the week.

3. **Numeric Order:** The last four digits indicate the sequence number for the numeric order in which the Printers were built.

Reviewing Example No. 1: Serial Number 80453289

1. **80453289:** The first two digits in the serial number indicate the year the Printer was built (e.g., the digits 80 indicate the year 1998).

2. **80453289:** The third and fourth digits in the serial number indicate the week the Printer was built (e.g., the digits 45 indicate week 45 of that year).

3. **80453289:** The last four digits indicate the sequence number for the numeric order in which the Printers were built.

Reviewing Example No. 2: Serial Number A1280224

1. **A1280224:** The first two digits in the serial number indicate the year the Printer was built (e.g., the letter and digit A1 indicate the year 2001).

2. **A1280224:** The third and fourth digits in the serial number indicate the week the Printer was built (e.g., the digits 28 indicate week 28 of that year).

3. **A1280224:** The last four digits indicate the sequence number for the numeric order in which the Printers were built.

Section 13: Reviewing Spare Parts Lists

Reviewing the Spare Parts List for DTC550 Series Card Printer

DTC550 Series ID Card Printer
Recommended Spare Parts List
Effective Date: May 2005
For current pricing see http://www.fargopartner.com/support_services/

Reviewing the Spare Parts List for the DTC550 LAM

DTC550 LAM Spare Parts List
Recommended Spare Parts List
Effective Date: May 2005
For current pricing see http://www.fargopartner.com/support_services/

Section 14: Glossary of Terms

Term	Definition
24-bit color	A color depth for an image that uses 8 bits for each color (red, blue, green) combining the possible 256 shades to provide a color depth of 16.7 million colors.
AC - Alternating Current	An electrical current that reverses its direction at regular intervals (typically 50 - 60 times a second).
Access Card	The card for the SmartGuard security system. A cared with embedded electronics that can be removed from the Printer, locking the Printer and preventing unauthorized use.
Adhesion	The firm attachment of a material to the card surface, confirmed by using the Tape Test -pulling an applied piece of adhesive tape (Scotch 600 or equivelent) off the card at 1 sec/in to see if any material is pulled off by the tape.
Algebraic	A type of color matching that takes the colors value of pixels and applies them to an algebraic equation to adjust the levels of hue, saturation and brightness.
ANSI (American National Standards Institute)	The United States Representative to ISO, providing standardization for U.S. Manufactures prior or in addition, to acceptance by ISO.
AS400	An IBM operating system running on a main frame. DTC550 Fargo Printers are built with fonts saved in the Printer memory so users of AS400 can write escape codes and print from the Printer.
ASCII (American Standard Code for Information Interchange)	A standard for processing information in computer processors. An 8-bit character set of 255 decimal numbers, each assigned to numbers, letters, punctuation and special characters.
AT	Refers to an IBM standard in early computing with regard to the chipset and function of the Parallel Port, set up in the BIOS.
B (Black)	Black Dye-Sublimation panels are distinguished from the black panel using resin by the use of B for Dye-Sublimation black. K denotes resin black.

Continued on the next page

Glossary of Terms (continued)

Term	Definition
Barcodes	A series of alternating black and white stripes, of varying widths (each character denoted by a set number and width of black stripes) that allows characters to be optically read by a computer.
batch print	A file sent down from the computer that contains commands to print a number of cards, sequentially.
Battery Back-up	A power supply that can keep AC electronic equipment running for a short time when power is interrupted, allowing enough time for the user to save data and close the machine properly.
Bi-directional	A communication standard that allows two-way data transfer between PC and Printer.
BIOS (Basic Input/Output System)	The part of the operating system in a computer that handles communication between the PC mainboard and its peripherals. Typically residing in chip-based, non-volatile memory.
Bit	An abbreviation for binary digital. Each bit is an element of information that can have two states: off and on.
Bit map	A graphic produced by an array of pixel elements with the color hue, brightness and saturation information stored in bits. The more bits, the more values and thus the greater variety. 1 bit color is black and white, 8-bit color produces 256 shades of gray and 24-bit color can produce 16.7 million colors.
Board	A term used for the circuit board, a hard mylar plate made of many layers that hold the electronic circuit elements and wire traces.
Boot-up	A series of operations that the Printer runs through when power is first applied including a series of initializing, status testing and a diagnostics program to ensure a ready state.
Buffer	A block of memory, in the Printer or PC, that holds print files until the processor is ready to print them.
Cable	A set of conductors wrapped together and often concealed within insulation, used for signal transfer from one device to another, with connectors on either end that allows the cable to be removed.

