



*Wayne*

Ovation  
iX CAT Software

# INSTALLATION



## 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 dispenser and submersible pumps in an emergency. Have all leaks or defects repaired immediately.

### HOW TO CONTACT WAYNE

Technical questions concerning 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.

Ovation  
iX CAT Software

# Installation



## INTRODUCTION

The instructions in this manual must be followed to ensure proper operation of the iX CAT functions. The three sections in this manual explain the process for loading iX CAT software. This three part process is as follows: loading files on the USB drive, preparing the SD card, and loading files from the USB drive to the SD card on the iX board.

The Self Diagnostic test is listed at the end of this manual if required after the software has been installed.

### 1 LOADING iX CAT SOFTWARE ON THE USB FLASH DRIVE

#### Parts Required:

iX CAT Support CD p/n 891631-001  
USB Flash Drive PNY 128MB or 256MB recommended  
Belkin USB Media Reader, 128MB SD Card  
Laptop PC (or other PC) with USB ports and CD-ROM drive.

Note: The Wayne part number for the SD Card with nk.bin file and generic test program is 891347-005 for QVGA or 891347-006 for VGA.

A pictorial walk through of the instructions steps below is shown on pages 4 and 5.

1. Insert the iX CAT Support CD in the PC and note the drive letter by double-clicking on My Computer. The CD contains software for iX CAT for VGA, QVGA and 3/Vista.
2. Insert flash drive in USB port on PC and note the USB drive letter.
3. On the CD, double-click the "install.bat" file. This deletes all files on the flash drive and begins the setup.
4. At the screen prompt, select Install or Upgrade.
5. At the screen prompt, select the drive letter of the USB Drive.
6. At the screen prompt, select the drive letter of the CD drive where the files are located.
7. At the screen prompt, select the letter for the dispenser configuration (A) 3V, (B) QVGA or (C) VGA. The program will auto-load the application files and folders on the USB drive and automatically open the xml files for editing as necessary.
8. The content of the **DMSysSystemConfigure.xml** file is shown on the following page. Edit the file in the locations shown in bold type if the customer requires IP addresses that are different from the default values shown.

Note: Changes to this file's IP addresses are not required if the defaults are used or if an iX Gateway computer is not connected. If edits are made, be very careful not to accidentally delete periods in the IP addresses, quotation marks or any other characters in the file.

9. Edit the Product Table number (shown in bold type) as required for the dispenser model listed in the Table A-1. As an example, the "0030201" default value applies to a model B12/3, which is a 3-product variable ratio blender using nozzle positions 3, 5, and 7.
10. Save and Exit if changes were made or, if no changes, simply close the file.

The next .xml file **RDMCommConfig.xml** opens automatically. The file's content is shown on page 3. Instructions continued on page 3.

## INSTRUCTION NOTE::

If the customer requires IP addresses that are different from the default values shown, edit this file as necessary in the locations shown below in bold type, otherwise, no changes to the IP addresses are necessary. Edit the product table number for the dispenser model as necessary based on models listed in Table A-1.

### DMSystemConfigure.xml

```
<?xml version="1.0" encoding="utf-8" ?>
<DMSystemConfigure>
<!-- Registry Setting Flag -->
  <RegistrySetting enable="true" />
  <!-- This tells Dispenser Manager to set up the given registry shown in this file -->
  <!-- Once DM is finished the setting, it will rewrite to enable="false" so
  next time, it won't need to write again -->
<!-- Domain prefix setting -->
  <DNSDomain name="\Comm\TCPIP\Parms" regName="DNSDomain" regValue="wayne.com" />

<!-- Desktop enable or disable -->
  <Desktop name="\Platform" regName="DesktopEnabled" regValue="0" />
  <FTP enable="true" />
  <ActiveSync enable="false" />

<!-- System IP and name registry setting -->
  <SystemName prefix="ixCAT" />
  <!-- sprintf (name, prefix, fp), if fp=2, name is "ixCAT02" -->
  <NetworkAdapter name="\Comm\LAN90001\Parms\TcpIp" />
  <DHCP name="EnabledDHCP" enable="false" />
  <DefaultGateway name="DefaultGateway" ip="192.168.1.1" />
  <!-- <IpAddress name="IpAddress" ip="10.195.231.97" /> -->
  <IpAddress name="IpAddress" prefix="192.168.1" offset="101" offset2="132" startFP2="32"/>
  <Subnetmask name="Subnetmask" ip="255.255.255.0" />
  <DNS name="DNS" ip="192.168.1.1" />

<!-- Following are more dispenser settings -->
  <PumpConfig unitPriceDecimal="3" volumeDecimal="3" amountDecimal="2"
  slowFlow="150" reportRunningTotal="false" productTable="0030201" />
  <!-- PumpConfig: unit price decimal position is 2 by default
  volume decimal position is 2 by default
  amount decimal position is 3 by default
  slow flow amount is 0.150 gallon
  report running total is false by default
  product table refer product ID (1-7) into Wayne pump logical position
  0020001 means product 2 = logical nozzle position 2, product 1 = logical nozzle position 6 (0 indexed)
  -->
  <RemoteDiagnosticManager ip="127.0.0.1" port="36555" />
  <!-- Remote Diagnostic Manager connect information -->
  <StoreNumber id="1234" />
  <!-- Important: Number used to set DNSDomain registry to resolve DNS domain prefix issue if required -->
</DMSystemConfigure>
```

The DHCP server is not used, therefore, this remains at false.

Only change these if Customer is using a DNS DomainName Server. This is not the iX Gateway

Number in this location + the offset below is automatically assigned to the iX board when the F.P.# is entered.

Only change this if Customer is using a DNS DomainName Server. This is not the iX Gateway

Offset:  
Adds 100 to the last octet in the IP address, i.e., 192.168.1.101 becomes the IP address for F.P. #1 when the F.P. # is entered during configuration.

Product Table number

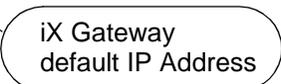
**Table A1. Product Table**

Based on dispenser model, the seven digit Product Number from Table A1 is entered into the "DMSystemConfigure.xml" file. See instruction step 9.

