Operation Diagnostic and Maintenance Modes

Secure Payment Module
iX CAT SPM (Canada)

DANGER

READ THIS MANUAL BEFORE YOU BEGIN

Dispensers have both electricity and a hazardous, flammable and potentially explosive liquid. Failure to follow the below precautions and the Warning and Caution instructions in this manual may result in serious injury. Follow all rules, codes and laws that apply to your area and installation.

SAFETY PRECAUTIONS - INSTALLATION AND MAINTENANCE

Always make sure ALL power to the dispenser is turned OFF before you open the dispenser cabinet for maintenance. Physically lock, restrict access to, or tag the circuit breakers you turn off when servicing the dispenser. Be sure to trip (close) the emergency valve(s) under the dispenser BEFORE beginning maintenance.

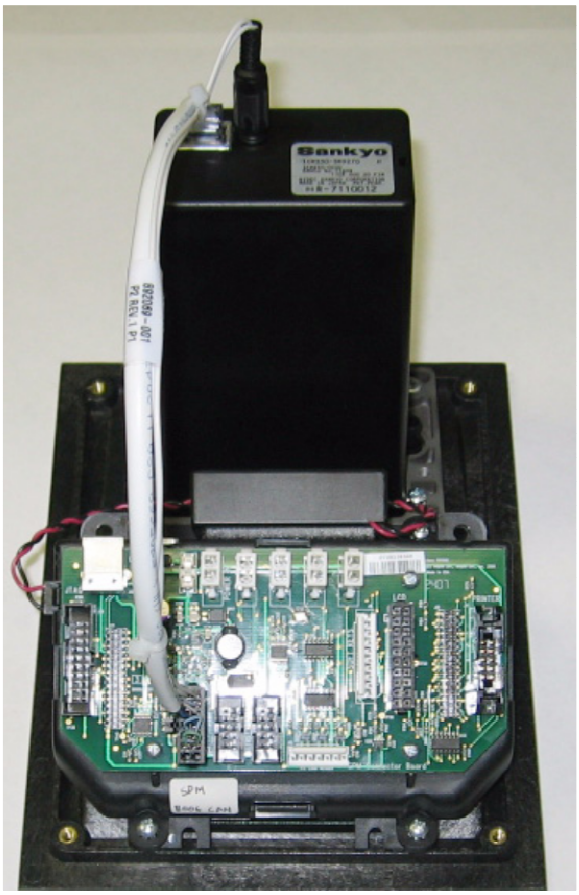
Make sure that you know how to turn OFF power to the dispensers and submersible pumps in an emergency. Repair all leaks or defects immediately.

HOW TO CONTACT WAYNE

Technical questions related to the installation of this product should be referred to Wayne Technical Support (1-800-926-3737).

INDICATORS AND NOTATIONS

DANGER	Danger indicates a hazard or unsafe practice which, if not avoided, will result in severe injury or possibly death.
WARNING	Warning indicates a hazard or unsafe practice which, if not avoided, may result in severe injury or possibly death.
CAUTION	Caution indicates a hazard or unsafe practice which, if not avoided, may result in minor injury.
NOTE:	Important information to consider, otherwise, improper installation and/or damage to components may occur.



SPM FRONT AND REAR VIEWS

1 INTRODUCTION

This manual provides instructions for startup of the iX CAT Secure Payment Module (SPM). The SPM consists of the iX board and two secure assemblies: the card reader assembly and the keypad (SPM) assembly.

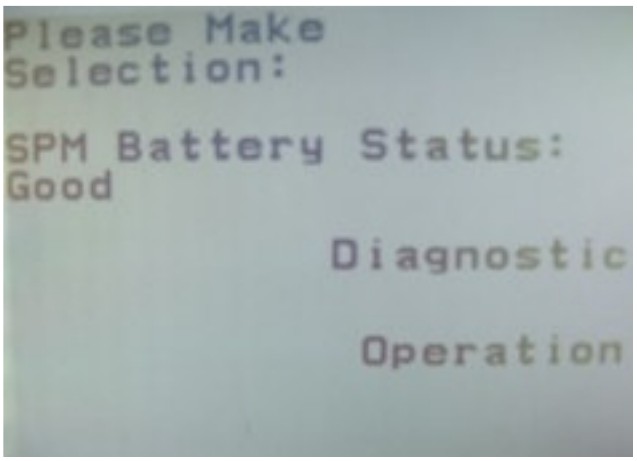
From a field perspective, the technician must be familiar with the three modes of the SPM. The three modes are: Operation mode, Diagnostic mode, and Maintenance mode. These modes, along with the instructions in this manual, are in addition to the normal iX CAT functions and procedures.

At Startup, the SPM must be placed into the Operation mode. The Diagnostic mode, used to test the keypad, printer and card reader, can be entered either before or after the SPM is put into the Operation mode. The Maintenance mode is used only when one of the SPM assemblies need to be replaced in the dispenser or while a new dispenser is in shipment.

An new feature introduced with the SPM is that while the dispenser is running in a normal idle state, either online or offline with the POS, you can press the two bottom softkeys to print out CAT status information, or you can press the two top softkeys to go into the Diagnostic mode (Runtime Diagnostics) without having to reboot iX board. Additionally, system information such as software version numbers can be viewed on the screen during the diagnostic mode.

