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## **Datacard® SD™ Series Card Printers Installation and Administrator's Guide**

March 2014

Part No. 527445-001 Rev. A

## Notice

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**SD Series Card Printers Installation and Administrator's Guide**

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# Chapter 1: Installation



This chapter describes system requirements and provides setup instructions for the Datacard® SD™ Series Card Printers.

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Your installation may have additional requirements for a card production environment. Consult your system administrator to determine the optimum location for card production.



For Card Printer Driver installation troubleshooting and card production troubleshooting information, refer to your printer's *Driver Guide* and *User's Guide*.

## PC Requirements

Use a PC that meets or exceeds the following:

- A 32- or 64-bit processor, running at 2GHz or faster
- 2GB or more memory (RAM) and at least 1GB free space on the hard drive
- One of the following supported operating systems:
  - Windows 8.1
  - Windows 8, 32- or 64-bit
  - Windows 7, 32- or 64-bit
  - Windows XP, 32-bit, Service Pack 3
  - Windows Server 2012, R2
  - Windows Server 2012
  - Windows Server 2008, 64-bit
  - Windows Server 2003, 32-bit
- USB 2.0 port or Ethernet network connection
- ID software or other card production software to capture and organize the data to print on each card

# Network Requirements

You can connect many network printers to one PC. The maximum number of printers depends on the capacity of the network to deliver data to the printer.

To install a printer on a network, the following components are required:

- An Ethernet network that uses the TCP/IP protocol and can run at 100 megabits per second, also called 100base-T. Printers also support 10base-T.
- An Ethernet cable to connect the printer to the network. An Ethernet cable is not supplied with the printer.
- A PC that meets the “[PC Requirements](#)” described on [page 1](#), and is connected to and communicating with the network.

# USB Requirements

You can connect up to eight card printers to a PC using USB cables.

To install a printer using a USB connection, the following components are required:

- A high-speed USB port. USB 2.0 is required.
- A USB 2.0 cable to connect the printer to the PC. A USB cable is supplied with the printer.
- A PC that meets the “[PC Requirements](#)” described on [page 1](#).

If you need to connect two card printers to a PC with one USB port, use a single, independently powered USB hub to which you can connect both printers.

# Electrical Requirements

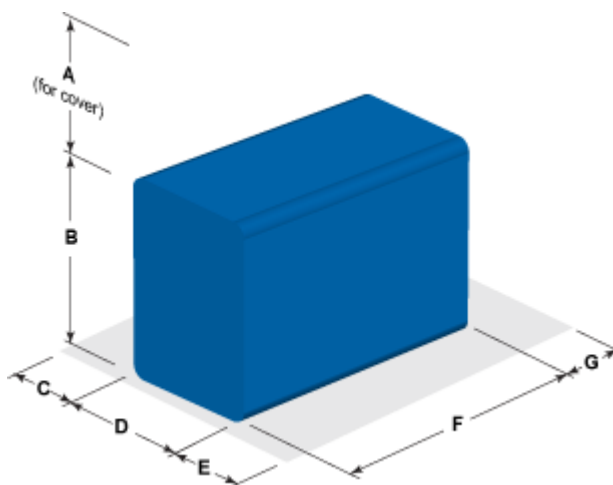
The power supply detects the input voltage and works within the range stated.

Printer Model	Electrical Requirements
SD260 or SD360	110–240V/50–60 Hz/3.0 Amp
SD460	Refer to Appendix A, “ <a href="#">SD460 Electrical Requirements</a> ” on <a href="#">page A-2</a> .

# Site Requirements

Set up and use the printer in an environment that meets the following requirements.

- Provide space for the printer and for clearance around the printer. The printer dimensions and clearance area are shown in the following table.



Printer Model	Dimensions (inches/mm)						
	A	B	C	D	E	F	G
SD260	10.00 254	8.80 224	4.00 102	6.85 174	4.00 102	15.37 390	4.00 102
SD260L and SD360	10.00 254	8.80 224	4.00 102	6.85 174	4.00 102	21.21 539	4.00 102
SD460	Refer to Appendix A, "SD460 Site Requirements" on page A-2.						

Options such as a large output hopper and 200-card input hopper add height to the printer. Additional clearance is required when using these options.

- Place the printer in an environment with temperatures ranging from 60° to 95°F (15° to 35°C).
- Use a single-phase, 3-wire, grounded receptacle.
- Place the system and its supplies in a clean office environment, keeping paper and foreign materials off of the equipment.
- Place the printer on a sturdy, level surface.
- Place the printer away from direct sunlight.
- Do not place the printer near heating ducts, fans, or other air vents.
- Do not use the printer for purposes other than the intended use.

# Secure Printing Requirements

Secure printing consists of encrypting print commands and card data and transmitting the information securely from the PC to the printer. To use encryption, your printer must support secure printing. Printers that support secure printing are shipped with all communication protocols (secure and non-secure) enabled. Refer to “[Behavior](#)” on [page 43](#) for more information about using the Printer Manager web service to specify printer security settings.

When you use the Card Printer Driver, make sure that the secure printing protocol (DPCL2Secure) is enabled and that the DPCL2 non-secure communication protocol is disabled. DPCL must remain enabled for the Card Printer Driver to function. For more information, refer to your card printer’s *Driver Guide*.

If your card production site requires secure printing, use the following:

- Datascan SD260L, SD360, or SD460 card printers with DPCL2Secure enabled and DPCL2 disabled



The SD260 and early models of SD printers (SD260L printers with serial numbers below D11000, and SD360 printers with serial numbers below B17000) do not support secure printing and handle only non-secure printing. You can install a mix of secure and non-secure printers, but make sure to connect and install each secure printer to the appropriate host PC during installation.

- A PC that meets the PC requirements cited earlier in this section
- Ethernet and USB connections that meet the requirements
- Internet Explorer 5.5 or newer installed on the PC

# Set Up the Printer

This section provides information about setting up the printer to print cards.

Setup includes the following:

- [Prepare the Printer](#)
- [Install Optional Equipment on page 8](#)
- [Use the Card Printer Driver on page 12](#) or [Use OpenCard Data Format on page 12](#)

Refer to Appendix A, "[SD460 Laminating System](#)" on [page A-1](#) to set up the SD460 Laminating System

## Prepare the Printer

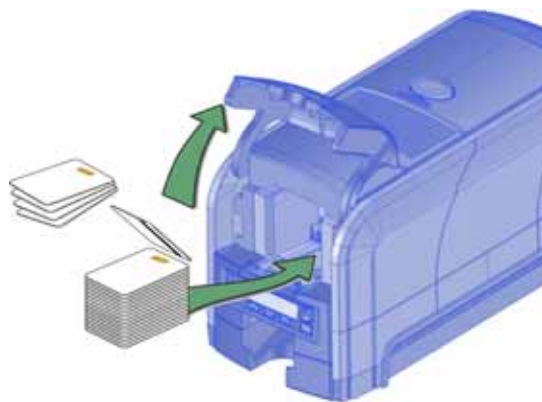
To prepare the printer to print cards, load blank card stock into the input hopper, and load print ribbon and a cleaning sleeve onto the print cartridge.

### Load Cards

If you are using a manual feed printer, skip this step and keep a supply of blank cards close to the printer.

For printers with an input hopper, do the following:

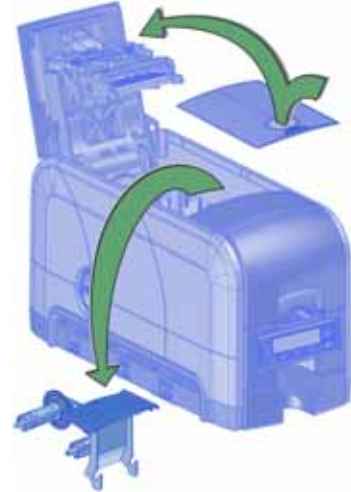
1. Open the input hopper.
2. Load the cards into the input hopper. (Cards can stick together. Slide or fan the cards to separate the edges before placing them in the hopper.)
  - Insert ISO magnetic stripe cards with the stripe (back side) facing down and toward the right.
  - Insert smart cards with the smart card chip facing up and toward the back of the hopper.
3. Close the input hopper.



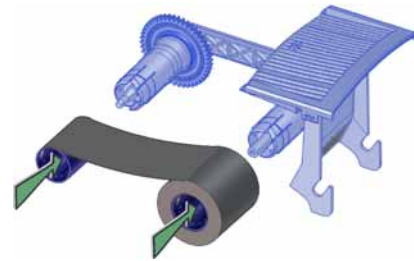
## Load the Print Ribbon

Load the ribbon when you install the printer and when the ribbon runs out.

1. Open the printer cover.
2. Remove the print ribbon cartridge.



3. Load a full roll of print ribbon (the blue spool) onto the spindle closest to the cartridge handle.
4. Place the silver take-up spool on the spindle with the black gear.
5. Wind the take-up spool counterclockwise one full turn.

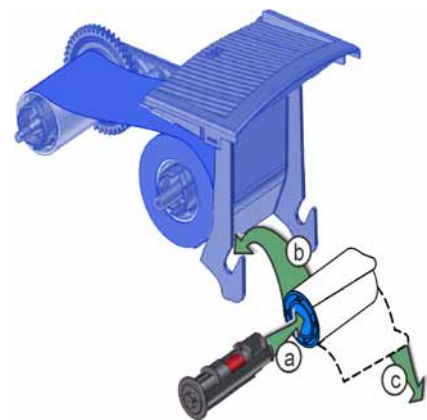


## Load the Cleaning Sleeve

Load a new cleaning sleeve with each new roll of print ribbon, if you notice debris on the printed cards, or if the cleaning sleeve is no longer sticky.

The printer ships with the cleaning roller spindle installed on the print ribbon cartridge.

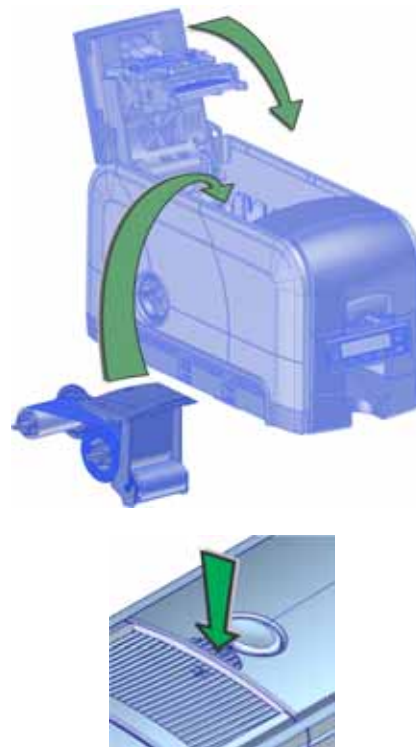
1. Remove the cleaning roller spindle from the ribbon cartridge and slide the spindle into the continuous cleaning sleeve (a).
2. Place the spindle with cleaning sleeve onto the ribbon cartridge (b).
3. Remove the protective wrapper from the cleaning sleeve (c).



## Install the Ribbon Cartridge

Install the assembled print ribbon cartridge into the printer.

1. Open the printer cover.
2. Hold the print ribbon cartridge by the handle and lower it into the printer with the handle toward the front of the printer.
3. Make sure that the ribbon cartridge is correctly positioned in the guides.
4. Close the printer cover. Press down on the ridges on the front of the cover to make sure that it latches properly on both sides.




## Install Optional Equipment

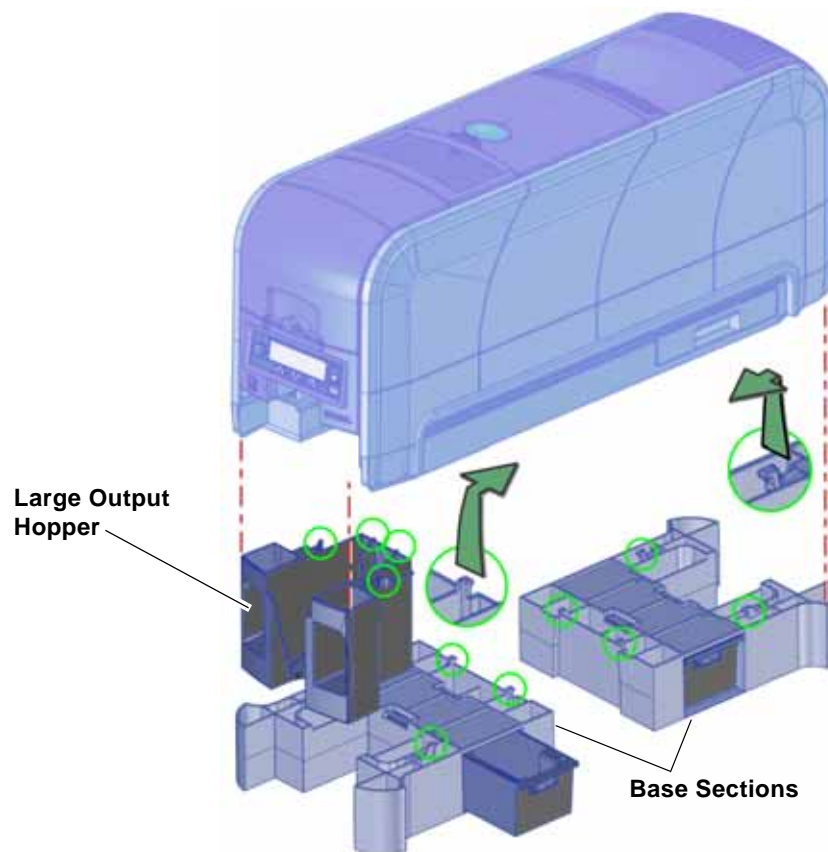
You can install additional equipment on the printer depending on your requirements.

### Install a Large Output Hopper

The output hopper included with the printer holds about 25 0.030 in. (0.762 mm) cards. The printer also can be used with an optional large output hopper that holds up to 100 cards.

 You cannot install the large output hopper on the SD460 system. A 100-card laminator output hopper is standard on the SD460 system.

The large output hopper kit includes two base sections and the large output hopper. The two base sections are identical, with hooks (marked by green circles) that attach to the bottom of the printer. To assemble the base, arrange the base sections back to back, as shown.



You can remove the standard hopper and attach the large output hopper without using tools.



Do the following to attach the printer to the bases, and to install the larger output hopper. You also can refer to the instructions shipped with the large output hopper kit.

1. Position one base section with the open end facing the back of the printer.
2. Lift the printer over the base section.
3. Align the tabs in the base with the slots in the bottom of the printer.
4. Push up to insert the four tabs in the slots, and then push the base forward to lock it to the printer.
5. Position the other base section with the opening facing the front of the printer.
6. Push up to insert the four tabs in the slots and then push the base back to lock it to the printer.
7. Remove the 25-card output hopper from the printer. Slide it out, similar to a drawer.
8. Slide the 100-card output hopper into the assembled base and printer. Make sure that the tabs (shown in circles in the illustration) secure the hopper to the printer.

#### HINTS & TIPS

- The base sections contain drawers, useful for holding cards, cleaning swabs, or other frequently used items. The drawers can be opened from either the left or right side of the printer.
- The base and large output hopper remain attached when the printer is moved or carried.



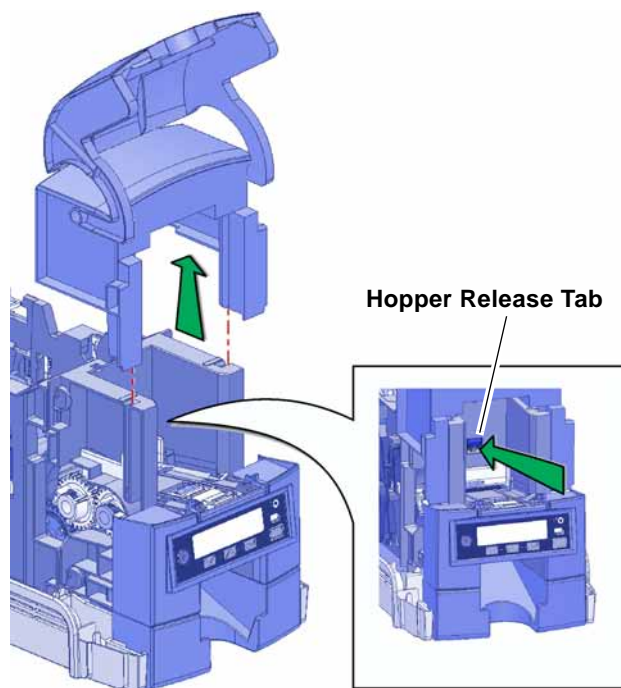
If you install the 100-card output hopper, change the Printer Manager **Printer Setting > Transport EjectHopperSpeed** setting to **ehs\_Extended**. This allows completed cards to stack properly in the larger output hopper. Refer to “[Transport](#)” on [page 51](#) for complete information.

## Install the 200-Card Input Hopper

The standard input hopper can hold about 100 0.030 in. (0.762 mm) cards. The printers can be upgraded to use a 200-card input hopper.

The 200-card input hopper kit includes the larger hopper with an attached cover. The standard hopper is easily removed and the 200-card hopper can be installed without using tools. You also can refer to the instructions shipped with the 200-card input hopper kit.

1. Open the input hopper.
2. Press the release tab located on the back wall of the hopper while lifting the hopper up and off the printer.
3. Install the 200-card input hopper by aligning the tabs with the slots on the printer.
4. Push the hopper down until it clicks into place.
5. Load up to 200 cards in the hopper and close the hopper cover. The printer is ready to print cards.

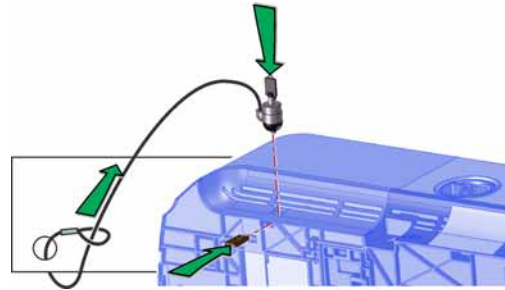


## Install the Optional Cable Lock

The cable lock is a user-installed feature that does not require special tools to install. The package contains a Kensington® lock with keys, instructions, and a metal security plate. The security plate is installed in the printer and is designed to accommodate the T-bar of the Kensington lock.

