Instructions

Direct Dye Sublimation Printer

Model **CX-120**

Table of Contents

- Thank you for purchasing our product.
- Before using, be sure to read the "Notes for Safe Operation" and use the unit safely.
- Keep this instruction manual in a place near the printer and read it when necessary.
- The manufacturing number is important for quality control. Please check whether the manufacturing number on the back of this unit is correct during purchase.

Notes regarding this manual.
 (1) The contents of this manual shall not be reprinted or redistributed in any form without prior consent.
 (2) The contents of this manual or the specifications and external appearance of this unit may be altered without prior notice.
 (3) Illustrations used in this manual may differ slightly from the actual shape of this unit.

KAT-

Operating the Printer

Names of Various Sections on Control Panel
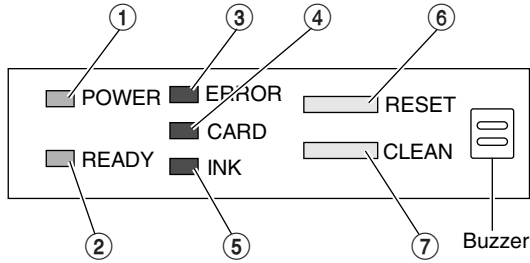
① POWER LED (Green)
② READY LED (Green)
③ ERROR LED (Red)
④ CARD LED (Red)
⑤ INK LED (Red)
⑥ RESET Button
⑦ CLEAN Button

LED Display

LED Name	Status	Description
POWER (Power supply status)	▬	Power Off
	☀	Power On
READY (ONLINE/LOCAL)	▬	Not ready: Unable to issue card (unable to accept issuing command)
	☀	Ready: No card inside. Ready to issue card.
	▨	Active: Card inside. Ready to issue card.
ERROR (Error status)	▬	No defect. Not lit in the cases of No Card and Ink End as these are not defects.
	☀	Irrecoverable error: Error that requires power to be turned off and on again.
	▨	Recoverable error: Error that requires reset or door to be opened and closed.
CARD (Card status)	▬	No defect or unknown defect related to card.
	☀	No card inside the card cassette.
	▨	Card transport error (JAM)
INK (Ink ribbon status)	▬	No defect or unknown defect related to ink ribbon.
	☀	Ink End
	▨	Ink defect (Ink ribbon ran out, unknown type of ink ribbon, etc)

Note) LED indicator status

▨ -- Blinking　☀ -- Light on　▬ -- Light off

Operating the Printer

Other than when turning on the power, operation only starts after pressing the button for more than 1 second. Release upon hearing a "beep" sound from the buzzer and the respective function will be activated. This is used to prevent operational errors.

Operation Status	RESET	CLEAN	Operation	Reference
When turning on power	⬭	⬭	Initialization (Usual startup)	
	⬭	👆	Changes to Product ID Setting mode	Startup Guide Connecting to multiple printers
	👆	⬭	Changes to Emergency Download mode	Troubleshooting in this manual When startup fails
	👆	👆	Initialization (Usual startup)	
Ready	⬭	👆	Changes to Magnetic Head Cleaning mode	Startup Guide Cleaning of magnetic head
	👆	⬭	Initialization (Software reset) Also initializes ink ribbon	
	👆	👆	Perform test pattern printing	
Recoverable error with printer door closed *Note (2)*	⬭	👆	Changes to Card Transport Roller Cleaning mode	Startup Guide Cleaning of card transport roller
	👆	⬭	Initialization (Software reset) Also initializes ink ribbon	
Irrecoverable error	Not Applicable			

Caution

(1) Button status: ⬭ Not pressed. 👆 Pressed.

(2) Open and close printer door during a recoverable error to start initialization automatically.

(3) For initialization without performing software reset, the ink ribbon will not be initialized if the same ribbon is used. Refer to the next section of this manual on initialization.

(4) When there is no error while card is inside the printer, the RESET button cannot function. Open and close printer door if you wish to remove the cards. Initialization will start automatically and card will be ejected from the Rejected Card Exit.

Operating the Printer

Initialization

Initialization operation can be understood as follows.

1. Initialization starts automatically when printer door is closed.

> **Caution**
>
> 1) Upon removing a card during a card jam
>
> Example
>
> 2) Upon changing an ink ribbon when ink runs out

2. Ink ribbon will be initialized when a different ribbon is used.

However, ensure to initialize ink ribbon when initialization is activated using the RESET button.

