

CK61

Mobile Computer With Windows CE

User's Manual



Intermec Technologies Corporation

Worldwide Headquarters
6001 36th Ave.W.
Everett, WA 98203
U.S.A.

www.intermec.com

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Document Change Record

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Version Number	Date	Description of Change
001	1/2009	Changed part number to 935-021-001 and added alphanumeric and numeric key presses.
037	12/2006	Replaced Audio Devices applet information with Bluetooth Audio applet information. Updated 802.11 information to include "A" functionality. Added information about Microsoft WordPad and Media Player.

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Before You Begin

This section provides you with safety information, technical support information, and sources for additional product information.

Safety Information

Your safety is extremely important. Read and follow all warnings and cautions in this document before handling and operating Intermec equipment. You can be seriously injured, and equipment and data can be damaged if you do not follow the safety warnings and cautions.

This section explains how to identify and understand warnings, cautions, and notes that are in this document.



A warning alerts you of an operating procedure, practice, condition, or statement that must be strictly observed to avoid death or serious injury to the persons working on the equipment.



A caution alerts you to an operating procedure, practice, condition, or statement that must be strictly observed to prevent equipment damage or destruction, or corruption or loss of data.



Note: Notes either provide extra information about a topic or contain special instructions for handling a particular condition or set of circumstances.

Global Services and Support

Warranty Information

To understand the warranty for your Intermec product, visit the Intermec web site at www.intermec.com and click **Support > Returns and Repairs > Warranty**.

Disclaimer of warranties: The sample code included in this document is presented for reference only. The code does not necessarily represent complete, tested programs. The code is provided “as is with all faults.” All warranties are expressly disclaimed, including the implied warranties of merchantability and fitness for a particular purpose.

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Telephone Support

In the U.S.A. and Canada, call **1-800-755-5505**.

Outside the U.S.A. and Canada, contact your local Intermec representative. To search for your local representative, from the Intermec web site, click **About Us > Contact Us**.

Service Location Support

For the most current listing of service locations, go to www.intermec.com and click **Support > Returns and Repairs > Repair Locations**.

For technical support in South Korea, use the after service locations listed below:

Awoo Systems

102-1304 SK Ventium

522 Dangjung-dong

Gunpo-si, Gyeonggi-do Korea, South 435-776

Contact: Mr. Sinbum Kang

Telephone: +82-31-436-1191

Email: mjyun@awoo.co.kr

Before You Begin

IN Information System PTD LTD
6th Floor
Daegu Venture Center Bldg 95
Shinchun 3 Dong
Donggu, Daegu City, Korea
E-mail: jmyou@idif.co.kr or korlim@gw.idif.co.kr

Who Should Read This Manual

This *CK61 Mobile Computer User's Manual* is for the person who is responsible for installing, configuring, and maintaining the CK61.

This manual provides you with information about the features of the CK61, and how to install, configure, operate, maintain, and troubleshoot it.

Before you work with the CK61, you should be familiar with your network and general networking terms, such as IP address.

Related Documents

Document Title	Part Number
<i>CK61 Mobile Computer Quick Start Guide</i>	930-198-xxx
<i>Intermec Computer Command Reference Manual</i>	073529-xxx
<i>Intermec Terminal Emulator Programmer's Reference Manual</i>	977-055-xxx

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- 2** Click **Support > Manuals**.
- 3** In the **Select a Product** field, choose the product whose documentation you want to download.

To order printed versions of the Intermec manuals, contact your local Intermec representative or distributor.

Before You Begin

1

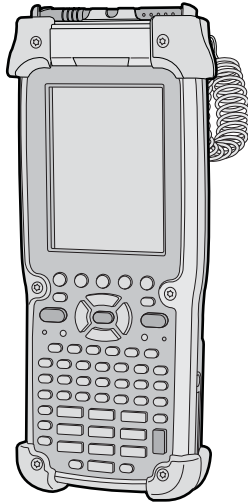
Using the CK61 Mobile Computer

This chapter introduces the CK61 Mobile Computer with Microsoft Windows® CE and contains these topics:

- **Introducing the CK61 Mobile Computer**
- **Using the Battery**
- **Using the Keypad**
- **Understanding the Audio Features**
- **Using the Touch Screen**
- **Understanding the Status LEDs**
- **Scanning Bar Codes**
- **Using the Secure Digital Card**

Introducing the CK61 Mobile Computer

The Intermec CK61 Mobile Computer is an ergonomically designed mobile computer built on the Microsoft Windows CE operating system. The CK61 is a rugged, easy-to-use, reliable computer, and runs most software developed for the Windows CE platform, including standalone, client-server, and browser-based applications.



CK61 Mobile Computer



The CK61 with an IEEE 802.11a/b/g radio installed is a Wi-Fi[®] certified for interoperability with other 802.11a/b/g wireless LAN devices.

The CK61 is available with the following:

- Ethernet
- 802.11a/b/g radio
- Bluetooth®
- Disk on Chip (128MB)
- Memory options:
 - 64 MB RAM
 - 128 MB RAM
 - 64 MB Flash Memory
- Imaging options:
 - EA11 2D Area Imager
 - EL10 Scanner
 - EV10
 - EX25 Near-Far Range Area Imager

Use this manual to understand how to use the features and options available on the CK61.

What's New?

This version of the manual contains these changes:

- Addition of alphanumeric and numeric keypad presses.
- Revised graphics and added imager specifications.

Finding the Software Build Versions

You can easily check to see what version of the operating system and the SmartSystems Platform Bundle (SSPB) are loaded on your CK61.

To find your operating system version

- Double-tap the **Internet Explorer** icon from the desktop. Internet Explorer opens and displays the software build information.



Using the Battery

The CK61 uses a 17.3 Watt-hour, 7.2 V, replaceable Lithium-Ion (Li-ion) battery. The CK61 also has an internal backup super capacitor which retains data for an approximately ten minutes after the battery is removed.



Warning

The battery used in this device may present a fire or chemical burn hazard if it is mistreated. Do not disassemble it, heat it above 100°C (212°F) or incinerate it.



Caution

If you fail to replace the low battery immediately, you may lose important data or applications.



Note: If the CK61 is not on external power and you remove the battery pack, it goes into Suspend mode.

Dispose of used batteries promptly. Keep away from children. Contact your Intermec representative for replacement batteries.

Several factors determine the life of your battery such as extreme temperatures, input devices, and your usage.

When changing the battery, a backup battery (super capacitor) maintains your state, memory, and real-time clock for approximately 10 minutes.

Charging the Battery

The battery pack should be fully charged before you use the CK61 for the first time. If the temperatures are within the battery charging range, the standard battery pack takes up to four hours to charge.

The battery is fully charged when its battery status LED shows as steady green.

To charge the battery

- Insert the battery into a quad battery charger, a single dock, or attach external power to the CK61 with the battery installed.

Use the next table to understand how long it will take to charge your batteries in some of the CK61 charging accessories.

Charging Time for CK61 Batteries

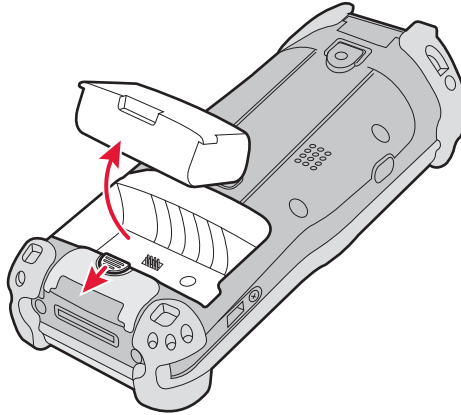
Charging Accessory	Model	Charging Time
CK61 Quad Battery Charger	AC4	4 hours or less
CK61 Single Dock	AD5	4 hours or less

Removing and Installing the Battery

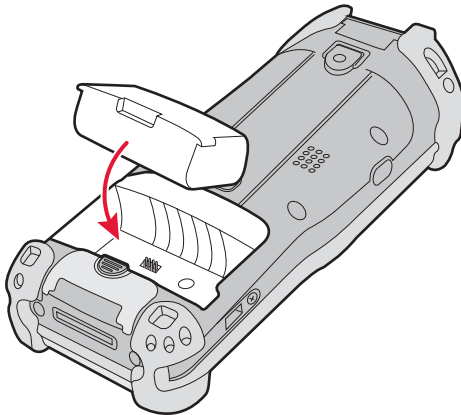
To maximize the time allowed to replace the main battery pack, put the CK61 in Suspend mode before removing the battery pack.

To remove and install the battery

- 1** Press and hold the **Power** button for about 2 seconds until the CK61 turns off.
- 2** Press the battery release tab down and pull the battery out of the CK61.



- 3** Install a new battery by inserting it into the CK61 as shown in the illustration below.



Maximizing Battery Life

Batteries are chemical devices. If the batteries are left sitting on a shelf for long periods of time outside the CK61, the batteries slowly discharge, eventually to zero if left uncharged. The battery chemistry resists normal degradation if you store the battery in a charger as opposed to leaving the battery in a discharged state. See the following table for tips you can do to maximize the life of your battery.

Battery Conservation Tips

When You Want to:	Do This to Save Battery Power:
Operate the CK61 and the Low Battery status icon appears or the Battery light comes on.	Press the power button to turn off the CK61. Remove the battery and insert another fully charged battery within ten minutes or you may lose data. Or, you can connect the CK61 to an external power source.
Stop using the CK61 for five minutes or longer.	Make sure the low battery icon is not on the screen and that the Battery light is not turned on. Press the power button to turn off the CK61.
Store the CK61 for more than a day.	If you are storing the CK61 for a few days, like over the weekend, install the charged battery or attach the CK61 to a power source. If you are storing the CK61 for longer, remove and charge the battery, then store both the battery and the CK61 in a cool location. If the battery in storage is not used in several months, you should recharge the battery to keep it at its performance peak.
Store the battery outside the CK61.	Store the batteries in a charger.

Checking the Battery Status

The Battery Status LED is located below the right scan button as and indicates the status of your battery. See the following table to understand the meanings of the lights emitted from the LED.



For more information on the Good Read LED or Ready-to-Work Indicator, see **“Understanding the Status LEDs” on page 14**.

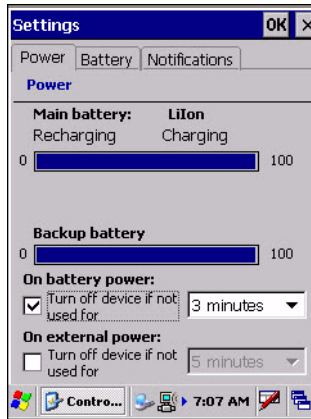
You can also check the battery status by using the Power application.

Understanding the Battery Status LED

Battery Status	Descriptions
Steady green	Battery is more than 95% charged and computer is on a charger.
Blinking red	Battery is low.
Steady red	Main battery is on charge.
Steady amber	The battery is either out of the computer or the pack temperature is too hot or too cold to charge.

