4 Maintaining the Computer

Use this chapter to solve problems you may encounter and perform routine maintenance on your CN3 Mobile Computer.

Upgrading the Operating System on your Computer

You can use the SmartSystems™ Foundation application from Intermec to perform upgrades on your CN3, versions 3.0 or later. Contact your Intermec representative for more information about the SmartSystems Foundation software.

When you upgrade the operating system, you erase the current configuration and replace it with the new default configuration. You will need to reset the network parameters on the CN3 to reestablish communications with other devices in the network. In other words, if you upgrade the operating system and the default registry from the operating system has changed, the registry is rolled back to the new default.

When you upgrade your CN3, you are updating the operating system (OS) and the SmartSystems Platform Bundle (SSPB) files.

The SSPB files are stored on the DiskOnChip, and deliver Intermec value-added functionality such as data collection, unit configuration and diagnostics, and Intermec's wireless security suite. As new features are added to these components, you can upgrade your SSPB files without needing to upgrade the operating system image. Similarly, features added to the operating system images do not affect the functionality of the SSPB, and you can choose to upgrade only the operating system image.

There are two ways to upgrade the CN3:

- You can use a miniSD card to upgrade the CN3. For help, see the next page.
- You can use the SmartSystems Console to upgrade the CN3. For help, see "Using the SmartSystems Console to Upgrade the Computer" on page 98.

You need to download the latest upgrade files from the Intermec web site to your desktop or laptop computer, then determine if you want to upgrade both the operating system and SSPB files, just the operating system files, or just the SSPB files.

To download the latest upgrade files

1. Start your web browser and go to the Intermec web site at **www.intermec.com**.
2. Go to **Service & Support** > **Downloads**.
3. Select **Computers: CN3 Mobile Computer** from the drop-down list.
4. Select which download you need. Make sure the download you select is for the CN3.
5. Look at the description (or the ReadMe file) to determine if this download will upgrade both the operating system and SSPB files, just the operating system, or just the SSPB. You will need this information later.

6 Close the link and download the .zip file to your desktop computer or your laptop computer.

7 If you are using the SmartSystems Console to upgrade the CN3, go to page 102, otherwise go to the next paragraph.

Using a Storage Card to Upgrade the Computer

To use a miniSD storage card to upgrade the CN3, you need a Secure Digital card reader and a miniSD storage card formatted as FAT16.

Note: Intermec offers miniSD cards for sale which have been tested and certified to work with the CN3. Intermec cannot guarantee that other miniSD cards will work with CN3s.

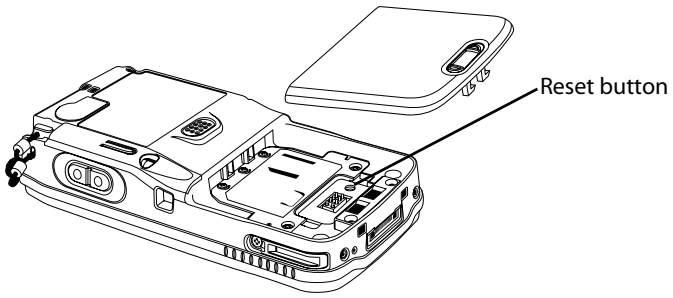
Upgrading Both Operating System and SSPB Files

1 Extract the upgrade files to a folder on your desktop or laptop computer. Make sure to select the option to use folder names when extracting files.

2 Place all individual root files onto your miniSD card, this will update your operating system only. Ignore the SSPB files at that point.

3 Insert the miniSD card in the CN3.

4 Remove the battery pack from the CN3 and place the CN3 in a dock connected to external power. With a stylus, press the reset button in the battery cavity in the back.



5 When the Installation Complete menu appears, remove the miniSD card. Remove the existing files from the miniSD card and place all of the files from the SSPB folder into your miniSD card. The number of files will vary from version to version.

6 Insert the miniSD card in the CN3. With a stylus, press the reset button in the battery cavity in the back, and press and hold the power switch as you put the battery back in the CN3.

7 Continue to hold the power switch until a Warning message appears on the display, release the power switch, then read the message. Press either right-side button to continue with the clean-boot.

8 Perform the pen calibration, then wait for the CN3 to load files from the miniSD card. This progress is shown via the orange banner near the Start menu in the display.