Test Printing

Even when not connected to the host computer, test printing of built-in patterns can still be done in the Ready mode by pressing the RESET and CLEAN buttons simultaneously for more than 1 second (a "beep" sound will be heard from the buzzer) and releasing it. Refer to "Checking After Changing the Thermal Head" in the Startup Guide (P.34).

Differences Between Printing Modes

The setting of this printer can be switched between the Standard mode and Fine mode for both YMC (color) printing and K Resin (text) printing by using the setting function in the status monitor (Printer setting tool). When carrying out double-sided printing on the card, the same mode setting will apply to both the front and rear faces. (Setting a separate mode for the front and back is not possible.) A longer printing time will be required when set to the Fine mode. The merits of using Fine mode printing and reference values on the printing time are shown below.

	Additional Time when Set to Fine Mode	Merits of Using Fine Mode
YMC	Approx. 5 sec / side	Improvement in evenness, texture and sharper outline
K Resin	Approx. 2 sec / side	Lesser broken and faded words

How to Use the Status Monitor

The Status Monitor is a software for displaying printer status and performing various printer settings.

Screen Configuration
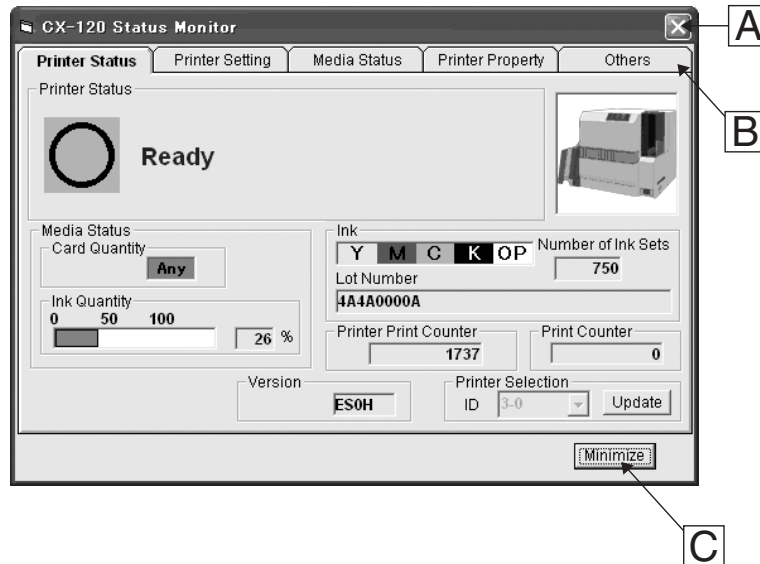
A : **Close button**

Exits the status monitor

B : **TAB for switching screens**

Switches to the following screens.

① Status Display screen	: Displays printer status.
② Printer Setting screen	: For displaying/changing printer settings.
③ Media Information Display screen	: Displays status of card and ink ribbon.
④ Property screen	: Displays printer configuration.
⑤ Others screen	: For updating printer firmware and performing test printing. Number of cards issued is set to 0.

C : **Minimize button**

Minimizes the Status Monitor to an icon. The icon is displayed in the task bar.

How to Use the Status Monitor

Monitoring Printer Status
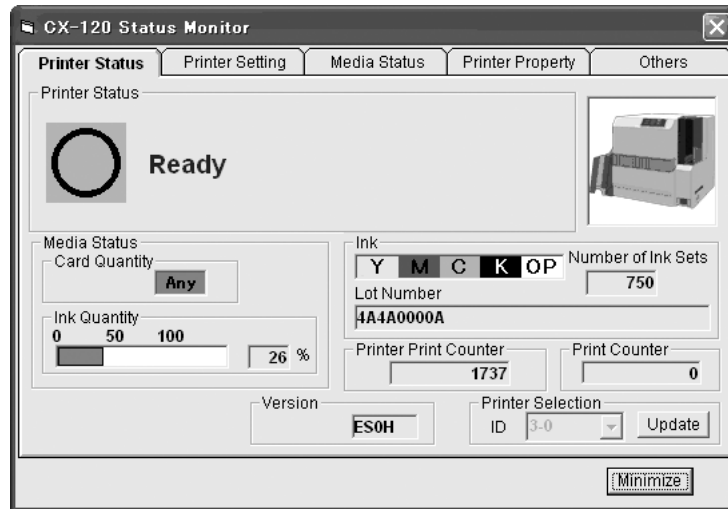
① **Printer status** : Displays status of printer.