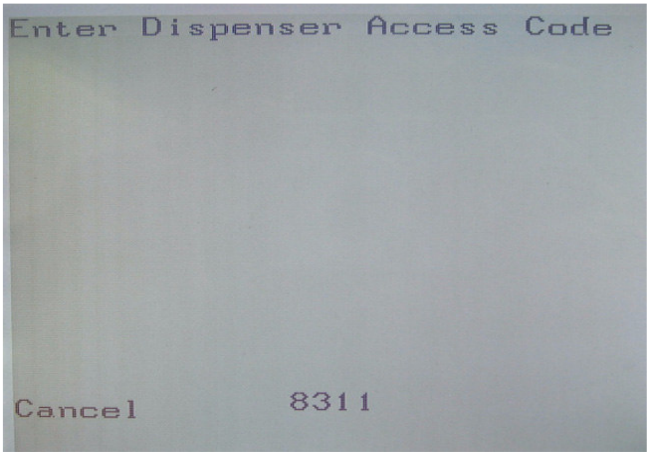
1.1 Setting the SPM Into Operation Mode

At first time power up of a new SPM module in the field, whether a replacement module or a new dispenser startup, the system progresses through a series of familiar iX bootup screens and then stops on the “Make Selection” screen shown below and the LED on the front panel will be solid yellow.

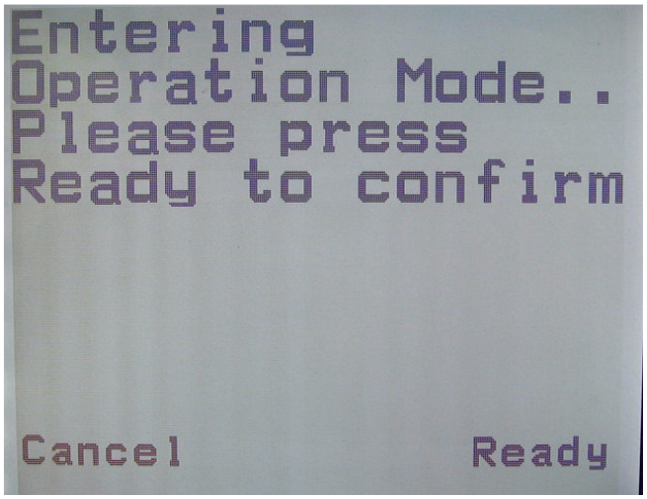


This screen showing these two modes and a solid On yellow light on the card reader indicates the SPM is in the Maintenance Mode

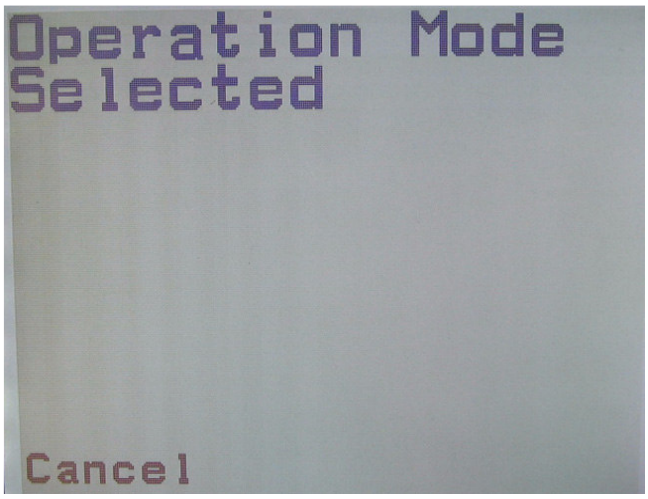
First make sure all SPM assemblies are properly installed, then Select Operation and when the below screen is displayed, enter 8311 and press saving key.



After entering the access code, the following screen is displayed.

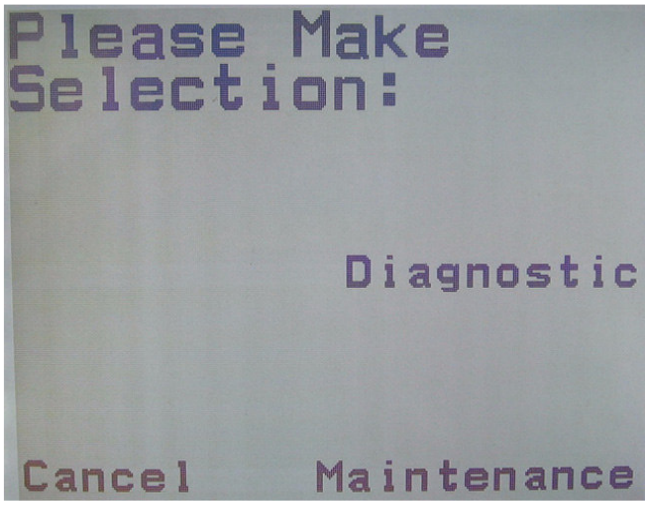


Select Ready and the following screen will be displayed.