Glossary of Terms (continued)

Term	Definition
Cache	A type of memory Buffer to store data temporarily, used to hold information that is most often exchanged between contRoller and peripheral, to expedite data transfer.
Calibrating	A procedure to adjust an electro-mechanical device so that it operates within established parameters.
Cleaning Roller	High tack Rollers positioned just after the input Hopper to lift debris off the card as it rolls over it. A clean card surface improves print quality.
CD (Compact Disc)	A 4.75 inch (12 cm) optical disk that stores data, written too and read from using a laser.
DMA (Direct Memory Access)	Channels designated within the Windows operating environment that are used for dedicated high-speed communication between the PC and the Printer port.
Centronics	A parallel communications interface that has become the standard for connections to Printers, designed by the Centronics Corp.
Coercivity	The property of a Magnetic Stripe that indicates the amount of force needed before magnetic saturation, measured in Oersted (Oe).
Color matching	The process of adjusting color hue, saturation and brightness, to duplicate a desired color. An algorithm within the driver, which adjusts the color balance and provides output with the desired color, automates this process.
Compressed air	Air stored in a tank or produced by an aerosol can, delivered by through nozzle at a high speed. Used in the Printer to blow out debris.
Contrast	The degree of difference in luminance of two areas.
Control panel	The panel on the Printer from which the user can control Printer functions. The Printer is usually composed of the control buttons and an LED or LCD display.

Continued on the next page

Glossary of Terms (continued)

Term	Definition
CR-79	A card dimension standard of 2.0625" L X 3.3125" W (+/-0.002" W, +/-0.005" L) or 52.400 X 84.150 mm.
CR-80	A card dimension standard of 2.125" X 3.370" (+/-0.002" W, +/-0.005" L) or 53.975 X 85.598 mm.
CR-90	A card dimension standard of 2.375" X 3.625" (+/-0.002" W, +/-0.005" L) or 60.325 X 92.075 mm.
CR-100	A card dimension standard of 2.625" X 3.875" (+/-0.002" W, +/-0.005" L) or 66.675 X 98.425 mm.
Cursor	The marker in the LCD display window that indicates the active selection.
Darkness	A reference to color saturation.
DB-9	A 9 pin, D-shaped connector, typically used in serial port interfaces.
DC Motor	A Motor that works on DC with continuous motion.
DC (Direct Current)	Electronic flow that is unidirectional, flowing from the positive (+) to negative (-) of a power source.
Default	A setting or parameter that comes preset from the factory in driver or Firmware. Performance parameters can be customized in the driver, but can be reset to the factory values usually through the push of the default button. The default values for the Firmware are usually denoted on a label attached to the Printer.
Defrag	Abbreviation for defragmenting. The process of reformatting data on a hard drive so that it uses space more efficiently.
DIP switches (Dual In-line Package Switches)	A small array of mechanical switches installed on the board that can be configured to change Printer operations including providing a variety of self-tests.