1. Prepare the printer by installing the metal security plate:

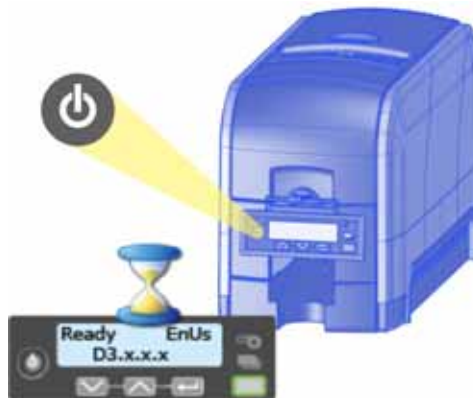
- A. Tip the printer on its right side.
- B. Locate the security plate receptacle on the underside of the printer toward the back left side.
- C. Insert the security plate into the receptacle with the open end toward the printer.



2. Follow the instructions included with the lock to complete the installation.

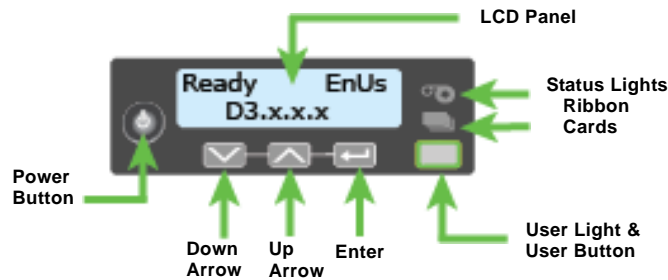
## Power On the Printer

Press the POWER button on the front panel to power on the printer. The front panel LCD displays **Ready** when the printer is ready to print.



## Use the Front Panel

The front panel of the printer provides the controls you need to operate the system. Refer to the printer's *User's Guide* for complete information about using the front panel.



## Use the Card Printer Driver

The Card Printer Driver uses Microsoft XPS print technology to support printing from currently available Microsoft Windows applications.

To use the SD Series system with the Card Printer Driver, you must install the driver and configure the software with the printer's IP address. Refer to your printer's *Driver Guide* for complete information about installing and setting up the Card Printer Driver.

## Use OpenCard Data Format



- The OpenCard Data Format option is not supported by the Card Printer Driver. When OpenCard is enabled, the Card Printer Driver cannot communicate with the printer.
- The SD460 system does not support the OpenCard format.

The OpenCard Data Format option must be enabled at the factory. For more information about setting up the OpenCard option, refer to the *SD/CD Series Card Printers OpenCard Data Format Guide*.



# Chapter 2: Elements of Card Design

# 2

Card design is the name given to the combined features of the processed cards.

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This chapter provides the following information about card design:

- [Basic Card Design](#) on page 13
- [Printing Design](#) on page 14
- [Magnetic Stripe Design](#) on page 25
- [Smart Card Design](#) on page 28
- [Settings for Card Design in Printer Manager](#) on page 29

## Basic Card Design

Card design includes:

- Color and monochrome printing.
- The various types of data, such as name and account number, and special features such as magnetic stripe or smart card chip.
- The layout of the data.
- Optional ultraviolet (UV) printing for enhanced security (laminating systems only).
- Optional lamination for enhanced wear protection and security (laminating systems only).



# Printing Design

## Color Printing

Color print ribbon is available in full-panel and short-panel styles.

### Full-Panel Ribbon

Full-panel color printing uses a print ribbon with three color panels: Y (yellow), M (magenta), and C (cyan). The ribbon also includes a K (black) panel and a T (topcoat) panel. The printer applies the YMC color panels to the card first, prints black components using the K panel, and then applies the T (topcoat) to protect the color image from damage.

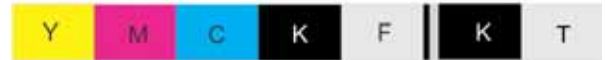
Full-panel YMCKT ribbon



Laminating printers support full-color print ribbons without a topcoat (T) panel. These include YMCK and YMCKK ribbon. The topcoat or patch overlay applied by the laminators provides protection against wear and color fading, so the print ribbon topcoat panel is not needed for most overlay materials. However, DuraShield overlay materials require that the ribbon topcoat be applied first.

Laminating printers also support full-color print ribbon with a front-side ultraviolet

YMCKF-KT ribbon



(UV) fluorescing panel, YMCKF-KT. The UV printing is undetectable under normal lighting and is meant to provide another form of security. Refer to your printer's *Driver Guide* for more information about setting up a card design that uses the UV panel.

### Short-Panel Ribbon

Color print ribbon also is available in a short-panel option. The color area for short-panel ribbon is 1.57 inches (40 mm). The ymc panels of short-panel ribbon are approximately half the length of a full card. (In this guide, “ymc” in lowercase, instead of “YMC,” refers to “short-panel” color panels.)

Short-panel ymcKT ribbon



When you print with short-panel print ribbon, you define the location of the color area in the card design. Color printing begins when the software detects a color pixel and continues for the length of the ymc panels.

## Split-Ribbon Color Printing

Split-ribbon color printing lets you use less ribbon to print cards in color. It is available only with the Card Printer Driver. Refer to your printer's *Driver Guide* for information about how to specify split-ribbon color printing.

Split-ribbon color printing uses a single ribbon panel set from a full-color ribbon to print both sides of a card, rather than two or three panel sets. The ribbon can be a full-panel or short-panel color ribbon. The order in which the color, black, and topcoat sections of the panel set are used to print the card depends on the type of ribbon installed in the printer and the split-ribbon option selected on the printer's **Printing Preferences** window.



Most types of cards, including cards with magnetic stripes and smart cards, can be printed using split-ribbon printing. Options for color, monochrome, and topcoat are available when you use split-ribbon printing.

## Manage Color

Color management is the process of making color on the PC monitor and printed card appear as similar as possible. For color management, the card printer uses the sRGB color standard (standard Red, Green, and Blue color space). You specify the color management system in Printer Manager. Refer to [“Print” on page 46](#) for more information.

## Print Text in Color

The printer can print text in any color. Small characters are likely to be more readable if they are a sans-serif font formatted as black and printed with the black (K) panel. Refer to [“Print Text in Monochrome” on page 17](#). The printer supports 6-point or larger text.

## Print Graphics in Color

The printer produces full-color images from most types of graphics. It can use BMP, JPEG, TIFF, and PNG file formats for photos and logos.

Vector graphics, such as WMF and SVG files, have components such as shapes with lines and fills. Components defined as black normally print with the K panel.

Because the printer uses the print ribbon panels in sequence (YMC first, then K), black images can print over color graphics. For the best appearance of color graphics, or to prevent backgrounds that are black from printing over colored images, use a color that appears black but is not, so that all parts of an image print with the YMC panels. For example, in the RGB color space, 0, 0, 0 is black (and prints with the K panel), but 0, 0, 5 is not black (and prints with the YMC panels).

## Types of Color Images

Cards can include both color photos and color logos. The logo is usually the same on each card, and the photo is unique. Follow these guidelines to obtain the best results for printing both logos and photos.

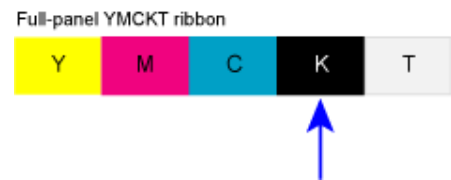
1. Evaluate the color quality of the photos:
  - A. Adjust the image capture system to get the best quality photos; work with distance, lighting, and camera settings to obtain consistent, high-quality photos.
  - B. Evaluate the quality of printed photos after the image capture system is optimized.
2. Evaluate the other color areas of the card, such as text or logo:
  - A. Check your card production application for settings that can help improve the printed color of text.
  - B. Use an image editing application to adjust the color of a logo file for optimal printing.

## Monochrome Printing

Monochrome printing prints cards using a single color. You can use a full-color ribbon or a monochrome ribbon that has only one color.

### Monochrome Printing with Full-Color Ribbon

Full-color print ribbon includes a black panel. The black panel transfers to the card differently than the YMC panels. Text and bar codes are usually printed with the black panel. Full-color print ribbon also prints any monochrome or one-bit-per-pixel graphics using the K panel.



### Monochrome Ribbon

Monochrome ribbon produces single-color cards. Monochrome ribbon can be any of the following:

- Alternating black and topcoat panels (KT or KTT ribbon)

The printer applies black and one or two topcoat panels on the same side of the card.





- Continuous black (K ribbon)
- A continuous color, such as green or silver (also K ribbon)

Monochrome (K) ribbon—Black



Monochrome ribbon—Green



## Ribbon Saver

Continuous monochrome printing with Datacard-certified ribbon uses the Ribbon Saver feature. With Ribbon Saver, the printer begins using ribbon at a location that corresponds to the leading edge of the card. The printer continues to spool ribbon for the length of the image but no farther. The printer leaves a small margin between each card to avoid image overlap.

## Print Text in Monochrome

Printing text using a K panel can make text look crisp, because it uses only one panel for printing. Fine text is more readable when printed with more power. You set the power for the K panel using Printer Manager. Refer to [“Printer Setting Menu”](#) on [page 37](#) for more information.

The font used also affects legibility. The printer reliably prints 6-point Arial font. Bold, sans-serif fonts are more readable after printing than serif fonts, or fonts with thin strokes, as shown at right. In the example, fonts that print well are shown toward the top of the card.



## Print Bar Codes

Bar code design follows a set of standards based on the type of bar code produced. Bar codes contain a series of black lines (bars) separated by white areas (spaces). Each character of encoded data is represented by a set of bars and spaces. A bar code standard specifies the number and width of bars and spaces needed to encode a character. The standard also specifies the minimum size of the white area, or quiet zone, that surrounds the bar code.

When an application prints bar codes, the data is sent to the printer as an image. The format in which the application sends the image determines how the image is rendered. If the data sent is a one-bit-per-pixel image, such as pure black bars on a white background, the software processes it using the K panel of the print ribbon. If the data contains a pixel of color other than pure black or pure white, such as the various colors in a JPEG image, it processes the image using the YMC panels of the print ribbon.



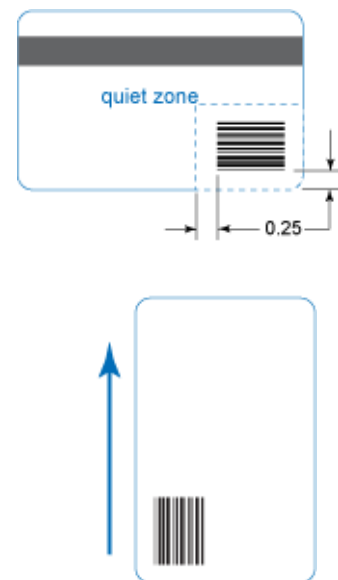
Refer to [“Print Bar Codes With the Card Printer Driver”](#) on [page 20](#) for information about how using the Card Printer Driver can improve the probability that a bar code prints using the K panel.

### Bar Code Guidelines

Bar codes print more successfully when you observe the following guidelines. Follow the standards for the type of bar code you are printing.

#### Bar Code Placement

- Maintain the required quiet zone around the actual bar code, as shown in the illustration.
- Locate bar codes at least 0.25 inch (6.3 mm) from other printing and from the edge of the card.
- For best results, orient the card so that the bars are parallel to the long edges of the card, as shown. This orientation most accurately prints readable bar codes.



## Bar Code Size

- A lower density bar code is easier to read, because the bars are wider and spaced farther apart.
- The width of the narrow elements in the bar code must be large enough to be read consistently. The capabilities of the bar code reader can influence this.
- The bar code must be tall enough to be read under normal conditions.

## Bar Code Print Settings

- To achieve the best quality printing and improve the readability of the bar code, use the K (black) panel of color print ribbon to print the black bars. Bar codes printed with YMC panels are not as crisp and sharp as those printed with the K panel only.
- Infrared readers require that the K panel be used to print the bar code.
- The ANSI standard for bar code quality (X3.182) assigns a grade to a bar code to indicate its readability. Choose a K power value and bar code size to produce the grade your system requires. Refer to [“Printer Setting Menu” on page 37](#) for information about setting the K power value.

## Test Bar Codes

Always test the readability of bar codes under production conditions. Factors to consider include:

- If you print cards one at a time, print the samples using that method. If you print cards in batch (many cards sent to the printer at the same time), use a production-sized batch and evaluate cards from the beginning, middle, and end of the batch.
- Use exactly the same card stock for testing that you use for production. The card stock can affect the readability of bar codes. Usually, a white surface that reflects light in many directions is needed. Test cards before purchasing production quantities.
- Include other card design components that you use in production, such as topcoat.
- Use the same bar code readers as users have, and test each card multiple times to simulate any wear the card might experience. Also test multiple cards.

## Card Design Changes That Affect Bar Codes

If you make substantial changes to the way you produce cards, review setup tasks to make sure that cards continue to have the quality you require.

Substantial changes that can affect bar codes include:

- Changing from batch processing to issuing single cards (or changing from issuing single cards to batch processing). Check for differences in K printing and full-color printing.
- Purchasing a new brand of card stock, which can change the color of some images.
- Changing to, or from, preprinted cards, which can change the color of some images.
- Moving the card printer to a new location, where environmental changes such as amount of light or relative humidity can affect images, supplies, or printer operation.

If you change the design of your cards, or if you start producing an additional card design, review setup tasks to make sure that each design prints as required. Test new card designs as described in this guide. You might identify changes to your process to support production of more than one design.

## Print Bar Codes With the Card Printer Driver

The Card Printer Driver includes a setting that allows the printer to use the black (K) panel to print the bars of a bar code embedded in a color image, making it more likely to be read by a scanner. When the Driver ***Printing Preferences*** option **Print black image pixels using monochrome** is set to **On**, the Card Printer Driver prints the seven black-most shades (from a palette of 256 shades) using the K panel of a color print ribbon. Refer to the printer's *Driver Guide* for complete information about how to specify this setting.

## Apply Topcoat

Full-color printing fades if it lacks topcoat protection. Topcoat protects the printed image on the card. It is applied as an even, consistent film.

Make sure that all color printing is covered with topcoat (except for areas such as a magnetic stripe, smart card chip, or signature panel).

When a ribbon with a topcoat (T) panel is installed, the printer can apply topcoat to the card using the printhead. Most full-color ribbons include topcoat panels.

Topcoat must be requested by the application sending the card to the printer. Most card production software requests topcoat automatically.



Do not apply topcoat over the magnetic stripe, smart card chip, or signature panel of a card. To prevent topcoat application, you must specify a non-printing area.

If your system is equipped with a laminator, you can use it to apply overlay material to the front and back of the card for durability and security. Refer to [“Laminator Supplies”](#) on [page 81](#) for information about the types of overlays available.

## Non-Printing Areas

The card design can have areas where printing is not allowed. Such areas include a magnetic stripe, signature panel, or smart card chip. Card production software usually manages such non-printing areas automatically. If you do not use ID software, you can use the dimensions provided below for magnetic stripe and smart card non-printing areas to customize your print and topcoat areas.



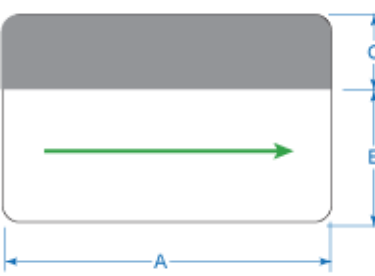
- Blocking for non-printing areas typically extends 0.1 inch beyond the edges of a feature. The dimensions listed in the following sections include the extended blocking region.
- Print several cards using your card design and application to verify that printing and topcoat are applied as you intend.

## Standard Magnetic Stripe Non-Printing Area

The 3-track magnetic stripe typically is on the back of the card, while the single-track magnetic stripe is usually on the front of the card. The green arrow shows the direction the card travels through the printer.

Use the following dimensions to prevent printing in the magnetic stripe area.

	A	B	C
3-track	3.37 in 85.6 mm	1.46 in 37.1 mm	0.66 in 16.8 mm
2-track	3.37 in 85.6 mm	1.57 in 39.9 mm	0.55 in 14 mm
Single-track (JIS)	3.37 in 85.6 mm	1.60 in 40.6 mm	0.52 in 13.2 mm

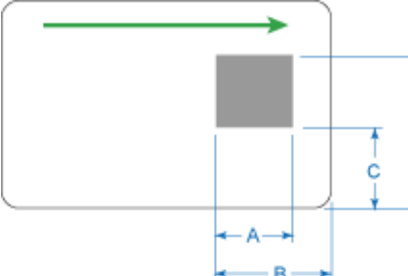


## Standard Smart Card Non-Printing Area

The smart card area typically is on the front of the card. The green arrow shows the direction the card travels through the printer.

Use the following dimensions to prevent printing in the smart card area.

A	B	C	D
0.88 in 22.4 mm	1.17 in 29.8 mm	0.88 in 22.4 mm	1.47 in 37.3 mm



## Custom Non-Printing Areas

Use ID software, a custom application, or escape codes to define custom non-printing areas for one or more of the following:

- Blocking printing but not topcoat
- Non-standard areas, such as a preprinted logo or a signature panel
- More than one area on the same side of the card

## Card Layout

The arrangement or layout of components determines how well your card design works for users. Follow these guidelines to position card design components for best results.

### Margins

Any unprinted area at the edge of the card or around the perimeter of a card feature is called the margin.

#### Margins at the Edge of a Card

The card printers can print edge to edge, which is the same as a margin of zero (0) or no margin. The card on the left shows a margin of white space at the outer edge of the card. The card on the right shows edge-to-edge printing.



Edge-to-edge printing can require fine-tuning the printer and the card design. Include this task as part of setup.

#### Margins for Card Features

Maintain a margin between printing and card features, such as a signature panel, magnetic stripe, or smart card chip. For best results, do not print closer than 0.1 inch (2.5 mm) from such a feature.

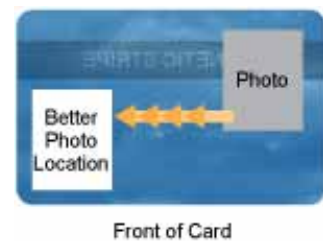
## Backgrounds

Use the following suggestions to help you select a background for a professional-looking card. For best results, make sure that the background design does not emphasize the location of card features, such as embedded electronics.

- Consider using a white background for the card to achieve consistent professional results.
- Consider using smaller blocks of color, patterned areas, or gradients to highlight printed card features such as a name, photo, or logo.
- Avoid using a solid-color background over a large area of the card. It can show flaws on the card (such as an uneven surface) or the location of card features (such as a smart card chip).

## Image Placement

Use the following suggestions to help you locate important images, such as a photo, logo, or bar code. When placing images, avoid uneven areas and areas of high wear, which can result in inconsistent print quality.



- Do not place an important image on the front of the card in the same area as a magnetic stripe or other machine-readable feature. Frequent use of a card in a reader can wear away the image on the opposite side of the card.
- Do not place an important image directly on the opposite side of a signature panel. This can cause residue from the signature panel to interfere with printing on an adjacent card. Place the image above, below, or to the side of the panel.
- Do not place an important image directly on the opposite side of a smart card chip. The card might not be as flat in that area, and printing voids can occur.