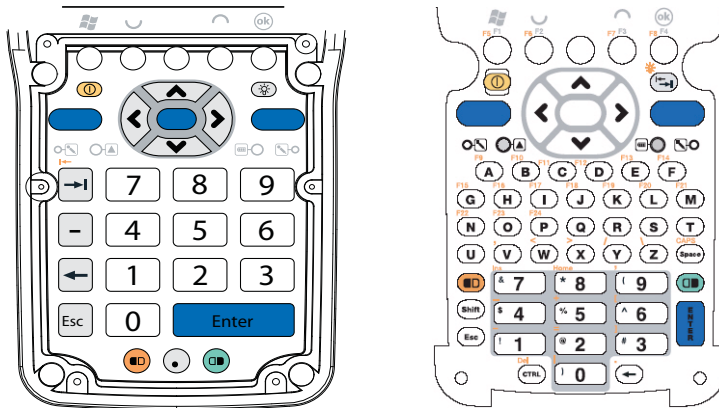
To check the battery status

- 1** Tap **Start** > **Settings** > **Control Panel** > the **Power** icon. The Power screen appears.



Using the Keypad

The CK61 can have a 32-key large numeric keypad, or a 58-key full alphanumeric keypad.





CK61 Numeric 32-key Large Numeric Keypad and 58-key full Alphanumeric Keypad

The full alphabetic keypad is for applications that require primary input of alphabetic data. This keypad also provides special characters, numbers, symbols, and functions by pressing color-coded key sequences.

The large numeric keypad is for applications that require mainly numeric data. This keypad also lets you enter special characters, including the alphabet, by pressing color-coded key sequences.







Using the Color-Coded Keys

Each keypad available for the CK61 provides color-coded keys to let you access additional characters, symbols, and functions printed on the keypad overlay. Once you understand how to use the color-coded key sequences, you can access all of the additional features printed on the keypad overlay. There are two color-coded modifier keys on the CK61, the orange  key and the green  key.



Note: There are several hidden characters on each CK61 keypad that require using the color-coded keys to access them. For a list of keystrokes, see [“Keypads and Keystrokes” on page 99](#).


Using the Color-Coded Keys

You Want to:	Press:
Use an orange character or function printed above a key	 key (LED illuminates) and then the key with the character or function printed above it (LED turns off).
Use a green character or function printed above a key.	 key (LED illuminates) and then the key with the character or function printed above it (LED turns off).
Lock the orange or green key to stay on.	 or  twice.
Unlock a green or orange key.	 or  once.

Capitalizing Characters

To type all alphanumeric characters as uppercase letters, you can enable the Caps Lock feature on the CK61 keypad.

To enable or disable Caps Lock

- Press the  key, then the **Space** key to enable Caps Lock. Once you are finished, press the same sequence again to disable Caps Lock.

Using the Power Button

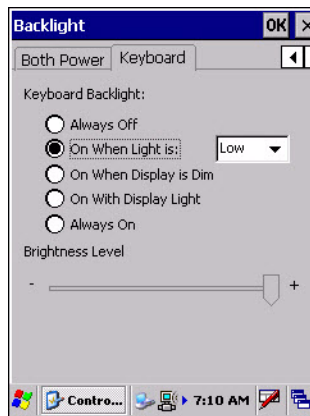
When you press the **Power** button, you put the CK61 into a lower power mode. In this lower power mode, the CK61 continues to supply power to all memory, but turns off power to most hardware such as the display. This power-saving feature is designed to prolong battery life.

Configuring the Backlight Settings

By default, the CK61 goes into Screen Off mode when there is no activity on the computer. Screen Off mode turns off the backlight and display. Press a key or tap the screen to resume activity.

To configure the backlight

- 1 Tap the **Windows** icon > **Settings** > **Control Panel** > the **Backlight** icon. The Backlight settings screen appears.



- 2 Select a tab and configure your settings.
- 3 Tap the **OK** button when you are finished adjusting your settings.

You can also use Intermec Settings to configure the backlight settings.

Understanding the Audio Features

There are several audio features available on the CK61. There are two speakers, a microphone, and multiple software tools for configuring the volume of the sounds.

Changing the Volume

Ways to Adjust Volume	Procedure
Using the Volume & Sounds application.	Tap Start > Settings > Control Panel > the Volume & Sounds icon. From here, adjust your settings and tap the OK button when you are finished.
Using Intermec Settings	Tap Start > Settings > Control Panel > the Intermec Settings icon. Go to Device Settings > Beeper > Volume . Select the setting you prefer and save your changes before exiting.



Note: For detailed information on the commands available in Intermec Settings, see the Intermec Computer Command Reference Manual (P/N 073529) available from the Intermec web site.

Using the Touch Screen

The CK61 has a 3.8 in diagonal, 240 x 320 pixel (QVGA) transfective TFT-LCD 64K color display.

- The Desktop screen displays shortcuts to some of the applications installed on the CK61.
- The Taskbar displays the Start menu, the Connectivity icon, the time, onscreen keyboard icon, the desktop icon, and any applications that are running.



The Windows CE Screen

Using the Stylus

Your computer has a stylus for selecting items and entering information on the touch screen.

Functions You Can Perform With the Stylus

Action	Description
Tap	Touch the screen once with the stylus to select options, open or close applications, or launch menus from the Task bar.
Drag	Hold the stylus on the screen and drag across the screen to select text and images.
Tap and hold	Tap and hold the stylus on an item to see a menu of actions available for that item. On the pop-up menu that appears, tap the action you want to perform.

Understanding the Status LEDs

Use this section to understand the status LEDs.

Good Read LED and Ready-to-Work Indicator



For more information on the Battery Status LED, see [“Checking the Battery Status” on page 7](#).

Understanding the LEDs and Icons

LED	Color	Description
Good Read	Green	The CK61 has successfully decoded a bar code.
Notification	Yellow	The CK61 is notifying you of a pending alarm or message.
Ready-to-Work™ Indicator	Blue	The CK61 is resuming or suspending.
	Blinking blue	You have successfully loaded and activated ITE. The ITE application is loaded, but is inactive.
	Off	The ITE application is missing or disabled.

The Read-to-Work indicator (blue light) is for the SmartSystems Foundation application that is part of a wireless network using all Intermecc devices. For more information, see **“Configuring the CK61 Using SmartSystems Foundation” on page 22** or contact your Intermecc representative. Selected application software programs may also use the blue light, either steady or flashing, for other purposes.

Scanning Bar Codes



Warning

Do not look directly into the window area or at a reflection of the laser beam while the laser is scanning. Long-term exposure to the laser beam can damage your vision.

Use the area imager to scan and enter bar code data. The CK61 supports reading 1D and 2D images, composite and postal codes. If a bar code is not enabled, you need to go to Intermecc Settings to enable or disable symbologies. For help, see **“Configuring the CK61 With Intermecc Settings” on page 21**.

Scanning With the Area Imager

The CK61 has an area imager that can scan 1D and 2D bar code symbologies, composite, and postal codes. It also supports omnidirectional (360°) scanning where you can position the CK61 in any orientation to scan a bar code label. Using the 2D imager is like taking a picture with a digital camera.

To use the area imager

- 1 Press the **Power** button to turn on the CK61, point the scanner window a few inches from the bar code label, and hold steady.
- 2 Press the **Scan** button and center the red aiming beam over the bar code label. The aiming beam is smaller when the imager is closer to the bar code and larger when it is further away.

When a bar code label is successfully read, a high beep is emitted and the Good Read LED lights briefly. Release the **Scan** button.

Improving the Performance of the Area Imager

If you experience problems scanning a bar code with the 2D imager, try following some of these tips to improve the performance of your imager.

- Keep your hand as steady as possible while scanning a label.
- Position the imager as close to the bar code as possible while still being able to capture the entire bar code.
- Enable only the bar codes that you need to use every day.
- Choose a Predefined mode in Intermec Settings:
 - a Tap **Start** > **Settings** > the **System** tab > **Intermec Settings**.
 - b Tap **Data Collection** > **Internal Scanner** > **Imager Settings** > **Predefined Modes** and then select one of these options:

Predefined Mode	Select if you Are Scanning:
1D	Only 1D labels
1D and 2D Standard	All types of bar code labels.
1D and 2D Bright Environment	In high ambient light, such as outdoors in the sunshine.
1D and 2D Reflective Surface	Glossy labels.
Custom	In conditions that require customized settings. For more information about these settings, commands, and parameters, see the <i>Intermec Computer Command Reference Manual</i> available from the Intermec web site at www.intermec.com .

Using the Secure Digital Card

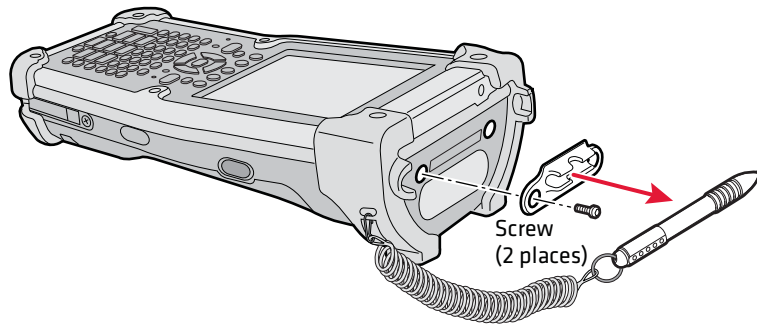
The CK61 uses a secure digital (SD) card to increase file storage and install software. The SD card slot is located above the scanner window behind the stylus holder . Remove the two screws securing the stylus holder to reach the SD card.



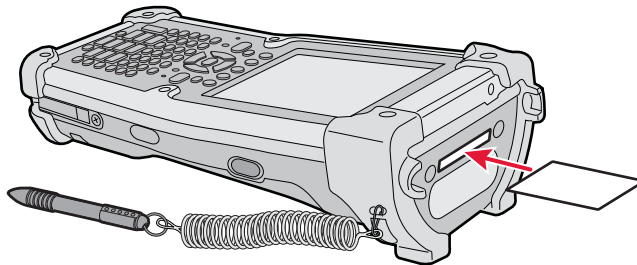
You can corrupt your SD card if you do not follow these installation and removal procedures exactly. Before installing a SD card, inspect the gasket on the door for any damage or wear, and contact your Intermec representative if you find any damage or wear.

To insert the SD card

- 1 Press the **Power** button to turn off the CK61.
- 2 Remove the two screws that secure the stylus holder to the CK61.



- 3 Insert the SD card into the CK61 with the printed side facing the keypad of the CK61.



- 4 Push the card into the slot until it latches into place.
- 5 Screw in the stylus holder that you removed in Step 2.



Note: Do not over torque the stylus holder onto the CK61. You can damage the CK61.

2

Connecting and Configuring the CK61

Use this chapter to understand how to configure the CK61 to communicate in your network. In this chapter, you will find these sections:

- **Connecting to the CK61**
- **Configuring the CK61 Parameters**
- **Configuring Bluetooth Devices**
- **Configuring Local Area Networks**
- **Connecting to an ISP**
- **Connecting to a Network with a VPN Server**
- **Configuring Security On the CK61**

Connecting to the CK61

Use Microsoft ActiveSync to synchronize the information on your desktop with the information on the computer. Synchronization compares the data on the computer with your desktop PC and updates both computers with the most recent information.