Glossary of Terms (continued)

Term	Definition
Direct-to-Card (DTC) Printing	The Direct-to-Card printing process prints digital images directly onto any plastic card with a smooth, clean, glossy PVC surface.
Dither	A system of distributing dots to control the hue, brightness and /or saturation. In monochrome printing, this controls the brightness. In color printing, Dithering can supply a larger color gamut than non-Dithering. In the driver, Dither modes can be selected to provide better image quality depending on the type of image to be printed.
Dongle	A peripheral that attaches to a port to act as a key for an installed application. The PC is able to run that application only when the dongle is installed. Typically, it works as a pass-through device and is connected in serial to the parallel cable.
Dot	The smallest unit of an image that the Printer is able to produce. The smaller the dot, see dot pitch, the sharper the image.
Dot pitch	A measurement of image sharpness denoting the width of the dots that makes up a pixel. The smaller the pitch, the sharper the image.
Download	The transfer of a data file from one device to the other over a network or cable, typically from the Internet to a PC.
DPI (Dot Per Inch)	A measurement of the Printer resolution indicating how many dots a Printer can produce in a linear inch.
DRAM (Dynamic Random Access Memory)	A microchip based volatile memory storage device. The Printer uses this to Buffer a print job, transferred from the PC, until the Printer controller is able to process the packet.
Driver	Software utility installed in Windows, that interfaces an application to rasterize image data and include command codes so the Printer can process the file.
Duplex Printing	Printing on the front and the back of the card.

Glossary of Terms (continued)

Term	Definition
Dwell Time	The speed at which the card moves across the lam Roller, measured in seconds/inch (sec/in). This can be adjusted in the driver to ensure adhesion and card flatness.
Dye Migration	The diffusion of dye out of the card surface and into another receptive surface, such as a vinyl pouch card holder, resulting in a faded image.
Dye-Sublimation	Also called dye diffusion/thermal transfer, it is the process of heating a dye suspended in a cellulous substrate until the dye can flow, diffusing into the dye receptive surface of the card or InTM. This produces the image in the surface of the card.
E-card	An abbreviation for electronic card. A generic term used to reference any card with built-in electronic devices such as Smart Cards or prox cards.
E-card Docking Station	The device in the Printer that accepts Smart Cards with an ISO Smart Card contact Station. This allows the user to write to the Smart Card chip with a standard RS-232 interface in the back of the Printer or with the optional built-in Encoder.
Edge-to-Edge	Refers to the maximum printable area on a card resulting in printed cards with virtually no border.
ECP Mode (Enhanced Capabilities Port Mode)	A type of Parallel Port mode, developed by Microsoft, to increase the port throughput and improve performance.
EE Memory	An abbreviation for EEPROM.
EEPROM (Electrically Erasable Programmable Read Only Memory)	A microchip based non-volatile memory storage device that can be rewritten in the field. The chip can hold new values as the Printer adapts its operational parameters.
Encoder (Smart Card)	An electro-mechanical interface to transfer data from the PC to a chip or Magnetic Stripe built into the card.

Continued on the next page

Glossary of Terms (continued)

Term	Definition
Encoder (wheel)	An electromechanical device, attached to a shaft that detects the change in rotational position, incremented to count ticks per revolution. The Printer's Encoder wheel both detects motion and measures the amount of rotation in the movement of the Ribbon.
Engine	A generic term for a collection of systems and mechanisms that is dedicated to executing a specific function. A Printer that also laminates would have both a print engine and a lamination engine.
EOF (End Of Form)	The trailing edge of the card, detected to indicate when the Printer should stop printing.
EPP (Enhanced Parallel Port)	A type of Parallel Port mode, developed by Intel, to increase the port throughput.
EPROM (Electronically Programmable Read Only Memory)	A microchip based non-volatile memory storage device that cannot be rewritten in the field. Firmware for many Fargo Printers is stored on these chips and so a change of the chip is necessary for an upgrade.
Escape sequence	A string or control character that indicates to the processor that what follows is a command and not data.
ESD (ElectroStatic Discharge)	The discharge of static electricity (high voltage, low current) that can damage electronic devices.
Ethernet	A system of networking a series of computers for the sharing of data or peripherals.
Film	A thin flexible transparent sheet used to carry dye-impregnated material or resin to be transferred to the card.
Firmware	The instruction set, stored in chip memory, inside the Printer that controls functional and operational data. Some models require a chip change for updates; some Firmware can be changed by reprogramming from the PC.