Dispenser Model # Begins With	Dispenser Description	Product Number
B23/5	Two Hose (1+4) Blender	5043210
B23/4	Two Hose (1+3) Blender	4003210
B23/3	Two Hose (1+2) Blender	3002010
B12/5	Single Hose 5 Grade Blender	0054321
B12/4	Single Hose 4 Grade Blender	0004321
B12/3 (Used as Default model)	Single Hose 3 Grade Blender	0030201
B12/2	Single Hose 2 Grade Blender	0020001
R13/3	3 Grade Non-Blender	1230000
R22/2	2 Grade Non-Blender	1200000
R11/1	1 Grade Non-Blender	1000000

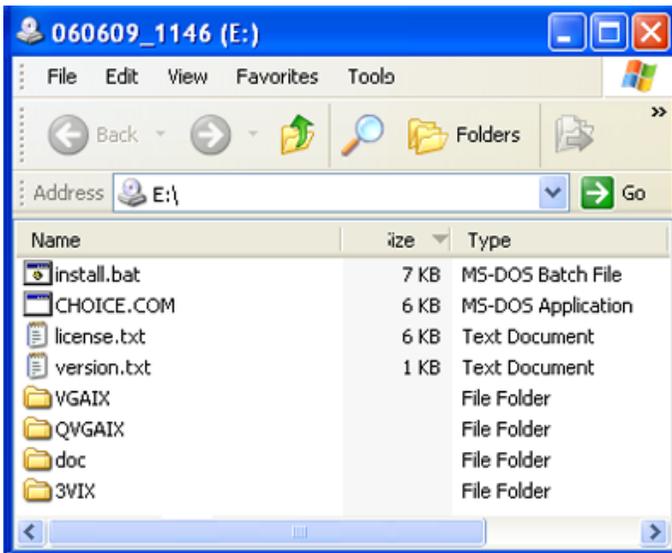
**RDMCommConfig.xml**

```
<?xml version="1.0" encoding="unicode" ?>
<RDMComm>
  <RDMClientHost heartbeatInterval="15000" port="36555" requestTimeout="10000"/>
  <DDSClientProxy requestTimeout="30000">
    <Connections heartbeatInterval="15000" connectRetryInterval="60000">
      <Connection priority="1" address="192.168.1.51" portNumber="2111" />
    </Connections>
  </DDSClientProxy>
</RDMComm>
```



11. Change the address (shown above in bold) to the IP address of the iX Gateway computer if the customer has required an IP address other than the default value shown.  
Note: Changes to this file are not required if the defaults are used, or if an iX Gateway is not connected.
12. Save if changes were made or, if no changes, simply close the file.
13. At the screen prompt, select (X) to Exit.
14. Click on the Hardware icon on the Windows taskbar at the bottom of the screen and follow the procedure on the pop-up windows **to safely remove** the USB flash drive. The icon is shown at the top of page 10.  
**Note:** Do not just pull the USB drive out of the laptop port as this will eventually render the drive unusable.

This completes loading the files onto the thumb drive.

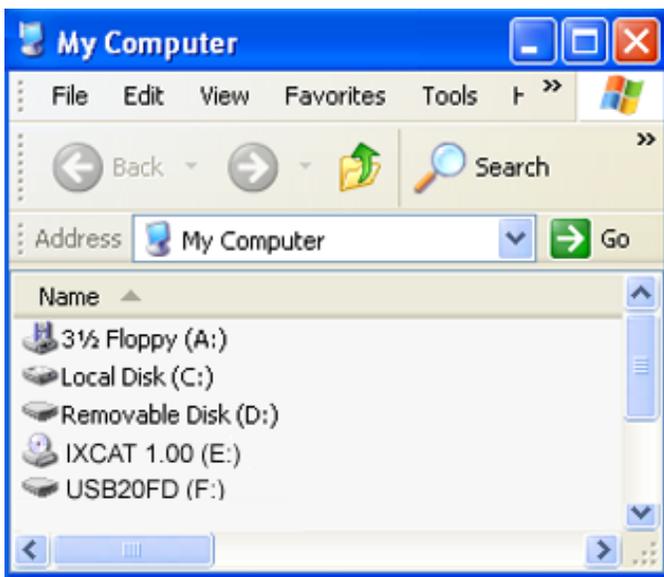


Pages 4 and 5 show a pictorial walk through of the instructions

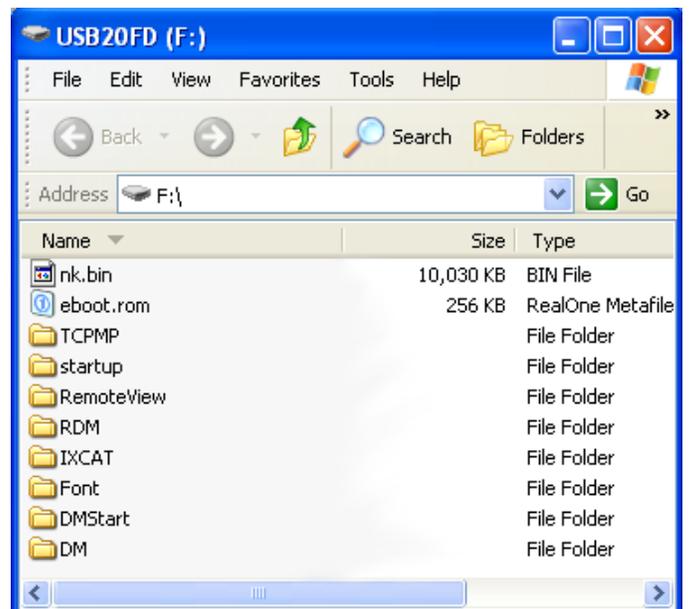
1 Files on Support CD, double-click on install.bat