Note: By default, ActiveSync does not automatically synchronize all types of information. Use ActiveSync options to turn synchronization on or off for specific information types.

You can also perform these functions with ActiveSync:

- Copy files between the computer and the desktop.
- Back up and restore the computer data.
- Control when synchronization occurs by selecting a synchronization mode.
- Select which information types are synchronized and control how much data is synchronized.

To use ActiveSync

- 1** Insert the computer into communications dock attached to your PC with a USB cable.
- 2** Install ActiveSync on your desktop. ActiveSync is available from the Windows Mobile Companion CD or from the Microsoft web site. ActiveSync is already installed on the computer.

After installation, ActiveSync automatically launches the ActiveSync Setup Wizard.

- 3** Follow the screens of the ActiveSync Setup Wizard to complete the synchronization process. The wizard helps you connect to the computer, set up a partnership for synchronization, and customizes synchronization settings.

The synchronization process automatically begins when you finish the wizard.

- 4** Disconnect the computer from your desktop and go to work.

Once you have set up ActiveSync and completed the first synchronization process, you can initiate synchronization from your computer.

To open ActiveSync on your computer

- Tap **Start > Programs > ActiveSync**. ActiveSync opens and shows you the synchronization status.

For more information about ActiveSync on your computer, open ActiveSync and tap **Start > Help**.

Configuring the CK61 Parameters

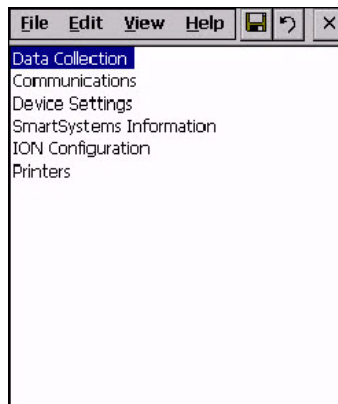
You can configure many parameters on the computer, such as the bar code symbologies it decodes or the network settings. These characteristics are controlled by configuration parameters. The values you set for these configuration parameters determine how the computer operates.

Configuring the CK61 With Intermec Settings

Use Intermec Settings to configure the computer and view system information. You can access Intermec Settings while running any application.






To open Intermec Settings

- Tap the **Windows** icon > **Settings > Control Panel > the Intermec Settings** icon.



For detailed information on most of the commands available in Intermec Settings, see the *Intermec Computer Command Reference Manual* (P/N 073529) on the Intermec web site.

Navigating in Intermec Settings

To Do This Function:	Do This:
Select a command.	Tap the command or press  or  .
Expand a command.	Tap the command or press  or  .
Select text in a text box.	Tap in the text box and drag the stylus over the text.
Save your settings.	Tap File > Save Settings or tap  .

Configuring the CK61 Using SmartSystems Foundation

SmartSystems™ Foundation lets you manage all of your SmartSystems-enabled devices at the same time from a central server. The computer ships with the SmartSystems client, which means it is SmartSystems enabled. The SmartSystems server has a console that displays all of the computers in your network. In the console, you can right-click a computer and a menu appears. To configure the computer, choose Intermec Settings from the menu.

SmartSystems Foundation is available from the Intermec web site. To download SmartSystems Foundation, go to www.intermec.com/SmartSystems. For information on how to use the SmartSystems server, see the online help.

Synchronizing the CK61 System Time with a Time Server

It is important that the time on all of your computers be synchronized with a network time server to ensure real-time communications and updates. Network time servers acquire Coordinated Universal Time (UTC) from an outside source such as the U.S. Naval Observatory (USNO). The CK61 uses Simple Network Time Protocol (SNTP) to synchronize with a network time server.

The default reference time server is the USNO (tock.usno.navy.mil). To synchronize the time on your computer with this time server, you must have a valid connection to the Internet. You can also synchronize the computer system time with a corporate network server within your firewall that is SNTP-capable. To use an internal corporate network server, you need to set the command name in the registry.

Configuring Bluetooth Devices

Bluetooth™ is a technology standard that uses short-range radio links, intended to replace cables connecting portable and fixed electronic devices. The key features of Bluetooth are robustness, low complexity, low power, and low cost. The technology offers wireless access to LANs, the mobile phone network, and mobile computers.

You can also print wirelessly by using Microsoft APIs, including Bluetooth extensions for Winsock and Bluetooth virtual COM ports. Information about other Bluetooth software is in the Bluetooth Resource Kit and the Bluetooth Resource Kit User's Guide which is part of the Intermec Developer Library (IDL).

The IDL is available as a download from the Intermec web site at www.intermec.com/idl. You can send and receive information to a Bluetooth device wirelessly using the Bluetooth radio in the computer. The communication range of the Bluetooth connection depends on the capabilities of the remote device, environmental conditions, and obstructions.

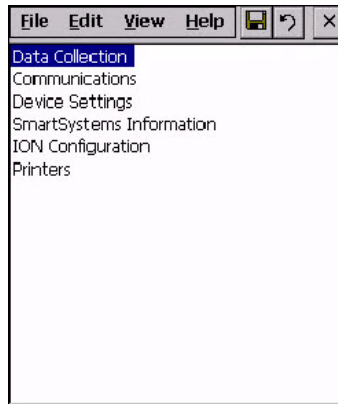
You can use the Bluetooth radio to perform these wireless activities:

- Print to a Bluetooth printer
- Connect to a Bluetooth scanner
- Connect to a Bluetooth Audio Device

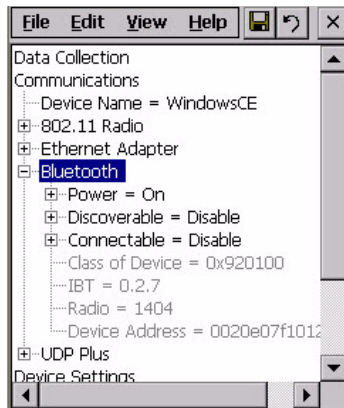
The Bluetooth radio is disabled by default. You must turn on the Bluetooth radio before you can discover and connect to other remote devices.

To turn the Bluetooth radio on

- 1** Tap the **Windows** icon > **Settings** > **Control Panel** > **Intermec Settings**.



2 Go to **Communications > Bluetooth > Power**.



3 Tap **On**. Intermec Settings prompts you to save your settings.

Tap **Yes** and exit Intermec Settings.

Once Bluetooth is enabled, it stays enabled through a warm or cold boot and maintains virtual COM ports (such as printing) registration. However, you must reactivate connections because they are not done automatically.

For more information on Bluetooth software, see the Bluetooth Resource Kit and the Wireless Printing Development Guide in the Intermec Developer Library (IDL). You can download this resource kit from the Intermec Developer Library web site at www.intermec.com/idl.

Use the table below to understand the settings you see in the Bluetooth menu in Intermec Settings.

Bluetooth Settings

Setting	Description
Power	Set and view whether the Bluetooth radio is on or off.
Discoverable	Allows other Bluetooth devices to be able to discover the computer during a device discovery.
Connectable	Allows other Bluetooth devices to connect to your computer.
Class of Device	Determines how the device appears to other devices during discovery.
IBT	Displays the Intermec Bluetooth Library version.
Radio	Displays the Bluetooth Radio Hardware version.
Device Address	Device Address Displays the Bluetooth address of your computer.

Configuring to Communicate With a Wireless Scanner

This section explains how to configure the computer to communicate with Bluetooth wireless scanners. The computer ships with a Bluetooth association label attached to the left side. Scan the association label to quickly connect the computer to the Bluetooth wireless scanner, such as the SF51 or SR61.



Note: If for some reason the Bluetooth association label does not work, you can follow the procedure for configuring the computer from Intermec Settings at the end of this section.

To configure Bluetooth communications on the CK61

- 1 Select the **Windows** icon > **Control Panel** > the **Intermec Settings** icon.
- 2 Select **Communications** > **Bluetooth**.
- 3 If you want to allow incoming connections from wireless scanners, you must enable these two parameters:
 - Discoverable

- Connectable



Note: If you do not want to allow incoming connections, make sure both parameters are disabled.

4 Save your changes and exit Intermec Settings.

To connect to the wireless scanner using the association label

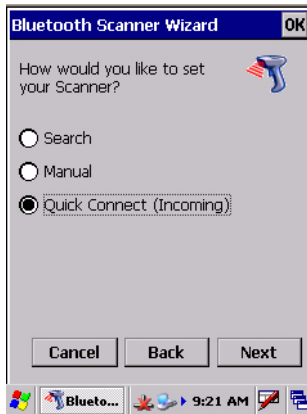
- 1 Using your wireless scanner, scan the Bluetooth association label on your CK61.
- 2 The CK61 prompts you to enter the passcode for your scanner. The default password for Intermec bluetooth scanners is 0000.

To connect to a wireless scanner using the Wireless Scanner Wizard

- 1 Select the **Windows** icon > **Programs** > **Windows Explorer**. The Windows Explorer screen appears.
- 2 Select **Program Files** > **Intermec** > **Network** > **Bluetooth** > the **Bluetooth Scanner Wizard** icon. The Bluetooth Scanner Wizard appears.



- 3 Select how you would like to set your scanner (the default is Search) and then click **Next**. The computer starts discovering scanners.



- 4 Select the scanner you want to connect from the Devices list and then tap **Next**.
- 5 When prompted to add the scanner to your device list, tap **Yes**.
- 6 In the Passcode text box, enter the passcode for your scanner. The default passcode for Intermec Bluetooth scanners is 0000.
- 7 Tap **Next**. The computer connects to the scanner and displays the remote device information.
- 8 Tap **Finish**.
- 9 Refresh Intermec Settings to see the Bluetooth Scanner under Data Collection. You can now view and modify any symbology settings.

To remove a wireless scanner from the computer

- 1 Select the **Windows** icon > **Programs** > **Windows Explorer**. The Windows Explorer screen appears.
- 2 Select **Program Files** > **Intermec** > **Network** > **Bluetooth** > the **Bluetooth Scanner Wizard** icon. The Bluetooth Scanner Wizard appears.
- 3 Tap **Remove Device**.
- 4 Select the Bluetooth scanner from the device list that you want to disconnect and then tap **Disconnect**.
The scanner you wanted to remove no longer appears in the list.
- 5 Tap **Finish**.

Configuring to Communicate With a Wireless Printer

This section explains how to configure the computer for Bluetooth wireless printing. You need to:

- make sure Bluetooth power is on. For help, see the procedure in “**Configuring Bluetooth Devices**” on page 23.
- create an application that lets you print. For help, see the next section.
- select the current wireless printer on the computer.

Creating an Application That Lets You Print Wirelessly

The computer does not ship with an application that lets you print wirelessly. You must create an application that opens the wireless printing COM port on the computer. For help, see the Bluetooth Resource Kit, which can be downloaded at www.intermec.com.

The Wireless Printing application is available from the **Windows** icon > **Settings** > **Control Panel**. The application separates the task of wireless printing setup from other Bluetooth management tasks.