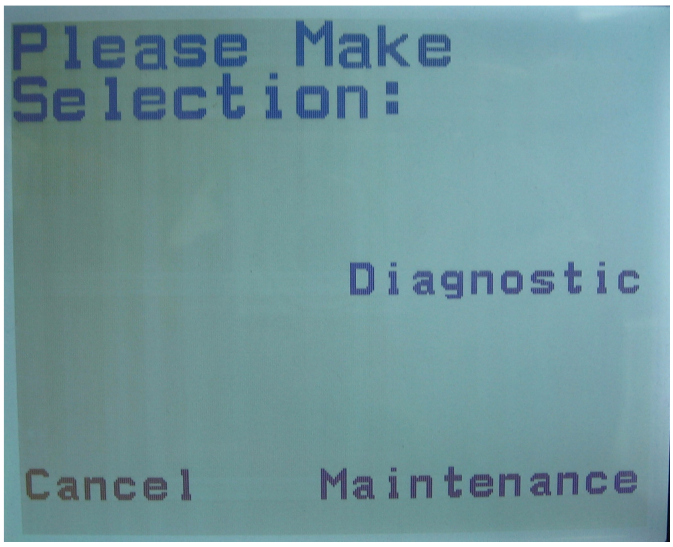
This screen is displayed the yellow light on the card reader goes off.

Press Cancel and the following screen will be displayed. “Operation” is no longer selectable on the screen since the system is now in the Operation mode. You can select the Diagnostic mode to check the CAT devices or press Cancel to return to the idle prompt.

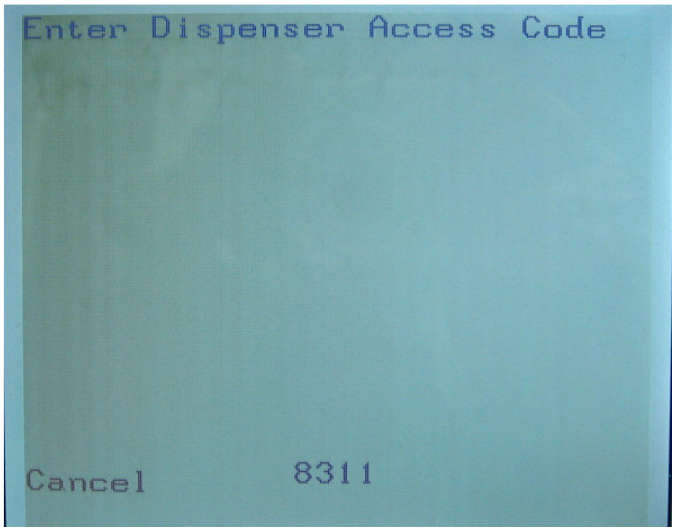


1.2 Entering Diagnostic Mode

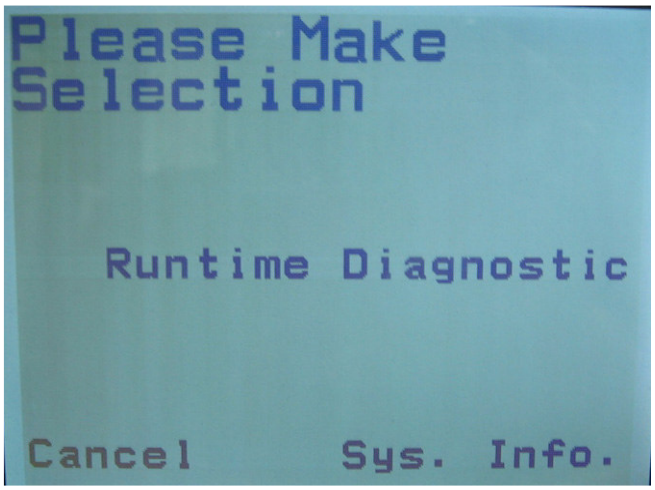
You can enter into the iX CAT diagnostics to test the keypad, printer and card reader without having to reboot and hold down the 2 softkey. During dispenser normal operation, press the two top softkeys and the screen below is displayed.



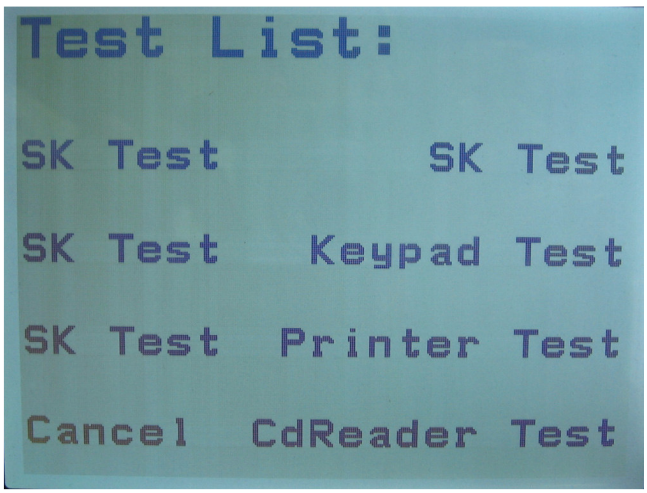
Select Diagnostic and when the below screen is displayed, enter 8311 and press saving key.



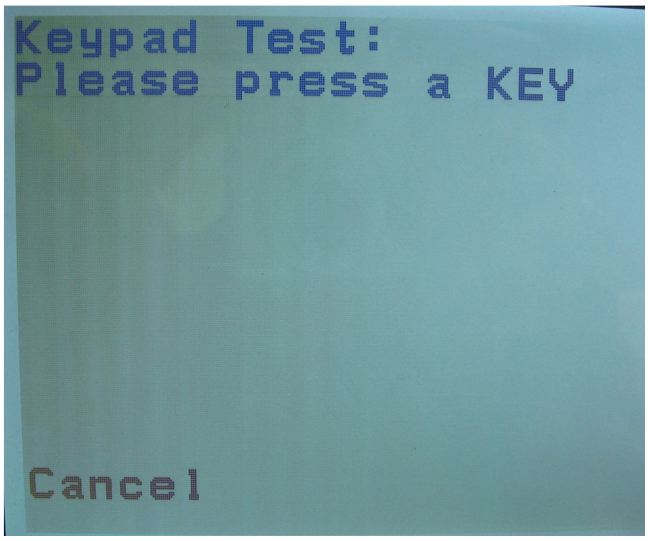
After entering the access code, the following screen is displayed.