Glossary of Terms (continued)

Term	Definition
Flash Memory	A microchip based non-volatile memory device that holds its data when power is removed. This allows for field reprogramming of the Printer commands, such as Printer Firmware upgrades, without the necessity of changing chips.
Font	A character set similar in style and form. Fonts can be graphical or mathematical constructs, represented by a series of dots or an assembly of curves and lines.
FPGA (Field Programmable Gate Array)	A microchip with configurable logic circuits installed that is programmed to act as the Printer's central processor.
Full bleed	Printing that covers the entire card surface.
Gamma	The degree of contrast of an image or the display of a monitor determined by the slope of a characteristic curve relating optical density to relative log exposure.
Glossy/Matte	A smooth polished surface in comparison to a rougher matte surface. Fargo matte cards have a surface index (Ra) of approximately 65 micro inches while glossy have a Ra = 3.
Glossy PVC	A card made of PVC with a smooth polished surface (Surface roughness of approximately 0 - 10 micro-inches). This is required for direct to card Dye-Sublimation printing.
Graphical Device Interface (GDI)	A Windows standard for protocol between drivers and applications and the Windows interface. An application uses a driver to rasterize the data in the format necessary for the Printer but also for the Windows interface to execute the print commands.
Gray Scale	A graduation through the various brightness levels from white to black.
Halftoning	A process in monochrome printing that simulates continuous tone by using changes to the distribution of single dots. Increasing the number of dots in a given area increases the darkness even though the individual dots stay the same size.

Continued on the next page

Glossary of Terms (continued)

Term	Definition
Hard Drive	A high capacity storage device in a PC consisting of non-removable magnetically encodable platters.
Hardware	Physical components of a system such as the Printer, the PC, the power supply.
HDP (High Definition Printing™)	The High-Definition Printing process prints full-color images onto clear HDP transfer film (InTM). The HDP film is then fused to the card through heat and pressure via a heated Roller. The Printhead is capable of 256 shades with a sharper print and better color match.
Head	Abbreviation for Printhead.
Heat sink	A device used to dissipate heat into the ambient.
Heat Seal	A resinous film transferred by the Printhead onto the back of an HDP intermediate transfer film to facilitate adhesion.
HiCo (High Coercivity)	The Coercivity value of magnetic media between 2500 - 4000 Oe (ISO 7811-6). Fargo's High Coercivity encodes at 2750 Oe.
HTML (HyperText Markup Language)	A standard protocol used to format text files for use in a browser or on the Internet.
HTTP (HyperText Transfer Protocol)	A standard protocol by which computers can transfer data, compatible through multiple platforms.
IC (Integrated Circuit)	An electronic device that contains many individual circuits interconnected and placed within a discrete package.
ID (Identification)	An abbreviation for identification.

Glossary of Terms (continued)

Term	Definition
IEEE 1284 (Institute of Electrical and Electronics Engineers 1284)	A standard method of signaling for a bi-directional parallel interface on personal computers. To ensure proper Printer communications and image output, Fargo recommends a parallel interface cable that complies with this specification.
Image	A collection of pictures or graphical elements that compose the visual features on a card. Also refers to the digital representation.
Input	Any data or material being transferred to the Printer.
Input Hopper	The area of the Printer that stores the blank cards, ready to print.
Intermediate Transfer Media (InTM)	A thin flexible material coated with a resin material into which the dye is transferred from the Ribbon by the Printhead. The film is then transferred to the card surface by the hot lamination Roller.
ISO	For the Greek, "iso", meaning same. Used to represent data from the International Organization for Standardization.
JIS II (Japanese Industrial Standard)	The standard for encoding to a Magnetic Stripe provided by the Japan Standards Association. The single track is as wide as ISO tracks 1 and 2 combined and in the same approximate location as those tracks but on the front of the card. The Coercivity level is 600 Oe.
K Panel	An area of a multicolored Ribbon (e.g., YMCK) that contains black resin for transfer to the card surface. Also used in reference to the application of preference to items printed on the card - those using the black panel in lieu of a process (YMC) black.
Lamination	The application of a film or resinous substance, fused by heat and pressure, to the surface of a card.
LAN (Local Area Network)	An array of several computers connected through a series of data transfer cables for the sharing of data and peripherals.

