



Quick Start Guide

For printer model:

CX400 / CX410



P/N: 9001208(A)

www.satoamerica.com

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1. What You Get

Thank you for purchasing the SATO CX Series. To provide outstanding customer services worldwide, SATO operates through its worldwide subsidiaries, value-added resellers and system integrators. Should you require any assistance, you may contact any of these parties.

Please verify that your package contains all these items:

- CX Printer
- Power Supply
- Sample Label Roll
- Thermal Transfer Ribbon
- Quick User's Guide
- CD-ROM

If any of the mentioned item(s) is missing, please contact your vendor immediately for package replacement.



Should you require any information about the CX Series, please visit our website at www.SATOAmerica.com.

2. Safety Precautions

In this section, safety precautions about printer operation are explained to ensure proper care and usage. Please read these carefully before using your printer.


2.1 Markings and symbols

The following symbols or markings are used in this quick guide so that you use the printer correctly which helps to prevent any damage to property, harm or injury to yourself and others. Please read the explanations carefully to be familiarized with their meanings.


| | |
|---|---|
|  Warning | This symbol indicates information that, if ignored or applied incorrectly, creates the danger of death or serious personal injury. |
|  Caution | This symbol indicates information that, if ignored or applied correctly, creates the possibility of personal injury or property damage. |

Symbol Example



The triangle () indicates something you should take absolute care when doing. The cautions are indicated concretely within the symbol. The symbol on the left indicates caution with electric shock.



A diagonal line with a circle () indicates something you should not do. The symbol on the left indicates you should not try to take the unit apart.



A black circle (●) indicates something you need to do.
The symbol on the left indicates you should unplug the unit from the wall outlet.



Warning

Liquids



Do not place any containers with water or chemicals, such as flower vases or cups, as well as small metallic objects near the printer. If any of these should fall into the printer, immediately turn off the power and contact your nearest dealer or service center. Continued use creates the danger of fire or electrical shock.

Foreign Matter



Do not drop or insert metallic or flammable objects into the openings on the printer (such as outlets for cables). If any of these should fall into the printer, immediately turn off the power and contact your nearest dealer or service center. Continued use creates the danger of fire or electrical shock.



Dropping and Damage



Should the printer ever fall or otherwise becomes damaged, immediately turn off the power and contact your nearest dealer or service center. Continued use creates the danger of fire or electrical shock.

Abnormal Conditions



Continued use of the printer while it is emitting smoke or strange odor, creates the danger of fire or electrical shock. Immediately turn off the power and contact your nearest dealer or service center for repairs. Do not try to service the printer by yourself.



Disassembly



Never try to take the unit apart or modify it in any way. Doing so creates the danger of fire or electrical shock. Contact your nearest dealer or service center for repairs.



AC Adapter



Use only the specified voltage. Using a different voltage may create the danger of fire or electrical shock.



Never cut, damage or modify the power cord. Also, never place heavy objects on, set fire to or pull the power cord, as it can damage the cord and create the danger of fire or electrical shock.



Should the power cord ever become seriously damaged (internal wiring exposed or shorted), contact your nearest dealer or service center. Continued use of such a cord creates the danger of fire or electrical shock.

Never modify, excessively bend, twist, or pull the power cord. Doing so creates the danger of fire or electrical shock.



Caution

Location



Do not locate the printer in areas subjected to high humidity or dew. If dew forms inside the printer, immediately turn the power and do not use it until it has dried up. Continued use creates the danger of electrical shock.

Power



Never operate the power switch, replace the battery pack or unplug the AC adapter or battery charger with wet hands. Doing so creates the danger of electrical shock.

Thermal Head and Stepping Motor



The thermal head gets very hot after printing. Take care when replacing labels after printed and when cleaning to avoid being burned.



Touching the edge of the thermal head with bare hands may cause injury. Take care when replacing labels or cleaning to avoid injury.

Do not try to replace the thermal head by yourself. Doing so creates the danger of injury, burns or electric shock.

Cutter (Optional)



This part contains a blade. Take care to avoid cutting your hands.

Not using the printer for a long time



Remove the battery pack from the printer and unplug the AC adapter from the wall outlet if you do not plan to use the printer for a long time

Maintenance and Cleaning



For safety during maintenance and cleaning, please ensure the battery pack and the AC adapter are removed from the printer.