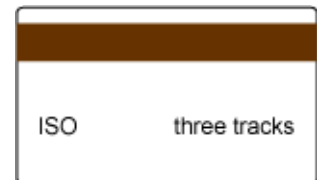
# Magnetic Stripe Design

The printer contains a magnetic stripe module to process magnetic stripe data. There are two magnetic stripe configuration options: ISO and JIS. Use the Printer Configuration Label (described in the printer's *User's Guide*) to determine the type of module installed.

## Magnetic Stripe Data Formats

The module format (ISO or JIS) defines the type and format of the information to encode. The standard ISO format (also known as IAT) is a three-track option. The JIS format is a single-track option. Both formats include default data settings that determine how many characters can be encoded on each track, and which characters can be encoded.

Your cards can use the default format for each track, or can use a different combination of tracks and data formats.



### Three-Track Option (ISO/IAT)

The default data formats for a three-track magnetic stripe option are:

- Track 1 — IATA
- Track 2 — ABA
- Track 3 — TTS

This combination is often abbreviated IAT. This format is also called ISO format.

### IATA (International Air Transport Association)

The maximum number of characters for IATA format data is 76 characters. These characters can include spaces, uppercase alphabetic characters, numeric characters, and the following special characters:

! # \$ % ' ( ) \* + , - . / ; : < @ > = ^ ] \ [ " & \_

### ABA (American Bankers Association)

The maximum number of characters for ABA format is 37 characters. Numeric characters and the following special characters are allowed:

: ; < = >

## TTS (Thrift Third Standard)

The maximum number of characters for TTS format is 104 characters. Numeric characters and the following special characters are allowed:

: ; < = >

## Single-Track Option (JIS)

The default data format for a single-track magnetic stripe module is the JIS (Japanese Industrial Standard) Type II format.

The maximum number of characters for the JIS format is 69 characters. These characters can include spaces, numeric characters, uppercase alphabetic characters, lowercase alphabetic characters, and the following special characters:

! " # \$ % & ' ( ) \* + , - . / : ; < = > ? @ [ ] ^ \_ ~ { | } ~

A PC running a Japanese edition of a supported Windows operating system also supports Japanese-language special characters and 55 Katakana characters. They include the following:

- Special characters:

。 『 』 、 ・ ー ぁ ぉ

- 45 Katakana characters:

アイウエオ  
カキクケコ  
サシスセソ  
タチツテト  
ナニヌネノ  
ハヒフヘホ  
マミムメモ  
ヤ ュ ヨ  
ラリルレロ  
ワ ン

- 10 Katakana characters:

ヲ アイウエオヤユヨツ

Each time you start or stop using Japanese-language characters, it adds a hidden character. Each hidden character reduces the number of characters you can encode by one character.

## Magnetic Stripe Coercivity

The printer may require additional settings to match the coercivity of the card. When these values are set they remain the same for all cards processed using the same design. The defaults are set to standard ISO format and high coercivity. Refer to [“MagStripeGeneral” on page 52](#) for information about changing the coercivity.

The type of magnetic stripe cards you use must match the type of module installed. Three high-coercivity cards are included with the system. Use these cards to make sure that the printer is encoding magnetic stripe information properly. Purchase additional magnetic stripe cards to match the type of module you are using.

# Smart Card Design

Smart card processing differs from other types of card personalization. The “smart card” step of personalization is controlled by an application that is separate from the rest of card personalization.

Smart card setup usually is provided by a value-added reseller or service provider. Request information about the smart card module installed and the type of cards to use from your service provider or value-added reseller.

## Smart Card Processing Requirements

The following items are required to personalize smart cards:

- A smart card reader in the printer
- A cable for the smart card port used (this cable is not needed for single-wire processing)
- A card production application that is designed to work with the printer and the smart card application
- Smart cards that work with the reader in the printer

## Smart Card Codes on the Printer Label

The configuration label includes codes that identify the type and model of the smart card module installed in the printer. The following table lists the codes used on the configuration label.

Code on Label	Type of Smart Card Module
S1	Integrator Contactless
S2	SCM Dual Contact/Contactless
S3	HID pcProx Contactless
S4	iCLASS Read Contactless
S5	iCLASS Read/Write Contactless
S6	Duali Standard
S7	Duali Single Wire
S8	Duali Single Wire Sony Felica

Code on Label	Type of Smart Card Module
S9	pcProx by HID Loosely Coupled Reader
S10	Third-party OEM Smart Card Option Hardware
S11	Identive Dual Interface Reader

The S1 value on the configuration label indicates that the printer has the basic smart card components installed. Basic components include the mounting hardware only. An integrator must install a contactless reader.

If the Sx value is included in the configuration code, the printer has the basic components of an S1, plus the appropriate interface installed.

## Single-Wire Smart Card

Single-wire smart card processing allows a single USB or Ethernet connection with the printer to carry data for both smart card personalization and printing.

The single-wire smart card feature is available to an application through the Windows Driver Software Development Kit (SDK).



The single-wire smart card programming interface is similar, but not identical, to the PC/SC standard. Applications using PC/SC to personalize smart cards require modification to use the single-wire smart card interface.

Required components for single-wire smart card are the same as for other smart card systems except as noted.

## Settings for Card Design in Printer Manager

Printer Manager contains card design settings that managers and service providers can use to set up card production. The card design settings include magnetic stripe setup and smart card testing. Printer Manager also contains troubleshooting features such as a log file that can track all processes of a card job. Service providers can use the information in the log file to troubleshoot and relay information when troubleshooting card processing issues. Refer to [“Printer Manager” on page 31](#) for more information.



# Chapter 3: Printer Manager

# 3

This section describes Printer Manager, the Datacard web interface available to users, administrators, and Datacard service providers.

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## Printer Manager

Printer Manager is a web-based interface that displays information about the printer. System administrators and service providers can use Printer Manager to fine-tune card appearance, set advanced options, and troubleshoot printing problems. You can access Printer Manager using an Internet browser and the IP address of the printer.

Printer Manager includes different user access levels that control the type of information that can be viewed. You can choose from three user access levels to perform a variety of basic and advanced tasks: WebUser, WebAdmin, and WebService.

# Printer Manager User Access Levels

The **Username** field controls the level of access to information and settings that correspond to the user's job responsibility.

## WebUser

**WebUser** access allows users to view information and change a limited amount of values. The WebUser access level typically is used by the person responsible for printing cards. Other responsibilities can include cleaning the printer, ordering printer supplies, or printing a daily or weekly log of card production.

The WebUser access level displays four menu selections: Status, Printer Setting, Maintenance, and Log Out.

## WebAdmin

**WebAdmin** access allows an administrator to set up a test card and make minor adjustments to the printer. The WebAdmin user has access to configuration options and the use of diagnostics tools for troubleshooting. The WebAdmin user also can specify a password (using the **Printer Settings > Update Password** option) for WebUser access-level users.

In a card production environment, the WebAdmin access-level user typically sets up the card design, verifies communication with external data sources, and tracks printer activity and performance.

## WebService

**WebService** access has all of the above adjustments with additional access to adjust offsets.

The WebService user typically is a Datacard-trained service provider.

# Access Printer Manager

The initial Printer Manager screen allows users to log on with a user name and password that determine their user access level. The user access level determines which menu items, options, and adjustments are available.

1. Make sure that the printer's LCD panel displays **Ready**.
2. Access Printer Manager in one of the following ways:
  - If you are using the Card Printer Driver, open the **Printer Properties** window and select the **Printer Status** tab.
  - Click **Configure Printer** to launch Printer Manager in your default browser.



OR

- Obtain the printer network IP address and write it down. Refer to the printer's installation instructions for detailed procedures.
- Open a web browser on the PC.
- In the **Address** area of the browser, enter the following:

`https://printer_IP_address`

For example: `https://123.1.23.123` where 123.1.23.123 is the printer IP address.



- Because you are using a secure protocol (https), the browser may display a warning message indicating a problem with the website's security certificate. This is because the current printer IP address differs from the IP address on the certificate. Click **Continue to this website** to access Printer Manager.
- For printers that do not support secure communications, enter the following in the browser Address area: `http://printer_IP_address`. Refer to "[Secure Printing Requirements](#)" on [page 4](#).

1. The *Printer Manager* Log In screen displays.

2. Select the language in which to display the Printer Manager session from the **Select Language** column.

3. In the **Please Log In** section, select a **Username** that matches your job responsibility and enter a password (if required). Refer to “[Printer Manager User Access Levels](#)” on page 32 for a description of the user access levels.
4. Click **Log In** to display the Printer Manager Welcome page.



#### HINTS & TIPS

- If the browser cannot connect to the printer, make sure that **Ready** displays on the LCD panel of the printer.
- Some Printer Manager pages contain a hover-text feature that displays help information when the cursor hovers over the setting in the description column.

## Printer Manager Settings

The printer is shipped with recommended settings in Printer Manager. You may need to change these settings to customize the printer for your site. Printer Manager provides access to the printer settings.

Many of the Printer Manager menu options display the **Set Current** and **Restore Default** buttons.

- **Set Current** saves any changed settings on the displayed page. When you change a value and click **Set Current**, the printer uses the new settings until the default values are restored. If you exit a page without clicking **Set Current**, your changes are lost.
- **Restore Default** restores the default settings to the values on the displayed page.

## Print a Printer Manager Page

Use your Internet browser Print option to print the information from any Printer Manager page to a paper printer.

- Select **File > Print** from your Internet browser's main menu.
- If the printed page does not display all the information from the Printer Manager, select **File > Print Preview** in your Internet browser to scale the image to fit the paper.

## Use Printer Manager

The following sections describe how to use the options on the Printer Manager menus that are available to WebUser and WebAdmin access-level users. For information about settings available to the WebService access level, contact your service provider.



The options available in Printer Manager are determined by the type of printer and the options installed on the printer. The Printer Manager options described in the following sections may not be available for all printers.

## Status Menu

The **Status** menu displays general information about the printer and its usage statistics. Users at all access levels can view or print the Status menu information. You cannot change the information on the Status menu.

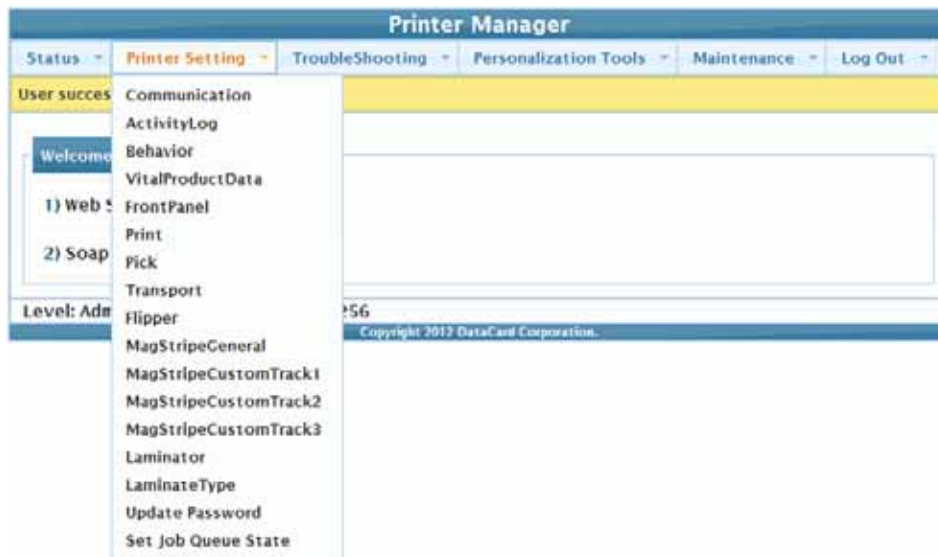


Status Menu Option	Function	WebUser	WebAdmin
VPD	Display printer vital product data (VPD), including the manufacturer, model, installed options, serial numbers, and version numbers. Print this page for reference if you need to contact your service provider.	View	View
Printer Status	Display printer status information, including the printer mode, the printer state, how long the printer has been powered on (in seconds), current conditions, and job status.	View	View
Supplies	Display information about the ribbon currently installed in the printer. This includes the ribbon part number and serial number, additional codes that define the ribbon module, and the percent of ribbon remaining in relation to a new full roll of ribbon. For printers with more than one module, information displays for each module type.	View	View

Status Menu Option	Function	WebUser	WebAdmin
Audit Data	Display card printer usage data, including card counts (both resettable—shown with an r as the first letter of the name—and non-resettable counts) and error reporting collected by the printer. This page acts as a general overview for all the counters and can be useful to track card production activity and problem history.	View	View
About Printer Manager	Display the Printer Manager software version and copyright information.	View	View

## Printer Setting Menu

Use the **Printer Setting** menu to view and customize printer settings.



Printer Setting Menu Option	Function	WebUser	WebAdmin
Communication	Set or view the address mode type and enter IP address, subnet mask, and gateway address information.	No	Change Current Values
ActivityLog	Set values in the activity log to help isolate card production issues.	No	Change all Current Values
Behavior	Display printer operation and control methods.	Change RibbonInitialize	Change all Current Values
VitalProductData	Change printer information. Available to WebService access level users only.	No	No
FrontPanel	Set front panel values for the printer.	Change Backlight Brightness, KeySenseLevel and SpeakerEnabled values	Change all Current Values
Print	Set print parameters for color management, print intensity, and registration settings.	No	Change all Current Values
Pick	Display and set pick values. Available to WebService access level users only.	No	No
Transport	Set the eject speed of the hopper and the transport motor speed.	View only TransMedSpeed	View only: TransMedSpeed; Change: EjectHopper Speed
Flipper	Set values for the duplex module in duplex-option printers. Available to WebService access level users only.	No	No

Printer Setting Menu Option	Function	WebUser	WebAdmin
MagStripeGeneral	Set magnetic stripe options including coercivity, custom magnetic stripe formats, and data formats.	No	Change coercivity, custom formats, and data formats
MagStripeCustomTrack1	Set customized magnetic stripe values for track 1.	No	Change all Current Values
MagStripeCustomTrack2	Set customized magnetic stripe values for track 2.	No	Change all Current Values
MagStripeCustomTrack3	Set customized magnetic stripe values for track 3.	No	Change all Current Values
Laminator	Specify laminator settings	Change all Current Values	Change all Current Values
LaminateType	Specify overlay settings	Change all Current Values	Change all Current Values
Update Password	Set or update passwords for the WebUser and WebAdmin access levels.	No	Change WebUser and WebAdmin, SNMP read, and SNMP write passwords
Set Job Queue State	Enter values for shipping the printer to a repair facility, or when securing the printer to perform troubleshooting, maintenance, or other procedures. This setting is used primarily by financial printers. Contact your service provider for more information.	Requires a password	Requires a password

## Communication

The **Communication** settings change the Ethernet address method from DHCP to STATIC. If set to STATIC, enter the IP address, subnet mask, and gateway address manually to match the settings of the network.

Description	Default Value	Current Value (unit)
1) EthAddressMethod	DHCP	DHCP
2) EthDnsAddress1	0.0.0.0	0.0.0.0
3) EthDnsAddress2	0.0.0.0	0.0.0.0
4) EthDnsSearchSuffix		
5) EthGatewayAddress	0.0.0.0	0.0.0.0
6) EthIpAddress	0.0.0.0	0.0.0.0
7) EthSubnetMask	0.0.0.0	0.0.0.0

- **EthAddressMethod**—The method used to obtain the Ethernet network IP address. Select **DHCP** or **STATIC** from the Current Value drop-down list.
    - When the value is **DHCP**, the **EthGatewayAddress**, **EthIpAddress**, and **EthSubnetMask** values are controlled by the DNS server and the settings are filled in automatically. (The **EthDnsAddress1**, **EthDnsAddress2**, and **EthDnsSearchSuffix** values provide DNS server information.)
    - When the value is **STATIC**, the **EthGatewayAddress**, **EthIPAddress**, and **EthSubnetMask** values must be set manually.
      - **EthGatewayAddress**—Enter the gateway address for the Ethernet network.
      - **EthIpAddress**—Enter the static IP address for the printer.
      - **EthSubnetMask**—Enter the subnet mask for the Ethernet network.
  - **EthDnsAddress1**, **EthDnsAddress2**, **EthDnsSearchSuffix**—These settings provide DNS server information.
1. Click **Set Current** to apply the changes.
  2. Log out of Printer Manager, and then restart it for the changes to take effect.



## ActivityLog

The **ActivityLog** settings allow you to record technical information about the printer. WebAdmin or WebService access-level users can change settings in the activity log to help troubleshoot and isolate a card production problem. You specify the types of actions to include in the logs and set the severity level for when the action should be written to the log. Filter severity level options are: Emergency, Alert, Critical, Error, Warning, Notice, Information, Debug, Disabled.

Description	Default Value	Current Value (unit)
1) ExternalLog	Disabled	Disabled
2) ExternalLogServer	0.0.0.0	0.0.0.0
3) FilterCardActions	Notice	Notice
4) FilterConfigChanges	Notice	Notice
5) FilterJobStates	Notice	Notice
6) FilterSoapMsgs	Notice	Notice
7) FilterSystem	Notice	Notice
8) InternalLog	Enabled	Enabled

- **ExternalLog**—Enable or disable writing the activity log to an external Syslog server.
- **ExternalLogServer**—Specify the IP address of the external Syslog server if you are writing to an external log (**ExternalLog** is set to **Enabled**).
- **FilterCardActions**—Write the start and completion of a card action with the specified severity, and higher, to the activity log.
- **FilterConfigChanges**—Write configuration change actions with the specified severity, and higher, to the activity log.
- **FilterJobStates**—Write changes to the state of a print or exception job with the specified severity, and higher, to the activity log.
- **FilterSoapMsgs**—Write DPCL/Soap (Simple Object Access Protocol) messages from the printer with the specified severity, and higher, to the activity log.

- **FilterSystem**—Write system information with the specified severity, and higher, to the activity log. A value of **Information** results in most events being written to the log.
- **InternalLog**—Enable or disable the activity log on the printer.

### Activity Log Example:

Change the FilterJobStates status recorded in the activity log to help isolate a card production problem.

1. Select **Printer Setting > Activity Log**.
2. Set **FilterJobStates** to **Error** from the drop-down list. Changes to the state of a job, with this severity and higher, are written to the activity log.
3. Click **Set Current** to apply the changes.

Setting	Current Value	Options
1) ExternalLog	Disabled	Disabled
2) ExternalLogServer	0.0.0.0	0.0.0.0
3) FilterCardActions	Notice	Notice
4) FilterConfigChanges	Notice	Emergency Alert Critical
5) FilterJobStates	Notice	<b>Error</b> Warning Notice Information Debug Disabled
6) FilterSoapMsgs	Notice	
7) FilterSystem	Notice	
8) InternalLog	Enabled	Enabled

Level: AdminAccess | Hostname: C26256  
Copyright 2012 DataCard Corporation.