② **Media status** : Indicates whether cards are present as well as the remaining ink quantity.

③ **Ink** : Displays information of the installed ink ribbon. The quantity and lot number will be blank if ink ribbon is not recognized correctly. In such a case, it may not be possible to control the ink ribbon properly. Check the installation status of the ink ribbon.

④ **Quantity issued by printer** : Displays the number of cards issued by the printer.

⑤ **Quantity issued** : Displays the number of cards issued. This figure can be reset to 0 on the Others screen.

⑥ **Version** : Displays the version of the printer firmware.

⑦ **Printer Selection** : Switches to the target printer when the same host computer is connected to multiple printers. Update the printer connection status using the Update button.

How to Use the Status Monitor

Ready Status Display
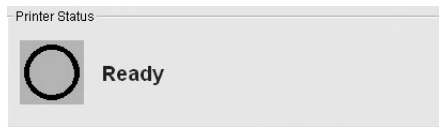
Status indicating that the printer is ready to issue cards.

Status Display

Displays operating status of the printer.

Error Status Display

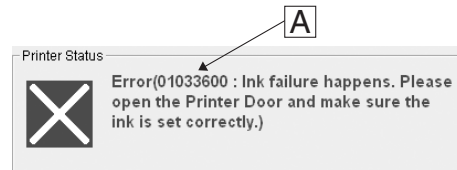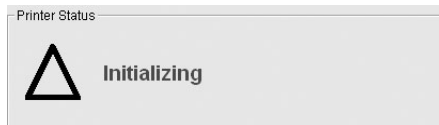Shows the details of a failure. A is an error code indicating the type of failure. Refer to the list of error codes on the various error messages and corresponding actions to take.

| Display Message	Description
Printer not connected	Power of printer is not switched on or the host computer and printer are not connected properly with a USB cable.
Initializing mechanism	Initializing printer. Printer will switch to the Ready mode after initialization is complete.
Cleaning in progress	Cleaning of magnetic head in progress. Printer will switch to the Ready mode after cleaning is complete.
Offline mode	Printer is in the offline mode.
Self-diagnostic mode	Self-diagnostic mode. Turn on the printer power again to set printer to the Ready mode.
Download mode	Download mode. Turn on the printer power to set printer to the Ready mode. Do not switch off printer's power when downloading as this will result in failure.
Loading card	Status of printer when it is issuing cards. Printer will return to the Ready mode upon completion of card issuance.
Transporting card	
Magnetic encoding in progress	
Printing	
Encoding Contact IC	
Encoding Non-contact IC	
Ejecting card	
Ejecting Rejected card	

How to Use the Status Monitor

Changing Printer Settings

Change printer settings on the Printer Settings screen.
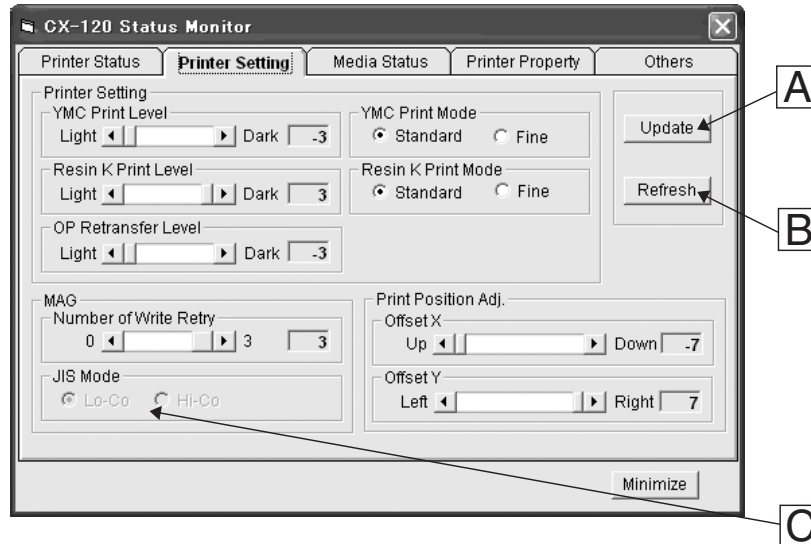
A : **Set button**
Changes printer settings.

B : **Display button**
Displays printer settings on the screen

① **YMC Print Density** : Adjusts the print density of YMC ink.