3. Setup

3.1 Loading labels or tags

1. Lift the top cover.
2. Press the two print head releases down to unlock the print head module.
3. Unwrap the new media, and unwind a few labels from the roll. Labels should be wound face-in for the best results.
4. Slide the center justified paper guides apart until the label roll drops down between them.
5. Place media roll in the paper tray such that the media unwinds from the bottom of the roll toward the front of the printer. The label image surface must face up as it passes under the print head.
6. Move the purple paper guides in place to fix the label position.
7. Lift the print head and slip the free end of the media under the print head and slide it out the through the front paper exit.
8. Lower the printer head and press it down firmly until it locks securely on both sides.
9. Close the top cover.
10. Wait until the ERROR stops blinking and becomes OFF. Press the FEED button to feed a label or to resume printing.

3.2 Loading ribbon

The CX series thermal transfer printer transfers ink from a ribbon to the label to produce an image.

1. Lift the top cover.

2. Press the two print head releases down to unlock the print head module and expose the ribbon supply spindles.
3. Unwrap the new ribbon and unwind 4" from the roll. The end of the ribbon is attached to a take-up core.
4. Observe the notches on both end of the supply core and the take-up core. These notches must fit on the corresponding nibs on both the supply and take-up spindles.
5. Roll several turns of ribbon on the take-up core. The coated side of the ribbon must be on the outside of the take-up roll.
6. Place the left notch of take-up core into the nib of left take-up spindle.
7. Place the right notch of take-up core into the nib of right take-up spindle.
8. Pull the ribbon on down the over the print head and insert the supply core onto the left supply spindle, making sure the notches in the core fit over the nibs.
9. Place the right end of the supply core into the right spindle, lining up the notches with the spindle nibs.

Note:

Make sure the (coated) dull side of the ribbon is to the outside where it will be in contact with the label media.

10. Turn the take-up spindle to pull the ribbon over the print head without any slack. Check to ensure there are no ribbon wrinkles.
11. Lower the print head and press it firmly until it locks securely on both sides.
12. Close the top cover.
13. Wait until the ERROR no more blinks and becomes OFF, press the FEED button to feed a label or to resume printing.

3.3 Selecting the label sensor type

CX series printers can use Eye-mark, gap or notch label sensing. The sensing method use by the printer must match to the media being used. If you are using label printing software, it should provide a mean to set up these parameters. See your software documentation for details. If you are writing your own software or controlling the printer using direct commands, you must use printer commands to set up the printer mode and sensing method.

4. Using the Printer

4.1 Printing a self-test label

Printing a self-test label checks the printer's overall operability. To run a self-test, confirm that the printer is loaded and connected to AC power and no print jobs are in process. Then:

1. Turn off the power.
2. Press and hold the FEED button.
3. Turn on the power.
4. After the printer starts printing release the FEED button.
5. After the self-test label finishes printing, the printer will enter dump mode.

To return to normal operation, you should restart your printer.

Important!

The printer will be in hex dump mode after printing the self-test label. It cannot print normal labels in hex dump mode. The printer will return to normal operation only you restart the printer.

4.2 Feeding blank labels

To feed a label, press the FEED button if no image is in the printer buffer. To clear the printer image buffer you press and hold the FEED button for about 5 seconds and release the FEED button.

4.3 Label reprint

If the last label printed has not been cleared from the printer buffer, pressing the FEED button causes the last printed label to be reprinted.

4.4 Sending data to the printer

To print labels using data sent from a host computer or terminal:

1. Connect the host and printer serial or parallel ports together using a correctly wired interface cable.
2. If you are using the serial port, confirm that the host and printer are using the same communication parameters.
3. Confirm that the POWER indicator is lit and the ERROR indicator is off.
4. Send your data to the printer.

4.5 Resetting the printer

Some commands with parameters can be saved in the printer. They are in non-volatile memory, E²PROM, they can be kept permanently unless they are changed by other commands with different parameters. To reset the parameters to factory settings, follow the procedure below.

1. Install ribbon and media.
2. Turn on the printer.
3. Press and hold the FEED button for about 30 seconds until the printer

starts printing.

4. Release the button.
5. The printer will print a test label and enter dump mode.
6. Restart the printer for normal printing.

Note:

While holding the FEED button, the indicator status will change. Do not be concerned even if ERROR indicator is lit up.