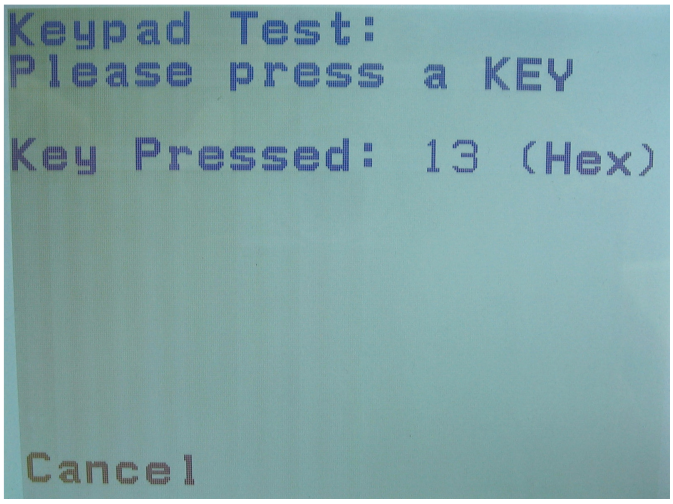
Select Runtime Diagnostic and the below screen is displayed.



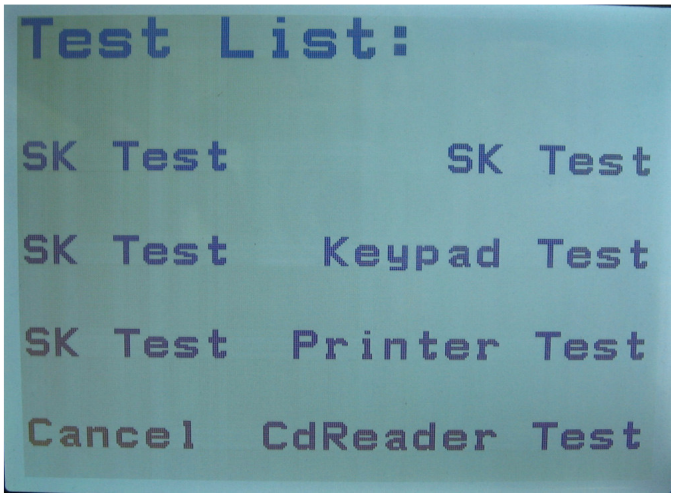
Press the SK Test softkeys. The screen will flash with each press indicating that the key is working. Then, select Keypad Test to display the screen below.



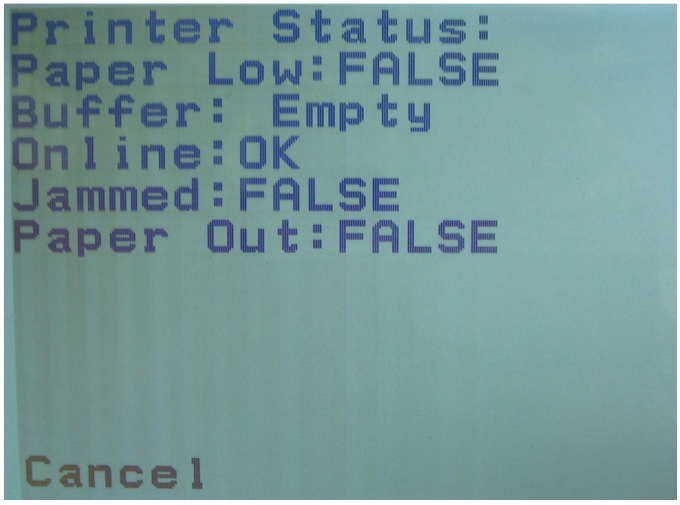
When you press the “1” key reads 13 (Hex) as shown below. Check other keys. NOTE: During the Keypad test, as a security measure, the 7, 8, 9 and 0 keys do not work.



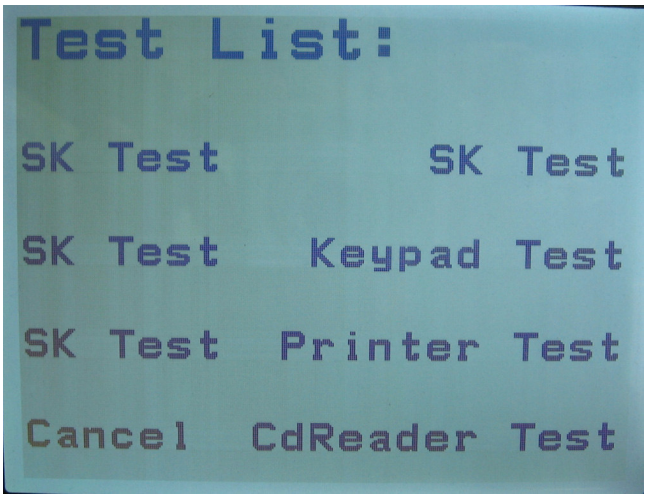
Press Cancel and the below screen is displayed.