We recommend that you operate at all default logging settings to reduce unnecessary logging for typical printer operations.

## Behavior

Use the Printer Setting menu **Behavior** settings to control printer operation.

Description	Default Value	Current Value (unit)	Allowed Range
1) ActivityLogExternal	Enabled	Enabled	
2) ActivityLogInternal	Enabled	Enabled	
3) CPX	Enabled	Enabled	
4) DPCL	Enabled	Enabled	
5) DPCL2	Enabled	Enabled	
6) DPCL2Secure	Enabled	Enabled	
7) DPCLSecure	Enabled	Enabled	
8) NetworkAccessControl	Disabled	Disabled	
9) Plugin	Enabled	Enabled	
10) RejectHopper	Enabled	Enabled	
11) Remake	Enabled	Enabled	
12) RemakeMethod	Conserve Supplies	Conserve Supplies	
13) RetrieveDataTimeout	120	120	[0 – 120]
14) RibbonInitialize	Enabled	Enabled	
15) SNMP	Enabled	Enabled	
16) WebServerSecure	Enabled	Enabled	

Update Current Values as needed, and then click **Set Current** to apply changes.

- **ActivityLogExternal**—Enable or disable writing the activity log to an external server.
- **ActivityLogInternal**—Enable or disable the internal activity log.
- **CPX**—Enable or disable the CPX communications protocol used by some Datacard systems.
- **DPCL**—Enable or disable DPCL command access to the printer through the non-secure port. DPCL must remain enabled when you use the XPS Card Printer Driver.
- **DPCL2**—Enable or disable DPCL2 command access to the printer through the non-secure port.
- **DPCL2Secure**—Enable or disable DPCL2 command access to the printer through the secure port.
- **DPCLSecure**—Enable or disable DPCL command access to the printer through the secure port.
- **NetworkAccessControl**—Enable or disable network access control.
- **Plugin**—Enable or disable the plugin feature for the printer to access an installed plug-in. This setting is used for OpenCard-enabled printers.
- **RejectHopper**—Enable or disable use of the reject hopper, if one is available, for rejected cards. If this value is set to Disabled, the cards are placed in the front hopper.
- **Remake**—Enable or disable card remakes. If Remake is set to Enabled and a print request fails, the print request is tried again with a new card. A card is retried only once.
- **RemakeMethod**—Select the card remake method. This setting does not display if **Remake** is set to Disabled.
  - Select **ConserveSupplies** to reprint the card out of queue order.
  - Select **PreserveOrder** to reprint the card in queue order.
- **RetrieveDataTimeout**—Specify the time period during which card data can be retrieved. You can specify from 0 to 120 seconds. If the Current Value is 0, data is not retrieved.
- **RibbonInitialize**—Enable or disable initialization of the ribbon when the printer is powered on.

- **SNMP**—Enable or disable SNMP Service.
- **WebServerSecure**—Enable or disable access to Printer Manager (the web server) through the secure port.



**Caution:** Do not disable the web server. If the web server is disabled, you cannot launch Printer Manager and configuration changes cannot be made. To reverse this action, you must contact Datacard. To restrict access for the WebAdmin access level, select **Printer Setting > Update Password** and specify a password.

## VitalProductData

The **VitalProductData** settings allow WebService access level users to change information about the printer or system in specific circumstances. Contact your service provider for information about modifying the VitalProductData settings.

## FrontPanel

Use the **FrontPanel** settings to customize the printer front panel.

Description	Default Value	Current Value (unit)	Allowed Range
1) BacklightBrightness	100	100	[0 – 100]
2) KeySenseLevel	5	5	[0 – 10]
3) LcdConfigMenu	Enabled	Enabled	
4) LedCardsPickedToCleaning	1500	1500	[0 – 1000000]
5) LedPrintheadCyclesToCleaning	2500	2500	[0 – 1000000]
6) LedRibbonLow	10	10	[0 – 1000000]
7) SpeakerEnabled	Enabled	Enabled	

Change the front panel settings as needed, and then click **Set Current** to apply the changes.

- **BacklightBrightness**—Set the LCD front panel backlight brightness at the desired level, from **1** percent (dim) to **100** percent (bright).
- **KeySenseLevel**—Set the front panel key sensitivity to a comfortable level. Select from **0** (low sensitivity, almost a press) to **10** (high sensitivity, barely a touch).

- **LcdConfigMenu**—Enable or disable access to the Configuration menu on the LCD panel menu system. (The Status and Maintenance menus cannot be disabled.)
- **LedCardsPickedToCleaning**—Set the number of cards to pick between required cleaning. The card light blinks amber when the printer reaches this value. If this value is set to 0, cards between cleaning are not tracked.
- **LedPrintheadCyclesToCleaning**—Set the number of printhead cycles between required cleaning. The card light blinks amber when the printer reaches this value. If this value is set to 0, cycles between cleaning are not tracked.
- **LedRibbonLow**—Set the percentage of ribbon remaining before being notified that the ribbon is low and should be changed. The ribbon light blinks amber when the ribbon reaches this value.
- **SpeakerEnabled**—Enable or disable the external printer speaker. The speaker provides a sound in addition to the front panel lights and LCD text.

## Print

The Print selections provide a WebAdmin access-level user with the ability to fine-tune print quality.

Description	Default Value	Current Value (unit)	Allowed Range
1) CardRegistration	0	0	[-0.5 – 50.8]
2) ColorManagement	sRGBColorSpace	MatchSP	
3) FPower	0	0	[-100 – 100]
4) FPowerDuplex	0	0	[-100 – 100]
5) KCustom1Power	0	0	[-100 – 100]
6) KCustom1Power1200DPI	0	0	[-100 – 100]
7) KCustom1Power600DPI	0	0	[-100 – 100]
8) KPower	0	0	[-100 – 100]
9) KPower1200DPI	0	0	[-100 – 100]
10) KPower600DPI	0	0	[-100 – 100]
11) KPowerDuplex	0	0	[-100 – 100]

Description	Default Value	Current Value (unit)	Allowed Range
12) KWhiteShade	0	0	[-100 – 100]
13) LeadTrim	0.254	0.254	[0 – 5.08]
14) SettingsGroupPurpose	Print	Print	
15) TPower	0	0	[-100 – 100]
16) TPowerDuplex	0	0	[-100 – 100]
17) TrailTrim	1.27	1.27	[0 – 5.08]
18) TWhiteShade	0	0	[-100 – 100]
19) YMCPower	0	0	[-100 – 100]
20) YMCPower600	0	0	[-100 – 100]
21) YMCPowerDuplex	0	0	[-100 – 100]
22) YMCPowerNosRGB	-48	-48	[-100 – 100]
23) YMCWhiteShade	0	0	[-100 – 100]

Change settings as needed, and then click **Set Current** to apply changes.

- **Card Registration**—Set the starting location of the printed area. The values are in mm (1 mm = 0.0394 in). The setting specifies the distance to move the card before printing.
  - Increase the value to move printing closer to the card's leading edge.
  - Decrease the value to move printing away from the card's leading edge.
- **ColorManagement**—Specify whether to use color management in the printer.
  - **None** disables color management in the printer and allows color management to be handled by the application.
  - **sRGBColorSpace** uses the standard Red, Green, and Blue color space.
  - **MatchSP** uses the color management technology of the card printer.

- **FPower**—Modify the print intensity for the F panel of UV ribbon.
  - Increase the value to make UV printing more defined on the card.
  - Decrease the value to reduce the UV intensity or prevent frequent ribbon breaks when printing with a UV ribbon.
- **FPowerDuplex**—Modify the print intensity for the back side F panel of UV ribbon.
  - Increase the value to make UV printing more defined on the card.
  - Decrease the value to reduce the UV intensity or to prevent frequent ribbon breaks when printing with a UV panel.
- **KCustom1Power**—Modify the print intensity for the non-black monochrome panel of MT-KT (ST-KT or GT-KT) ribbon.
  - Increase the value to make single-color printing thicker and more defined on the card.
  - Decrease the value to reduce the monochrome intensity or to prevent frequent ribbon breaks when printing with the M panel.
- **KCustom1Power1200DPI**—Modify the print intensity at 1200 dpi for the non-black monochrome panel of MT-KT (ST-KT or GT-KT) ribbon.
  - Increase the value to make single-color printing thicker and more defined on the card.
  - Decrease the value to reduce the monochrome intensity or to prevent frequent ribbon breaks when printing with the M panel.
- **KCustom1Power600DPI**—Modify the print intensity at 600 dpi for the non-black monochrome panel of MT-KT (ST-KT or GT-KT) ribbon.
  - Increase the value to make single-color printing thicker and more defined on the card.
  - Decrease the value to reduce the monochrome intensity or to prevent frequent ribbon breaks when printing with the M panel.
- **KPower**—Modify the print intensity for K (single-color) panel or K (single-color) ribbon.
  - Increase the value to make single-color printing thicker and more defined on the card.
  - Decrease the value for crisp bar codes or to prevent frequent ribbon breaks when printing with the K panel.



- **KPower1200DPI**—Modify the print intensity at 1200 dpi for the K panel or K ribbon.
  - Increase the value to make single-color printing thicker and more defined on the card.
  - Decrease the value for crisp bar codes or to prevent frequent ribbon breaks when printing with the K panel.
- **KPower600DPI**—Modify the print intensity at 600 dpi for the K panel or K ribbon.
  - Increase the value to make single-color printing thicker and more defined on the card.
  - Decrease the value for crisp bar codes or to prevent frequent ribbon breaks when printing with the K panel.
- **KPowerDuplex**—Modify the print intensity for the back-side K panel and K ribbons.
  - Increase the value to make single-color printing thicker and more defined on the card.
  - Decrease the value for crisp bar codes or to prevent frequent ribbon breaks when printing with the K panel.
- **KWhiteShade**—Modify the amount of power applied to the printhead to reduce ribbon friction without transferring material. Decrease the value if material transfers to the card when it should not.
- **LeadTrim**—Modify the number of millimeters to remove from the leading edge of a full-size image to keep it within the print area (1 mm = 0.0394 in. or about 11.8 dot rows).
- **SettingsGroupPurpose**—State the purpose of a settings group. Group names are not changeable. Use this option to identify the reason for creating a settings group.
- **TPower**—Modify the intensity of the T (topcoat) ribbon panel.
  - Increase the value to make printed topcoat thicker or more uniform.
  - Decrease the value to prevent frequent ribbon breaks while printing the topcoat.

- **TPowerDuplex**—Modify the intensity of the back-side T (topcoat) ribbon panel.
  - Increase the value to make printed topcoat thicker or more uniform.
  - Decrease the value to prevent ribbon breaks while printing the topcoat.
- **TrailTrim**—Modify the number of millimeters to remove from the trailing edge of a full-size image to keep it within the print area (1 mm = 0.0394 in. or about 11.8 dot rows).
  - Increase the value to lengthen the printed area.
  - Decrease the value to shorten the printed area.
- **TWhiteShade**—Modify the amount of power applied to the printhead to reduce ribbon friction without transferring material. Decrease the value if material transfers to the card when it should not.
- **YMCPower**—Modify the intensity of the YMC (color) ribbon panels.
  - Increase the value to make the color printing more intense.
  - Decrease the value to reduce the color intensity or to prevent frequent ribbon breaks when printing colors.
- **YMCPower600**—Modify the print intensity at 600 dpi for the YMC (color) ribbon panels.
  - Increase the value to make the color printing more intense.
  - Decrease the value to reduce the color intensity or to prevent frequent ribbon breaks when printing colors.
- **YMCPowerDuplex**—Modify the intensity of the back-side YMC (color) ribbon panels.
  - Increase the value to make the color printing more intense.
  - Decrease the value to reduce the color intensity or to prevent frequent ribbon breaks when printing colors.
- **YMCPowerNosRGB**—Modify the intensity when you are printing without the sRGB color mode.
  - Increase the value to make the non-sRGB color darker
  - Decrease the value if using non-sRGB color mode to prevent overly dark printing or ribbon wrinkles or tears.

- **YMCWhiteShade**—Modify the amount of power applied to the printhead to reduce ribbon friction without transferring material. Decrease the value if unprinted or white areas of the card have color applied to them and should not.

## Pick

Pick settings are available for WebService access-level users only. Contact your service provider for information about changing the printer's pick settings.

## Transport

Description	Default Value	Current Value (unit)	Allowed Range
1) EjectHopperSpeed	ehs_Standard	ehs_Standard	
2) TransMedSpeed	800	800	[300 – 1800]

Change settings as needed, and then click **Set Current** to apply changes.

- **EjectHopperSpeed**—Optimize the card eject speed based on the hopper type.
  - Select **ehs\_Standard** if the printer has a standard output hopper.
  - Select **ehs\_Extended** if the printer has an extended (100-card) output hopper.



If you have installed the 100-card output hopper, change the **EjectHopperSpeed** setting to **ehs\_Extended** to allow completed cards to stack properly in the hopper.

- **TransMedSpeed**—Set the speed at which to run the transport motor when you are clearing errors.

## Flipper

Flipper settings are used to set values for the duplex module in duplex-option printers. Flipper settings are available for WebService access-level users only. Contact your service provider for information about changing the printer's flipper settings.

## MagStripeGeneral

Magnetic stripe settings are available for WebAdmin and WebService access-level users to set up basic magnetic stripe options.

Description	Default Value	Current Value (unit)	Allowed Range
1) Attempts	3	3	[1 – 5]
2) Coercivity	HICO	HICO	
3) DataFormat1	IATA	IATA	
4) DataFormat2	ABA	ABA	
5) DataFormat3	TTS	TTS	
6) NoDataDisableTrack	Disabled	Disabled	
7) ReadTrack1	Enabled	Enabled	
8) ReadTrack2	Enabled	Enabled	
9) ReadTrack3	Enabled	Enabled	
10) SSA1	0	0	[-4 – 4]
11) SSA2	0	0	[-4 – 4]
12) SSA3	0	0	[-4 – 4]
13) StripeEncoderMultiplier	1.0	1	[0.9 – 1.1]
14) WriteTrack1	Enabled	Enabled	
15) WriteTrack2	Enabled	Enabled	
16) WriteTrack3	Enabled	Enabled	

Change settings as needed, and then click **Set Current** to apply changes.

- **Attempts**—Specify the number of attempts (automatic retries) the printer makes to encode the magnetic stripe data. This value also is used for the number of times to attempt to read magnetic stripe data.

If you set this number to a lower value, it increases the throughput of the printer but can decrease the reliability of magnetic stripe encoding.

If you set the number to a higher value, it decreases the throughput of the printer but can increase the reliability of magnetic stripe encoding.

A value of 1 means no retry attempts.

- **Coercivity**—Select the coercivity setting that matches the cards you are using. Coercivity measures the resistance of magnetic material to the removal of encoded data. High coercivity (HICO) requires more electrical force to encode data and the data is more resistant to magnetic interference. The choices are **HICO**, **LOCO**, **NTT1**, **NTT2**, **NTT3**.
- **DataFormat (1, 2, 3)**—Specify the names of the data formats used for tracks 1, 2, and 3.

For single-track magnetic stripe encoding, set **DataFormat1** to **JIS** and **DataFormat2** and **DataFormat3** to **NONE**.

To use a custom data format, define the formats for tracks 1, 2, and/or 3 using the **MagStripeCustomTrack (1, 2, 3)** settings and then set the corresponding **DataFormat** settings to **CUSTOM**.

- **NoDataDisableTrack**—Disable the magnetic stripe write head for a track if the track contains no data. When this is disabled, any track that was not given data is erased.
- **ReadTrack (1, 2, 3)**—Allow magnetic stripe read actions to read from tracks 1, 2, and 3.
- **SSA (1, 2, 3)**—Set the start sentinel adjustment for tracks 1, 2, and 3. (SSA3 also sets the start sentinel for a single track.) The start sentinel is encoded on the magnetic stripe immediately before the first data character and indicates the beginning of data. Enter a value from -4 to 4.
- **StripeEncoderMultiplier**—This value is information only and cannot be changed. It is determined when an SSA test is run.
- **WriteTrack (1, 2, 3)**—Allow magnetic stripe write actions to write to tracks 1, 2, and 3.

## MagStripeCustomTrack 1 – 3

Custom magnetic stripe settings are available for WebAdmin and WebService access-level users to define custom magnetic stripe options.

Description	Default Value	Current Value (unit)	Allowed Range
1) CustomCharHigh	Track 1: 95 Tracks 2 & 3: 63	95 63	[1 – 255]
2) CustomCharLength	Track 1: 6 Tracks 2 & 3: 4	6 4	[1 – 8]
3) CustomCharLow	Track 1: 32 Tracks 2 & 3: 48	32 48	[1 – 255]
4) CustomCharMask	Track 1: 32 Track 2: 48	32 48	[1 – 255]
5) CustomCharMax	Track 1: 76 Track 2: 37 Track 3: 104	76 37 104	[1 – 255]
6) CustomDensity	Tracks 1 & 3: 210 Track 2: 75	210 75	[1 – 255]
7) CustomEndSentinel	63	63	[1 – 255]
8) CustomLrc	EVEN	EVEN	
9) CustomParity	ODD	ODD	
10) CustomSdsNulls	0	0	[0 – 255]
11) CustomSdsRecords	1	1	[0 – 255]
12) CustomSdsSs	1	1	[1 – 255]
13) CustomStartSentinel	Track 1: 37 Tracks 2 & 3: 59	37 59	[1 – 255]

Change settings as needed, and then click **Set Current** to apply changes.

- **CustomCharHigh**—Specify the numeric value of the highest ASCII character supported for input data on the track.
- **CustomCharLength**—Set the number of bits to represent one character of data on the track, also called bits per character.
- **CustomCharLow**—Specify the numeric value of the lowest ASCII character supported for input data on the track.
- **CustomCharMask**—Specify the mask value that is subtracted from the ASCII numeric value to get the encoded value.
- **CustomCharMax**—Specify the maximum number of data characters for the track. The value does not include the start sentinel or end sentinel.
- **CustomDensity**—Specify the number of data bits per inch of magnetic stripe media for the track, also called bits per inch or bpi. Allowed values are 75 bpi or 210 bpi.
- **CustomEndSentinel**—Specify the last character encoded, which identifies the end of encoded data for the track.
- **CustomLrc**—Specify a cumulative parity bit that is encoded after the end sentinel to provide simple error checking.
- **CustomParity**—Specify a character-level parity bit encoded after each character to provide simple error checking.
- **CustomSdsNulls**—Specify the number of nulls between each copy of the data record. You should not change this value.
- **CustomSdsRecords**—Specify the number of times to encode the data record. You should not change this value.
- **CustomSdsSs**—Specify the number of start sentinels before each data record. You should not change this value.
- **CustomStartSentinel**—Specify the first character encoded, which identifies the start of the encoded data for the track.