② **K Resin Print Density** : Adjusts the print density of K Resin ink.

③ **OP Transfer Level** : Adjusts the transfer level of the OP layer (protective layer) of the ink to the card.

④ **YMC Printing Mode** : Adjusts the printing quality of YMC ink. If "Fine" is selected, print quality will be enhanced but printing speed will decrease.

⑤ **K Resin Printing Mode** : Adjusts the print quality of K Resin ink. If "Fine" is selected, print quality will be enhanced but printing speed will decrease.

⑥ **Number of Write Retries** : Sets the maximum number of retries when error occurs while writing to the magnetic stripe.

⑦ **Coercive Force Setting** : Change using C on the screen. It will not be displayed if the magnetic unit is not installed on the printer. Changes can only be made if the magnetic unit is the ISO type, but not for the JIS type.

⑧ **Printing Position Adjustment** : Sets the position to start printing. 1 unit is equivalent to 1/150 inch. The following diagram illustrates the direction of movement for the print image.
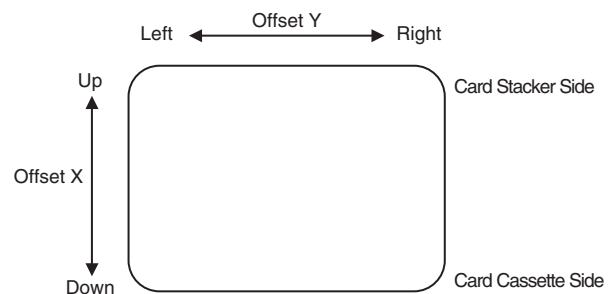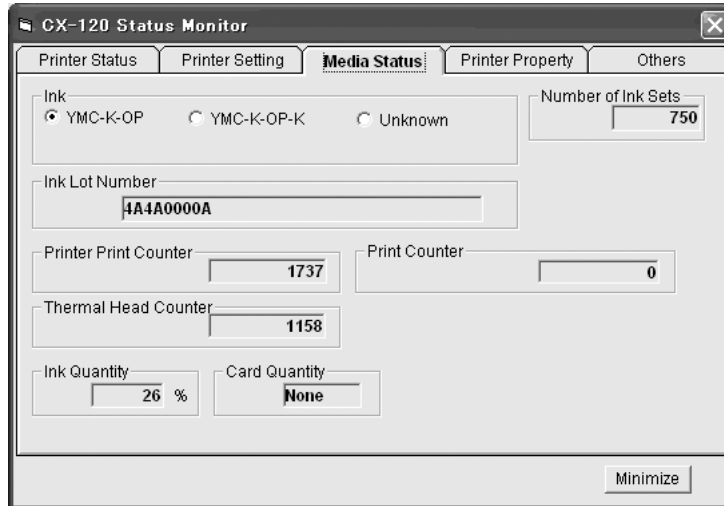
How to Use the Status Monitor

Checking the Media and Printing

Check the status of the printer media and printing on the media information display screen.

① **Ink**   : Displays the installed ink ribbon. "Unknown" when ink ribbon cannot be recognized correctly. Printing may not be performed properly in such a case.

② **Number of Rounds** : Displays the number of rounds that the installed ink ribbon is capable of winding. In the example on the screen, a YMC-K-OP ink ribbon with 750 rounds are installed. A YMC-K-P cycle is counted as 1. The display will be blank when ink ribbon in use is unknown.

③ **Ink Lot Number**   : Displays the lot number of ink ribbon installed. The display will be blank when ink ribbon in use is unknown.

④ **Pieces Issued by Printer** : Displays number of cards issued. This figure can be set to 0.

⑤ **Pieces issued**   : Displays number of cards printed by the printer.

⑥ **Number of Head Prints** : Displays number of printing ink panels of the thermal head. For example, 5 is added when all YMCK-OP inks are used for printing.

⑦ **Ink volume**   : Displays remaining quantity of the ink ribbon.

⑧ **Card volume**   : Indicates whether cards are present.