2 First screen prompt after double-clicking on install.bat  
Select (A) Install or (B) Upgrade

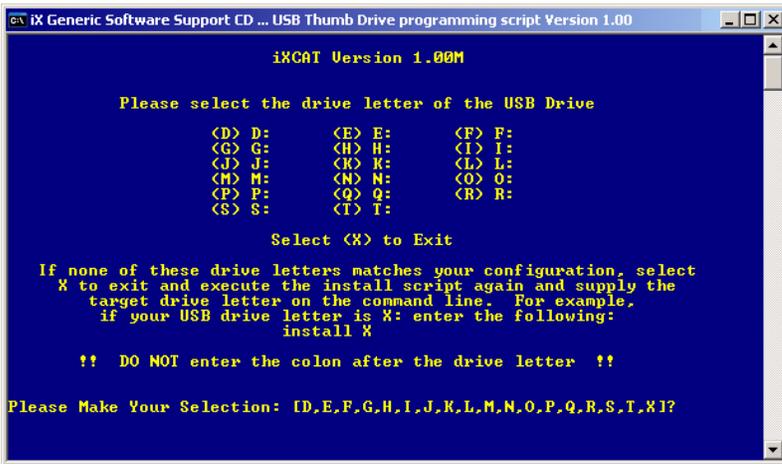


3 My Computer, Note Drive Letters of your CD and USB Drives - Example Shown

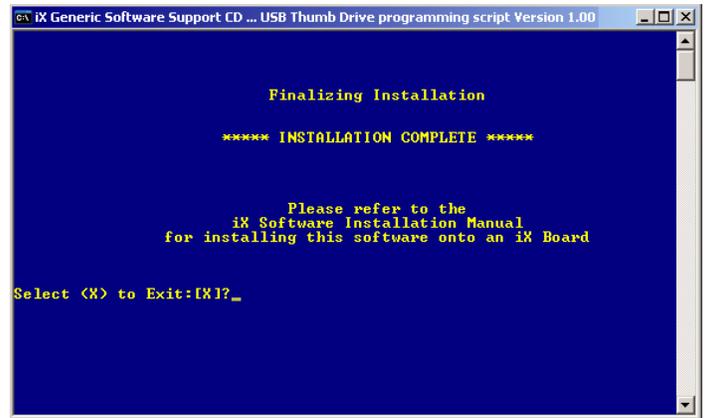


4 Files on USB Flash Drive after running install.bat

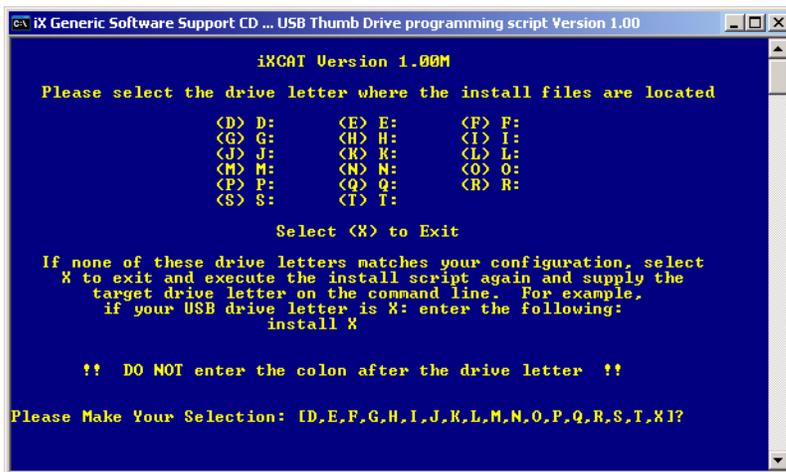
4



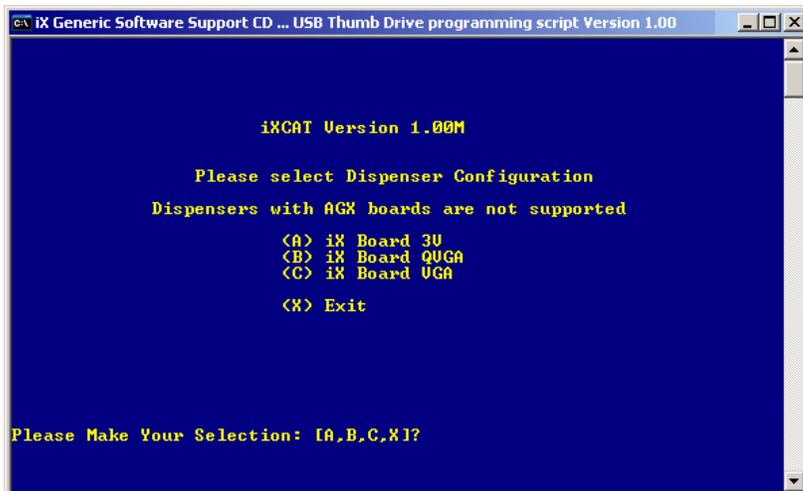
5 Select Drive Letter of USB Drive



8 Select X to Exit



6 Select Drive Letter of CD Drive



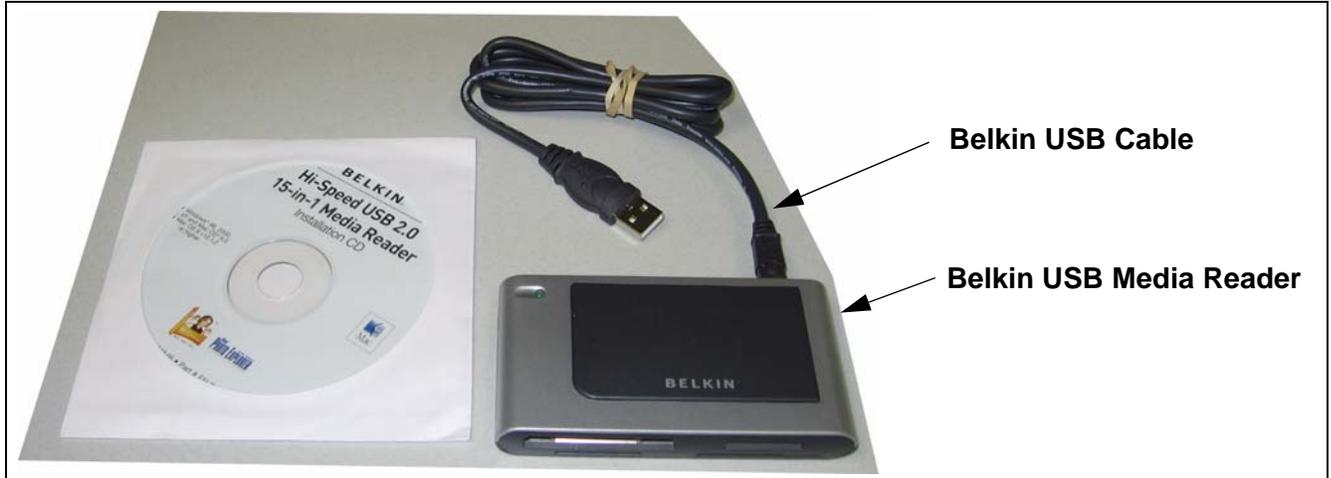
7 Select Dispenser Configuration 3V, QVGA or VGA then continue with instructions for editing xml files. After selection, the xml files shown on pages 2 and 3 will open automatically for making changes (if necessary). If changes are made, save and close the files.