Using custom magnetic stripe data formats is a two-step process. First, define the custom tracks using **MagStripeCustomTrack1**, **MagStripeCustomTrack2**, and **MagStripeCustomTrack3**. Second, apply the custom track using the settings on the **MagStripeGeneral** menu.

1. To use the defined custom track:
  - A. Open the **MagStripeGeneral** menu.
  - B. Select **Custom** for **DataFormat1**, **DataFormat2**, or **DataFormat3** to use the custom track.
    - MagStripeCustomTrack1 corresponds to DataFormat1
    - MagStripeCustomTrack2 corresponds to DataFormat2
    - MagStripeCustomTrack3 corresponds to DataFormat3
2. Click **Set Current** to apply the changes.

## Laminator

The Laminator settings let you specify values when using a laminating system.

Description	Default Value	Current Value (unit)	Allowed Range
1) DebowDelay	1000	1000	[0 – 1500]
2) ExceptionCardDebow Direction	Down	Down	
3) ExceptionCardDebow DistanceDown	15	15	[0 – 150]
4) ExceptionCardDebow DistanceUp	105	105	[0 – 150]
5) ExceptionCardDebow DwellMs	1000	1000	[0 – 5000]
6) ExceptionCardImpress Depth	0	0	[-200 – 200]
7) ExceptionCardImpress Dwelltime	2000	2000	[0 – 10000]
8) ExceptionCardImpress PositionOffset1	2000	2000	[0 – 4000]



Description	Default Value	Current Value (unit)	Allowed Range
9) ExceptionCardImpress PositionOffset2	2000	2000	[0 – 4000]
10) ExceptionCardImpress PositionOffset3	2000	2000	[0 – 4000]
11) ExceptionCardImpress Temperature	130	130	[50 – 160]
12) ExceptionCardNumber OfImpresses	1	1	[1 – 3]
13) HeaterMinutesToPower Save	15	15	[15 – 240]
14) Hopper1CardDebow Direction	Down	Down	
15) Hopper1CardDebow DistanceDown	15	15	[0 – 150]
16) Hopper1CardDebow DistanceUp	105	105	[0 – 150]
17) Hopper1CardDebow DwellMs	1000	1000	[0 – 5000]
18) Hopper1CardImpress Depth	0	0	[-200 – 200]
19) Hopper1CardImpress DwellTime	2000	2000	[0 – 10000]
20) Hopper1CardImpress PositionOffset1	2000	500	[0 – 4000]
21) Hopper1CardImpress PositionOffset2	2000	500	[0 – 4000]
22) Hopper1CardImpress PositionOffset3	2000	500	[0 – 4000]
23) Hopper1CardImpress Temperature	130	130	[50 – 160]
24) Hopper1CardNumber OfImpresses	1	1	[1 – 3]
25) ImpresserSpeed	893	893	[50 – 2000]

Description	Default Value	Current Value (unit)	Allowed Range
26) L2CoolingTime	1000	1000	0 – 5000
27) RollerTypeInstalledL1	Standard	Standard	
28) RollerTypeInstalledL2	Standard	Standard	
29) ScanBarCodeRetries	0	0	[0 – 5]

Change settings as needed, and then click **Set Current** to apply changes.

- **DebowDelay**—Specify the amount of time (in milliseconds) to wait before the debow action takes place if the card also is being impressed. This value is valid only if an impresser is installed in the laminator. Set this value to 0 if no delay is required.

## Exception Card Settings

Use the following settings for cards printed from the exception card slot. These may differ from the settings specified for cards picked from the input hopper. For example, the card material may be different or you are laminating a preprinted card. You may need to laminate multiple cards to determine the best settings to use in your environment.

### Exception Card Debow Settings:

- **ExceptionCardDebowDirection**—Set the direction of the debow action in the laminator to return the card to its proper shape after an overlay is applied. A card may become bowed slightly due to heat from the laminator.
  - **Down**—The debow arms in the laminator press down on the card.
  - **Up**—The debow arms press up on the card.
- **ExceptionCardDebowDistanceDown**—Set the amount (distance) to move the debow arms down. The value is in increments of the debow motor. (This value is used when **ExceptionCardDebowDirection** is set to **Down**.)
  - Increase the value to bend the card down more.
  - Decrease the value to bend the card down less.

- **ExceptionCardDebowDistanceUp**—Set the amount (distance) to move the debow arms up. The value is in increments of the debow motor. (This value is used when **ExceptionCardDebowDirection** is set to **Up**.)
  - Increase the value to bend the card up more.
  - Decrease the value to bend the card up less.
- **ExceptionCardDebowDwellMs**—Set the time, in milliseconds, the debow action is applied to a card. The default is 2000 ms (2 seconds).
  - Increase the value to apply the debow action longer.
  - Decrease the value to apply the debow action for less time.

#### Exception Card Impresser Settings:

- **ExceptionCardImpressDepth**—Set the depth of the impression on a card. The value is in steps of the impresser punch.
  - Increase the value to deepen the impression.
  - Decrease the value to lessen the impression.



You may need to adjust the card impress depth value based on the card material and overlay type used.

- **ExceptionCardImpressDwellTime**—Set the time, in milliseconds, the impresser remains in contact with the card. The default is 2000 ms (2 seconds).
  - Increase the value to allow the impresser to remain on the card longer.
  - Decrease the value to impress the card for a shorter time.
- **ExceptionCardImpressPositionOffset1**—Set the distance from the back edge of the card to the center of the first impression on the card.
  - Increase the offset value to increase the distance of the impression from the back edge of the card.
  - Decrease the offset value to decrease the distance of the impression from the back edge of the card.

- **ExceptionCardImpressPositionOffset2**—Set the distance from the back edge of the card to the center of the second impression on the card.
  - Increase the offset value to increase the distance of the impression from the back edge of the card.
  - Decrease the offset value to decrease the distance of the impression from the back edge of the card.
- **ExceptionCardImpressPositionOffset3**—Set the distance from the back edge of the card to the center of the third impression on the card.
  - Increase the offset value to increase the distance of the impression from the back edge of the card.
  - Decrease the offset value to decrease the distance of the impression from the back edge of the card.
- **ExceptionCardImpressTemperature**—Set the temperature of the impresser punch (in degrees Celsius).
  - Increase the value to increase the temperature of the impresser punch.
  - Decrease the value to decrease the temperature of the impresser punch.
- **ExceptionCardNumberOfImpresses**—Enter the number of impressions to be stamped on the card. The impresser can stamp up to three impressions in a row on the left, center, or right part of the card.
- **HeaterMinutesToPowerSave**—Set the number of minutes before the laminator and impresser heaters are turned off. After the specified number of minutes, the heaters are allowed to cool down. Using power save requires a warmup period before the laminator is ready to laminate cards again. The front panel LCD displays the message **Busy Warming up** and a percentage that indicates the status of the heaters.

## Hopper 1 Settings

Use the following settings to specify values for cards picked from hopper 1. Set up hopper 1 for the most commonly used card type.

### Hopper 1 Debow Settings:

- **Hopper1DebowDirection**—Set the direction of the debow action in the laminator to return the card to its proper shape after an overlay is applied. A card may become bowed slightly in a concave or convex shape due to heat from the laminator.
  - **Down**—The debow arms in the laminator press down on the card.
  - **Up**—The debow arms press up on the card.
- **Hopper1DebowDistanceDown**—Set the amount (distance) to move the debow arms down. The value is in increments of the debow motor. (This value is used when **Hopper1DebowDirection** is set to **Down**.)
  - Increase the value to bend the card down more.
  - Decrease the value to bend the card down less.
- **Hopper1DebowDistanceUp**—Set the amount (distance) to move the debow arms up. The value is in increments of the debow motor. (This value is used when **Hopper1DebowDirection** is set to **Up**.)
  - Increase the value to bend the card up more.
  - Decrease the value to bend the card up less.
- **Hopper1DebowDwellMs**—Set the time, in milliseconds, the debow action is applied to a card. The default is 2000 ms (2 seconds).
  - Increase the value to apply the debow action longer.
  - Decrease the value to apply the debow action for less time.

### Hopper 1 Impresser Settings:

- **Hopper1ImpressDepth**—Set the depth of the impression on a card. The value is in steps of the impresser punch.
  - Increase the value to deepen the impression.
  - Decrease the value to lessen the impression.



You may need to adjust the card impress depth value based on the card material and overlay type used.

- **Hopper1ImpressDwellTime**—Set the time, in milliseconds, the impresser remains in contact with the card. The default is 2000 ms (2 seconds).
  - Increase the value to allow the impresser to remain on the card longer.
  - Decrease the value to impress the card for a shorter time.
- **Hopper1ImpressPositionOffset1**—Set the distance from the back edge of the card to the center of the first impression on the card.
  - Increase the offset value to increase the distance of the impression from the back edge of the card.
  - Decrease the offset value to decrease the distance of the impression from the back edge of the card.
- **Hopper1ImpressPositionOffset2**—Set the distance from the back edge of the card to the center of the second impression on the card.
  - Increase the offset value to increase the distance of the impression from the back edge of the card.
  - Decrease the offset value to decrease the distance of the impression from the back edge of the card.
- **Hopper1ImpressPositionOffset3**—Set the distance from the back edge of the card to the center of the third impression on the card.
  - Increase the offset value to increase the distance of the impression from the back edge of the card.
  - Decrease the offset value to decrease the distance of the impression from the back edge of the card.
- **Hopper1ImpressTemperature**—Set the temperature of the impresser punch (in degrees Celsius).
  - Increase the value to increase the temperature of the impresser punch.
  - Decrease the value to decrease the temperature of the impresser punch.
- **Hopper1NumberOfImpresses**—Enter the number of impressions to be stamped on the card. The impresser can stamp up to three impressions in a row on the left, center, or right part of the card.
- **ImpresserSpeed**—Set the speed of the impresser motor. The value is in increments of the motor.
  - Increase the value to increase the speed of the impresser motor.
  - Decrease the value to decrease the speed of the impresser motor.

- **L2CoolingTime**—Specify the time, in milliseconds, to wait for the card to cool after applying the overlay in the L2 laminator before proceeding to the L1 laminator. The default is 1000 ms (1 second). Enter 0 to turn off the delay.
- **RollerTypeInstalledL1**—Specify the type of roller installed in the L1 laminator. The options are **Standard**, **Rubber**, or **Custom**.
- **RollerTypeInstalledL2**—Specify the type of roller installed in the L2 laminator. The options are **Standard**, **Rubber**, or **Custom**.
- **ScanBarCodeRetries**—Specify the number of times the bar code scanner should attempt to read a bar code on a serialized overlay. If the read fails, the next read attempt advances the overlay to the next usable bar code on the overlay. This applies only to laminators that have the optional bar code scanner installed.

## LaminateType

Use the LaminateType options to specify settings for the overlay materials used in the laminating system.

Description	Default Value	Current Value (unit)	Allowed Range
1) DatabaseVersion	1	1	[1 – 999]
2) ExclusiveOverlayInL1		Disabled	
3) ExclusiveOverlayInL2		Disabled	
4) OverlayDisplayed Name		0.5_mil_Clear_DG	
5) OverlayLoadedInL1 Name		0.5_mil_Clear_DG	
6) OverlayLoadedInL2 Name		Clear_Topcoat	
105) OverlayPartNumber	0	508668	
106) OverlaySpeed	160	160	[100 – 250]
107) OverlaySpeed AdjustmentL1	0	0	[-40 – 40]
108) OverlaySpeed AdjustmentL2	0	0	[-40 – 40]
109) OverlayTemp	160	175	[100 – 200]

Description	Default Value	Current Value (unit)	Allowed Range
110) OverlayTemp AdjustmentL1	0	15	[-20 – 40]
111) OverlayTemp AdjustmentL2	0	0	[-20 – 40]
112) UserOverlay1Name		None	
113) UserOverlay2Name		None	
114) UserOver3Name		None	
115) UserOverlay4Name		None	

Change settings as needed, and then click **Set Current** to apply changes.

- **DatabaseVersion**—The version number of the overlay database currently installed in the laminator. The overlay database is an XML file that contains the supported overlay types and allows the laminator to identify the type of overlay loaded in each cartridge. You can download an updated overlay database from the Drivers and Downloads page at [www.datacard.com](http://www.datacard.com). Refer to “[Updates](#)” on [page 76](#) for information about uploading the XML file to your laminator.
- **ExclusiveOverlayInL1, ExclusiveOverlayInL2**—Use these settings to enforce that a specified overlay type is loaded in the L1 or L2 laminators. The default value is **Disabled**, which allows any overlay to be loaded in the laminator cartridges. If you select an overlay name, the named overlay must be loaded in the specified cartridge or the job will be canceled and a supply error issued.
- **OverlayDisplayedName**—Select the name of the overlay whose settings you want to change. Click **Set Current** to apply the overlay selection. You must do this before making any changes to the overlay settings.

The changes you make to the remainder of the settings on this page apply to the selected overlay type. The settings apply any time the named overlay is loaded in the laminator.

- **OverlayLoadedInL1Name**—The name of the overlay type loaded in the L1 laminator cartridge. This information is obtained from the supply roll and cannot be changed. If the overlay name is the same as the overlay type selected in **OverlayDisplayedName**, the values you specify to the settings on this page apply to the overlay. If the overlay name is not the same, no changes are applied.



- **OverlayLoadedInL2Name**—The name of the overlay type loaded in the L2 laminator cartridge. This information is obtained from the supply roll and cannot be changed. If the overlay name is the same as the overlay type selected in **OverlayDisplayedName**, the values you specify to the settings on this page apply to the overlay. If the overlay name is not the same, no changes are applied.
- **OverlayPartNumber**—The part number of the overlay named in **OverlayDisplayed Name**. This field is obtained from the supply roll and cannot be changed.
- **OverlaySpeed**—The default speed, in steps per second, at which to apply the overlay type named in **OverlayDisplayedName**. This value is obtained from the supply roll and cannot be changed. Make adjustments to the speed using the **OverlaySpeedAdjustment** settings.
- **OverlaySpeedAdjustmentL1, OverlaySpeedAdjustmentL2**—Adjust the speed at which to apply the overlay type named in **OverlayDisplayedName** when it is loaded in the specified cartridge. The speed adjustment is measured in steps per second of the motor that moves the card. Set the speed as the difference between the default speed value (shown in **OverlaySpeed**) and speed you want to use. Decrease the speed to improve how the overlay adheres to the card. For example, if the default is 160, and you want to set the speed to 150, enter -10.
- **OverlayTemp**—The temperature at which to apply the overlay type named in **OverlayDisplayedName**. This Current Value is obtained from the supply roll and cannot be changed. Make adjustments to the temperature using the **OverlayTempAdjustment** settings.
- **OverlayTempAdjustmentL1, OverlayTempAdjustmentL2**—Adjust the temperature at which to apply the overlay type named in **OverlayDisplayedName** when it is loaded in the specified cartridge. Enter the temperature adjustment as the difference between the Default Value and the recommended temperature obtained from the supply roll, both shown in **OverlayTemp**, to apply the selected overlay type.
  - Increase the temperature to improve how well the overlay adheres to the card.
  - Decrease the temperature to prevent wrinkling of the overlay.

Each overlay type has a preferred temperature that allows it to best adhere to the card. For example, if the default temperature is 160 degrees Celsius, and the overlay type you are using runs at 175 degrees Celsius, enter 15.



The **OverlaySpeed** and **OverlayTemp** settings work together to determine how well the overlay is applied. You might have to laminate several cards to find the speed and temperature settings that work best for your card type.

- **UserOverlay1Name, UserOverlay2Name, UserOverlay3Name, UserOverlay4Name**—These settings allow you to specify a user-defined name for an overlay type, based on the overlay named in **OverlayDisplayedName**. You then can override the settings for the specified overlay.

## Update Password

WebAdmin access-level personnel can specify to password protect Printer Manager and limit access to the advanced settings. Adding password protection is the preferred method of restricting access to Printer Manager. If no password is assigned, a password is not needed to log on to Printer Manager.

Description	Value
Choose Username to Update	WebAdmin
Current Password	
New Password	
Confirm New Password	

1. Select the access level for which you want to assign a password. The WebAdmin access level can update the WebAdmin, WebUser, SNMP read, and SNMP write passwords.
2. Enter the current password. If the current password field is blank (no entry), leave this box blank.
3. Enter the new password in the corresponding field. To remove a password, leave this field blank.
4. Enter the new password again to confirm it. Leave the field blank if you are removing the password.
5. Click **Update Password** to apply the changes.

Passwords are hierarchical in the following order: WebService, WebAdmin, and WebUser. You can use a password that is higher in the hierarchy to log on to a specific role.

## Set Job Queue State

Enter or select values prior to shipping the printer or system to or from repair facilities.



This setting is used primarily for financial printers. Contact your service provider for more information.

Field	Value	Description
Current Password		Enter the currently set password. Leave the field blank if no password was previously set.
Next Password		Enter a new password. A blank value means that no password is required or leaves the current password unchanged, depending on the settings.
Confirm Next Password		Retype the Next Password.
State	<b>Online</b> <b>Suspend</b> <b>Offline</b>	StartJob succeeds if there is space in the queue. StartJob succeeds if there is space in the queue and exceptionJob=true. StartJob does not succeed under any circumstances.

1. Enter the current password for the printer or system.
2. Enter a new password for the printer or system.
3. Re-enter the new password for verification.
4. Select a state:
  - **Online**—The printer performs normally.
  - **Suspend**—Deactivates the printer, but allows for some exception jobs.
  - **Offline**—Deactivates the printer for transportation.

- Click **Set Job Queue State** to apply the changes.



To re-enable an “Offline” printer and set it back to “Online,” you must enter the same password that was used to set it to “Offline.”

## TroubleShooting Menu

The TroubleShooting menu for the WebAdmin access level contains settings and tools that help you isolate card production issues. Use the TroubleShooting options to print test cards, view and print the activity log, reset the log, reset counters, and reset the printer.



TroubleShooting Menu Option	Function	WebUser	WebAdmin
Test Card	Print test cards	No	Change all current values/Run card
Activity Log	Display printer activity	No	View
Reset Log	Reset the activity log	No	Yes
Print Request Log	Display a log of printer requests	No	Yes (applies only to OpenCard factory-activated printers)
Reset Counters	Reset card counters	No	Yes
Printer Reset	Restart the printer	No	Yes

## Test Card

The Test Card menu shows the items available to WebAdmin access-level users. Print test cards to troubleshoot card production issues. Select the options to test from the following.