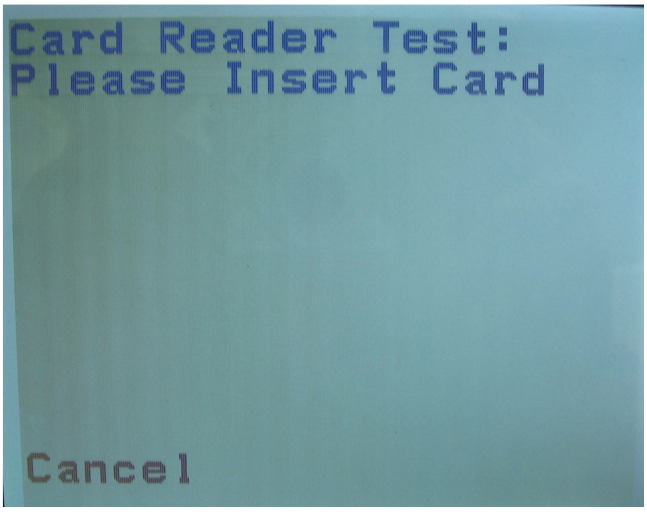
Select Printer Test. The below screen is displayed and the printer prints a test receipt.



Press Cancel and the following screen is displayed.

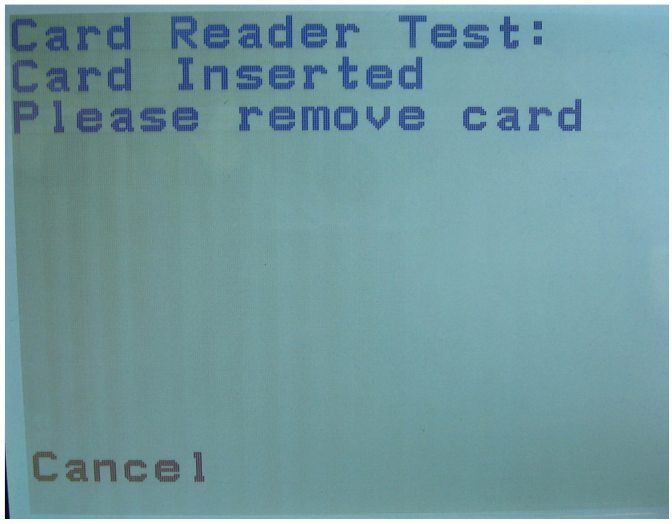


Select CdReader Test and the following screen is displayed to test the card reader

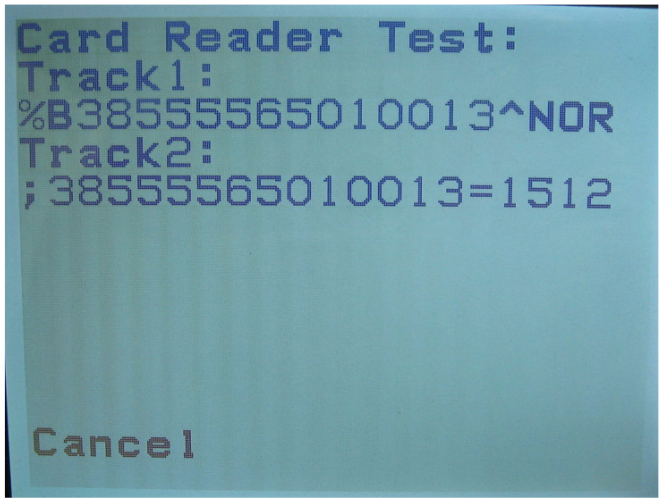


Green Light On ready to accept card during self test. Led goes off when card is removed and track data is received

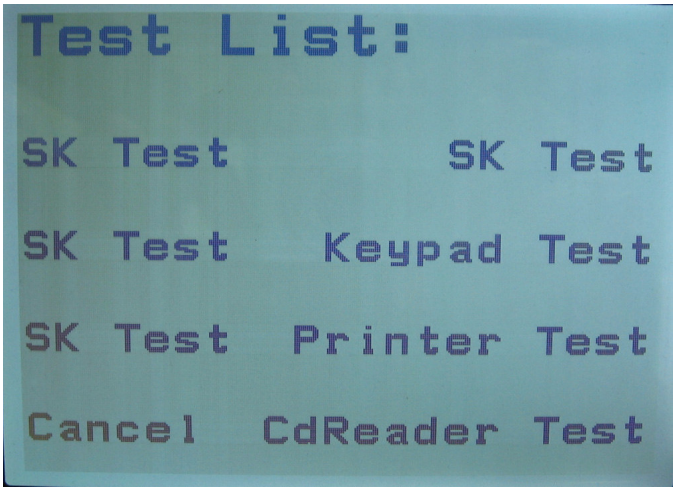
The below screen is displayed when card is inserted.