4.6 Printing labels

To print labels, the host computer sends commands to the printer via the serial or parallel communication port. If you are using the Label Gallery printing software supplied on the CD-ROM, the computer and software control the entire printing process. You only need to set up the printer, start your label printing program, and follow its instructions. If you are using another vendor software package, contact the software supplier or manufacturer if you encounter difficulties. If you want to print labels from another Windows application, the CX series Windows Printer Driver must be installed. It is found in the CD-ROM and must be loaded using the standard Windows printer installation instructions.

4.7 Controlling the printer using direct commands

You can also produce labels by sending commands directly to the printer. Simple ASCII commands control the printer. You can write command files using any text editor program that can output ASCII text (including the control codes).

5. Printer Specifications

| Printing Specifications | | |
|----------------------------------|---|---|
| Model | CX400 | CX410 |
| Printing Resolution | 203dpi | 300dpi |
| Max Printing Speed | 4ips | 3ips |
| Max. Printing Length | 1270mm (50’') | 635 mm (25’') |
| Max. Printing Width | 104mm (4.1’') | 106 mm (4.25’') |
| Print Method | Thermal Transfer/Direct Thermal | |
| Hardware Specifications | | |
| CPU | 32 bit Microprocessor | |
| Memory | DRAM: 2Mbytes, Flash ROM: 2Mbytes | |
| Interface | <u>Standard</u> : RS232C, Centronics <u>Optional</u> : External USB Adapter, External LAN Adapter | |
| Physical Dimensions | W 197mm (7.76’’) x H 164mm (6.46’’) x L 257mm (10.1’') | |
| Weight (Including power adapter) | 3.67kg | 2.6Kg |
| Power | 90 ~ 250VAC 50/60 Hz | 100 ~ 240 V AC, 1.8 Amp, 50/60 Hz |
| Power Consumption | Printing : 70 Watt. Standby : Less than 2 watt | Printing : 50 Watt max. Standby : Less than 2 watt |
| Regulatory Approvals | FCC Class B, CE, TUV, CCC, UL, and CB | |
| Operating Environment | Operating : +5 ~ 38°C (25 ~ 85 RH, non condensing) Storage : -20 ~ 60°C (25 ~ 85 RH, non condensing) | Operating : +5 ~ 40°C (25 ~ 85 RH, non condensing) Storage : -20 ~ 50°C (25 ~ 85 RH, non condensing) |

| Model | CX400 | CX410 |
|-----------------------------|--|-------|
| Media Specifications | | |
| Media Type | Direct Thermal - direct thermal paper or vinyl, visible light and infrared scannable label, tag stock, with various adhesives. Thermal transfer - all above media, plus thermal transfer paper. | |
| Maximum Label Roll Diameter | 127 mm (5’') | |
| Label Roll Core Diameter | 19.05 mm (0.75’') | |
| Minimum Inter Label Gap | 2 mm (0 .08’') | |
| Maximum Inter Label Gap | 25 mm (0.98’') | |
| Maximum Label Thickness | 0.254mm (0.01’') | |
| Winding Direction | Face in | |
| Media Sensor | Reflective Sensor Gap/I-mark Sensor | |
| Ribbon Specifications | | |
| Winding Direction | Face out | |
| Inner Diameter | 12.7mm (0.5’') | |
| Maximum Outer Diameter | 38mm (1.5’') | |
| Maximum Length | 100M (1182’') | |
| Maximum Width | 110 mm | |
| Font Specifications | | |
| Text Fonts | Code Page 858. Internal Bitmap Fonts: U, S, M, WB, WL, XU, XS, XM, XB, XL, OCR-A/B. Internal Scalable Vector Fonts. Downloadable True Type Fonts | |
| Rotations | 0°, 90°, 180°, and 270°, 4 direction rotation. | |
| Barcode Symbologies | | |
| 1D Barcode | UPC-A/E, EAN-8/13, CODE 39, CODE 93, CODE 128, Interleave 2 of 5 (I25), Matrix 2 of 5, Codebar, MSI, Bookland, POSTNET, UCC/EAA-128 | |
| 2D Barcode | PDF417, Maxi Code | |

| Model | CX400 | CX410 |
|-------------------------|---|-------|
| Graphic Specifications | | |
| Formats | Custom graphic, PCX | |
| Rotations | 0°, 90°, 180°, and 270°, 4 direction rotation. | |
| Accessories and Options | | |
| Options | Dispenser, Cutter, RS232C Interface cable, 2MB, or 4 MB additional flash memory | |