## 2 PREPARING THE iX BOARD SD CARD

### Prepare SD Card as follows:

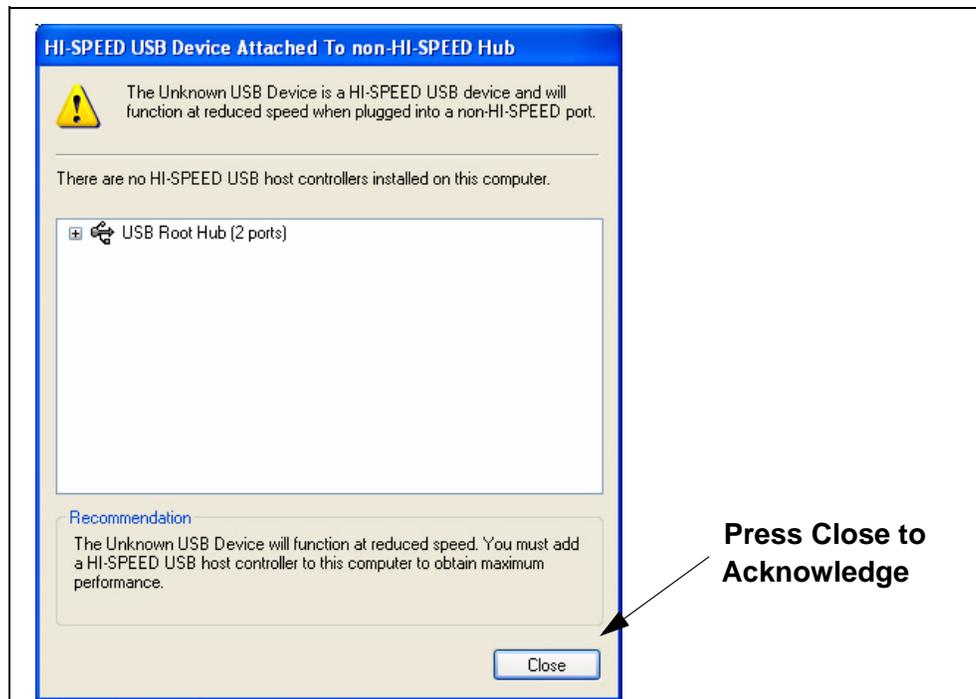
1. Plug the Belkin USB cable into the Belkin Media Reader as shown and then plug the other end of the USB cable into an unused USB port on your laptop. See the following figure.



Belkin USB Cable

Belkin USB Media Reader

2. You may see the following message if you are installing the Belkin Media Reader USB cable into a non-hi speed (USB 2.0) USB port on a Windows XP system. The reader will function correctly, however it will run at a slower speed. Acknowledge the message by pressing **Close**.

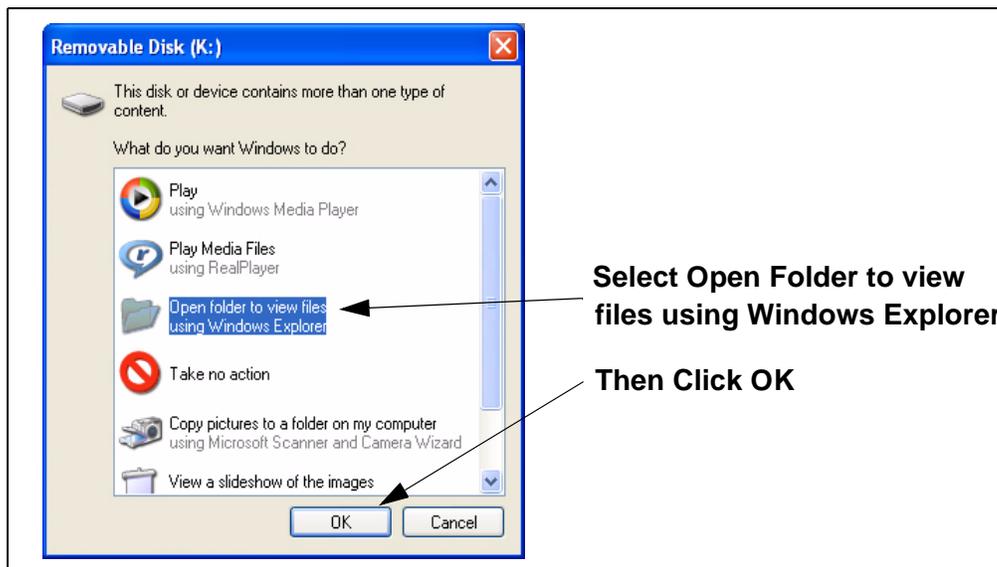
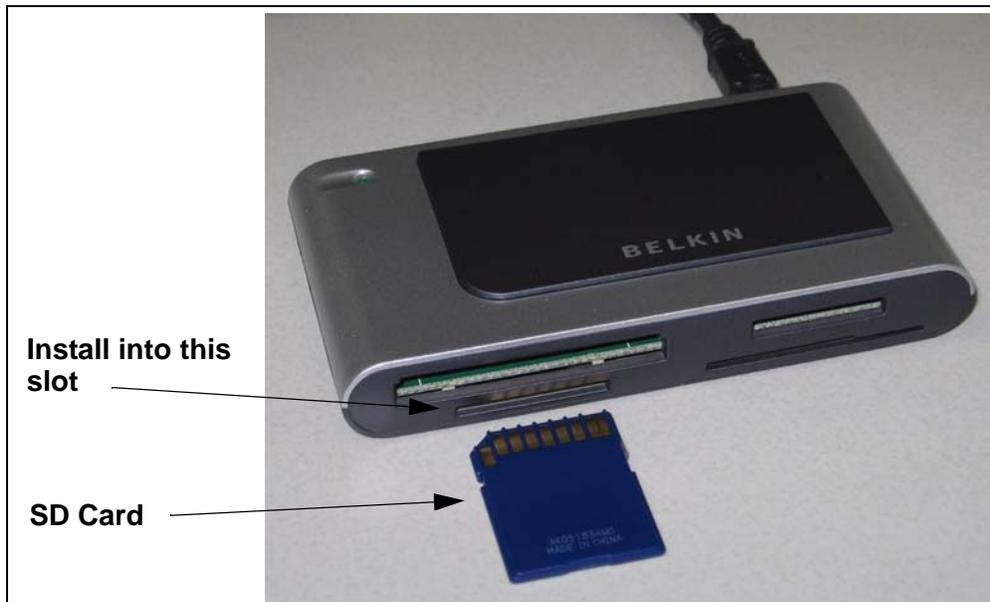