# How to Use the Status Monitor

Display When Ink is Unknown
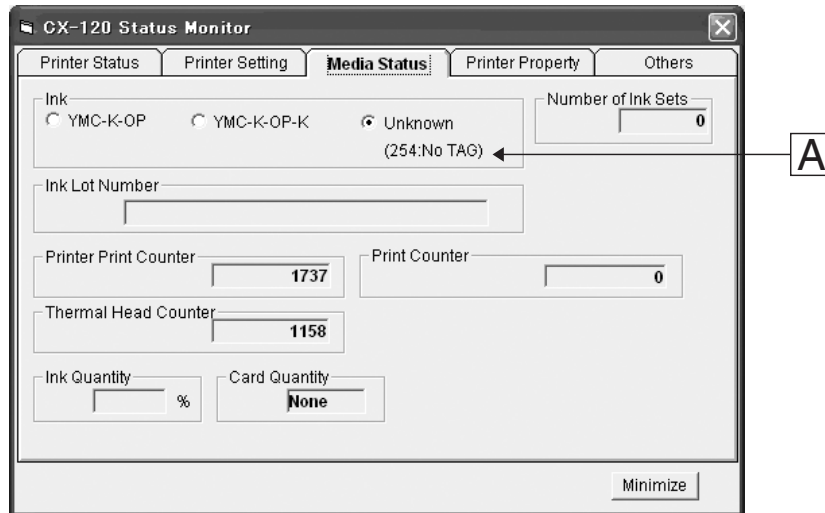
Displays the tag status in A when it is "unknown".

- **(252: Tag Data Defect)** : Recorded data of tag is incorrect. Try again after replacing the ink ribbon.

- **(253: Tag Data Defect)** : Unable to communicate correctly with tag. Try again after replacing the ink ribbon.

- **(254: No Tag)** : Unable to read tag. Check to ensure that the ink ribbon is set correctly.

- **(255: R/W Defect)** : Printer's tag reader is defective. Repair of printer is required.

How to Use the Status Monitor

Checking Printer Configuration

Checking of printer configuration is done on the property screen.
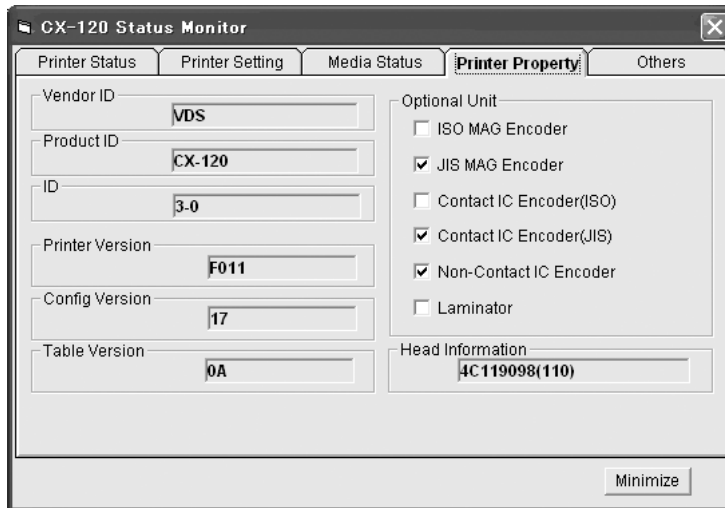
① **Vendor ID, Product ID** : Displays the connected printer.

② **ID** : ID for identifying printer. Numbers in the first half changes with host computer's configuration. The second half is used to identify the printer. This number can be changed in the printer settings. Assign different numbers to all the printers when the same host computer is connected to multiple printers. Refer to the "Startup Guide" for details.

③ **Printer Version, Configuration Version,**
   Table Version, Laminator Version
   : Displays firmware version of the printer. Laminator version is only displayed when a laminating unit is connected (optional).

④ **Hardware Information** : Displays printer's hardware configuration.

⑤ **Head information** : Displays information of the thermal head installed in the printer.