Description	Card Front (page 1)	Card Back (page 2)
Input Hopper Number	1	
Magnetic Stripe		[ ]
Color	[X]	[ ]
Monochrome	[ ]	[ ]
Topcoat	[ ]	[ ]
Second Topcoat	[ ]	[ ]
Test Pattern to use for Color and/or Monochrome	[TestPattern1]	[TestPattern1]
Lamination Options	None	
Debow	[ ]	[ ]
Impress	[ ]	[ ]

### Test Card Other Options

Description	Current Value (unit)	Allowed Range
Copies	1	[1 – 10]
Park Smart Card	[ ]	
SmartCard Park Time	10 seconds	[0 – 300]
Do not eject card	[ ]	

Enter the value(s) for the type of test card to print, and then click **Run** to send the test card to print.

- **Input Hopper Number**—Select the input hopper from which the test card should be picked.
- **Magnetic Stripe**—Print the test card with encoded magnetic stripe data.

- **Color**—Print the test card using the YMCK panels of the print ribbon on the front or back.
- **Monochrome**—Print the test card using a monochrome ribbon (or the K panel of a color ribbon) on the front or back.
- **Topcoat**—Print the test card with topcoat on the front or back.
- **Second Topcoat**—Print the test card with a second topcoat on the front or back.
- **Test Pattern to use for Color and/or Monochrome**—Select the type of test pattern to use on the front or back of the test card. You can select from the following:
  - **TestPattern1**—Use this test to evaluate the overall print quality of the card. The test prints a full-color test card using the YMCK panels of the print ribbon.
  - **TestPattern2**—Use this test to evaluate the overall print quality when using short-panel print ribbon.
  - **TestPattern3**—Use this test to identify print intensity issues that can appear as wrinkles on the printed card. The option prints a dense blue color card to test the density of the printed card.
  - **TestPattern4**—Use this test to print a color-step test card that uses all panels of the print ribbon and displays the steps of each color from darkest to lightest.
  - **TestPattern5**—Use this test to set up the card registration of the printer. Print the card to verify changes to the card registration settings.
  - **TestPattern6**—Use this test to print a marbles-image test card to evaluate general appearance.
  - **TestPatternRegistration** and **TestPatternCheckered**—Use these tests to check card registration mechanically. Side/side or lead/trailing issues may indicate a chassis, card guide, or roller problem.
  - **TestPatternShort**—Use this test to print a short-panel YMCKT test card.
  - **TestPatternGrid**—Use this test to print a full K panel test card.
  - **TestPatternManufacture A – E**—These test cards are used only during manufacturing setup.

- **Lamination Options**—Use this test to determine whether a laminator system is applying overlay material properly. You can select from the following lamination options:
  - **L1 Front**—Applies overlay from the L1 laminator to the front of the card.
  - **L1 Back**—Applies overlay from the L1 laminator to the back of the card.
  - **L1 Front L1 Back**—Applies overlay from the L1 laminator to the front and back of the card.
  - **L2 Front**—Applies overlay from the L2 laminator to the front of the card.
  - **L2 Back**—Applies overlay from the L2 laminator to the back of the card.
  - **L2 Front L2 Back**—Applies overlay from the L2 laminator to the front and back of the card.
  - **L2 Back L1 Front**—Applies overlay from the L2 laminator to the back of the card, and overlay from the L1 laminator to the front of the card.
  - **L2 Front L1 Back**—Applies overlay from the L2 laminator to the front of the card, and overlay from the L1 laminator to the back of the card.
- **Debow**—Select this option to apply the debow action when an overlay is applied to the card.
- **Impress**—Select this option to impress a card, if an impresser is installed.
- **Copies**—Enter the number of test cards to print for each test, from 1 to 10.
- **ParkSmartCard**—Select this option to park the test card in the smart card bay. The test does not transmit any data, but is used to test the movement of the card into, and out of, the bay.
- **SmartCardParkTime**—Enter the amount of time to hold the test card in the smart card bay, from 0 to 300 seconds.
- **Do not eject card**—Select this option to prevent the test card from being ejected from the printer.

## Activity Log

The Activity Log displays information about printer activity. It includes all actions and errors encountered since last reset. Save and send the activity log to your service provider when you request service. The log provides valuable information for troubleshooting printer performance issues.

1. Click **Download** to save the activity log information.
2. Enter a location on your PC to save the file.
3. Save and send the activity log to your service provider when you request service.

### Sample Data

12: 0d 00h 00m 25.202s [SYSTEM\_\_CRIT ] value of flip det <1> value of opt board det <1> value of punch det <0> in printer.cpp

14: 0d 00h 00m 25.196s [SYSTEM\_\_WARNING] Improper shutdown detected

14: 0d 01h 10m 14.135s [JOB\_\_\_\_\_NOTICE ] Resolved condition 1-JobFailed Notice 637/638 "hostname".770962.0.0

## Reset Log

The Reset Log option allows a WebAdmin access-level user to reset the Activity Log.

Click **Run** to reset the Activity Log.

## Print Request Log

The Print Request Log option allows a WebAdmin access-level user to view and reset the Print Request Log.



This option applies only to OpenCard factory-activated printers.

Select the Number of Logs (5, 10, 15, 20, 25, or All) and click **Run** to view a log of the print requests sent to the printer.

To reset the audit log, click **Run** in the Reset Log field.

## Reset Counters

The Reset Counters option resets the Current Card counter functions in the printer. Life counters or total card counts cannot be reset.

Click **Run** to reset the counters.



## Printer Reset

The Printer Reset option restarts the printer.

Click **Run** to restart the printer.

## Personalization Tools Menu

The Personalization Tools menu allows WebAdmin access-level users to import, export, and delete card formats, fonts, and images used with some software personalization tools, such as OpenCard. Refer to the *SD/CD Series Card Printers OpenCard Data Format Guide* for additional information.



Personalization Tools Menu Options	Function	WebUser	WebAdmin
Managed Items	Display managed items	No	List, Add or Delete Managed Items
Add Card Stock	Add card stock	No	Add Card Stock Name

### Managed Items

Select Card Format, Images, Card Stock, Fonts, or Font Families and click **List Items** to display the current list of loaded files for the selected group.

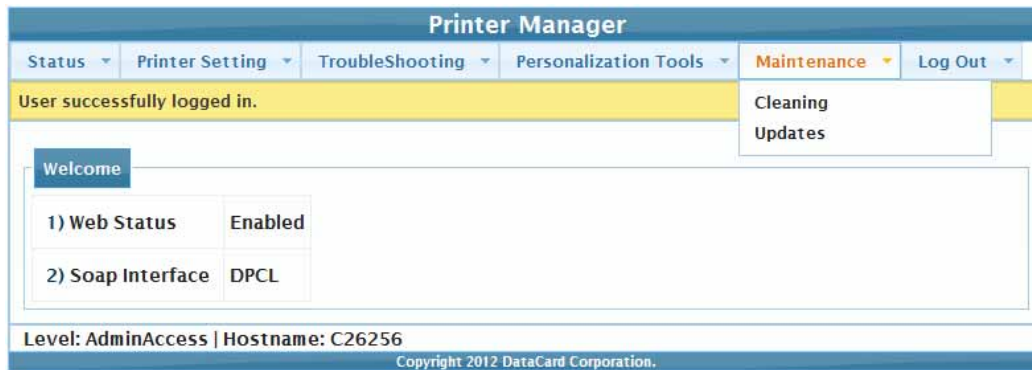
- To add an item to a selected group, click **Browse**, select a file path, and click **Add Item**.
- To remove a loaded file, select a file in the list of loaded files and click **Delete Item**.
- To export an item to your PC, select the item to export and click **Export Item**. Specify a location for the exported item.

## Add Card Stock

1. Type a name for the card stock in the Card Stock Name dialog.
2. Click **Add** to load a card stock.

## Maintenance Menu

The Maintenance menu allows WebUser and WebAdmin access-level users to run a cleaning card from the Printer Manager. Additionally, the Maintenance menu provides the WebAdmin level with the rights to upload updates to the printer.



Maintenance Menu Option	Function	WebUser	WebAdmin
Cleaning	Clean the printer, hoppers (for printers with the optional multi-hopper), and laminator	Run Card	Run Card
Updates	Update the printer settings	No	Upload File

## Cleaning

Cleans the printer using a cleaning card. If the printer has a laminator, you can select to clean the laminator.

## Clean the Printer

1. Unlock the system, if necessary.
2. Remove the supplies.
  - A. Open the printer's top cover and remove the ribbon cartridge.
  - B. Remove any blank card stock from the input hopper.
  - C. Lock the printer.
3. Place the unwrapped cleaning card in the card input hopper.
4. Select **Maintenance > Cleaning**.
5. Select **Clean Printer**.
6. Click **Run** to start the cleaning process. Press the USER button on the printer when the message "172: Insert cleaning card" displays on the LCD panel.

The printer picks the cleaning card, moves it through the printer several times, and ejects it in the output hopper or reject card tray.
7. Remove the used cleaning card. Wait a few minutes for the rollers to dry.
8. Replace the supplies.
  - A. Place the cards in the input hopper.
  - B. Replace the cleaning sleeve with a new sleeve and remove the protective cover.
  - C. Replace the ribbon cartridge and close the printer cover. Lock the printer, if necessary.

## Clean the Laminator

1. Select **Clean Laminator** on the **Maintenance > Cleaning** page.
2. Click **Run**.

The printer LCD panel displays the message "172: Insert cleaning card."
3. Insert the laminator cleaning card into the card exit slot of the laminator and press the USER button.

The laminator pulls the cleaning card from the card exit slot into the laminator and moves it back and forth through the L1 and L2 cartridge areas and the card entry area several times. The used card is ejected into the laminator output hopper.

## Updates

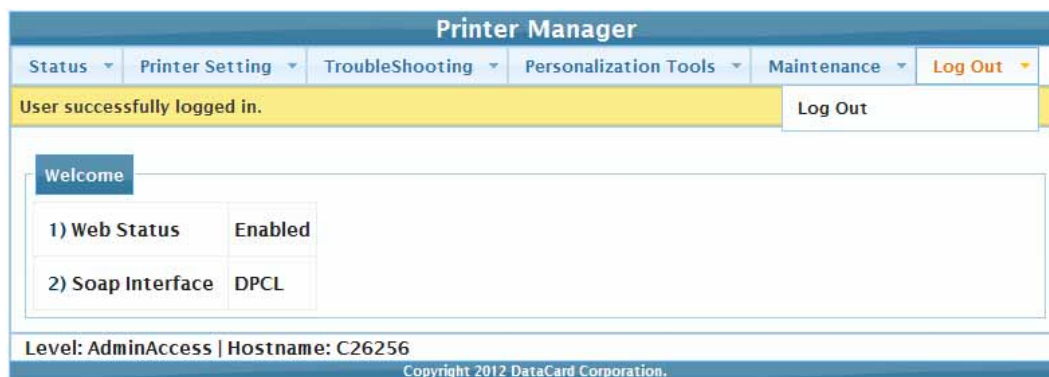
The **Updates** option allows a WebAdmin access-level user to send an external settings file to the printer.

To upload a settings file:

1. Click **Browse** and select the file to upload.
2. Click **Upload File**.

## Log Out Menu

Use the **Log Out** option to end the current Printer Manager session and return to the Printer Manager Log In page. For security, close the browser window after logging out.



Log Out Menu Option	Function	WebUser	WebAdmin
Log Out	Log out and return to Log In page	Yes	Yes



# Chapter 4: Supplies and Parts

# 4

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This section describes the supplies and parts for the printer. It includes:

- [Print Ribbon on page 78](#)
- [Laminator Supplies on page 81](#)
- [Cards on page 84](#)
- [Cleaning Supplies on page 87](#)
- [Replacement Parts on page 88](#)
- [Optional Equipment on page 89](#)
- [Cables and Power Supplies on page 90](#)

# Print Ribbon

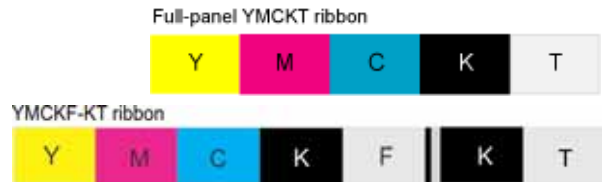
Print ribbon kits are available from your dealer. Kits include a print ribbon, a cleaning card, and a replaceable cleaning sleeve. For best results, run a cleaning card and replace the cleaning sleeve with each new print ribbon.

## Color Print Ribbon

Color print ribbon is available in either full-panel or short-panel options. Both full-panel and short-panel print ribbons use the following color panels: Y (yellow), M (magenta), C (cyan/blue), K (black), and T (topcoat). Ribbons with a ultraviolet fluorescing (F) panel that provides additional security, and ribbons without a T (topcoat) panel are available for laminating printers.

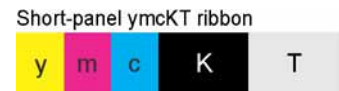
### Full-Panel Color Print Ribbon

Use full-panel print ribbon when the card design calls for color printing on the entire card.



### Short-Panel Color Print Ribbon

Use short-panel print ribbon when only a portion of the card design calls for color. For example, a card design may have a color photo on the top or left of the card, and black text on the bottom of the card. The color area for short-panel ribbon is 1.57 inches (40 mm). The ymc panels of short-panel ribbon are approximately half the length of a full card.



When you print with short-panel print ribbon, you define the location of the color area in the card design. Color printing begins when the software detects a color pixel and continues for the length of the ymc panels.

### Color Print Ribbon Kits

The following color print ribbon kits are available:

- YMCKT Color Ribbon, 250 images per roll
- YMCKT Color Ribbon, 500 images per roll
- ymcKT (short-panel) Color Ribbon, 650 images per roll
- YMCKT-K Color Ribbon, 375 images per roll
- YMCKT-KT Color Ribbon, 300 images per roll

- YMCK Color Ribbon, 500 images per roll
- YMCK-K Color Ribbon, 500 images per roll
- YMCKF-KT Color Ribbon with UV, 300 images per roll

## Monochrome Print Ribbon

A monochrome ribbon prints the entire card in one color. Monochrome ribbon can be:

- Alternating black and topcoat panels (KT or KTT ribbon)
- Continuous black (K ribbon)
- A continuous color, such as red or silver

### Monochrome Print Ribbon Kits

The following monochrome print ribbon kits are available:

- Alternating black and topcoat panels (KT ribbon), 1000 images per roll
- Black with two topcoat panels (KTT ribbon), 750 images per roll

KT ribbon



KTT ribbon



The printer applies black and two topcoat panels on the same side of the card.



The KTT ribbon type is not supported in OpenCard-enabled systems. It uses only one T panel, instead of both.

- Continuous black (K ribbon), up to 500 images per roll
- Continuous black (K ribbon), up to 1500 images per roll
- Continuous dark blue, up to 1500 images per roll
- Continuous white, up to 1500 images per roll
- Continuous red, up to 1500 images per roll
- Continuous green, up to 1500 images per roll
- Continuous silver, up to 1500 images per roll
- Continuous gold, up to 1500 images per roll



- Continuous silver metallic, up to 1500 images per roll
- Continuous gold metallic, up to 1500 images per roll
- Continuous scratch-off, up to 1500 images per roll

## Ribbon Saver

A roll of Datacard-certified monochrome ribbon enables the Ribbon Saver feature in the printer. Ribbon Saver can increase the number of cards printed with each roll of ribbon.

## Print Ribbon Storage Guidelines

- Store print ribbon in the original package until you load it in the printer. Keep the original packaging closed until you are ready to use the ribbon.
- The print ribbon maintains its quality for about one year. For optimum card quality, purchase and store quantities of print ribbon that can be used within one year.
- The print ribbon and card stock might require secure storage and tracking. Follow your organization's policy for storing and tracking the supplies used to make cards.
- Store the print ribbon in a location away from direct sunlight, with a temperature between 32° and 77°F (0° and 25°C). A range of 40% to 60% non-condensing humidity is recommended.
- Install supply rolls at room temperature. If supplies are stored in an environment that is cooler than the printer environment, allow supplies to reach room temperature before you use them.
- If the printer will not be used for an extended period, remove supplies from the printer and store them with new supplies.



# Laminator Supplies

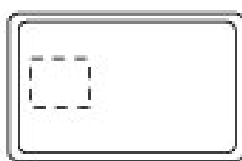
The laminator applies topcoat or patch overlay material to the front and back of the card. Topcoat is a continuous film and patch is a die-cut polyester shape designed to fit standard ISO ID-1 size card stock.

## Topcoat and Patch Overlays

A patch overlay can cover the complete card, can have a opening for a smart card chip, or can cover the card under the magnetic stripe.



**Complete Card**



**Smart Card**



**Magnetic Stripe**

Both topcoat and patch overlays can be clear or can have a transparent holographic image on them. The holographic materials are called *holographic topcoat* or *holographic patch* and also can be ordered with a custom image. In addition, holographic topcoat or patch can be designed with a *registered image* that is located in the same position on each card.



**Clear Topcoat**



**Clear Patch**



**Random Holographic Topcoat**



**Random Holographic Patch**



**Registered Holographic Topcoat**



**Registered Holographic Patch**

The following laminator supplies are available. All are available for a full card, smart card, or magnetic stripe card.

**Patch:**

- Clear DuraGard, 0.5 mil, up to 350 images/roll
- Clear DuraGard, 1.0 mil, up to 300 images/roll
- Holographic DuraGard 0.6 mil, Random, up to 350 images/roll
- Holographic DuraGard, Registered, 0.6 mil, up to 350 images/roll
- Holographic DuraGard, 1.0 mil, Random, up to 300 images/roll
- Holographic DuraGard Registered, 1.0 mil, up to 300 images/roll

**Topcoat:**

- Clear, number of images depends on lamination settings
- Holographic, Random, number of images depends on lamination settings
- Registered Holographic, up to 600 images/roll
- \*Clear DuraShield, number of images depends on lamination settings



\* DuraShield overlay has the following requirements:

- It must be used with a ribbon that includes a topcoat panel: KT, YMCKT, YMCKT-K, YMCKT-KT, ymckT, YMCKF-KT.  
**Note:** If you use a YMCKF-KT ribbon, refer to the printer's *Driver Guide* for information about setting up a card design that uses the UV (F) panel.
- It must be applied over the topcoat.
- It is supported only with PVC composite cards.