Press Close to Acknowledge

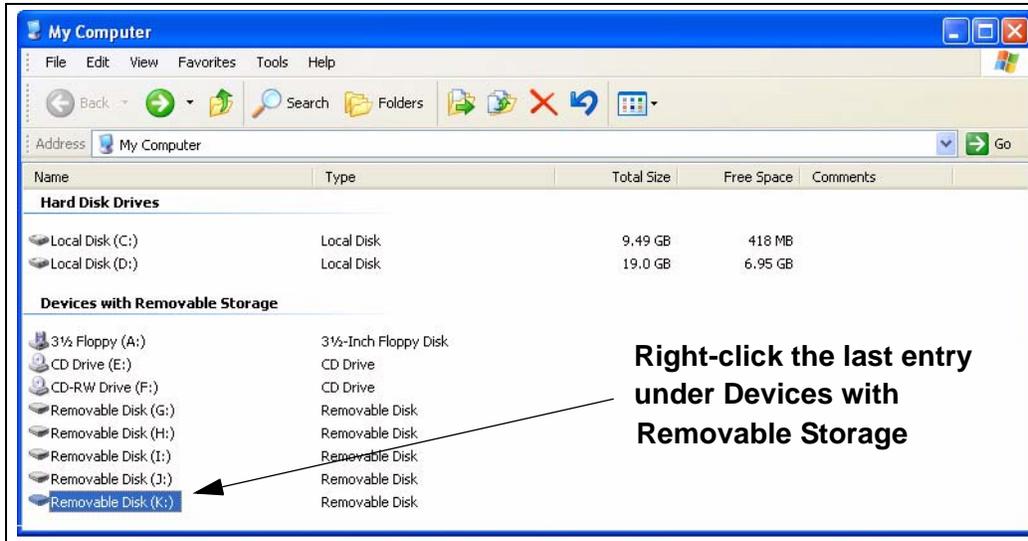
3. Make sure that the SD card is not set in the lock position.



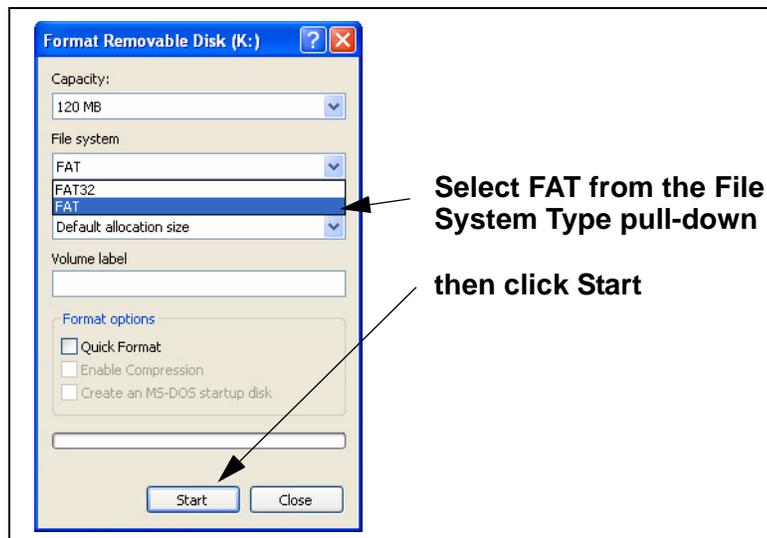
4. Insert the SD card in reader/writer with the gold tabs up and wait for the pop-up that asks you what you would like to do with the device. You will only see this pop-up on your initial installation of the SD card into a Windows XP system. Select **Open Folder to View Files Using Windows Explorer** then click **Ok** to close the window..



- On your laptop, go to **My Computer**. You will see the following window which shows four new entries under **Removable Storage**. Right-click the last entry and select **Format**.



- Select **FAT(FAT16)** as the File System Type, then click **Start**. **Do not use FAT32 or NTFS**. Also, be sure the lock on the SD card is turned off.



- Insert the iX CAT software CD into the CD drive of your laptop.
- On the CD, open either the 3VIX, QVGAIX, or VGAIX folder and locate the **nk.bin** file and the **eboot.rom** file and copy them to the SD card.
- Next, you will need to stop the Media Reader/SD card by the following procedure.

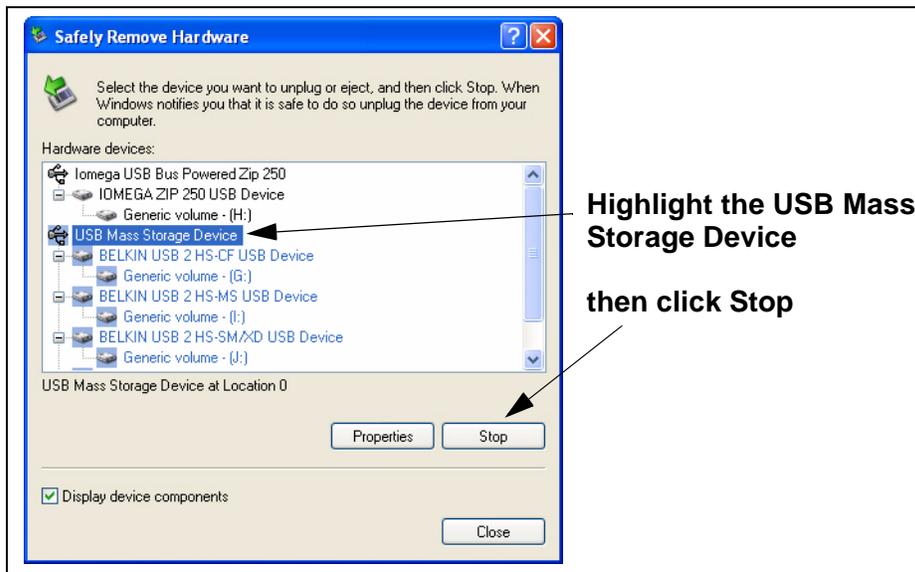
**WARNING**

The following procedure is required to correctly stop communications to the SD card. **Failure to follow this procedure can render your card unusable**