The Wireless Printing application uses the concept of a “current wireless printer.” The computer connects to the current wireless printer when your application opens the wireless printing COM port on your computer. If there is no current wireless printer selected on your computer, there is no wireless printing COM port registered on your computer. You must select a current wireless printer as described in the next section.

The Wireless Printing application performs these tasks on the computer:

- Helps you select the current wireless printer
- Stores the current wireless printer in the registry
- Registers/deregisters the wireless printing COM port
- Stores the wireless printing COM port in the registry as the WPort

Specifically, the current wireless printer is registered and deregistered on Bluetooth stack load/unload. If you select a different current wireless printer, the existing wireless printing COM port is deregistered and the new one is registered instead. The Wireless Printing application uses the Bluetooth COM Port Control to handle COM port registration/deregistration.

Selecting the Current Wireless Printer on the CK61

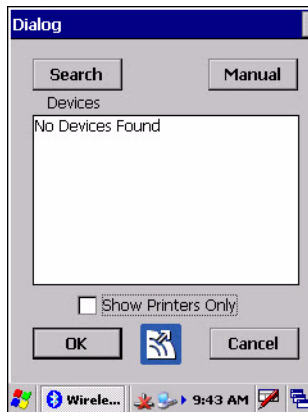
By default, there is no current wireless printer selected on the computer.

There are three ways to select the current wireless printer:

- Discovering the printer using Bluetooth device discovery
- Manually entering the printer's Bluetooth device address
- Choosing the printer from a list of previously discovered printers

To discover the printer with Bluetooth device discovery

- 1** Select the **Windows** icon > **Programs** > **Windows Explorer**. The Windows Explorer screen appears.
- 2** Select **Program Files** > **Intermec** > **Network** > **Bluetooth** > the **Wireless Printing Wizard** icon. The Wireless Printing Wizard appears.



- 3 Tap **Search** to initiate printer discovery. All Bluetooth printers discovered within range appear in the devices list.



- 4 Select the printer you want to connect to and then tap **OK**.
- 5 If your preferred printer does not appear, make sure the printer is turned on and discovery is enabled, and then repeat this procedure.
- 6 Tap **Print Test Page**. The printer prints out the test page.



To manually enter the device address of the printer

- 1 Select the **Windows** icon > **Programs** > **Windows Explorer**. The Windows Explorer screen appears.

- 2 Select **Program Files > Intermec > Network > Bluetooth > the Wireless Printing Wizard** icon. The Wireless Printing Wizard appears.
- 3 Tap **Manual**. The wizard advances to the next screen where you enter the device address.



- 4 Type the address of the printer in the Enter Device Address text box and then tap **OK**. The keyword -unknown- appears in the Device Name field in the Current Wireless Printer box. The name of the printer is not sent to the computer when you manually enter the printer address.
 - 5 Tap **Print Test Page**. The printer prints out the test page.
- To choose the printer from a list of previously discovered printers**
- 1 Make sure you have already performed a Bluetooth device discovery.
 - 2 Select the **Windows** icon > **Programs > Windows Explorer**. The Windows Explorer screen appears.
 - 3 Select **Program Files > Intermec > Network > Bluetooth > the Wireless Printing Wizard** icon. The Wireless Printing Wizard appears.
 - 4 Tap **Set Different Printer**. The Devices list appears with the list of previously discovered printers.
 - 5 Select the printer you want and tap **OK**.
 - 6 Tap **Print Test Page**. The printer prints out the test page.

Connecting to a Bluetooth Audio Device

Use the Bluetooth Audio applet to discover, activate, and connect to Bluetooth audio devices such as a Bluetooth headset. You can control the audio volume and the amplification for the microphone for the connected Bluetooth audio device (if the connected device has these capabilities).

To connect to a Bluetooth headset

- 1 Select the **Windows** icon > **Settings** > **Control Panel** > the **Bluetooth Audio** icon. The Bluetooth Audio screen appears.



- 2 Tap **Search for Devices**. The CK61 searches for audio devices.
- 3 When searching for a device, select **Yes** when you are prompted to add a device to your list.
- 4 Enter the passcode provided by your Bluetooth audio device and then tap **Next**.

The passcode is provided by the manufacturer of your Bluetooth audio device. You can usually find your passcode in the user's manual that comes with your audio device.

- 5 Select the services tied to the Bluetooth audio device you are connecting to and then tap **Finish**.

Once the pairing is successfully completed, the Bluetooth audio device appears in the list of devices that are found. To open a pop-up menu for setting the device as the default, making a connection, refreshing the connection, or deleting a device from the list, double-tap a device in the list.



Note: You can only select one Bluetooth audio device as the default device. You must set a device to default before you can connect to that device.

Configuring Local Area Networks

Your CK61 is a versatile computer that easily adds to your wired or wireless data collection network. You can connect your computer to a network using:

- USB communications
- Ethernet communications
- 802.11 radio communications

Configuring USB Communications

You can place your computer in a single dock, multidock, modem dock, or vehicle dock to transfer data to and receive data from another device using USB communications. The USB cable and all of the docks are sold separately.

To use USB communications with your computer


- 1** Connect the dock to the USB port of the other device using an appropriate USB cable.
- 2** Make sure your USB device is configured for USB communications.
- 3** Insert the computer into the dock and turn it on.

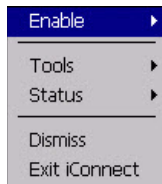
A status box appears on the screen to show that the computer is making a USB connection.

Configuring Ethernet Communications

You can use your computer directly in an Ethernet network if you use the Ethernet and modem adapter and one of the communications docks. The modem adapter provides an RJ-45 connector off of it to connect to your Ethernet network.

To use your computer in an Ethernet network

- 1 Tap the iConnect icon () in the Windows CE taskbar. The iConnect pop-up menu appears.



- 2 Select **Enable > Ethernet**.
- 3 (Optional) Configure the IP Settings for the Ethernet Adapter if you are not using DHCP. DHCP is the default setting.
- 4 (Optional) If required for your network, you may also need to set these parameters on each computer:
 - Primary and secondary DNS servers
 - Primary and secondary WINS servers
- 5 Make sure that your computer is talking to the network and that the network can see your computer.

Configuring 802.11 Radio Communications

The CK61 may have an internal 802.11 b/g radio to transfer data using wireless communications. This section of the manual assumes that you have already set up your wireless communications network including your access points. If you are using a UDP Plus network, have your Intermec Application Server communicate with a host computer.

Your computer supports these network protocols:

- TCP/IP
- UDP Plus

The next sections explain the parameters you need to configure for the CK61 to work in your wireless network.

Configuring the Network Parameters for a TCP/IP Network

In a TCP/IP network, the CK61 communicates with a host computer directly using TCP/IP. The access point acts as a bridge to allow communications between the wired network and the wireless network.

To use wireless communications in a TCP/IP network

- 1 Tap the **Windows** icon > **Settings** > **Control Panel** > the **Intermec Settings** icon.
- 2 Configure these network parameters on each CK61 in the network:
 - Network name (SSID)
 - IP settings (if not using DHCP)
- 3 Make sure the CK61 is talking to the network and that the network can see the CK61.
- 4 Configure security. For help [“Configuring Security On the CK61” on page 42.](#)

The easiest way to configure the network parameters on the CK61 is to use Intermec Settings. For help, see [“Configuring the CK61 With Intermec Settings” on page 21.](#)

Configuring the Network Parameters for a UDP Plus Network

In a UDP Plus network, the CK61 communicates with a host computer through the Intermec Application Server. The Intermec Application Server translates UDP Plus packets on the wireless network into TCP/IP packets on the wired networks and vice versa. The access point acts as a bridge to allow communications between the wired network and the wireless network.

To use wireless communications in a UDP Plus network


- 1 Tap the **Windows** icon > **Settings** > **Control Panel** > the **Intermec Settings** icon.
- 2 Configure these network parameters on the CK61:
 - Network name (SSID)

- Controller IP address
 - IP settings (if not using DHCP)
 - Network port
- 3 Make sure the CK61 is talking to the network and that the network can see the CK61.
 - 4 Configure security. For help, [“Configuring Security On the CK61” on page 42.](#)

Checking the Status of Your Wireless Connection

After you configure your wireless settings, you can use iConnect to check the status of your connection.

To check the status of your wireless connection

- 1 Tap the iConnect icon () in the taskbar. The iConnect pop-up menu appears.
- 2 From the menu, select **Status** > **Wireless**. The Wireless Status screen appears and checks your connection.

You can also use iConnect to configure or change the network settings by tapping **Tools** > **Wireless Settings** from the iConnect menu.

To test the connection of the CK61 against your network

- From the iConnect menu, select **Tools** > **Ping Test**.

Viewing Detailed Wireless Connection Information

Use the ISpyWiFi to view detailed information for the 802.11 radio connection in your CK61, such as MAC address, access point information, association, encryption, power management, antenna status, RSSI, data link rates, and supplicant status. You can also use ISpyWiFi to scan for access points in your network and ping for detailed information.

The ISpyWiFi utility is installed in your CK61 as an executable. You can either start the utility using Windows Explorer or create a shortcut to start the utility from the CK61 desktop.

To start the ISpyWiFi utility with Windows Explorer

- 1 Tap the **Windows** icon > **Program** > **Windows Explorer**.

2 Navigate to the Windows folder and scroll down to find the **ISpyWiFi** icon.

3 Double-tap **ISpyWiFi**.

To add an ISpyWiFi shortcut to the CK61 Programs folder

1 Press and hold your stylus on the ISpyWiFi executable until the pop-up menu appears.

2 Select **Copy** from the pop-up menu.

3 On the Desktop screen, press and hold the stylus in an empty area until the pop-up menu appears.

4 Tap and hold on the application until the Pop-Up menu appears and select **Copy**.

5 Browse to the **Windows\Programs** folder and tap **Menu** from the command bar and select **Paste shortcut**.

6 Close Windows Explorer.

7 Select the **Windows** icon > **Programs** to locate the shortcut to ISpyWiFi.

8 Tap **Shortcut to ISpyWiFi** to open the utility.

To view the ISpyWiFi tab

- Open ISpyWiFi and tap the **ISpyWiFi** tab.

The ISpyWiFi tab contains network interface, configuration, access point, and radio frequency information.

Use the following table to understand the ISpyWifi information.

Understanding the ISpyWiFi Tab

Setting	Description
BCMCFI	A WLAN adapter and its associated driver version.
MAC	The client radio MAC address.
IP (DHCP)	The IP address of the client radio, if using DHCP.
IP (Static)	The IP address of the client radio, if using a static IP address.
Status	Shows whether the radio is associated with the access point.
Channel	The channel on which the radio is communicating with the access point.