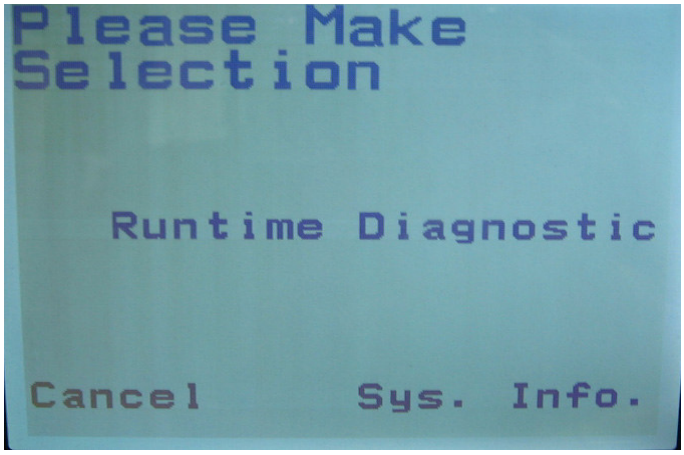
Typical card track data shown when card is removed.



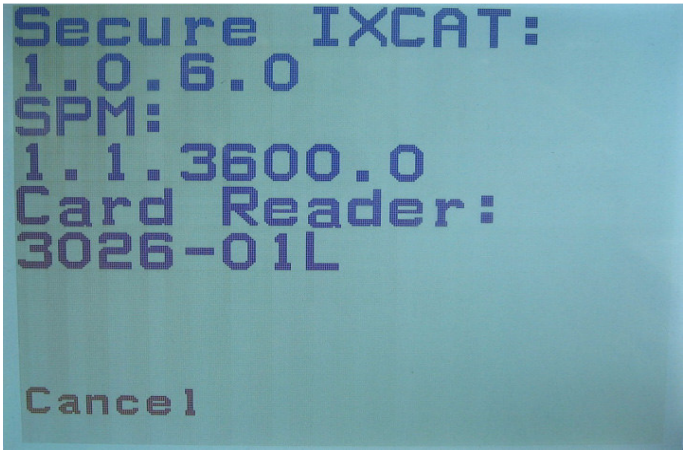
Select Cancel and the following screen is displayed.



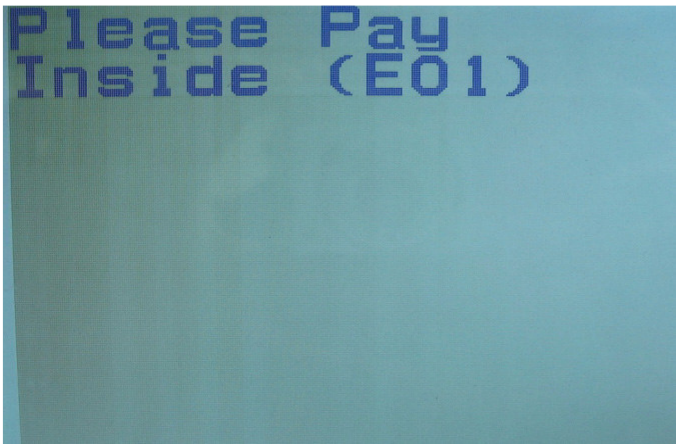
Select Cancel to exit back to the idle prompt or select “Sys. Info.” from the below screen.



When the Sys Info is selected, a screen similar to the below will display the software versions.



Press Cancel until the screen returns to the Online idle prompt or an Offline prompt as shown below.



End.

1.3 Maintenance Mode

This Maintenance mode is used in the field only when replacing SPM components. There are two replaceable components: the card reader assembly and the keypad/board assembly. The SPM must be put into the Maintenance mode to avoid breaching the security keys when either of the assemblies are replaced. Removing either of the assemblies will cause the security keys to be erased and render the SPM inoperable.

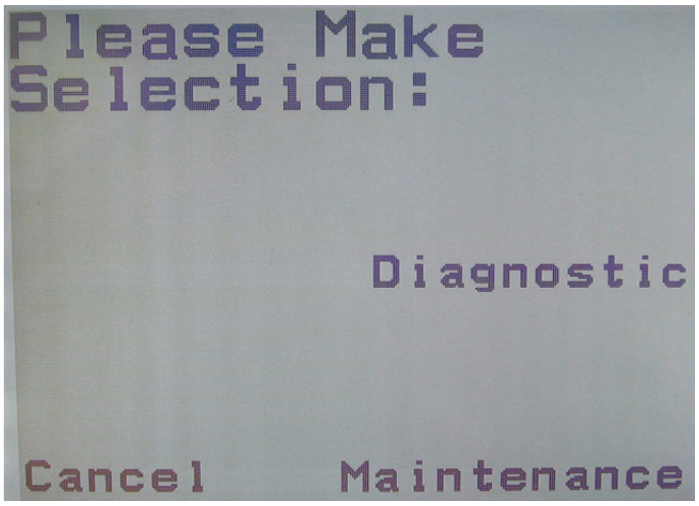
Though there are other causes, a blank screen with only backlight is an indication of a security breech and erased security keys. When this occurs, the SPM keypad assembly should be replaced. When one of the assemblies need to be replaced, follow the procedure below to enter the Maintenance mode.

When booting up the dispenser after replacing one of the assemblies, the SPM will need to be taken out of Maintenance mode and put into the Operation mode. Follow the procedure in Section 1.1 to place the SPM into the Operation mode. (Note: 30 day timer. If left in the Maintenance mode for 30 days the keys will be erased and will be inoperative.)

For service, if the card reader for example needs replacing, follow the procedure below to place the SPM into the Maintenance mode.