Glossary of Terms (continued)

Term	Definition
Landscape	A document layout that is viewed with the document's long axis in a horizontal orientation.
LCD (Liquid Crystal Display)	A device that contains a liquid crystal between two pieces of polarized film through which reflected or ambient light can pass. When a current is applied, the liquid's polarity changes and blocks the passage of the light resulting in an opaque area of the display. The areas are arrayed to form characters.
LED (Light Emitting Diode)	A semiconductor that emits light when a current is applied.
Media	A generic reference to anything onto which the Printer can transfer an image including cards, Ribbon and film.
LoCo (Low Coercivity)	The Coercivity value of magnetic media between 250 - 600 Oe (ISO 7811-2). Fargo's Low Coercivity encodes at 300 Oe.
LPT Port (Line Printer Port)	The system abbreviation for a PC's parallel Printer port.
Mag encoding	The process of orienting successive magnetic bits to produce a serial data string.
Mag stripe	An area of the card with an applied or impregnated ferrous material that can hold encoded data through a series of prescribed polarity changes.
Mag Track	An area of a magnetic strip running the length of the card, with a given width and position, constitutes a track. This is the area dedicated to one data string, restricted to specific rules of format. ISO standards specify three Magnetic Tracks on the back of a card. The JIS standard specifies one track on the front.
Mag Verify	A process to confirm proper magnetic encoding. After encoding, the information is read off back and compared to the intended string.

Glossary of Terms (continued)

Term	Definition
MB (Megabyte)	A unit of storage that equals 1,048,576 bytes.
Memory	A generic term for any device that stores digital information using magnetic media or digital chip storage device.
Menu	A descriptive list of headings above nested functions that aid navigation to a specific operation. These are found in computer applications, with the heading at the top of a subset of like functions. They are also on the Printer LCD control panel.
Monochrome	An image composed of a single color.
Network	A series of computers connected by data transfer cable for communication and sharing of functions and peripherals.
Oersted (Oe)	The unit of magnetic field strength named after Dutch scientist Hans Christian Oersted who found the science of electromagnetism.
Offset	The prescribed distance between a reference point and the target point. The offset in card printing can refer to the position of the image relative to the leading edge or the distance of the start of magnetic encoding from the leading edge of the card.
O-Ring	A rubber ring used as a belt in several media driving applications.
OS (Operating System)	The instructions installed on the computer hard drive that run the computer's operations and applications. The driver used for any given OS will differ from other platforms. The correct version driver must be loaded for the Printer to interface with the OS and the application to print.
Output	Any product of the Printer including card image, encoded data and lamination.
Output Hopper	The portion of the Printer that accepts the completed cards.
Overlay	A resin-like substance that is transferred by the Printhead to the card surface over a printed dye image to prevent image fading, increase abrasion durability and prevent dye migration.

Glossary of Terms (continued)

Term	Definition
Oversized Cards	Oversized cards are used for more efficient visual identification and are available in many non-standard sizes. The most popular sizes are CR-90 (3.63" x 2.37"/92mm x 60mm) and CR-100 (3.88" x 2.63"/98.5mm x 67mm).
Overlaminate	Protective clear or holographic material to increase security and durability applied over the printed surface with a hot Roller.
Parallel	A method of data transfer in which serial data is divided into sections and sent simultaneously down parallel wires to speed transfer rate.
Parallel Port	A communication socket on a device that allows for parallel data transfer.
PC (Personal Computer)	A stand-alone, programmable, electronic device that can store, retrieve and process data consisting of a CPU, mouse, keyboard and monitor.
PCB (Printed Circuit Board)	A solid, multi-layered plate on which electronic elements are attached, either through the board or on the surface.
Peel	The removal of a film or Ribbon from a card surface (at a perpendicular angle) to ensure proper transfer, then separation, from the card surface.
Peel-Off	A bar on the lamination section that holds the film at the correct position and provides proper peel angle.
Peripheral	Any device that is attached externally to a PC. These often share the same data cable or port as a Printer and can be the source of communication problems.