Understanding the ISpyWiFi Tab (continued)

Setting	Description
ESSID	The text SSID for your network.
BSSID	The MAC address of the access point that the client radio is communicating with.
Association	Shows the type of association: Open, WPA, WPA-PSK, WPA2, or Network EAP.
Encrypt	Shows the potential encryption for the association.
Power	CAM (Constant Awake Mode) or FAST PSP (Power Save Poll)
Antenna	Diversity (multiple antennas), Primary (one antenna).
TX Power	Transmit power level in milliwatts (mW).
RSSI	The Received Signal Strength Indicator. The closer to zero, the better for this indicator.
Link	The data rate at which the radios are communicating.

Use the WiFi Scan tab to scan your network and bring back information about any access points with which you can communicate.

To use the WiFi Scan tab

- 1 Tap the **WiFi Scan** tab.
- 2 Tap the **Scan** button.
- 3 Tap any of the columns to sort in ascending or descending order.

Use the Supplicant tab to view information on security and authentication settings that you have configured on the CK61.

To use the Supplicant tab

- Click **Configure Profile** to launch the Profile Wizard and configure 802.11 options.
- Click **Reconnect** to disassociate the radio, momentarily dropping its connection. The radio the reassociates and reauthenticates, but does not do anything with the driver.
- Click **Clear Events** to remove the information shown in the Supplicant Event box.

Use the Ping tab to contact with any host in your network for information.

To ping a host

- 1** From the **Host** drop-down list, select an IP address for the host you want to ping. Enter a new IP address using the input panel or the keypad. Select **Clear List** to remove all the IP addresses from the drop-down list.
- 2** From the **Repetitions** drop-down list, select the number of times to ping the selected host. These repetitions are done once per second.
- 3** Tap **Ping** to initiate contact with the selected host.
- 4** Depending on how the screen is set up, you can toggle between a graph and a list of ping results:
 - Tap **Graph** to toggle to the graphical view of 25 of the most recent pings and their response results.
 - Tap **List** to toggle to detailed information showing what ping touched what host and the RTT (Round Trip Time).

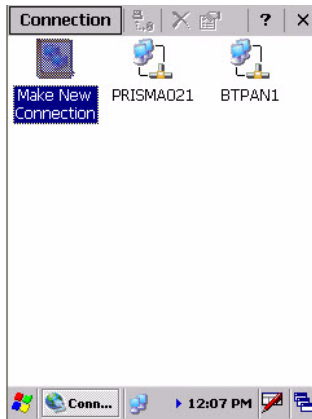
Connecting to an ISP

You can connect to your Internet Service Provider (ISP), and use the connection to send and receive e-mail messages and view web pages. Get an ISP dial-up access telephone number, a user name, and a password from your ISP.

Tap the **Help** icon at any time to view additional information for the wizard or the settings.

To connect to an Internet service provider

- 1** Tap the **Windows** icon > **Settings** > **Network and Dial-up Connections**.



- 2** Double-tap **Make New Connection**. The Connection screen appears.
- 3** Enter a name for the connection, such as “ISP Connection” and select **Dial-Up Connection** as the connection type. When you are finished tap **Next**.
- 4** If using an external modem connected to your CK61 with a cable, select Hayes Compatible on COM1 from the Select a modem drop-down list.
- 5** Tap **Next**.
- 6** Enter the access phone number and then tap **Finish**. An icon with the name of the connection you created appears in the Network and Dial-up Connections folder.
- 7** Double-tap on the connection that you made and tap the **Dial Properties** button.
- 8** Enter the **User name**, **Password**, and **Domain** (if provided by the ISP or your network administrator).
- 9** Tap **Dial Properties** and specify your current phone type and tap **OK**.
- 10** Tap **Connect**.

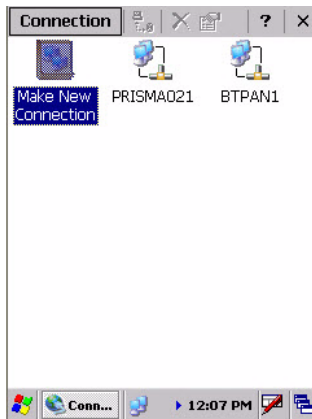
Connecting to a Network with a VPN Server

A VPN connection helps you to securely connect to servers, such as a corporate network, through the Internet. Before you can make a VPN connection, you will need the following items from your network administrator:

- User name
- Password
- Domain name
- TCP/IP settings
- Host name or IP address of the VPN server

To create a VPN server connection to work

- 1 Tap the **Windows** icon > **Settings** > **Network and Dial-up Connections**.



- 2 Double-tap **Make New Connection**.
- 3 Select whether you want to use a **Virtual Private Network (PPTP)** or **Virtual Private Network (L2TP)**.
- 4 In the **Host name / IP field**, enter the VPN server name or IP address.

- 5** Tap **Configure** and select a way for the CK61 to authenticate the connection. If you select **A pre-shared key**, enter the key provided by your network administrator. When you are finished, tap **OK**.
- 6** Tap the TCP/IP Settings button and configure your TCP/IP settings and tap **OK**.
- 7** Tap the **Security Settings** button and select the security settings that you want to use and tap **OK**. If you are not sure which option to choose, check with your network administrator.
- 8** Tap **Finished**.

Configuring Security On the CK61

This section explains how to configure wireless security on your CK61. If you choose not to use security, see [“Disabling Security” on page 61](#).

Configuring Security on the Wireless Network

Your wireless adapter (network interface card) connects to wireless networks of two types: infrastructure networks and adhoc networks.

- Infrastructure networks connect you to your corporate network and the internet. Your computer establishes a wireless connection to an access point, which links you to the rest of the network.
- Ad-hoc networks are private networks shared between two or more clients, even without an access point.

Each wireless network is assigned a name (or SSID) to allow multiple networks to coexist in the same area without infringement.

Intermec recommends using security measures with wireless networks to prevent unauthorized access to your network and to ensure the privacy of transmitted data. These elements are required for secure networks:

- Authentication by both the network and the user
- Authentication is cryptographically protected
- Transmitted data

There are many schemes available to implement these features. Use the following tables to understand the common terminology for wireless network security.

Encryption Terminology

Acronym	Description
AES	Advanced Encryption Standard. A block cipher, a type of symmetric key cipher that uses groups of bits of a fixed length - called blocks. A symmetric key cipher is a cipher using the same key for both encryption and decryption. As implemented for wireless, this is also known as CCMP, which implements AES as TKIP and WEP are implementations of RC4.
CKIP	Cisco Key Integrity Protocol. This protocol is Cisco's version of the TKIP protocol, compatible with Cisco Aironet products.
TKIP	Temporal Key Integrity Protocol. This protocol is part of the IEEE 802.11i encryption standard for wireless LANs, which provides per-packet key mixing, a message integrity check and a re-keying mechanism, thus overcoming most of the weak points of WEP. This encryption is more difficult to crack than the standard WEP. Weak points of WEP include: No Initiation Vector (IV) reuse protection, weak keys, no protection against message replay, no detection of message tampering, and no key updates.
WEP	Wired Equivalent Privacy encryption. With preconfigured WEP, both the client CK61 and access point are assigned the same key, which can encrypt all data between the two devices. WEP keys also authenticate the CK61 to the access point - unless the CK61 can prove it knows the WEP key, it is not allowed onto the network. WEP keys are only needed if they are expected by your clients. There are two types available: 64-bit (5-character strings, 12345) (default) and 128-bit (13-character strings, 1234567890123).

Key Management Protocols Terminology

Acronym	Description
WPA	Wi-Fi Protected Access. This is an enhanced version of WEP that does not rely on a static, shared key. It encompasses a number of security enhancements over WEP, including improved data encryption via TKIP and 802.11b/g authentication with EAP. WiFi Alliance security standard is designed to work with existing 802.11 products and to offer forward compatibility with 802.11i.
WPA2	Wi-Fi Protected Access. Second generation of WPA security. Like WPA, WPA2 provides enterprise and home Wi-Fi users with a high level of assurance that their data remains protected and that only authorized users can access their wireless networks.

Authentication Terminology

Acronym	Description
EAP	Extensible Authentication Protocol. 802.11b/g uses this protocol to perform authentication. This is not necessarily an authentication mechanism, but is a common framework for transporting actual authentication protocols. Intermec provides a number of EAP protocols for you to choose the best for your network.
EAP-FAST	Flexible Authentication via Secure Tunneling. A publicly accessible IEEE 802.1X EAP type developed by Cisco Systems. It is available as an IETF informational draft. An 802.1X EAP type that does not require digital certificates, supports a variety of user and password database types, supports password expiration and change, and is flexible, easy to deploy, and easy to manage.
EAP-PEAP	Protected Extensible Authentication Protocol. Performs secure authentication against Windows domains and directory services. It is comparable to EAP-TTLS both in its method of operation and its security, though not as flexible. This does not support the range of inside-the-tunnel authentication methods supported by EAP-TTLS. Microsoft and Cisco both support this protocol.

Authentication Terminology (continued)

Acronym	Description
EAP-TLS	Transport Layer Security. Based on the TLS (Transport Layer Security) protocol widely used to secure web sites. This requires both the user and authentication server have certificates for mutual authentication. While cryptically strong, this requires corporations that deploy this to maintain a certificate infrastructure for all users.
LEAP	Lightweight Extensible Authentication Protocol. Also known as Cisco-Wireless EAP, provides username/password based authentication between a wireless client and a RADIUS server. In the 802.1x framework, traffic cannot pass through a wireless network access point until it successfully authenticates itself.
EAP-TTLS	Tunneled Transport Layer Security. This protocol provides authentication like EAP-TLS but does not require certificates for every user. Instead, authentication servers are issued certificates. User authentication is done using a password or other credentials that are transported in a securely encrypted “tunnel” established using server certificates. EAP-TTLS works by creating a secure, encrypted tunnel through which you present your credentials to the authentication server. Thus, inside EAPTTLS there is another inner authentication protocol that you must configure via Additional TTLS Settings.

The CK61 provides three types of security for your wireless network: Wi-Fi Protected Access 2 (WPA2/802.11i), WPA, and WEP. 802.1x should be referred to as an authentication method used for WPA and WPA2. Another authentication method for WPA and WPA2 would be the Pre-Shared Key (PSK).

Choosing Between Microsoft and Funk Security

Before you can implement a security solution on the CK61, you need to choose between Microsoft and Funk security:

- By default, Funk security is enabled. It provides everything you get with Microsoft security plus the addition of Cisco Compatible Extensions features. It also provides additional authentication types like EAP-TTLS, LEAP, and EAP-FAST.

- Microsoft security, with its Microsoft Zero Config feature, is also available. To switch to Microsoft security, go to “**Configuring Microsoft Security**” on page 56 to start.



Note: Your security choice does not depend on your authentication server. For example, you can choose Funk security if you use Microsoft Active Directory® to issue certificates.

If you want to use the default Funk security, you need to select a profile. For help, see one of the following sections, “Configuring Funk Security Using Intermec Settings” on this page or “**Configuring Funk Security Using the Profile Wizard**” on page 50.

If you want to use Microsoft security, you need to select it as your security choice. For help, see “**Configuring Microsoft Security**” on page 56.

Configuring Funk Security Using Intermec Settings

You can define up to four profiles for Funk security. Different profiles let your CK61 communicate in different networks without having to change all of your security settings. For example, you may want to set up one profile for the manufacturing floor and one for the warehouse. By default, the active profile is Profile_1.