How to Use the Status Monitor

Upgrading Firmware

Upgrade of the printer's firmware is carried out on the Others screen.
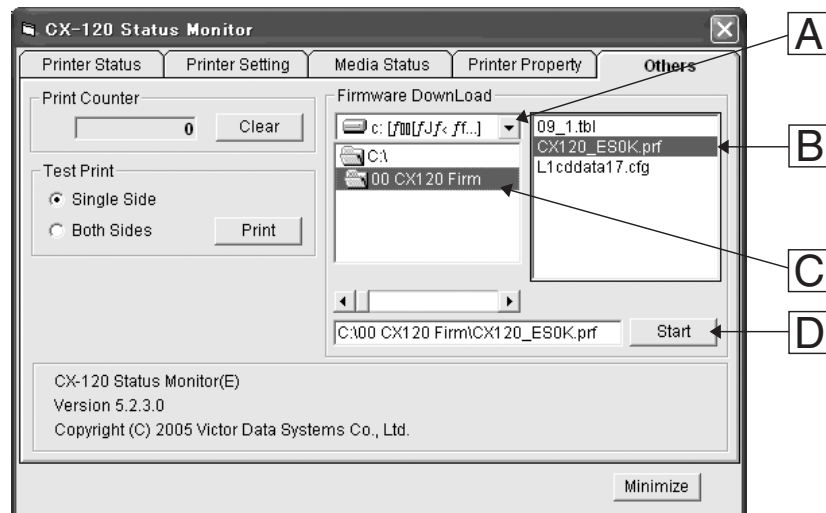
Specify a file and upgrade the printer's firmware.

① [A] Select drive where the file is stored using A.

② [B] Specify folder where the file is stored using B.

③ [C] Select file to download using C. Only the target file to be downloaded will be displayed at C. Files are categorized based on extensions as follows.

- ***.PRF** : Printer firmware
- ***.HDF** : Thermal head settings
- ***.CFG** : Configuration data
- ***.TBL** : Table data
- ***.ICF** : Laminator firmware

④ [D] Click on D to upgrade firmware.

[Caution]

(1) When downloading printer firmware, do not switch off the power untildownload is complete. Printer may fail to reboot if the power is switched off during download. Refer to Troublshooting (page 29) of this manual when startup fails.

(2) laminator firmware and configuration data cannot be run when printer is in the Download mode. Do so when in the Standard Mode.

How to Use the Status Monitor

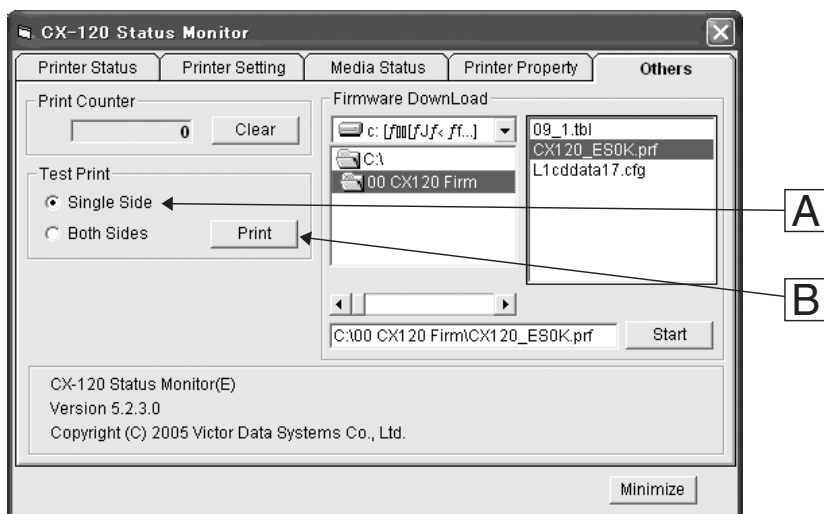## Resetting the [No. of Cards Issued] Item

You can reset the number of cards issued on the Others screen.
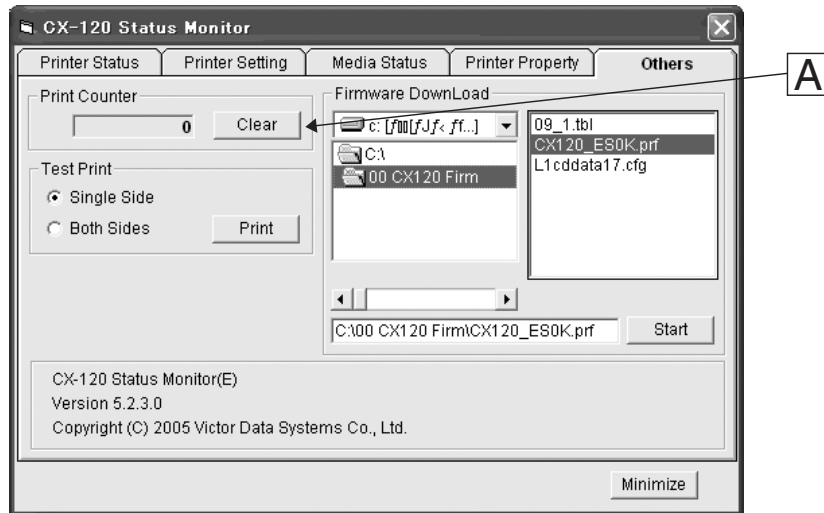
① Ⓐ Click on A to set the recorded number of cards issued to 0.