9 When progress is complete, the CN3 performs a warm-boot to reset its configuration. Remove the miniSD card and delete its files. Set the date, time, and network communication parameters to reestablish communications with the other devices in the wireless network.

Upgrading the SSPB Files

1 Extract the SSPB upgrade files to a miniSD card.

2 Insert the miniSD card in the CN3, then press the reset button in the battery cavity in the back to wipe the current SSPB and load the new SSPB over the old in the persistent storage.

3 Do the pen calibration, then wait for the CN3 to load files from the miniSD card. This progress is shown via the orange banner near the Start menu in the display.

4 When the progress is complete, remove the miniSD card, delete its files.

5 When progress is complete, the CN3 performs a warm-boot to reset its configuration. Remove the miniSD card and delete its files.

6 Set the date, time, and network communication parameters to reestablish communications with the other devices in the wireless network.

Using the SmartSystems Console to Upgrade the Computer

Use the SmartSystems Console to upgrade the CN3 operating system. The console is part of SmartSystems Foundation and is available from the Intermec web site via the IDL. Before upgrading the CN3, you need:

- the SmartSystems Foundation. To download SmartSystems Foundation, go to **www.intermec.com/idl** and open the Device Management page.
- the device upgrade .exe file, which is available from the Intermec web site at **www.intermec.com**. Go to **Service & Support** > **Downloads**.

To use the SmartSystems Console to Upgrade the CN3

1 Install SmartSystems Foundation on your desktop or laptop computer, then open the SmartSystems Console.

2 Make sure the SmartSystems Console can communicate with the CN3. See the SmartSystems online manual for more information.

3 Make sure your CN3s are either in a communications dock or charging dock, or that power management is disabled to prevent the CN3 from suspending during an upgrade.

4 Download the device upgrade .exe file to your desktop or laptop computer, then double-click the file to start the InstallShield application.

Note: Do not change the default location where InstallShield extracts the files. The SmartSystems Console requires files to be in this location.

5 From the SmartSystems Console, locate the device upgrade to install.

6 Drag-and-drop the device upgrade onto each CN3 icon.

Once the upgrade is done downloading to your CN3, your CN3 replaces the operating system, then performs a warm-boot. The SmartSystems Console shows your CN3 as offline (via a red stop sign) until the device reboots and reconnects to the system.

Troubleshooting Your Computer

Before sending the CN3 in for service, save its data and configuration.

Problems While Operating the Computer

Problem	Solution
You press the power switch to turn on the CN3 and nothing happens.	Make sure the backlight is on by pressing ☼. Make sure you have a charged CN3 Battery installed correctly. For help, see "Using the Batteries" on page 9. The battery may be discharged. Replace the battery with a spare charged battery, or charge the battery. Perform a warm-boot or press the reset button in the battery cavity.
The Battery status LED is on.	If the battery status LED is a steady green, the battery is more than 95% charged and CN3 is on a charger. If the battery status LED is blinking red, then the battery is low. If the battery status LED is a steady red, the main battery is on charge.
The CN3 appears to be locked up and you cannot enter data.	Press the power switch to turn off the CN3, then press the power switch again to turn on the CN3. Press and hold the power switch ten seconds to warm-boot the CN3. Try reloading the firmware. See "Upgrading the Operating System on your Computer" on page 100. If the CN3 does not boot or reset, contact your local Intermec representative for help.

Problems While Configuring the Computer

Problem	Solution
You scan a configuration command, such as Beeper Volume, and you hear three low beeps.	If you are working in Intermec Settings, you cannot scan configuration commands. Exit Intermec Settings to scan configuration commands.
You scan or enter an option for the Scanner Model configuration command and you hear three low beeps.	You may have scanned or entered a Scanner Model command that does not apply to the type of scanner that you have installed. Try scanning or entering the Scanner Model command again and select an option for the type of device you are using.
You cannot type a character on the keypad or you can only type uppercase or lowercase letters.	You may have locked a modifier key on the keypad. Check the CN3 toolbar to see if it contains an icon with a locked symbol. Press the necessary key sequence to unlock the key. See "Using the Keypad" on page 16.