To select a profile for Funk security

- 1 Tap the **Windows** icon > **Settings** > **Control Panel** > the **Intermec Settings** icon.
- 2 Select **Communications** > **802.11 Radio** > **Funk Security**.
- 3 Select **Active Profile**, choose a profile from the list, and save your settings.
- 4 Tap the active profile to expand it.
- 5 (Optional) Give your profile a meaningful name:
 - Select **Profile Label** and a text box appears.
 - Select the text in the box, type a meaningful name, and save your settings.
- 6 Select one profile as the active profile by tapping Active Profile and choosing a profile from the drop-down list.

- 7 Save your settings.

Configuring WPA Security With Funk Security

Use these procedures to set WPA-802.1x, WPA2-802.1x, WPAPSK, or WPA2-PSK security on your CK61 with Funk security.

To configure WPA-802.1x or WPA2-802.1x with Funk security

- 1 Make sure you have configured the communications and radio parameters on your CK61.
- 2 Make sure you have selected Funk as your security choice.
- 3 Open Intermec Settings.
- 4 Choose **Communications** > **802.11 Radio** > **Funk Security** > **Profile**.
- 5 For **Association**, choose **WPA** or **WPA2** and tap **OK**. Encryption automatically defaults to TKIP if you are using WPA. Encryption automatically defaults to AES if you are using WPA2.
- 6 For **802.1x**, choose **TTLS**, **PEAP**, **EAP-FAST**, or **TLS** and press **Enter**.

If you choose TTLS or PEAP:

- a For **Prompt for Credentials**, choose **Enter credentials now**.



Note: You can use Prompt for credentials to troubleshoot your connection to the network if you have problems.

- b Select **User name** and type your user name.
- c Select **User Password** and type a user password.
- d For **Validate Server Certificate**, choose **Yes**.



Note: You must have the date on the CK61 set correctly when you enable Validate Server Certificate.

If you choose TLS:

- a Load a user and root certificate on your CK61. For help, **“Loading a Certificate” on page 59**.

- b** For **Validate Server Certificate**, choose **Yes**.
- c** You must enter a **User Name** and **Subject Name**. You can also enter a Server Common Name if you want to increase your level of security.

7 Save and exit Intermec Settings.

To enable WPA-PSK or WPA2-PSK with Funk security

- 1** Make sure you have configured the communications and radio parameters on your CK61.
- 2** Make sure you have selected Funk as your security choice.
- 3** Open Intermec Settings.
- 4** Choose **Communications** > **802.11 Radio** > **Funk Security** > **Profile**.
- 5** For **Association**, choose **WPA** or **WPA2** and tap **OK**.
- 6** For **8021.x**, choose **None**.
- 7** For **Pre-Shared Key**, enter the pre-shared key or the passphrase.

The pre-shared key must be a value of 32 hex pairs preceded by 0x for a total of 66 characters. The value must match the key value on the access point. The passphrase must be from 8 to 63 characters. After you enter a passphrase, the CK61 internally converts it to a pre-shared key.

This value must match the passphrase on the authenticator.

8 Save and exit Intermec Settings.

Configuring 802.1x Security With Funk Security

- 1** Make sure you have configured the communications and radio parameters on your CK61.
- 2** Make sure you have selected Funk as your security choice.
- 3** Open Intermec Settings.
- 4** Choose **Communications** > **802.11 Radio** > **Funk Security** > **Profile**.
- 5** For **Association**, choose **Open**.
- 6** For **Encryption**, choose **WEP**.

7 For **Authentication**, choose **TTLS**, **PEAP**, or **TLS**.

If you choose TTLS or PEAP:

- a** Select **User name** and type your user name.
- b** Select **Password prompt**, and choose **Enter password now**.



Note: You can use Prompt for password to troubleshoot your connection to the network if you have problems.

- c** Select **User Password** and type a user password.
- d** For **Validate Server Certificate**, choose **Enabled**.

If you choose TLS:

- a** Load a user and root certificate on your CK61.
- b** For **Validate Server Certificate**, choose **Yes**.
- c** You must enter a **User Name** and **Subject Name**. You can also enter a **Server Common Name** if you want to increase your level of security.
- d** Save and exit Intermec Settings.

Configuring LEAP Security on the CK61

- 1** Make sure you have selected Funk as your security choice.
- 2** Make sure you have configured the communications and radio parameters on your CK61.
- 3** From Intermec Settings, choose **Communications** > **802.11 Radio** > **Funk Security** > **Profile**.
- 4** For **802.1x**, choose **LEAP**.
- 5** For **Association**, choose **Open**, **WPA**, **WPA2**, or **Network EAP**. Encryption automatically defaults to TKIP if you choose WPA, to AES if you choose WPA2, and to WEP if you choose Open or Network EAP.
- 6** For **Prompt for Credentials**, choose **Enter credentials now**.
- 7** Select **User name** and type your user name.
- 8** Select **User Password** and type a user password.

- 9 Exit Intermec Settings.

Configuring Static WEP Security With Funk Security

- 1 Make sure you have selected Funk as your security choice.
- 2 Make sure you have configured the communications and radio parameters on your CK61.
- 3 Open Intermec Settings.
- 4 Choose **Communications** > **802.11 Radio** > **Funk Security** > **Profile**.
- 5 For **Association**, choose **Open**.
- 6 For **Encryption**, choose **WEP**.
- 7 For **802.1x**, choose **None**.
- 8 Define a value for the keys you want to use. You can define up to four keys (**Key 1** through **Key 4**).

Enter an ASCII key or a hex key that is either 5 bytes or 13 bytes long depending on the capability of the radio. Set a 5-byte value for 64-bit WEP or a 13-byte value for 128-bit WEP. Hex keys must be preceded by 0x and contain 5 or 13 hex pairs.


- 9 For **Transmit key**, choose the key you want to use for transmitting data.
- 10 Exit Intermec Settings.

Configuring Funk Security Using the Profile Wizard

You can start 802.11a/ b/g communications on the CK61 using the Profile Wizard. A profile contains all the information necessary to authenticate you to the network, such as login name, password or certificate, and protocols by which the CK61 is authenticated. You can have up to four profiles for different networks. For example, you may have different login names or passwords on different networks.

To select a profile for Funk security

- 1 Select the **Windows** icon > **Settings** > **Control Panel** > **Wireless Network**.
- or

Tap the iConnect icon () in the lower right corner of the Today screen and select **Tools > Wireless Settings**. The Profile Wizard appears.

- 2 From the **Profile** list, select the profile you want to configure.
- 3 Tap **Edit Selected Profile**.
- 4 (Optional) Give your profile a meaningful name by selecting the text in the Profile Label text box and typing a meaningful name.
- 5 From the **Network type** list, select either **Infrastructure** or **Ad-Hoc**.
Select Infrastructure if the network uses access points to connect to the corporate network or internet. Select Ad-Hoc to set up a private network with one or more participants.
- 6 Enter the **SSID (Network Name)** if different than the profile name.
- 7 Click **OK**.

Configuring WEP Security With Profile Wizard

- 1 In the Profile Wizard, select the **Security** page.
- 2 For **802.1x Security**, choose **None**.
- 3 For **Association**, choose **Open** or **Shared** to match the settings on your access point.
- 4 For **Encryption**, choose **WEP**.
- 5 From the **Data TX Key** list, select the key you want to use for transmitting data.
- 6 Define a value for the keys you want to use. You can define up to four keys (**Key 1** through **Key 4**).

Enter an ASCII key or a hex key that is either 5 bytes or 13 bytes long depending on the capability of the radio. Set a 5-byte value for 64-bit WEP or a 13-byte value for 128-bit WEP. Hex keys must be preceded by 0x and contain 5 or 13 hex pairs.

- 7 Tap **OK**.

Configuring WPA-PSK Security With Profile Wizard

- 1 In the Profile Wizard, select the Security page.
- 2 For 802.1x Security, choose **None**.

- 3** For Association, choose **WPA**.
- 4** For **Pre-Shared Key** field, enter the passphrase as ASCII. The passphrase must be 8 to 63 characters and match the passphrase on the access point.
- 5** Tap **OK**.

Configuring WPA2-PSK Security With Profile Wizard

- 1** In the Profile Wizard, select the **Security** page.
- 2** For **802.1x Security**, choose **None**.
- 3** For **Association**, choose **WPA2**.
- 4** For **Encryption**, choose **TKIP** or **AES**.
- 5** For **Pre-Shared Key** field, enter the passphrase as ASCII (12345).
- 6** Tap **OK**.

Configuring PEAP Security With Profile Wizard

Protected EAP (PEAP) performs secure authentication against Windows domains and directory services. It is comparable to EAP-TTLS, though not as flexible.

To configure PEAP security

- 1** In the Profile Wizard, select the **Security** page.
- 2** For **802.1x Security**, choose **PEAP**.
- 3** For **Association**, choose **Open**, **WPA**, **WPA2**, or **Network EAP**.
- 4** For **Encryption**, choose **TKIP** or **AES** if you selected WPA2 for association, or **WEP** or **CKIP** if you selected Network EAP for association.
- 5** For **Username**, type a unique username for this protocol.
- 6** In the **Password** field, type a unique password for this protocol.
- 7** Select **Prompt for password** to have the user enter this password each time to access the protocol, or select **Use following password** to use the protocol without entering a password each time you use the CK61.
- 8** Tap **Get Certificates** to obtain or import server certificates. For help with certificates, see **“Loading a Certificate” on page 59**.

- 9 Tap **Additional Settings** to assign an inner PEAP authentication and set options for server certificate validation and trust.
- 10 From the **Inner PEAP Authentication** list, choose **EAP/MS-CHAP-V2**, **EAT/Token Card**, or **EAP/MD5-Challenge**.
- 11 Check **Validate Server Certificate** to verify the identity of the authentication server based on its certificate when using PEAP.
- 12 Tap **Root CA**, select a root certificate, and then tap **OK**.
- 13 Enter the Common Names of trusted servers.
- 14 Tap **OK**.

Configuring TLS Security With Profile Wizard

EAP-TLS is a protocol based on the Transport Layer Security (TLS) protocol widely used to secure web sites. This protocol requires both the user and authentication server to have certificates for mutual authentication.

To configure TLS security

- 1 In the Profile Wizard, select the **Security** page.
- 2 For **802.1x Security**, choose **TLS**.
- 3 For **Association**, choose **Open**, **WPA**, **WPA2**, or **Network EAP**.
- 4 For **Encryption**, choose **TKIP** or **AES** if you selected WPA2 for association, or **WEP** if you selected Network EAP for association.
- 5 For **Subject Name**, type a unique subject name for this protocol.
- 6 For **User Name**, type a unique user name for this protocol.
- 7 Tap **Get Certificates** to obtain or import server certificates. For help with certificates, see **“Loading a Certificate” on page 59**.
- 8 Tap **Additional Settings** to server certificate validation and trust.
- 9 Check **Validate Server Certificate** to verify the identity of the authentication server based on its certificate when using TLS.
- 10 Tap **Root CA**, select a root certificate, and then tap **OK**.
- 11 Enter the Common Names of trusted servers.
- 12 Tap **OK**.