Continued on the next page

Glossary of Terms (continued)

Term	Definition
Pinch Roller	A free spinning (non-driven) Roller that presses the card against the drive Roller, on the opposite side, to ensure an adequate normal force for proper traction.
Pixel	Short for picture element. The smallest element of a graphic.
Platen	The hard rubber Roller that drives the media through the Printer, providing support to the backside of the media during printing or laminating.
PET	Abbreviation for polyester terephthalate, often called polyester. Sheets of PET are laminated with sheets of PVC to produce thermal acceptance composite cards.
Port	A communication interface, serial or parallel, used for the transference of data.
PolyGuard Overlaminate	A 1-mil or .6-mil thick polyester material that enhances card security and durability applied over the printed surface with a hot Roller. Available as clear or with embedded holographic-type security images.
Portrait	A document layout that is viewed with the document's long axis in a vertical orientation.
Potentiometer	An electronic resistor with a variable resistance value that can be mechanically set.
Print Driver	A software utility that serves as an interface between the Printer and the Windows GDI (Graphical Device Interface), making the Printer's functions available through the software application. It also provides the format information for the rasterizing of the print file including any necessary escape or function commands.
Print Job	A file of one or more cards for the Printer to print, including image data and Printer functions, transmitted through the parallel interface and at times stored temporarily in the print Buffer and spooler.
Print Server	A device used to connect and control a Printer on a network.

Continued on the next page

Glossary of Terms (continued)

Term	Definition
Printhead	The device on a Printer that produces the image on the media.
PVC	Abbreviation for polyvinyl chloride, often called vinyl. PVC is the component of the 0.002" thick clear, dye receptive film on the surface of the identification card and is the primary component of the identification card cores.
Queue	A sequence of files or sets of data, awaiting transmission or processing.
Proximity ("Prox") Card	Proximity cards allow access and tracking utilizing contactless technology, usually by communicating through a built-in antenna.
Prox Card Encoder	The Fargo prox card Encoder uses an HID ProxPoint® Plus reader mounted on the e-card docking Station inside the Printer/Encoder. The ProxPoint is a "read only" device producing a Wiegand signal that is converted to RS-232 using a Cypress Computer Systems CVT-2232. Application programs can read information from HID prox cards via a RS-232 signal through a dedicated DB-9 port on the outside of the Printer labeled "Prox."
RAM (Random Access Memory)	A storage device for digital information to be held temporarily, to facilitate processing.
Rasterize	The process of converting the elements of a graphic into a bitmap to be printed.
Reboot	Cycling the power to the Printer so that it resets and reinitializes.
Registration	The quality of the alignment of the separate primary-color images: YMCK.
Resident Font	A set of characters loaded into the Printer memory that can be programmed to print those characters on the card without rasterizing the image.
Resin	A semi-solid material.

Continued on the next page

Glossary of Terms (continued)

Term	Definition
Resolution	The number of individual pixels in a graphic, taken over a given length, used to indicate the sharpness of the picture and the level of detail. The number of elements in the Printhead determines Fargo Printer resolution.
RFI (Radio Frequency Interference)	Electromagnetic waves radiated by poorly shielded cables or electronic devices that interfere with the operation or data transfer of another device.
RFID (Radio Frequency Identification)	This is a way of transmitting information via radio frequency. Data is sent from an RFID transceiver to an RFID tag (that is embedded in a Resin Ribbon).
RGB (Red/Green/Blue)	The three primary colors of the luminance or additive, model. Combinations of these three colors can produce practically all the colors of the spectrum that humans can detect. Computer monitors operate on an RGB model.
Ribbon	The dye impregnated film that is used for color printing.
Ribbon cable	Parallel wires held flat in a row by plastic insulation.
RMA number (Return Merchandise Authorization number)	A number, acquired from Fargo Support, which authorizes the return of merchandise for repair or credit.
Roller	Elements of the Printer used for the transport of media consisting of a rotating steel shaft (for Ribbon) or a rotating steel shaft with a rubber cylinder installed at the shaft midpoint (for moving cards).
RS-232	An interface standard, established in 1969 by the Electronic Industries Association, regarding the connecting of computer peripherals.