Problems with Wireless Connectivity

Problem	Solution
When you turn on the CN3 after it was suspended for a while (10-15 minutes or longer), it can no longer send or receive messages over the network.	Host may have deactivated or lost current terminal emulation session. In a TCP/IP direct connect network, turn off the "KeepAlive" message from host to maintain the TCP session while a CN3 is suspended.
The **No Network Connection** icon appears on the toolbar. The CN3 is not communicating with the access point.	The CN3 is not connected to access point. Ensure access point is turned on and operating. Move closer to access point to reestablish communications. Ensure the CN3 is configured correctly for network. CN3 radio parameters must match all access point values. If you have an 802.11b/g radio and its radio initialization process failed, reset the CN3 (see page 5). If **No Network Connection** icon still appears, you may have a defective radio card. For help, contact your local Intermec representative.
The CN3 is connected to the Intermec Application Server or host computer and you move to a new site to collect data. The **Network Connection** icon was visible, but is now replaced with the **No Network Connection** icon.	Move closer to an access point or to a different location to reestablish communications until the **Network Connection** icon appears. Any data you collected while out of range is transmitted over the network.
The **Network Connection** icon is in the toolbar, but you cannot establish a terminal emulation session with the host computer.	There may be a problem with the host computer, with the connection between the Intermec Application Server and the host computer, or with the connection between the access point and the host computer. Check with network administrator to make sure the host is running and allowing users to login to the system.
The **Network Connection** icon is in the toolbar, but the host computer is not receiving any data from the CN3.	In a UDP Plus network, there may be a problem with the connection between the Intermec Application Server and the host computer. Check with network administrator or see the user's manual for the Intermec Application Server. In a TCP/IP network, there may be a problem with the connection between the access point and the host computer. Check with network administrator or use your access point user's manual.

Problems While Configuring 802.1x Security

If you have trouble configuring the computer for 802.1x security, check these problems and possible solutions.

Problems While Configuring 802.1x Security

Problem	Solution
The CN3 indicates that it is authenticated, but it does not communicate with the host.	Make sure the CN3 IP address, host IP address, subnet mask, default router are configured for network.
The CN3 does not appear to be authenticating and a network connection icon does not appear on the toolbar.	The CN3 may not be communicating with access point. Make sure the CN3 network name matches access point network name (SSID). 802.1x security network may not be active. Ensure the server software is properly loaded and configured on server PC. See server software documentation for help.

Problems While Configuring 802.1x Security (continued)

Problem	Solution
A network connection icon appears in the toolbar, but then disappears.	The CN3 may not be communicating with the intended access point. Make sure the CN3 network name matches the access point network name. Default network name is "INTERMEC." Access point may not be communicating with server. Ensure the access point is turned on, properly configured, and has 802.1x security enabled.
The CN3 indicates it is not authenticated.	User Name and Password parameters on the CN3 must match the user name and password on authentication server. You may need to reenter the password on both the CN3, authentication server. On your authentication server, the user and group are allowed and the group policy is allowed to log into the server. For help, see the documentation that shipped with your authentication server software. IP address and secret key for access point must match the IP address and secret key on authentication server. You may need to reenter the IP address and secret key on both your access point and authentication server. Authentication server software is running on server PC
You are setting up multiple access points in a network, with different SSIDs, and the connection fails.	CN3 does not save WEP key values when changing the SSID. Reenter the WEP key value after changing the SSID, select **Apply Network Settings** from the 802.11 Radio menu. You should now be able to connect to the different access points.
You receive a message saying "The server certificate has expired or your system date is incorrect" after you perform a clean-boot on the CN3.	Date and time are not saved when a clean-boot is performed. Reenter the date and time, then select **Apply Network Settings** from the 802.11 Radio menu.

Problems While Scanning Bar Codes

Problem	Solution
You cannot see a red beam of light from the scanner when you press the **Scan** button and aim the scanner at a bar code label.	You may be too far away from the bar code label. Try moving closer to the bar code label and scan it again. You may be scanning the bar code label "straight on." Change the scanning angle and try again. Move within 2 feet of a wall to test the effective scan of the scanner. For help scanning bar codes, see page 15.
When you release the **Scan** button or handle trigger, the **Good Read** light does not turn off.	The **Good Read** light will remain on if you configure the CN3 to use continuous/edge triggering. If you configure the CN3 for level triggering and the **Good Read** light remains on, there may be a problem. Press the **Scan** button or pull the trigger again without scanning a bar code label. If the light is still on, contact your local Intermec representative.