Configuring TTLS Security With Profile Wizard

TTLS protocol provides authentication like EAP-TLS but does not require user certificates. User authentication is done using a password or other credentials that are transported in a securely encrypted “tunnel” established using server certificates.

To configure TTLS security

- 1 In the Profile Wizard, select the **Security** page.
- 2 For **802.1x Security**, choose **TTLS**.
- 3 For **Association**, choose **Open**, **WPA**, **WPA2**, or **Network EAP**.
- 4 For **Encryption**, choose **TKIP** or **AES** if you selected WPA2 for association, or **WEP** if you selected Network EAP for association.
- 5 For **Username**, type a unique username for this protocol.
- 6 In the **Password** field, type a unique password for this protocol.
- 7 Select **Prompt for password** to have the user enter this password each time to access the protocol, or select **Use following password** to use the protocol without entering a password each time you use the CK61.
- 8 (Optional) Tap **Get Certificates** to obtain or import server certificates. For help with certificates, see [“Loading a Certificate” on page 59](#).
- 9 Tap **Additional Settings** to assign an inner TTLS authentication, inner EAP, and set options for server certificate validation and trust.
- 10 From the **Inner TTLS Authentication** list, choose **PAP**, **CHAP**, **MS-CHAP**, **MS-CHAP-V2**, **PAP/Token Card**, or **EAP**.
- 11 If you select EAP for the inner authentication protocol, select an inner EAP protocol from the **Inner EAP** list.
- 12 Check **Validate Server Certificate** to verify the identity of the authentication server based on its certificate when using TTLS.
- 13 Tap **Root CA**, select a root certificate, and then tap **OK**.
- 14 Enter the Common Names of trusted servers.
- 15 For **Anonymous EAP-TTLS Name**, type an outer identity to protect your login name or identity.

16 Tap **OK**.

Configuring LEAP Security With Profile Wizard

LEAP is the Cisco Lightweight version of EAP.

To configure LEAP security

- 1 In the Profile Wizard, select the **Security** page.
- 2 For **802.1x Security**, choose **LEAP**.
- 3 For **Association**, choose **Open, WPA, WPA2, or Network EAP**.
- 4 For **Encryption**, choose **TKIP** or **AES** if you selected WPA2 for association, or **WEP** if you selected Network EAP for association.
- 5 For **Username**, type a unique username for this protocol.
- 6 In the **Password** field, type a unique password for this protocol.
- 7 Select **Prompt for password** to have the user enter this password each time to access the protocol, or select **Use following password** to use the protocol without entering a password each time you use the CK61.
- 8 Tap **OK**.

Configuring EAP-FAST with Profile Wizard

The EAP-FAST protocol is a client-server security architecture that encrypts EAP transactions with a TLS tunnel. While similar to PEAP, EAP-FAST differs significantly since tunnel establishment is based on strong secrets unique to users. These secrets are called Protected Access Credentials (PACs), which CiscoSecure ACS generates using a master key known only to CiscoSecure ACS. EAP-FAST does not require certificate management.

To configure EAP-FAST security

- 1 In the Profile Wizard, select the **Security** page.
- 2 For **802.1x Security**, choose **EAP-FAST**.
- 3 For **Association**, choose **Open, WPA, WPA2, or Network EAP**.
- 4 For **Encryption**, choose **WEP** if you selected Network EAP for association.
- 5 For **Username**, type a unique username for this protocol.
- 6 In the **Password** field, type a unique password for this protocol.

- 7 Select **Prompt for password** to have the user enter this password each time to access the protocol, or select **Use following password** to use the protocol without entering a password each time you use the CK61.
- 8 Tap **Additional Settings** to set options for PAC management and assign an anonymous EAP-FAST name.
- 9 Tap **PAC Manager** to view the PAC files currently installed on the CK61. Tap **OK** to return to the Additional Settings screen.
- 10 If you already have a PAC on the CK61, clear **Allow Automatic PAC provisioning** to avoid receiving more PACs from the server.
- 11 If you select **Allow Automatic PAC provisioning**, you can check:
 - **Prompt before acquiring a new PAC** for notification of any incoming PACs.
 - **Prompt before replacing a PAC** for notification whether to replace a current PAC with an incoming PAC.
- 12 For **Anonymous EAP-FAST Name**, type the outer identity assigned for public usage.
- 13 Tap **OK**.

Creating A Debug Log for Funk Security

If you reach a situation where you need to send in debug information to Intermec Product Support, you can use the Intermec Funk Security logging feature.

To enable the logging feature

- 1 In the Profile Wizard, select the **Advanced** tab.
- 2 Select **Enable Logging** and then tap **OK**.

Configuring Microsoft Security

The default security setting is Funk. If you want to use Microsoft security, you need to select it as your security choice. After you select Microsoft as your security choice, you will be prompted to save your settings and reset your computer for your change to take effect.

To select Microsoft security as your security choice

- 1 Tap the **Windows** icon > **Settings** > **Control Panel** > the **Intermec Settings** icon. The Intermec Settings application appears.
- 2 Select **Communications** > **802.11 Radio** > **Security Choice**.
- 3 From the Security Choice list, select **Microsoft Security** and save your settings. An alert box appears telling you that you must save your settings and warm boot the CK61 for the new security choice to take effect.
- 4 Tap **Yes**. The CK61 resets and starts with Microsoft Security as the Security Choice.

Networks already configured are preferred networks. You can connect to only preferred networks or search for and connect to any available network.

You can add a wireless network when the network is detected or manually by entering settings information. To determine if authentication information is needed, see your network administrator.

When the CK61 restarts with Microsoft selected as the security choice, a dialog box with your wireless network information appears. You can connect to an existing preferred connection or set up a new connection. The following information is for setting up a new connection.

To configure Microsoft security for a new connection

- 1 In the radio network connection dialog box, double-tap **Add New**.
- 2 Enter a **Network name**. If the network was detected, the network name is entered and cannot be changed.
- 3 (Optional) To connect to an ad-hoc connection, select **This is a device-to-device (ad-hoc) connection**.
- 4 Follow these steps to disable authentication:
 - a Set **Authentication** to **Open** if WEP keys are not required or to **Shared** when WEP keys are required for association.
 - b Set **Data Encryption** to **Disabled**.

Follow these steps to enable WEP encryption:

- a** Set **Authentication** to **Open** if WEP keys are not required or to **Shared** when WEP keys are required for association.
- b** Set **Data Encryption** to **WEP**.
- c** To change the network key, clear **The key is automatically provided** check box, enter the new **Network key**, and then select the appropriate **Key index**.

Follow these steps to enable WPA authentication:

- a** Set **Authentication** to **WPA**.
- b** Set **Data Encryption** to either **WEP** or **TKIP**.

Follow these steps to enable WPA authentication using a preshared key:

- a** Set **Authentication** to **WPA-PSK**.
- b** Set **Data Encryption** to either **WEP** or **TKIP**.
- c** Enter the new **Network key**.

Follow these steps to enable WPA2 authentication:

- a** Set **Authentication** to **WPA2**.
- b** Set **Data Encryption** to **AES** or **TKIP**.
- c** Enter the new **Network key**.

Follow these steps to enable WPA2 authentication using a preshared key:

- a** Set **Authentication** to **WPA2-PSK**.
- b** Set **Data Encryption** to **AES** or **TKIP**.
- c** Enter the new **Network key**.

- 5** From the **EAP type** list, select either **PEAP** or **Smart Card or Certificate** and then tap **Finish**.
- 6** From the **Networks to access** list, select **All Available**, **Only access points**, or **Only computer-to-computer**.
- 7** Tap **OK** to close the screen.



Note: If you select to automatically connect to non-preferred networks, the CK61 detects any new networks and provides you with the opportunity to configure them.

Loading a Certificate

If you choose to use transport layer security (TLS) with WPA or 802.1x security, you need to have a unique client certificate on the CK61 and a trusted root certificate authority (CA) certificate. Certificates are pieces of cryptographic data that guarantee a public key is associated with a private key. They contain a public key and the entity name that owns the key. Each certificate is issued by a certificate authority.

There are three ways to load certificates on the CK61:

- If you are using Active Directory to issue certificates, you can use the Enroll Certificates application to load the certificates.
- If you are using another third-party CA, you can use the Import Certificates application to load the certificates.
- If you have multiple certificates to install, you can use the Import Root Certificates and Import User Certificates functions.



Note: For certificates to be valid, the CK61 must be set to the correct date and time. After cold booting the CK61, you may need to correct the date and time.

To load certificates if you are using Active Directory

- 1** Configure the network and radio settings for the CK61 to communicate with your certificate authority or establish an ActiveSync connection with the CA.
- 2** From Intermec Settings, select **Communications > 802.11 Radio > Certificates**.
- 3** Select **Enroll Certificates** and tap the **Run App** button. The Enroll Certificates dialog box appears.
- 4** In the Enroll Certificates dialog box, enter the **User Name**, **Password**, and **Server** (IP address) to log into the CA server.
- 5** Tap **OK**. A dialog box appears asking if you want to load the root certificate.
- 6** Tap **OK** for yes. The Enrollment Tool message box appears telling you that the user certificate has been added.
- 7** Tap **OK** to close the Enrollment Tool message box.

- 8** Configure your CK61 for WEP, WPA, or WPA2 security.

To load certificates if you are using a third-party CA

- 1** From Intermec Settings, select **Communications > 802.11 Radio > Certificates**.
- 2** Select **Import Certificates** and tap the **Run App** button. The certificates application appears.
- 3** Tap in the **Import pfx Certificate** box and navigate to your private .pfx file.
- 4** Select the file and the path to your .pfx file now appears in the text box.
- 5** Tap **Import Certificate**. A dialog box appears asking if you want to add the certificate to the root store.
- 6** Press **OK** to add the certificate. A message box appears telling you that the root certificate has been imported.
- 7** Tap **OK** to close the Success message box.
- 8** Tap **Import User Cert**. A dialog box appears telling you that the user certificate and the associated key were successfully imported.
- 9** Tap **OK** to close the Success message box.
- 10** Configure your CK61 for WEP, WPA, or WPA2 security.

To load multiple certificates

- 1** Create the \Temp\Root and the \Temp\User folders on the CK61.
- 2** Copy at least one root certificate .cer file into the \Temp\Root folder.
- 3** Copy at least one user certificate .cer file and key .pvk file into the \Temp\User folder. The filenames must match (for example, cert1.cer and cert1.pvk).
- 4** From Intermec Settings, select **Communications > 802.11 Radio > Certificates**.
- 5** Select **Import Root Certificates**. Choose **True** from the drop-down menu.
- 6** Select **Import User Certificates**. Choose **True** from the dropdown menu.