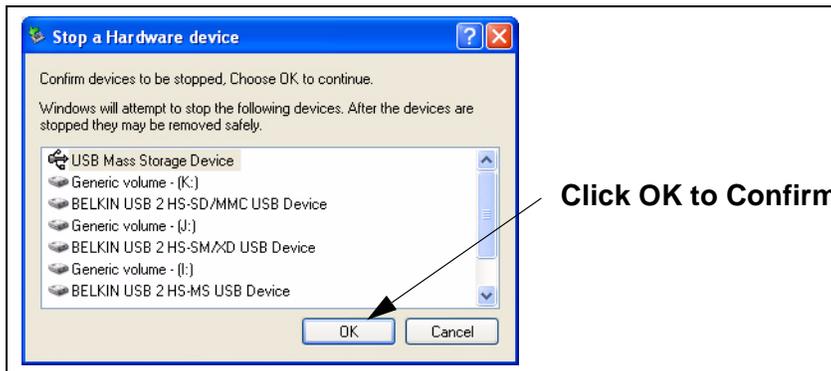
10. Go to the Windows task bar at the bottom of the screen and double-click on the icon shown below.



11. In the following window, highlight the **USB Mass Storage Device** then click **Stop**.



12. The following window will be displayed where you confirm the Stop by clicking **OK**.



13. Remove the SD card from the reader and then disconnect the reader from your laptop.

14. Insert the SD card into the iX board and perform the iX CAT software loading procedure that follows in Section 3.

### 3 LOADING iX CAT SOFTWARE ON THE iX BOARD

1. Verify that dispenser was iGEM pump software rev 43 or higher. If not, load latest software.
2. Follow instructions in Sections 1 and 2 to properly load files on the USB flash drive, prepare the iX board SD Card and ensure the SD card has been inserted in the iX board Figure 1.

Perform the following steps on both sides of the dispenser:

3. Insert USB thumb drive containing iX CAT software into either USB #1 or USB #2 port on the iX board (Figure 1) and press the SW1 reset button.

Note: In a few seconds, there will be a screen showing "iX Ovation" with an activity bar moving across the bottom of the screen. When the activity bar has completed, the screen becomes dark briefly and then the screen prompts System Initializing is displayed for several seconds, Dispenser Manager Initializing is displayed briefly and then the VGA Screen Orientation prompt is displayed (Screen Contrast on QVGA). This screen sequence is shown in Figure 5 for VGA. QVGA screen sequence is very similar. If there are no softkeys, press Yes, No, Cancel or Enter on the keypad as appropriate during this procedure.

The #1 softkey is the upper left key and the #5 softkey is the upper right key as shown in Figure 2.

4. Press Cancel or press the appropriate #1, #2, #5 or #6 softkeys to change screen Orientation (VGA) or Contrast (QVGA) and press Cancel.
5. Select the Side to be configured at the "Current Side Info:" prompt by pressing the 1 softkey for side A or the 5 softkey for side B and then press the Cancel softkey.
6. Press Yes softkey at the prompt "Want to Test Bezel Devices". This will begin the diagnostic test.  
Note: At startups, always select Yes to this prompt and test the peripheral devices. Be sure to remove the sample roll of paper from the printer and install a new roll before the test.

Note: To enter the Configuration Diagnostic process at anytime, reset the iX board and wait for the "One moment please..." prompt and immediately press and release softkey 2 (left side 2<sup>nd</sup> down) or for QVGA without softkeys, press 1 on the keypad. This will force DM into the Configuration Diagnostic test mode shown in Appendix A.

7. At the Softkey Test screen, verify each softkey is working properly by pressing each softkey and then press the Cancel softkey after the test.
8. At the Keypad Test screen, press each key on the keypad, verify each digit shows on the display, and press the Cancel softkey when finished and the *Card Reader test* will begin.
9. At the "Please Insert Card or Press Cancel" prompt, insert a card or scan a bar code and the screen will display:  
"Track #1 Data: %# # # # # #.....#"  
"Track #2 Data: ;# # # # #.....#"
10. Press Cancel or Press the Help softkey to insert another card or scan a bar code.  
When Cancel is pressed, the Printer Status window displays "Printer online" or "Printer offline" and the *Printer test* will automatically print a receipt similar to Figure 3.
11. Press Cancel at the Orientation (VGA) or Contrast (QVGA) screen prompt.
12. Press Yes or No softkey at the screen prompt Softkey Enable Mode to POS? Yes, if the POS supports softkeys or No if POS does not support softkeys
13. Enter the dispenser Fueling Point number, via the keypad, and press Cancel at the prompt "Please enter F. P. press Cancel when done".  
Note: **IP Address is assigned automatically** (via xml file, see page 2) when the F.P. number is entered.
14. Remove the USB drive as soon as the configuration report starts printing.

Note: System will automatically reboot when the configuration reports prints (Figure 4). The screen will continue through the screen prompts "One Moment Please", "Out of Service", and "Dispenser Offline", and then change to the online prompt or remain at the dispenser offline message if a POS is not connected. **11**