Continued on the next page

Glossary of Terms (continued)

Term	Definition
Saturation	A measure of the degree of color, from gray, with the same brightness.
Self-test	A pre-determined print file used to confirm Printer operation typically sent from the driver or stored in the Printer's memory.
Sensor	An electro-mechanical/electro-optical device used to indicate a change in state in the Printer such as when a card reaches a certain location.
Serial communications	The transfer of data, one bit at a time and in sequential order, using a single wire.
Serial interface	A sub D 9 pin input/output port on the Printer, used for serial communication with the PC for AS400 operating systems or for e card encoding.
SIMM (Single In-Line Memory Module)	An array of memory chips, attached to a printed circuit board that installs in a slot on the main board.
Simplex	Single-sided printing.
SmartGuard	An application from Fargo Electronics that allows users to prevent access to the Printer through the use of a personally encoded Smart Card.
SmartGuard™	SmartGuard is a Printer security option that uses a custom access card and a built-in reader to restrict Printer access. Only a valid access card can enable the Printer to print cards.
SmartShield™	This option allows the Printer to print custom, security images on the card that reflect under a black or UV light source.
Smart Card	Smart cards have an embedded computer circuit that contains either a memory chip or a microprocessor chip. There are several types of Smart Cards: Memory, Contact, Contactless, Hybrid (Twin), Combi (Dual Interface), Proximity and Vicinity.
Software	Instructions saved in computer memory that directs the computer to perform certain tasks and functions.
Spooler	A computer application that allows the spooling of print jobs.

Glossary of Terms (continued)

Term	Definition
Spooling	Rather than moving a print job directly to the Printer, the job is written to the disk so that the user can access the application faster while Windows takes care of printing in the background.
SS (Start Sentinel)	The character denoting the end of a magnetic data string.
Stacker	The device that moves the finished cards onto the output column ordering them First In, First Out.
Stepper Motor	A Motor whose shaft turns in discrete steps, rather than continuously.
String	A sequence of characters that form a line of data.
Surface mount	A method of mounting circuit elements onto the surface of a circuit board, attached at solder pads, rather than through holes in the board.
Surge Protector	An electronic device, placed in serial to the Printer's power supply, that prevents damage to the Printer from electronic surges and electrical current that is outside of the normal parameters.
Switch Box	An electromechanical device to which a user can connect several peripheral devices to the Parallel Port simultaneously, yet using the selector switch to designate the active port.
TAC	Thermal Acceptance Composite cards. Card stock produced by laminating sheets of PVC with sheets of PET for better thermal distortion resistance. Ultra III cards.
Temp file	A temporary file, generated automatically by Windows, to store the information for an active document. Windows should delete these files when the application is closed.
Test Print	A file stored in or generated through windows that is sent to the Printer to test basic functionality.
Thermistor	An electronic resistor on the Printhead with a resistance value that varies in proportion to the heat to which it is exposed.