Problems While Scanning Bar Codes (continued)

Problem	Solution
The input device attached to the CN3 does not work well or read bar code labels very quickly.	Set the Scanner Model command to the specific attached input device. Check enabled bar code symbologies and enable only the symbologies being used.
The scanner will not read the bar code label.	Aim the scanner beam to cross entire bar code label in one pass. Vary the scanning angle. Check the quality of the bar code label, Scan a bar code label that you know will scan. Compare the two bar code labels to see if the bar code quality is too low. You may need to replace the label that you cannot scan. Ensure the bar code symbology is enabled. Use Intermec Settings to check the symbologies. Expand **Data Collection** > **Symbologies** beneath devices listed (scanner, virtual wedge) to check and enable symbologies, then scan the bar code label again. Ensure the CN3 application is expecting input from a bar code. You may need to type this information instead.
The scanner does not read the bar code labels quickly, or the scanning beam seems to be faint or obscured.	The scanner window may be dirty. Clean the window with a solution of ammonia and water. Wipe dry. Do not allow abrasive material to touch the window.
You scan a valid bar code label to enter data for your application. The data decoded by the scan module does not match the data encoded in the bar code label.	The CN3 may have decoded the bar code label in a symbology other than the label's actual symbology. Try scanning the bar code label again. Make sure you scan the entire label.

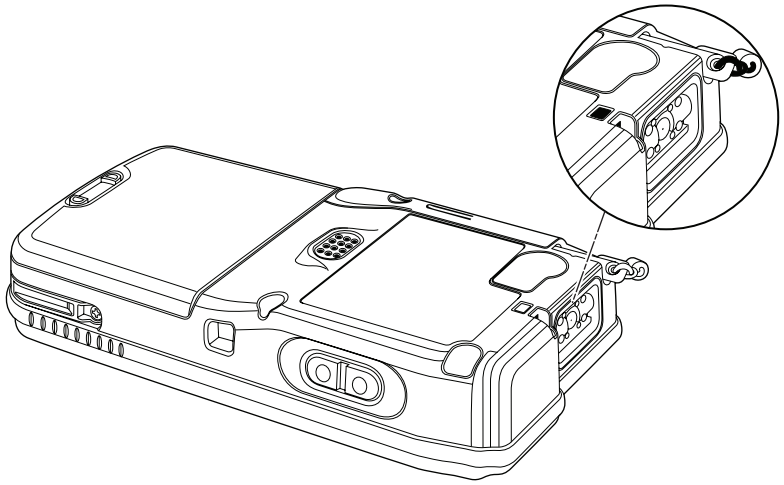
Cleaning the Scanner and Camera Windows and Screen

To keep the CN3 in good working order, you may need to clean the EA11 scanner and color camera windows and the screen.

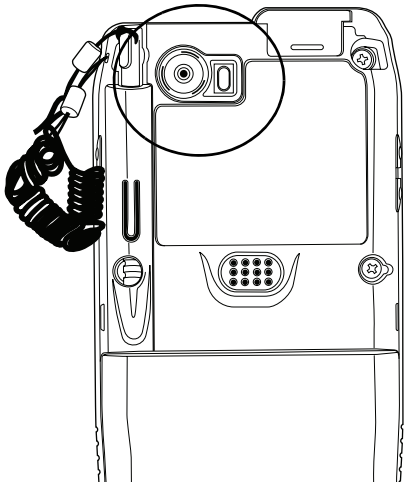
Clean the scanner and camera windows and screen as often as needed for the environment in which you are using the CN3. To clean the CN3, use a solution of ammonia and water.

There are no user-serviceable parts in the CN3. Opening the CN3 will void the warranty and may cause damage to the internal components.

Press the power switch to turn off the CN3. Dip a clean cloth towel in the ammonia solution and wring out the excess. Wipe off the scanner window and camera lens and flash area. Do not allow any abrasive material to touch these surfaces. Wipe dry.



CN3 with EA11 Scanner



CN3 with Color Camera