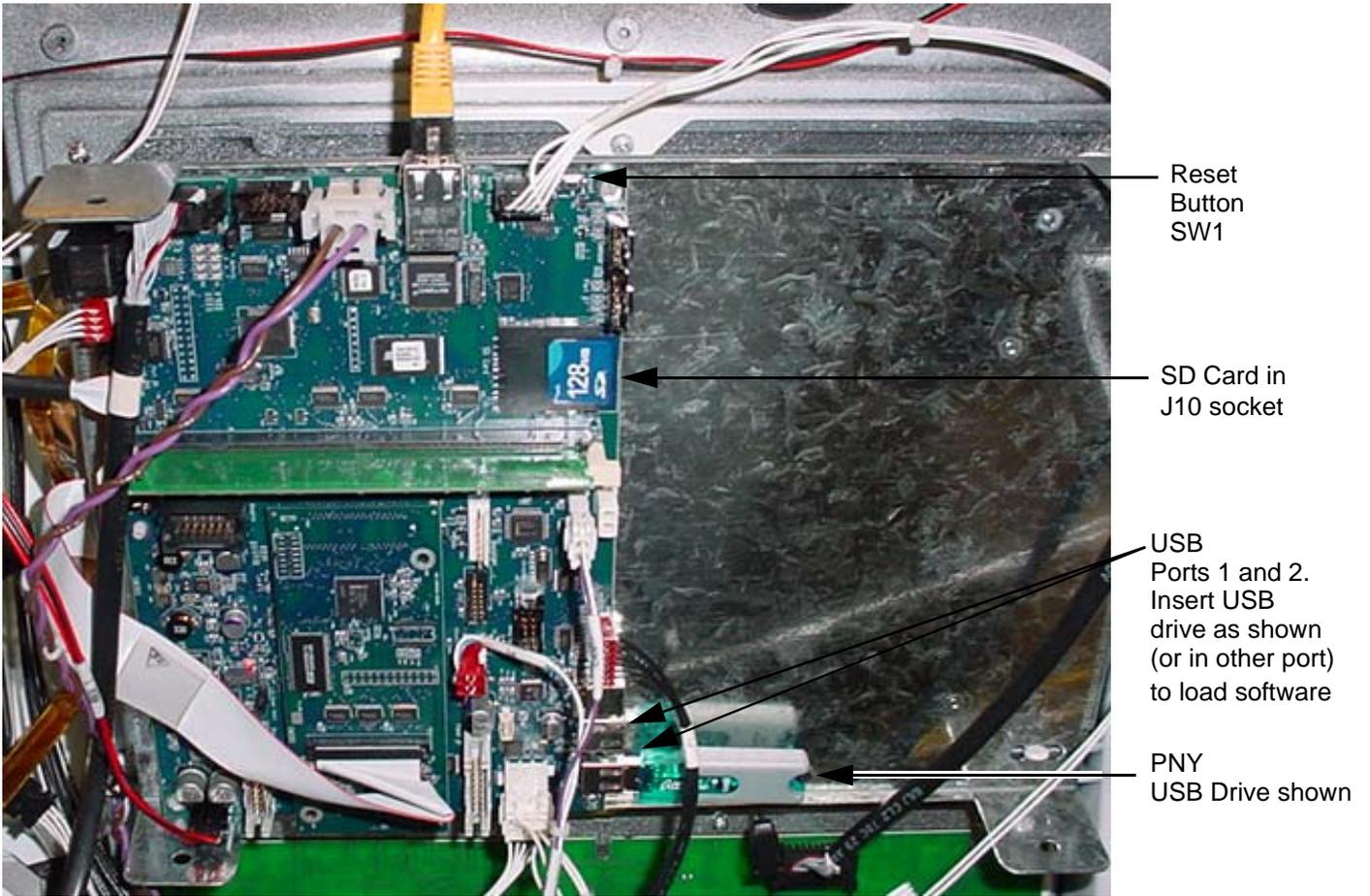


Figure 1 iX Board



Figure 2 Softkey Numbers, VGA. Location numbers are identical for QVGA displays.

```

System Information:
=====
OS Image Rev: 5.00.31
Network MAC Address:
  00155c000bd5
Store Number: 1234
Dispenser Side: A
DM SW Rev. 3.58
Keypad: 6.0
Printer: 05.07
IXCAT SW Rev: 2.0.4.0
RDM SW Rev: 2.2.1.0
Fueling Position: 03
SK Enabled to POS: true
Pump Information:
=====
UnitPriceDecimalPos: 3
VolumeDecimalPos: 3
AmountDecimalPos: 2
SlowFlowAmount: 150
Products (HosePos: 0-6):

0030201
=====
RemoteDiagnosticMgr:
IP: 127.0.0.1
Port: 36555
=====

```

When the Fueling Point # is entered during configuration, the system automatically assigns the IP address

Product Table # default setting from the DMSystemConfigure.xml

```

System Information:
=====
OS Image Rev: 5.00.31
Network MAC Address:
  00155c000bd5
Store Number: 1234
Dispenser Side: A
DM SW Rev. 3.58
Keypad: 6.0
Printer: 05.07
IXCAT SW Rev: 2.0.4.0
RDM SW Rev: 2.2.1.0
Fueling Position: 03
SK Enabled to POS: true
Pump Information:
=====
UnitPriceDecimalPos: 3
VolumeDecimalPos: 3
AmountDecimalPos: 2
SlowFlowAmount: 150
Products (HosePos: 0-6):

0030201
=====
RemoteDiagnosticMgr:
IP: 127.0.0.1
Port: 36555
=====

```

```

=====
DNS Domain Settings
RegName: DNSDomain
Value:
wayne.com
=====
TcpIp Information:
=====
DHCP: Disabled
FTP: Enabled
Gateway: 192.168.1.1
IP: 192.168.1.103
Subnet: 255.255.255.0
DNS: 192.168.1.1

```

Figure 3. Printer Test Receipt.

(example only)

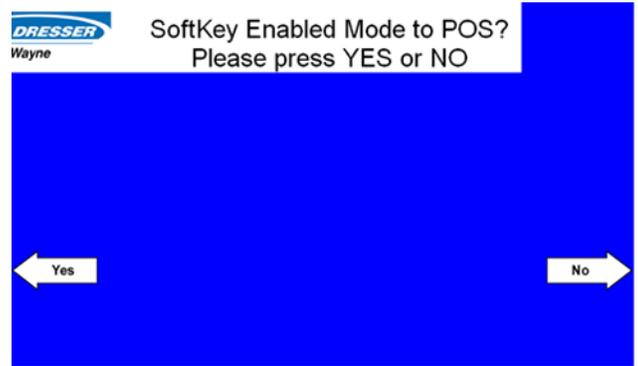
Figure 4. Configuration Report

Disclaimer: The above printouts are for example only. Software versions, IP addresses and other information may change based on different configurations and software releases.

**IP addresses shown are the default settings.** Customers supply the IP addresses if they require addresses other than the default settings.



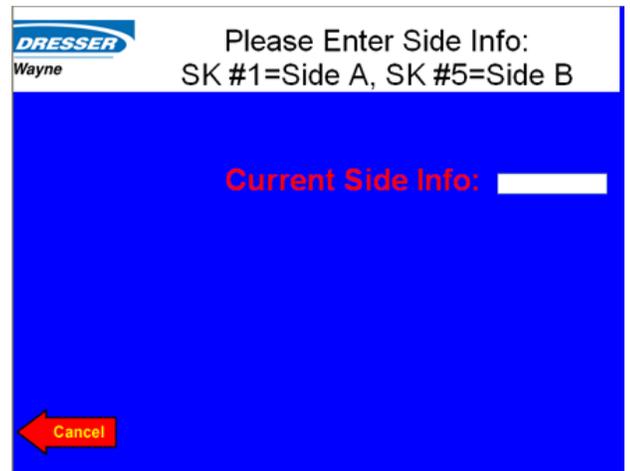
Ovation screen with bar at bottom of screen.