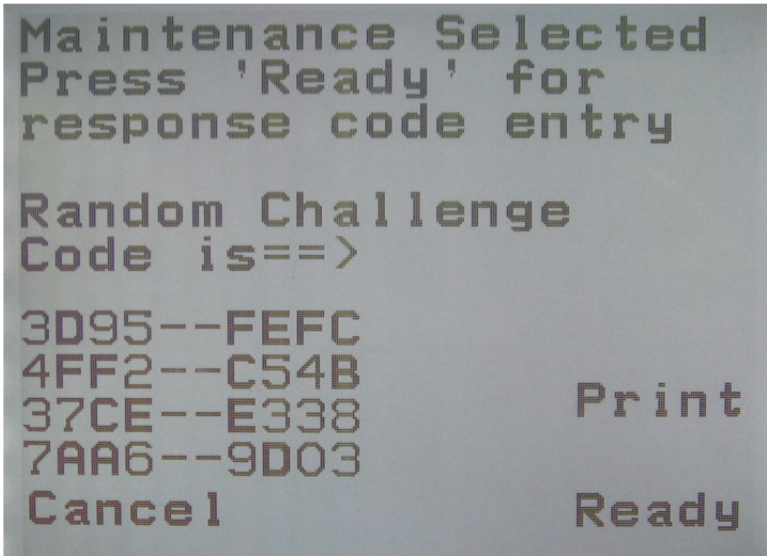
To enter into the Maintenance mode: contact Technical support at 1-800-926-3737.

1. During dispenser normal operation, press the top two softkeys (top left and top right) at the same time.
2. When the Selection screen below is displayed, select Maintenance.



The following screen will be displayed.

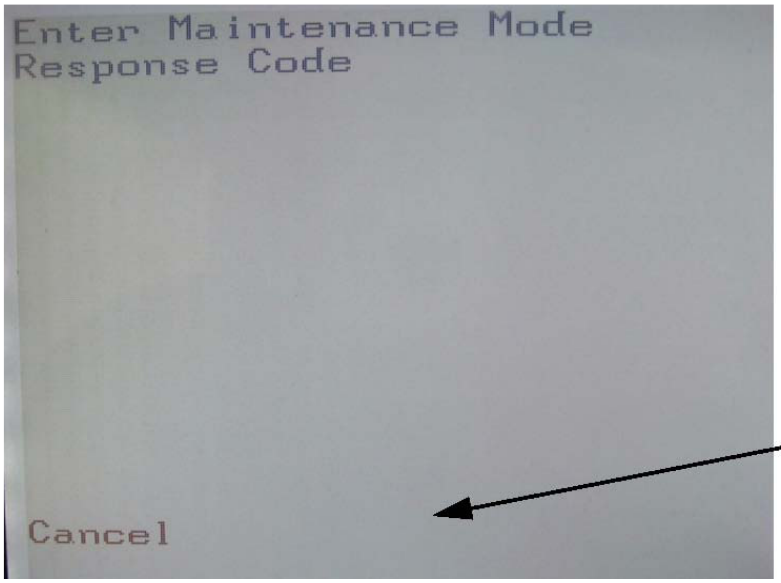
3. When the below screen is displayed, select Print and the printer will print out the Challenge Code. You have 30 minutes to Print out or write down the code and enter the Response Code in the next screen.
4. Call the Help Desk and give them the Challenge Code. They will in turn give you an eight digit Response Code.
5. At the dispenser, select Ready.



Card Reader Yellow Light will be Flashing

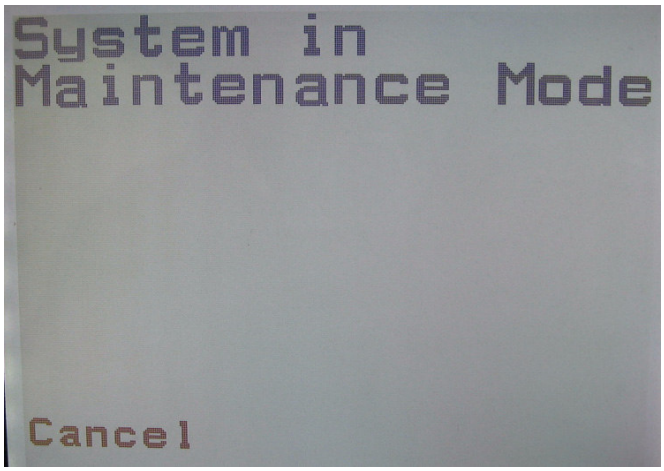
6. When the following screen is displayed, enter the 8 digit Response Code using the keypad and then press Enter.

Card Reader Yellow Light will be Flashing

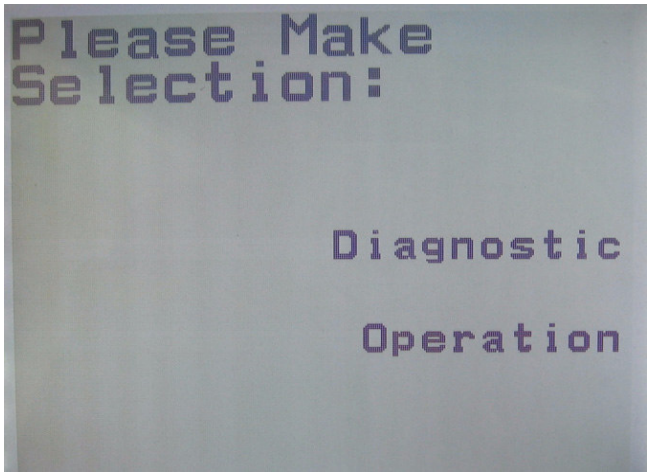


Response Code will be displayed in this area as it is keyed in

The following screen is displayed momentarily upon entering the Maintenance mode.