## Overlay Storage Guidelines

- Store overlay material in the original package until you load it in the laminator. Keep the original packaging closed until you are ready to use the overlay.
- The overlay maintains its quality for about one year. For optimum card quality, purchase and store quantities of material that can be used within one year.
- Overlay material might require secure storage and tracking. Follow your organization's policy for storing and tracking the supplies used to make cards.
- Store the overlay in a location away from direct sunlight, with a temperature between 50° and 80°F (10° and 27°C). A range of 30% to 70% humidity is recommended.
- Install supply rolls at room temperature. If supplies are stored in an environment that is cooler than the printer environment, allow supplies to reach room temperature before you use them.
- If the printer will not be used for an extended period, remove supplies from the laminator and store them with new supplies.

# Cards

For best results, use high-quality cards that meet the specifications and recommendations described in this section.

## Card Size

Use ISO ID-1 cards (CR80 cards). These cards have the following dimensions:

- 3.37 inches long by 2.125 inches wide (85.60 mm long x 53.98 mm wide).
- 0.010 to 0.030 inches thick (0.254 mm to 0.762 mm thick).

For encoding magnetic stripe, use cards:

- 3.37 inches long by 2.125 inches wide (85.60 mm long x 53.98 mm wide).
- 0.010 to 0.030 inches thick (0.508 mm to 0.762 mm thick).

Actual card thickness can vary by up to ten percent from the sizes listed. Typically, card bow must be less than the thickness of the card.

## Card Material

Use cards with a glossy PVC surface, either 100% PVC cards or composite cards with a PVC surface. Cards can have a magnetic stripe on one side of the card.

## Pre-Punched Cards

For best results, punch cards after printing them. The cards can have a punched area within 1 inch (25 mm) of the left edge, as the cards are loaded in the printer. If the card has a magnetic stripe, the card cannot be punched anywhere in the stripe.



## New Cards for Color Printing

The printer is designed to print on new card stock. If you print on cards twice, be careful to avoid getting dirt, fingerprints, or other contaminants on cards before the second printing. Previous printing can interfere with printing and result in cards that do not have the appearance you want. Printing on cards that previously have been issued might introduce substances that interfere with card printing or damage the printer. If a previously printed card has been printed with topcoat, the card cannot be printed a second time.

## Adhesive-Backed Cards

Adhesive-backed cards are printed, and then adhered to smart cards when the card surface is not flat enough to print. Use only Datacard adhesive-backed cards with the printer. The printing surface (white side) of an adhesive-backed card meets the material requirements for use in the printer. Use the following guidelines:

- Store cards in a cool place (such as a refrigerator) to avoid adhesive migration.
- Clean the printer's card tracks to remove any adhesive residue. Use a printhead cleaning swab or isopropanol and a swab to remove the residue.
- Fan cards before loading them into the input hopper.
- Use a print margin of at least 0.05 inch when using adhesive-backed cards.
- Do not apply laminator overlay material to adhesive-backed cards.

## Card Quality Guidelines

Cards must meet the following card quality guidelines for the printer to print high-quality graphics on them successfully.

### Card Surface

The card must be smooth and even, and free of irregularities such as raised burrs or particles embedded in the surface. Surface irregularities can cause printing voids, especially when printing edge to edge.

## Card Handling

These guidelines apply to unprinted cards.

- Any debris or particles on the surface of an unprinted card can reduce print quality and damage the printhead.
- Grease or oils, such as oils from your fingers, also reduce print quality. Keep cards completely clean. Do not touch the print surface of a card with your fingers or hands.
- Do not use a rubber band to bind blank cards together.
- If you drop a card on the floor, do not insert it into the printer.

## Card Storage

These guidelines apply to both printed and unprinted cards.

- Cards must be stacked so that they do not shift and rub against each other.
- When you store cards, make sure that no two cards contain images or blocks of color that come in contact with each other.
- Make sure that the magnetic stripe on one card does not come in contact with the magnetic stripe on another card.
- Make sure that cards with magnetic stripes are stored away from magnets and other magnetic objects.
- Store cards in a cool, dry, and dark place. Excessive light can cause yellowing of cards on exposed edges.
- Keep cards in their original packaging.
- Cards must be at room temperature when they are used. If cards are stored in a cooler environment than the printer, allow them to reach room temperature before you use them.

# Cleaning Supplies

The print ribbon kit includes a cleaning card and a replaceable cleaning sleeve. For best results, keep additional cleaning supplies on hand.

The following additional cleaning supplies are available:

- Package of 5 Replaceable Cleaning Sleeves
- Package of 10 Printer Cleaning Cards
- Package of 5 Cleaning Swabs—use a cleaning swab to clean the printhead and other internal parts of the printer and then discard the swab.
- Package of 10 double-sided, sticky Cleaning Cards—used in laminating printers only.

# Replacement Parts

The following replacement parts are available.

## Printhead Cartridge

The printer has a replaceable printhead cartridge. The printhead is subject to wear or damage and has a direct impact on print quality.

Do not touch the printing edge of the printhead in the printhead cartridge. Clean the printhead following the steps in your printer's *User's Guide*.



## Print Ribbon Cartridge

The ribbon cartridge holds the print ribbon and the replaceable cleaning sleeve in the printer.



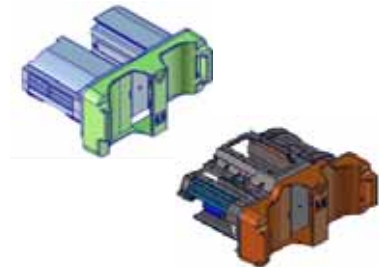
## Cleaning Roller Spindle

The cleaning roller spindle holds the replaceable cleaning sleeve.



## Laminator Cartridges

The L1 and L2 cartridges hold the laminator overlay material. They are used in the SD460 system only.



## Impressor Die

Contact Datacard to special order a new die for your impresser. The die must be installed by an authorized Datacard service provider.

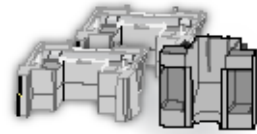


# Optional Equipment

The following optional equipment is available.

## Large Output Hopper

The printer can use a large output hopper, which holds about 100 cards. You can replace the small, standard hopper with the large hopper without using tools.



## 200-Card Input Hopper

The 200-card input hopper kit includes the larger hopper with an attached cover. The standard hopper is easily removed and the 200-card hopper can be installed without using tools.

## Cable Lock

The printer can be used with a Kensington cable lock. Obtain the lock from your dealer, because it includes an added security plate.

# Cables and Power Supplies

The printer uses the following data cables and power supplies.

## Data Cables

The data cable connects the printer to the network or directly to a PC. You can use one of the following data cables:

- USB
- Network (Ethernet)

Use only one type of data cable with a printer. If you need to connect more than one PC to a printer, use a network connection.

### USB Cable

Use a USB data cable, 6 feet (2 meters) long, to connect the printer to the PC. Be sure to use a cable rated for USB 2.0 data transmission.



### Network Cable

Use a standard Ethernet network cable, also called a Category 5 or Cat 5 cable, to connect the printer to a network port.



Ethernet cables are not available from Datacard. You can purchase a cable from a third-party supplier.

### USB Smart Card Cable

Use a USB cable up to a maximum of 6 feet (2 meters) long to connect the smart card port to the PC.

## Power Supplies

You can order the following power supplies:

- Printer—The printer power supply is rated at 100–240 VAC, 50–60 Hz and uses up to 3 amps. It is self-adjusting within the rated input voltage.



- Laminator—The laminator power supply is rated at 100–240 VAC, 47–63 Hz and uses up to 2.2 amps maximum. It is self-adjusting within the rated input voltage.



## Power Cords

You can order power cords for the following:

- Printer—The printer power cord connects the printer power supply to the facility power. Be sure to use a cord that grounds to the facility power source.
- Laminator—The laminator power cord connects the laminator power supply to the facility power.

The printer and laminator can use one of the following country-specific power cords:

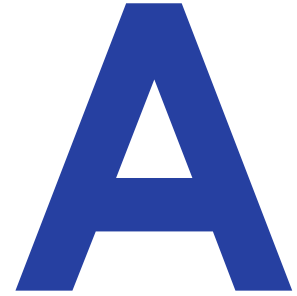
- USA power cord
- European power cord
- Australian power cord
- United Kingdom power cord
- Danish power cord
- Indian power cord
- Israeli power cord
- Italian power cord
- Swiss power cord
- Chinese power cord
- Japanese power cord





# Appendix A: SD460 Laminating System

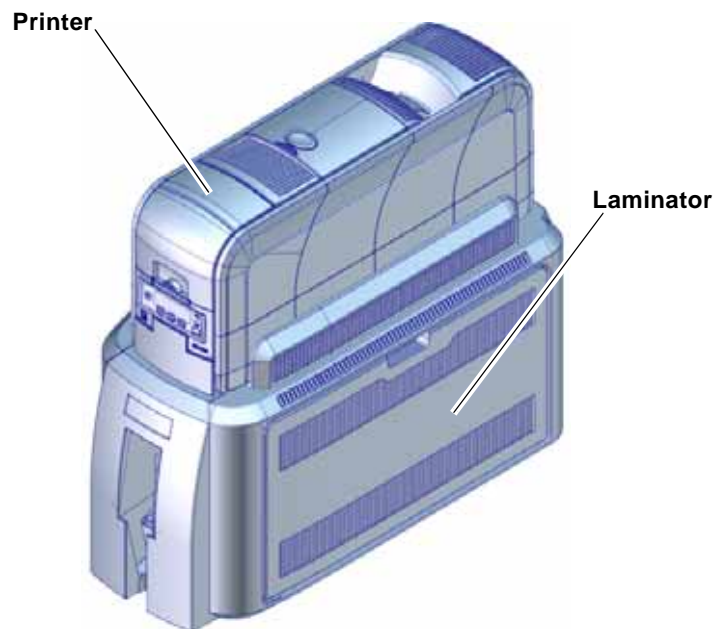
This appendix provides information about the SD460 laminating system.



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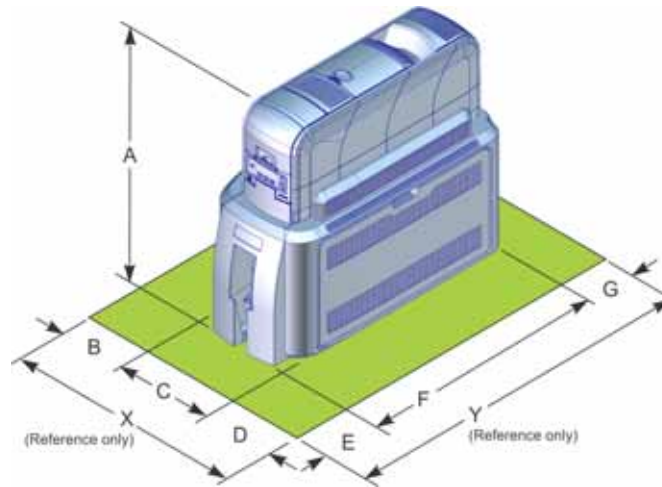
## About the SD460 System

The SD460 system consists of a card printer and laminator. The SD460 system can print cards and apply an overlay material on the front and back of the card for increased durability and security. Using an overlay material with holographic or other transparent images also improves the security of the card. These materials are tamper evident, making it difficult to reproduce or modify a card.



# SD460 Site Requirements

Provide space for the system and for clearance around the system. Use the following system dimensions and clearance area.



SD460	Dimensions (inches/mm)								
	A	B	C	D	E	F	G	X	Y
Without impresser	20.2 513	4 102	10.6 270	6 153	4 102	23.2 589	4 102	20.6 524	31.2 793
With impresser	20.2 513	4 102	10.6 270	6 153	4 102	26.6 675	4 102	20.6 524	34.6 879

## SD460 Electrical Requirements

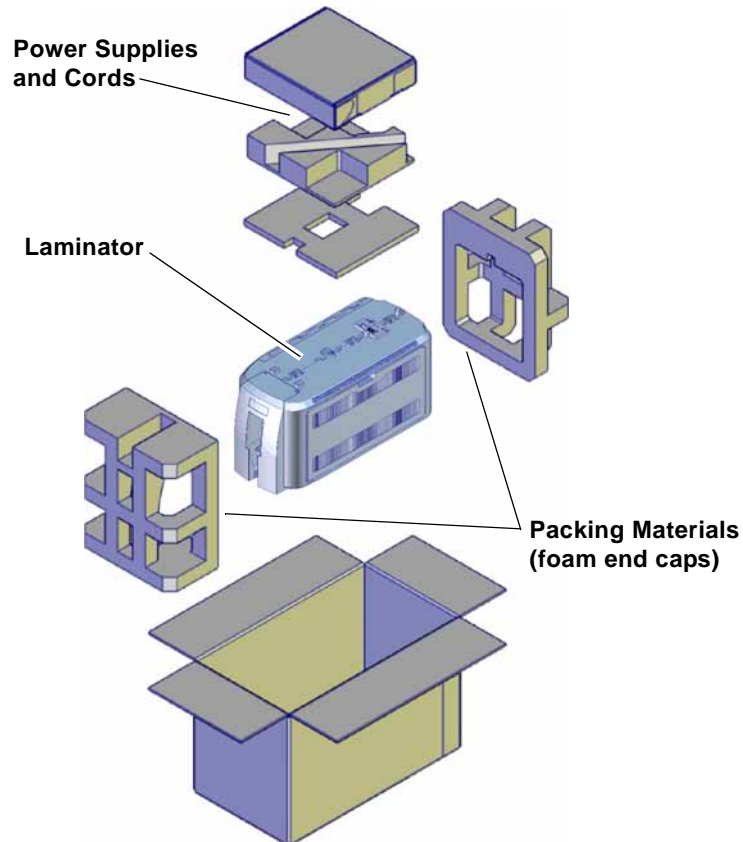
The power supply is rated as follows:

System Component	Electrical Requirements
Printer	110–240V/50–60 Hz/3.0 Amp
Laminator	100–240V/47–63 Hz/2.2 Amp

# Unpack the System

Remove the printer and laminator from their shipping cartons.

1. Open the printer shipping carton and remove the printer and its accessories.
2. Open the laminator shipping carton and remove the accessories boxes.



3. Lift the laminator from the carton and remove the foam end caps.
4. Place the laminator on a surface that meets the requirements specified in ["SD460 Site Requirements"](#) on [page A-2](#).
5. Secure the laminator, if necessary. Refer to ["Bolt-Down Option"](#) on [page A-4](#).



Save the shipping cartons and packing materials. They are required if you need to store, move, or return the system for service.

# Bolt-Down Option

The laminator includes bolt-down openings that you can use to secure the system to a mounting surface.



This procedure is optional.

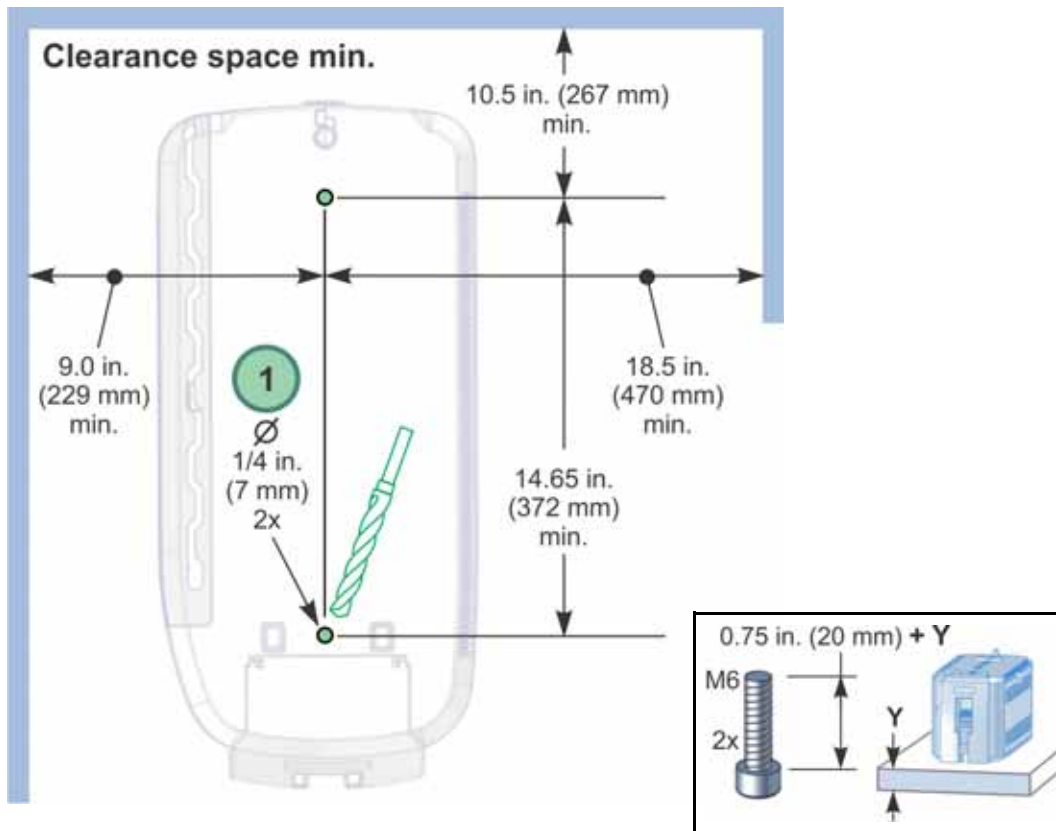
You need the following supplies:

- The bolt-down kit (part no. 509169-001) contains two M6 well nuts.
- Two M6 (6 mm) screws, purchased separately.

The length of the screws you need depends on the thickness of the mounting surface. The screw length is the surface thickness + 0.75 inch (20 mm).

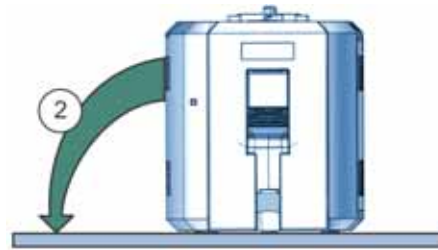
- Two M6 washers, purchased separately.
- 1/4-inch (7 mm) drill bit.

1. Drill two holes in the mounting surface following the dimensions and requirements shown in the following figure:



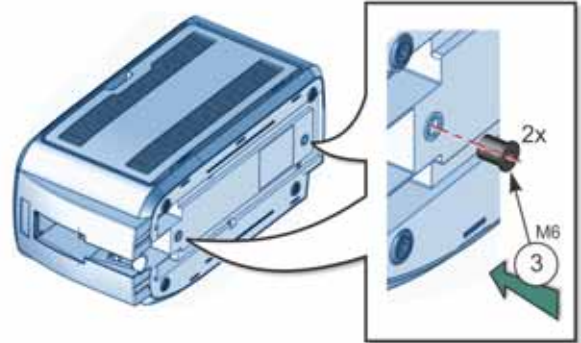


2. Carefully tip the laminator onto its left side (the side without the access door).



3. Insert the M6 well nut threaded inserts into the bolt-down openings on the bottom of the laminator.

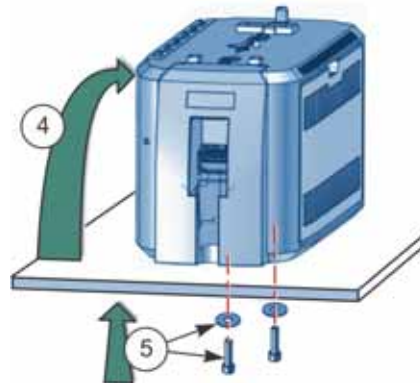
4. Return the laminator to its upright position and position it over the holes that are drilled in the mounting surface.