Continued on the next page

Glossary of Terms (continued)

Term	Definition
Thermocouple	A device for measuring temperature using a junction of two wires of dissimilar metals that produce a voltage when heated that varies proportionally with the temperature.
Thin Film Overlaminate	A 0.25-mil thick resin material that enhances card security and durability applied over the printed surface with a hot Roller. Available as clear or with embedded holographic-type security images.
Through-hole	A method of mounting circuit elements with the leads passing through holes in the circuit board and soldered on the opposite side.
Timeout	An interruption of a print job that occurs when a function is not completed in the time allotted by the operating system.
TOF (Top of Form)	The leading edge of the card, as it travels through the Printer.
Track	The area on a mag stripe designated to contain the magnetic data string.
Troubleshooting	The process of investigating and determining the cause of a problem.
TrueType (TT)	A font format that produces each character using a mathematical equation, rather than a graphical representation, resulting in a much sharper, cleaner image.
UltraCard	The Fargo brand of card stock recommended for use in Fargo Printers, with the necessary glossy surface and composed of PVC.
UltraCard III	The Fargo brand of card stock, recommended for use in Fargo Printers that laminate, with the necessary glossy surface and composed of PVC and PET to prevent heat distortion.
Update	The process of installing a new revision of software or Firmware to implement new changes to the Printer's command codes and procedures.

Glossary of Terms (continued)

Term	Definition
UPS (Un-interruptible Power Supply)	An AC power supply, typically powered by batteries, which provides temporary power to the PC or Printer during an interruption of the supply voltage.
USB (Universal Serial Bus)	A 1.5M/sec (12Mbit/sec) serial communication interface that can support 127 separate devices consisting of 4 wires: power, ground, data in and data out.
Virtual Memory	A technique used by Windows when chip memory is exhausted, in which data is written to the hard to hold data temporarily and support Window's operations.
Wrinkle	The appearance in the card image of wavy or arched lines, either colored or clear, caused by improper film or Ribbon tension.
YMC	The designation of colored Ribbon by the panels of color in the order in which they are printed: Yellow (Y), Magenta (M) and Cyan (C).
YMCK	The designation of colored Ribbon by the panels of color in the order in which they are printed: Yellow (Y), Magenta (M), Cyan (C) and Black (K).
YMCKH	The designation of colored Ribbon by the panels of color in the order in which they are printed: Yellow (Y), Magenta (M), Cyan (C), Black (K) and Heat Seal (H).
YMCKK	The designation of colored Ribbon by the panels of color in the order in which they are printed: Yellow (Y), Magenta (M), Cyan (C), Black (K), Black (K) (the second K is for backside, black only printing).
YMCKO	The designation of colored Ribbon by the panels of color in the order in which they are printed: Yellow (Y), Magenta (M), Cyan (C), Black (K) and Overlay (O).
YMCKOK	The designation of colored Ribbon by the panels of color in the order in which they are printed: Yellow (Y), Magenta (M), Cyan (C), Black (K), Overlay (O), Black (K) (used for backside, black only printing).

Section 15: Index

RMA number, 14-16
Roller, 14-16
RS-232, 14-16

S

Safety Standards, 2-2
Saturation, 14-17
Self-test, 14-17
Sensor, 14-17
Serial interface, 14-17
SIMM, 14-17
Simplex, 14-17
Smart Card, 14-17
SmartGuard, 14-17
SmartGuard™, 14-17
SmartShield™, 14-17
Software, 14-17
special precautions, 1-1
Spooler, 14-17
Spooling, 14-18
SS (Start Sentinel), 14-18
Stacker, 14-18
Stepper Motor, 14-18
String, 14-18
Surface mount, 14-18
Switch Box, 14-18
Switch Box, 4-36

T

TAC, 14-18
Temp file, 14-18
Test Print, 14-18
Thermistor, 14-18

Thermocouple, 14-19
Through-hole, 14-19
Timeout, 14-19
TOF (Top of Form), 14-19
Track, 14-19
troubleshoot the Printer, 12-1
Troubleshooting, 14-19
TrueType (TT), 14-19

U

UL, 2-1
UltraCard, 14-19
UltraCard III, 14-19
Update, 14-19
UPS (Un-interruptible Power Supply), 14-20
USB (Universal Serial Bus), 14-20

V

Virtual Memory, 14-20

W

Wrinkle, 14-20

Y

YMC, 14-20
YMCK, 14-20
YMCKH, 14-20
YMCKK, 14-20
YMCKO, 14-20
YMCKOK, 14-20