The below screen is then displayed. The below screen is displayed until a selection is made. At this point, the tamper proof security measures have been removed and the card reader or the SPM key-pad assembly can be replaced is necessary.



This screen showing these two modes and a solid On yellow light on the card reader indicates the SPM is in the Maintenance Mode

7. Select Operation and enter the 8311 Access Code and follow the screen prompts as explained earlier in this manual to exit the Maintenance mode.

When the Operation mode is entered, the yellow light on the card reader will go Off and, when the CAT is online, the green light will turn On.

Note: If you selected Diagnostic in the above step, when you finish the diagnostic test, you must select the Operation mode to take the SPM out of the Maintenance mode. The above screen will not time out.

End

1.4 Front Panel LED Indicator

The LED indicator on the card reader front panel has the following status descriptions:

Yellow On solid: In Ready for Install or Maintenance mode

Yellow Flashing: In Maintenance mode and waiting for a response from user (tech)

Green On solid: Ready for Card insert. goes off when card is removed

Green Flashing: At power up, iX reset, or power cycle (cable) at card reader

Red Flashing: security breach, tampering has occurred

There is not a red solid On light at this time.

Front panel display screen blank with only the backlight. Possible cause is the security keys have been erased in the SPM.

Additional/Problem **Symptoms and Solutions**

Problem: Blank display; no LED's glowing on iX board

Solution: The iX board normally has a solid glowing red power LED. Check the power connector for 24 volts. If good, disconnect power and pull fuse FS3 off the board with small needle-nose pliers and check for continuity with a multi-meter. The fuse resistance should be under 1 ohm. If open, check for shorts to ground. Replace the iX board.

Problem: Printer self-test printout does not show 115k baud or RS-232 setting

Solution: Check jumpers (Clamshell) or DIP switches (DW-10). Power cycle the printer to enable any changes.

Problem: Printer self-test printout shows 115k baud, RS-232 but iX self-test does not print.

Solution: Check printer data cable to verify it is connected to the SPM module.

Problem: LED display very dark, but correct images show dimly.

Solution: LED power cable not connected, or bad LED backlight. The QVGA display requires 24 volts incoming on the red-and-white power wiring.

In cold temp the display start up very dim so first try adjusting the contrast and follow the necessary step on the screen and after the system reboots the contrast will adjust.

Problem: No beep or tone when pressing a softkey or SPM keypad key.

Solution: Check annunciator wiring (part of Canbus cable P/N 890766-002.)

Note: If beep is present when performing the Diagnostic selftest but not during normal online operation, the problem is with the POS.

Problem: Printer self-test button does not function; can't advance paper with the FEED button.

Solution: Verify the printer power connector is attached and has 24 volts. If the iX board is powered down, unplug the printer data cable and run self-test again. (Paper will not advance if the CAT control board is powered down.

Problem: At iX bootup, a message displays on the screen "No SPM" and the bootup halts.

Solution: Verify the USB cable between iX and SPM is installed. Verify that the SPM power cable is installed. Voltage at the connector should be 24 volts. halts

Problem: No LED's light up when dispenser power is restored. A fuse on the 24-volt power distribution board may glow red, then burn out.

Solution: Check for blown fuses and if present, replace the power distribution board. Verify thepinouts on the power distribution cables are correct and no shorts exist to ground on the new components. Ensure the ground straps are not shorting components. Unplug all power connectors to the SPM, LED QVGA display, sales display, and iX, then power up the dispenser and connect the components one at a time, checking for power to the boards.

Problem: At power up, the status bar at the bottom of the screen keeps scrolling from left to right and over again. The display never proceeds beyond the iX splash screen.

Solution: Replace the iX board and/or SD card. The iX board's boot loader may not be compatible with secure iX software, or the SD card's software may be corrupt.

Problem: The QVGA displays a message "System Failure / please call for service" or "Not Authenticated."

Solution: The SPM keypad security may be breached. To verify, reset the iX board, press the 2 softkey on the left at the "One Moment Please prompt, and enter Bezel test. Skip to the printer test by pressing Cancel. If the printout reads: **"**SPM Mode: In Sec Breached Mode", the keypad encryption is lost. Replace the SPM keypad. There is no need to use the Maintenance mode in this case since the keys already have been erased.

Problem: IX CATs with SPM code seem to reset randomly during normal operation. A Gateway isn't installed.

Solution: Run an iX print test and examine the time of the report. If the time is way off, then set the correct time using the softkey #2 press at the "One Moment Please." prompt. The iX SPM code is hard-wired to reset every day at 2 AM by its internal clock. If time is not set correctly at installation then CAT will reset at the time it thinks is 2 AM. If the site has a Gateway then the iX will get an hourly time update from iSense.

SERVICE MANUAL

iX CAT SPM (Canada)

This manual was produced using Adobe® FrameMaker® and Photoshop®

Page design uses Arial Fonts

Manuals are electronically printed

Dresser Wayne, Dresser, Inc., is located at 3814 Jarrett Way, Austin TX 78728.
Wayne's general telephone number is (512)-388-8311.

NOTE: “This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.”

DRESSER Wayne

Dresser Wayne, Dresser, Inc. 3814 Jarrett Way, Austin, TX 78728 (512) 388-8311
Part No. W2940068 Rev A

3/2010