5. Secure the laminator to the mounting surface.

- A. Place a flat washer on each of the screws beneath the mounting surface.

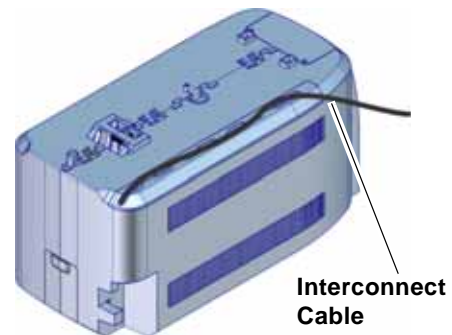
- B. Insert the M6 screws through the holes in the mounting surface and into the well nuts in the bottom of the laminator.



- C. Tighten the screws securely.

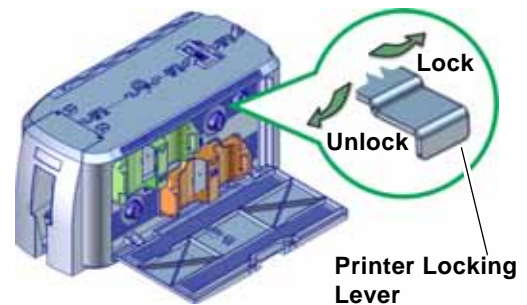
# Assemble the Printer and Laminator

1. Locate the interconnect cable in the cable routing area of the laminator and make sure that it remains accessible.

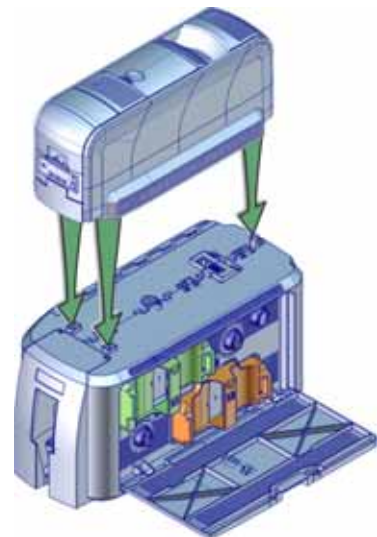


2. Open the laminator access door.

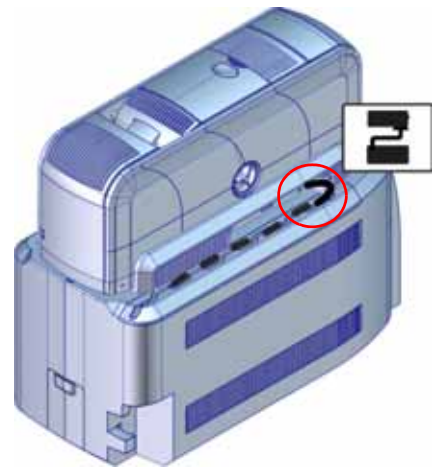
3. Slide the printer locking lever in the laminator to the left to position the mounting lock in the unlocked state.



4. Lift the printer over the laminator and align the pins on the laminator with the holes on the underside of the printer.
5. Press down on the printer carefully, but firmly, to position it.
6. Push the printer locking lever to the right to lock the printer onto the laminator. Make sure that the printer is securely locked to the laminator.
7. Close the laminator access door.

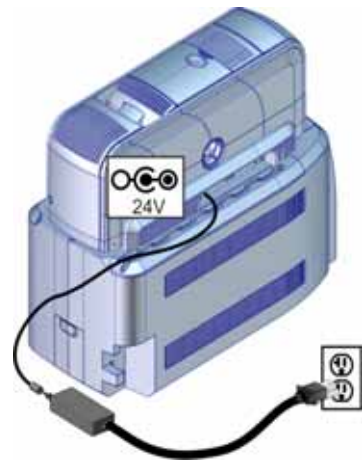


8. Connect the interconnect cable from the laminator to the bottom data port on the printer.

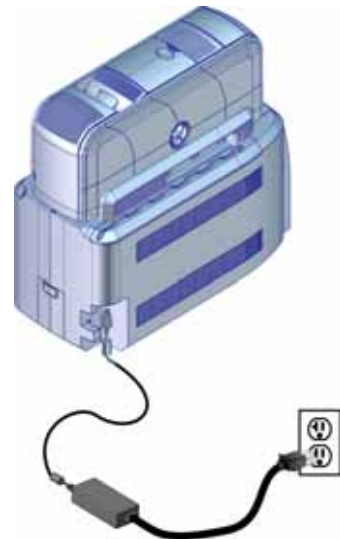


## Connect the Power Cords

1. Connect the printer power cord to the printer.
2. Plug the power supply cord into the power outlet.



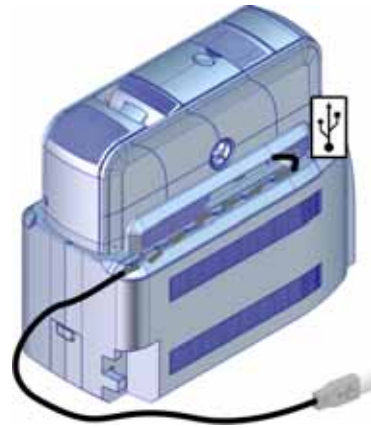
3. Connect the laminator power cord to the laminator and to the power supply.
4. Plug the power supply cord into the power outlet.



## Connect the USB Cable

You can connect the system to a Windows-based PC using a USB cable.

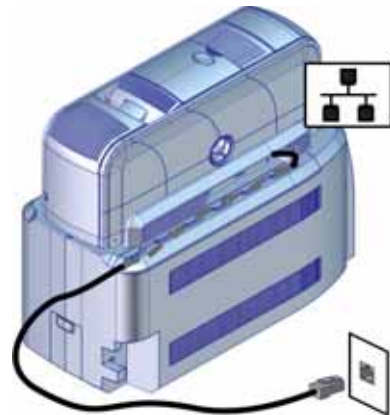
1. Connect one end of the USB cable to the USB port of the printer
2. Connect the other end to a USB port on the PC.
3. Refer to the printer's *Driver Guide* to set up the Card Printer Driver to work with the system.



## Connect the Network Cable


You can connect the system to a Windows-based PC on a network using an Ethernet cable (the cable is not supplied with the system).

1. Connect one end of the Ethernet cable to the top port on the printer.
2. Connect the other end to a network port.
3. Refer to the printer's *Driver Guide* to set up the Card Printer Driver to work with the system.

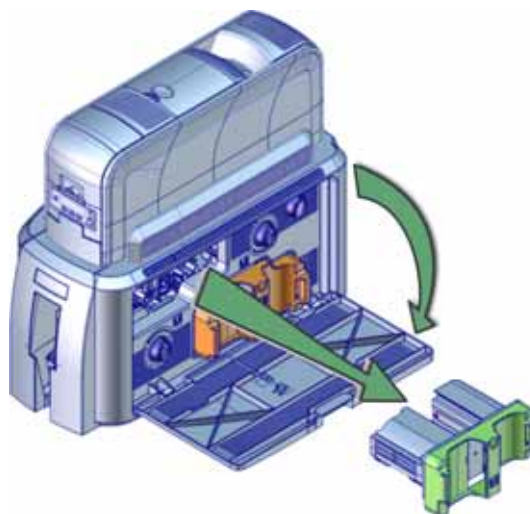


# Load Laminator Overlay Material

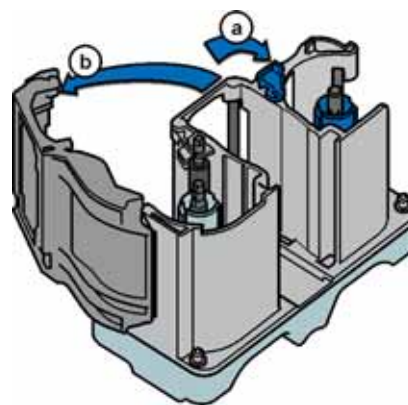
Load the overlay material in one laminator cartridge at a time.

 The L1 (green) and L2 (orange) cartridges fit only in their assigned locations inside the laminator. They are not interchangeable.

1. Open the laminator door.
2. Remove the L1 (green) laminator cartridge from the laminator. Place the cartridge on a smooth, level surface for loading.

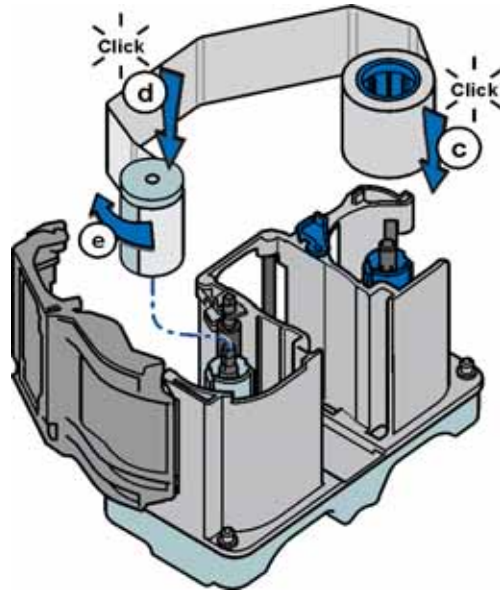


3. Push the release latch (a) and open the gate on the laminator cartridge (b).



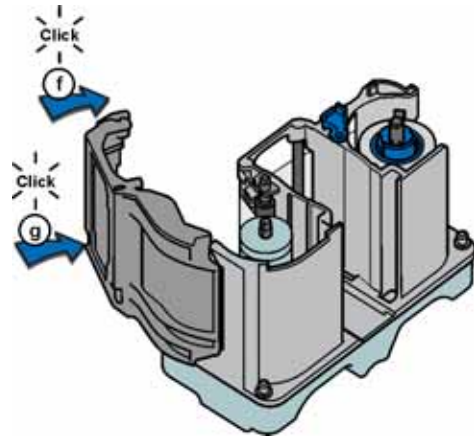
4. Remove both used spools from the cartridge (if present).

5. Load the new roll of laminator overlay material.
  - A. Put the blue supply spool on the blue supply spindle of the cartridge (c). The overlay supply roll can go on only one way and only fits on the correct spindle.
  - B. Put the empty silver take-up spool on the silver take-up spindle (d).
  - C. Turn the take-up spool clockwise to remove slack from the material (e). The overlay material loads in an S-shape.



Make sure that the overlay material is between the guides on both the take-up and supply sides of the cartridge.

6. Close the laminator cartridge gate (f). Push it in until the latch clicks in place (g). Make sure that the overlay material is not pinched by the cartridge gate.
7. Replace the loaded laminator cartridge in the printer.
8. Remove the L2 (orange) cartridge from the laminator, if installed.
9. Repeat steps 3 through 7 to load the overlay onto the cartridge.
10. Close the laminator door.



# Power On the System

Press the power button on the front panel of the printer to power on the system. The printer and laminator perform internal checks and initialize supplies.

The laminator contains heaters for the L1 and L2 cartridges, and for the impresser if one is installed. It can take several minutes for the heaters to reach their correct operating temperature before the system is ready to print cards.



The laminator has a power-save feature that powers off the heaters after the printer has not been used for a specified period of time. If the timeout period expires, it can take several minutes for the laminator heaters to return to their operating temperature when a card is sent to the printer. The front panel displays the message **Busy Warming up** during this time. You can change the timeout period using the Printer Manager **Laminator** setting. Refer to [“Laminator”](#) on [page 56](#) for more information about using Printer Manager.

## Print a Test Card

After you set up the printer, print several test cards to determine how well the laminator applies the overlay material to the card. You may need to print multiple test cards to make sure that the overlay is positioned correctly. The card stock, the card design, and the printer’s environment can influence the appearance of cards.



If your system includes the optional second laminator (L2), make sure that the laminator cartridge is always installed, even if the cartridge is not loaded with overlay material. If the cartridge is not in place, cards are not supported as they travel through the system, and can fall into the bottom of the laminator.

## Use the Card Printer Driver

Refer to the printer’s *Driver Guide* for information about how to set up lamination preferences and print a driver test card.



## Use the Printer LCD Panel

Use the printer LCD panel to run a card that tests the L1 and L2 laminators (if L2 is installed), debows the card, and impresses the card if an impresser is installed. Do the following:

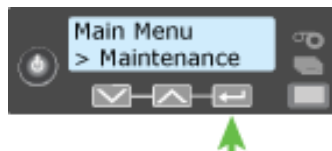
1. Press the **USER** button to enter the menu system.



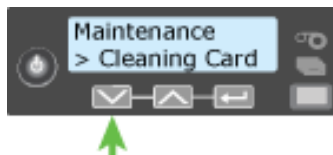
2. **Suspended** displays on line 1 of the LCD panel. Press the **ENTER** key.



3. **Maintenance** displays on line 2. Press the **Enter** key.



4. **Cleaning Card** displays on line 2. Press the **down arrow** key.



5. **Test Card** displays on line 2. Press the **ENTER** key.





6. **Start** displays on line 2. Press the ENTER key to print the test card.



## Use Printer Manager

Use Printer Manager to print test cards and fine-tune your lamination settings. Refer to “[Printer Manager](#)” on [page 31](#) for complete information about using Printer Manager. Do the following to print a test card from Printer Manager:

1. Log on to Printer Manager.
  - A. Do one of the following:
    - Open an Internet browser and enter the printer IP address from the front panel of the printer, as follows: `https://xxx.xxx.xxx.xxx`. For example, `https://172.16.3.34`.  
  
or
    - Open the **Printer Properties** window for the card printer and select the **Printer Status** tab.  
  
Click **Configure Printer** to launch Printer Manager in your default browser.

If the browser indicates a problem with the website security certificate, click **Continue to this website**.

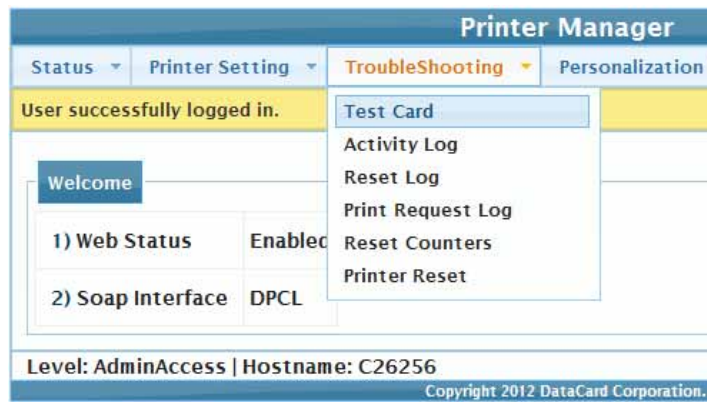
- B. Select **WebAdmin** from the drop-down menu and then click **Log In**.



The image shows the 'Printer Manager' login interface. On the left, there is a 'Select Language:' section with radio buttons for English (selected), 日本語, Deutsch, Italiano, Polski, Español, Português, 한글, 简体字, 繁體字, and العربية. To the right, the 'Please Log In:' section contains a 'Username' dropdown menu with 'WebAdmin' selected, a message 'No password is needed for this username.', and a 'Log In' button. At the bottom, a status bar displays 'Level: NoAccess | Hostname: C26256' and 'Copyright 2012 DataCard Corporation.'

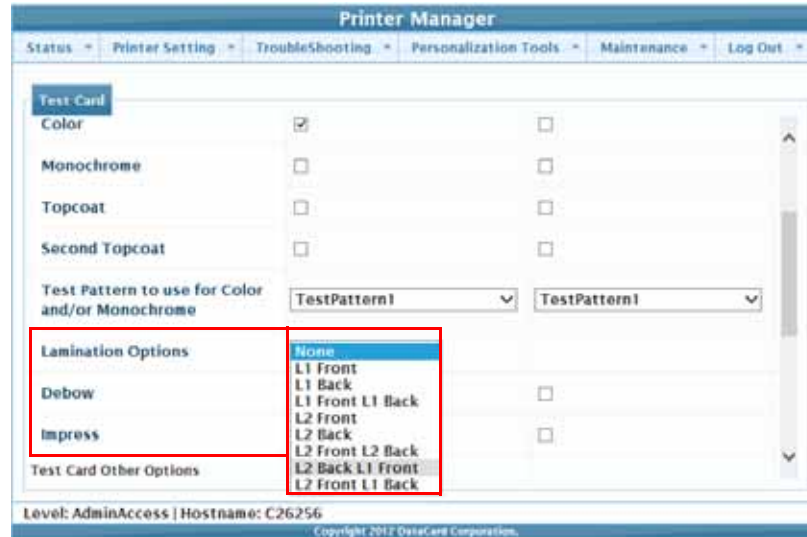
2. Run a test card.

- A. Select **TroubleShooting > Test Card**.



The image shows the 'Printer Manager' interface after a successful login. The top navigation bar includes 'Status', 'Printer Setting', 'TroubleShooting' (highlighted), and 'Personalization'. A yellow banner at the top left says 'User successfully logged in.' Below this, a 'Welcome' section shows '1) Web Status' as 'Enabled' and '2) Soap Interface' as 'DPCL'. A dropdown menu is open under 'TroubleShooting', listing 'Test Card', 'Activity Log', 'Reset Log', 'Print Request Log', 'Reset Counters', and 'Printer Reset'. The status bar at the bottom shows 'Level: AdminAccess | Hostname: C26256' and 'Copyright 2012 DataCard Corporation.'

- B. Select the print and lamination options you want to test, and then click **Run** to print a test card. You also can select to debow the test card, and impress the card if an impresser is installed.



## Verify the Test Card

Examine the test cards to verify the following.

- The overlays are being applied properly:
  - Each overlay is applied completely to the card.
  - The material adheres well to the edges of the card.
  - The overlay does not come off when the card is bent or twisted.
- The card is debowed correctly.
- The impression is positioned correctly and has the proper depth.

If you need to adjust the laminator settings, refer to the following Printer Manager sections: “[Laminator](#)” on [page 56](#) and “[LaminateType](#)” on [page 63](#).