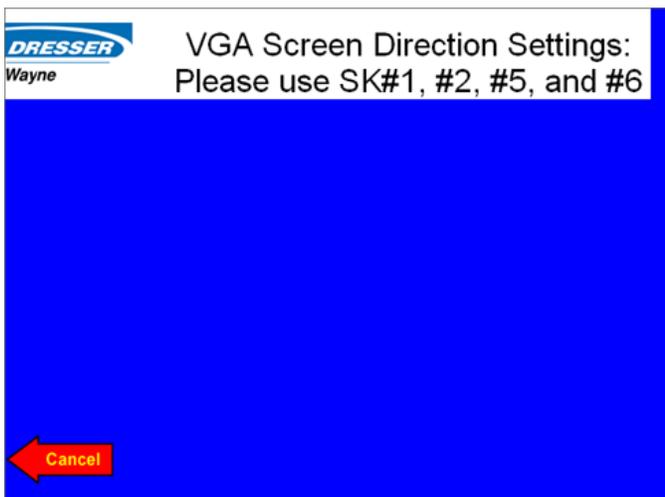
Softkey Enable screen prompt



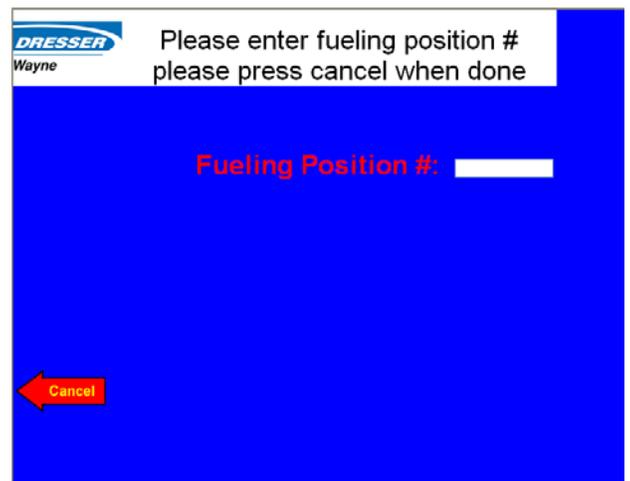
System Initializing screen



Side Info screen prompt



Screen Direction screen prompt



Enter Fueling Point # screen prompt

Figure 5 Screen Prompts.

## APPENDIX A:

### Ovation iX CAT Self Diagnostic Test Procedure

1. Press reset button on the iX board. See Figure 1 for location.

Note: A screen will be displayed showing “iX Ovation” with an activity bar moving across the bottom of the screen. When the activity bar has completed, the screen becomes dark briefly and then the screen prompts System Initializing is displayed for a several few seconds, Dispenser Manager Initializing is displayed briefly and then the VGA Screen Orientation prompt is displayed (Screen Contrast on QVGA). This screen sequence is shown in Figure 5 for VGA. QVGA screen sequence is the same except where noted. If there are no softkeys, press Yes, No or Cancel on the keypad as appropriate during this procedure.

2. At the “One Moment Please” prompt, immediately press and release softkey 2 (left side 2<sup>nd</sup> down) or press 1 on the keypad for QVGA without softkeys.

Note: If you miss the prompt, the screen will stay on the “Dispenser Manager Starts” message for several seconds and then go back to the online prompt screen, or to the offline prompt if the POS is offline.

Note: Softkey 1 is upper left key, softkey 5 is upper right key as shown in Figure 2.

3. Press Yes softkey at the prompt “Want to Test Bezel Devices”. This will begin the diagnostic test.

Note: At startups, always select YES to this prompt and test the peripheral devices.

4. At the Softkey Test screen, verify each softkey is working properly by pressing each softkey and then press the Cancel softkey after the test.

5. At the Keypad Test screen, press each key and verify each digit shows on the display. Press Cancel softkey when finished and the *Card Reader test* will begin.

6. At the “Please Insert Card or Press Cancel” prompt, insert a card or scan a bar code and the screen will display: “Track #1 Data: %# # # # # #.....#  
“Track #2 Data: %# # # # # #.....#

At this point, pressing the Help softkey will allow you to insert another card or scan a bar code and/or press Cancel and the *Printer test* will automatically print a receipt similar to Figure 3 and the Printer Status window will display “Printer online” or “Printer offline”.

7. The Pump Test CAN Bus Test screen will be displayed. This screen will verify that the CAN bus is working properly by displaying the following information:

“Pump Rev \_\_\_  
Nozzle Status \_\_\_  
Grade Selected \_\_\_

Note: If the pump iGEM software revision number, for example 43.00, is not displayed after the “Pump Rev”, the CAN bus connections may be faulty, disconnected, or side A and B may be set backwards.

## Self Diagnostic Test Procedure, continued

8. Press Yes or No at the “Want to Configure DM” prompt.

If No is pressed, the self-test ends and the screen prompt sequence in step 12 occurs.

If Yes is pressed, the Orientation (VGA) or Contrast (QVGA) screen is displayed, see step 9.

9. Press Cancel or press the appropriate #1, #2, #5 or #6 softkeys to change screen Orientation (VGA) or Contrast (QVGA) and press Cancel.
10. Press Yes or No at the “Softkey Enable Mode to POS” screen.
11. Enter the dispenser Fueling Point number, via the keypad, and press Cancel at the prompt “Please enter F. P. press Cancel when done”.

Note: **IP Address is assigned automatically** (via xml file, see page 2) when the F.P. number is entered.

At this point, the self-test ends, a configuration report similar to Figure 4 will print, and the system will reboot.

12. After the screen prompt Dispenser Manager Starts is displayed for several seconds, the One Moment Please, Dispenser Manager Starts, and Dispenser Offline prompts are displayed briefly, and then the screen will go to the online prompt screen, or to the offline prompt if the POS is offline.

This completes the test procedure.

# INSTALLATION MANUAL

## Ovation iX CAT Software

Written by S. G. Martin

This manual was produced on a personal computer using Adobe® FrameMaker® and Photoshop®  
Page design uses Arial Fonts

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**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."



**Wayne**