Test Printing

Test printing is performed on the Others screen. Test printing does not make use a printer driver. Checking can be done to ensure that the printer is working properly.

① Select double-side or single-side printing using Ⓐ.

② Click on Ⓑ to start test printing. Printer will print a card.

Software Upgrade

Carry out the following procedures to upgrade the software. For update of printer driver, refer to the instruction manual of your printer driver.
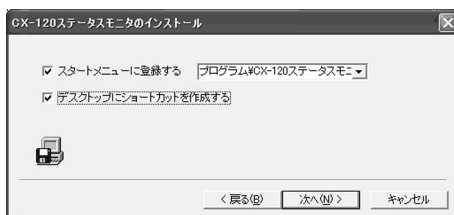
Update of Status Monitor

1. **Start Windows and place the "CX-120 Card Printer CD-ROM" into the computer.**

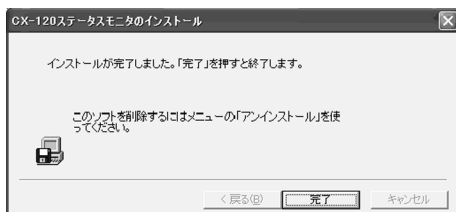**2.** **Double-click "XXXXXXX" on the CD-ROM to launch the status monitor installer.**

3. **An Installer screen will be displayed. Confirm the directory for installation and click on the "Next" button.**
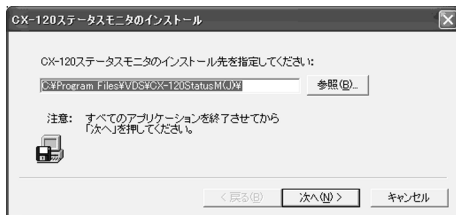
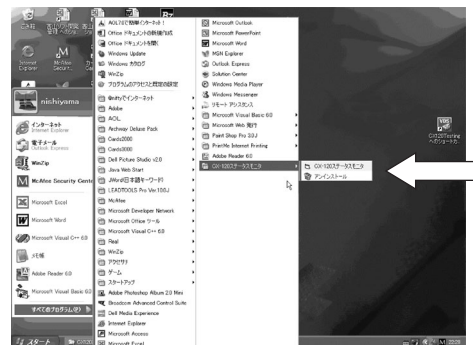**4.** **Confirm setting and click on the "Next" button. Installation begins.**

5. **A confirmation screen will be displayed upon completion. Click on the "Finish" button.**

6. **Click the "OK" button. Installation is now complete.**

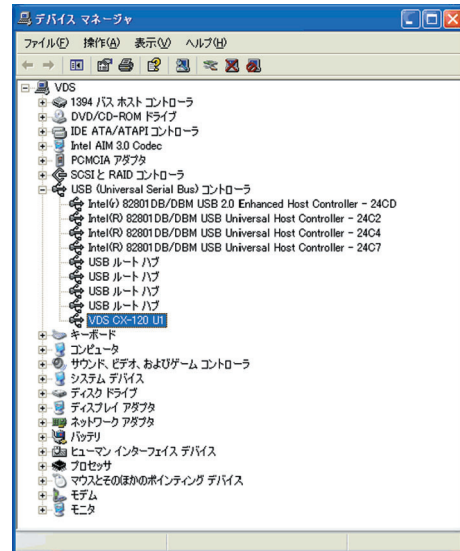Once installation is completed, the Status Monitor can be launched from the Start menu.

Softwqre Upgrade

Update of USB Driver - Windows XP

1. Check that the connection between computer and card printer is on.

2. Switch on the card printer.

**3.** Open "Control Panel" from "My Computer" and double-click on "System".

4. When the following screen appears,

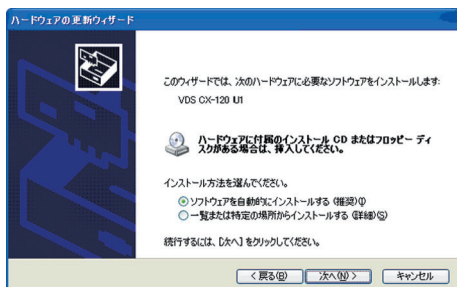① Select "Hardware" tab and
② click on the "Device Manager" button

5. When the following screen appears,

① Select "USB (Universal Serial Bus) Controller" and
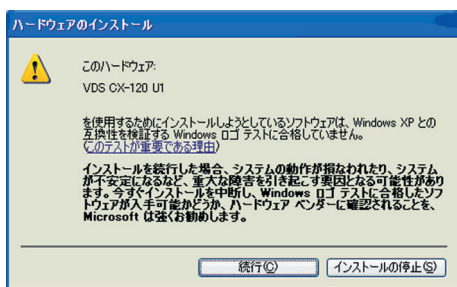② double-click to update [VDS CX-120 Un](nÅF1Å`7)

6. When the following screen appears,

① Select "Driver" tab and
② click on the "Update Driver" button
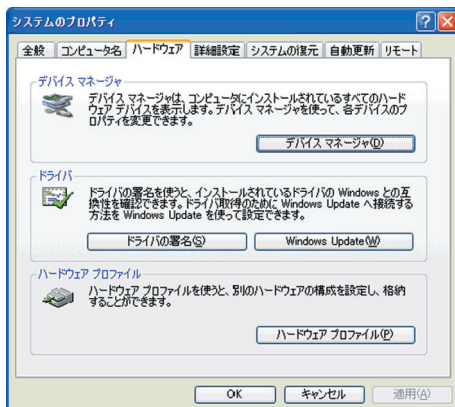
7. When the following screen appears,

① Select "No, I do not wish to connect this time" and
② click on the "next" button
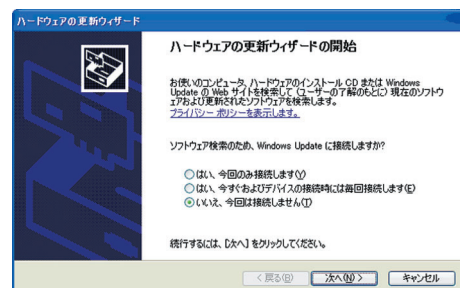
Softwqre Upgrade

8. **When the following screen appears,**

① Select "Automatic installation of Software (recommended)" and
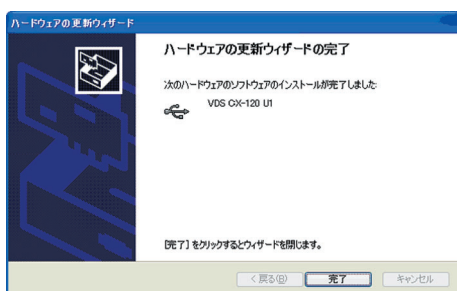② click on the "next" button

9. **When the following screen appears, click on the "continue" button.**

Update of USB driver begins.

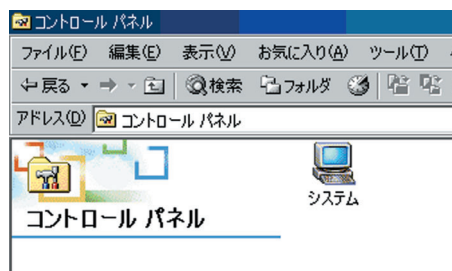**10.** **When the following screen appears, click on the "Finish" button.**

Update of USB driver is now complete.

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1. **Check that the connection between computer and card printer is on.**
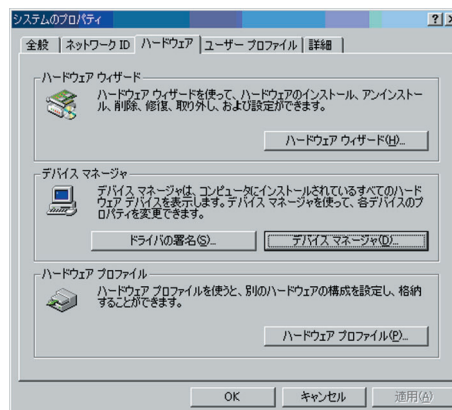
2. **Switch on the card printer.**

3. **Open "Control Panel" from "My Computer" and double-click on "System".**

4. **When the following screen appears,**

① Select "Hardware" tab and
② click on the "Device Manager" button

5. **When the following screen appears,**

① Select "USB (Universal Serial Bus) Controller" and
② double-click to update [VDS CX-120 Un](n : 1 to 7)