- 7** Save your settings and exit Intermec Settings. The certificates are immediately imported:
 - a** All root certificates in \Temp\Root are imported into the Trusted Authorities certificate store.
 - b** All root certificates in \Temp\Root are imported into the Trusted Authorities certificate store.
 - c** The Import Root Certificates and the Import User Certificates settings are changed from **True** to **False**.
- 8** Configure your CV30 for WEP, WPA, or WPA2 security.

Disabling Security

If you choose not to use security with your wireless network, you can disable it on the CK61. Intermec recommends that you always set security in your network.

To disable security

- 1** Open Intermec Settings.
- 2** Choose **Communications > 802.11 Radio > Microsoft Security**.
- 3** For **Network Authentication**, choose **Open**.
- 4** For **Data Encryption**, choose **Disabled**.
- 5** Close Intermec Settings.

3

Developing and Installing Applications

Use this chapter to understand the guidelines for developing applications for use on the CK61. This chapter contains these sections:

- **Developing Applications for the Computer**
- **Installing Applications on the Computer**
- **Freeing Up Virtual Memory for Applications**
- **Launching an Application Automatically**
- **Upgrading the System Software**

Developing Applications for the Computer

The CK61 runs applications that are programmed in Microsoft eMbedded Visual C++ 4.0 to program applications. Use this section to understand the hardware and software you need to develop a new application for the computer.

Use the Intermec resource kits to develop new applications to run on the CK61. The Intermec resource kits are a library of C++ and .NET components grouped by functionality that you can use to create applications for the computer. The resource kits are part of the Intermec Developer Library (IDL), and can be downloaded from the Intermec web site at www.intermec.com/idl.

You need the following hardware and software components to use the resource kits:

- Pentium desktop, 400 MHz or higher
- Windows 2000 (Service Pack 2 or later) or Windows XP (Home, Professional, or Server)
- For native and managed development, Microsoft Visual Studio 2005
- 128 MB RAM (196 MB recommended)
- 360 MB hard drive space for minimum installation (720 MB for complete)
- CD-ROM drive compatible with multimedia desktop specification
- VGA or higher-resolution monitor (Super VGA recommended)
- Microsoft Mouse or compatible pointing device

Installing Applications on the Computer

There are several ways you can install applications on your mobile computer:

- You can package your application as a cabinet (.cab) file.
- If you have a simple application, you may only need to deliver the .exe file.

- You can copy a directory structure that contains the application, supporting files, DLLs, images, and data files.

Intermec recommends using .cab files to install your applications. The CK61 uses standard Windows .cab files and will install third-party .cab files. You can have your .cab files place your application in any of these memory locations on the CK61:

- The Object Store or the Flash File Store. The Object Store is a DiskOnChip® flash that looks like a disk. The Flash File Store is an area of storage which is embedded in a section of the system flash memory. This storage is not erased during a reset, although it might be erased during the reflashing process. In addition to storing applications and data files, you have the option to store persistent registry information to the Flash File Store region.
- The optional SD card. If you are using a SD card, this should be the primary location to place application installation files. The SD card creates the Storage Card folder on the CK61.
- The non-volatile Flash File Store region of the storage. Use the small non-volatile Flash File Store region to hold .cab files that rebuild the system at clean boot or install applications from a .cab file into the Flash File Store so that they are “ready-to-run” when you perform clean boot. Since the flash in the system has a limited number of write cycles, do not use the Flash File Store for excessive writing.

Files copied to any of these locations are safe when you cold boot the computer as long as the Outrun system is installed in the appropriate location. You can find information about this system in the Intermec Developer’s Library (IDL) Resource Kit Developer’s Guide which is available from www.intermec.com/idl. When you copy a .cab file to the \CabFiles folder, the folder automatically extracts that .cab file on every cold boot.

There are several ways you can install files and applications on the computer:

- SmartSystems Foundation
- ActiveSync
- SD card
- FTP Server

- Wavelink Avalanche

The following sections explain how to use each one of these processes to install your application on the computer.

Installing Applications Using SmartSystems Foundation

You can use the SmartSystems console to drag-and-drop Intermec applications onto your mobile computers. The computer ships with the SmartSystems client, which means it is SmartSystems-enabled. The console is part of SmartSystems Foundation, which you can download from www.intermec.com/SmartSystems. For help using the console, see the online help.

To use SmartSystems console to install an application

- 1 Download your application file from the Intermec web site and unzip it on your desktop PC.
- 2 Double-click the application file to install it. The application file should appear in the Software Vault.
- 3 From the SmartSystems console in the Software Vault, drag-and-drop the application onto each mobile computer in your network.

Installing Applications Using Microsoft ActiveSync

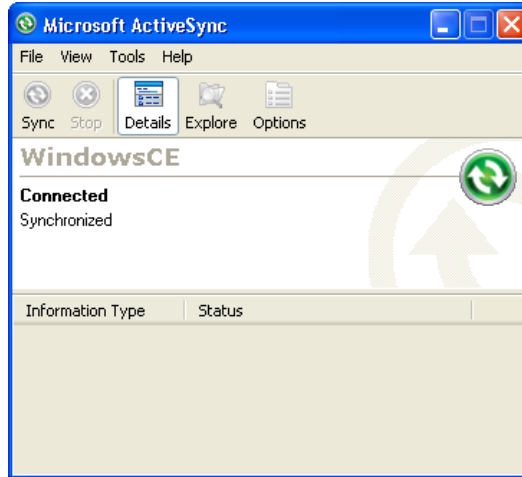
You can use Microsoft ActiveSync to establish a connection between your PC and the computer. ActiveSync transfers files, synchronizes files, performs remote debugging, and other device management activities.

You can have a serial or USB ActiveSync connection to the mobile computer. When you only have a few computers to update, you can copy files using Windows Explorer on a PC. This procedure assumes that Microsoft ActiveSync is installed on your PC and is up and running.

To install an application on the computer using ActiveSync

- 1 Connect the CK61 to a PC using a USB cable. You may have to disconnect and then connect the cable to “wake” the connection.
- 2 Wait for a “Connected” message to appear in the Microsoft ActiveSync application to signal a connection to the mobile

computer. If necessary, select **File > Get Connected** to initiate a connection.



- 3** Click **Explore** to open the Mobile Device window that shows the files and folders on the CK61.
- 4** On your desktop PC, locate the .cab file you want to download to the mobile computer and copy it.
- 5** From the Mobile Device window, open the **CabFiles** folder and navigate to the folder where you want to paste the .cab file.
- 6** Paste the .cab file into the desired folder.
- 7** When you are done copying files, clean boot the mobile computer.
- 8** After the mobile computer is done booting, tap on the **My Device** icon in the Windows Desktop screen and locate your program.
- 9** Tap the .cab files to install them.

Installing Applications Using a Storage Card

If you have an SD card for your CK61, it is the best place for you to install applications.

To install applications using the storage card

- 1** Suspend the CK61 and remove the SD card.

- 2 Insert the SD card into an SD card adapter and then place it in the storage card reader connected to your PC.
- 3 Copy your application file to the SD card.
- 4 Remove the SD card from the adapter and insert it into the CK61.
- 5 On your CK61, navigate to the storage card folder and run your application.

Installing Applications Using the FTP Server

The CK61 has a built-in FTP Server that connects to a network through Ethernet, 802.11ab/g, or Bluetooth communications. You can use the server to transfer your application file to the computer. Another benefit of using the FTP server is that you can create FTP scripts to automate the process of copying your files to the computer. This option is useful when you need to send files to a large number of computers.

The easiest way to manage the FTP server is to enable the FTP menu within iConnect.

To enable the FTP menu

- Create this DWORD registry key and set it to a value of 1:

```
HKEY_CURRENT_USER\Software\iConnect2\IConnect\Settings>ShowFTPMenu
```

The iFTP menu is available the next time you start iConnect.

To manage the state of the FTP server

- Modify these existing registry keys:

```
HKEY_CURRENT_USER\Software\iConnect2\IConnect\Settings\FtpAutoStart  
HKEY_CURRENT_USER\Software\iConnect2\IConnect\Settings\FtpHeartbeat
```

Where 1 = enable and 0 = disable.

Freeing Up Virtual Memory for Applications

You can use the InstallSelect application to reduce the amount of virtual memory used by portions of the SmartSystems Platform Bundle (SSPB). Freeing up virtual memory provides you with more space to load and run custom applications. In technical terms, virtual memory allows software to run in a memory address space whose size and addressing are not necessarily tied to the physical memory of the CK61.



Note: InstallSelect is designed for use only by administrators, developers, integrators, or Intermec service representatives.



Caution

Do not run InstallSelect while using any other applications.

InstallSelect manages the installation of value-added software features of the CK61. Removing software features may result in loss of CK61 functionality or the ability to manage device settings. See [page 71](#) or contact your Intermec service representative for information about each software feature before making changes.

To free up virtual memory, you select items from the InstallSelect list that you do not want to install. When you perform a clean boot, the items you selected are not installed. However, you can reinstall any of these SSPB components at any time with InstallSelect. Be sure to back up any related files that you want before you use the InstallSelect application. The InstallSelect application is part of the SSPB and is installed at the factory. For more information on SSPB, see [“Upgrading the System Software” on page 72](#).

To free up virtual memory

- 1 Go to **Start > Programs > Windows Explorer**. The Windows Explorer screen appears.
- 2 Double-tap the **Windows** folder.

Chapter 3 – Developing and Installing Applications

- 3** Scroll down to the InstallSelect application and double-tap the icon. The InstallSelect application appears on the display with a Caution dialog box.
- 4** Click **OK** to close the Caution dialog box.
- 5** Clear the check box of any components you do not want installed after a clean boot.

By default, components already installed on the CK61 are automatically checked to be installed again after you perform a clean boot.

- 6** Click **Apply** to initiate the clean boot and install only the files that are selected.
- 7** Click **Yes** to continue with the clean boot. The CK61 performs a clean boot and restarts with all of the checked components installed.

Understanding the InstallSelect Software Components

Component Name	Description
Data Collection & Intermec Settings	Data collection and Intermec Settings. Also includes on-unit SDK libraries. If you disable this CAB file, you cannot scan or collect data on the device and you cannot use Intermec Settings.
Funk Wireless Security	Intermec security supplicant that provides a wireless security solution with several features that are not supported by Microsoft.
Printer Support	Provides Intermec print driver support.
SmartSystems Client & Intermec Settings	Enables the SmartSystems Server and the use of Intermec Settings on the local computer. If you disable this CAB file, you cannot use SmartSystems or Intermec Settings locally on the device.
Intermec DHCP Client	Provides the Intermec DHCP client application.
Bluetooth	Provides the Intermec bluetooth application support.
Avalanche Enabler	Enables the client to the Wavelink Device Management solution.

Launching an Application Automatically

There are two ways to automatically launch your application when you perform a reset on the computer:

- Make sure your .cab file places a shortcut to your application in the \Windows\StartUp folder.
- Configure the AutoRun program to launch your application.

The computer contains a program called AutoRun.exe which automates operations such as launching other processes. You can configure AutoRun.exe through the Autorun data file, AutoRun.dat. For compatibility with other Intermec computers, you can place a copy of AutoRun.exe in the same folder as your AutoRun.dat file but it is not required.

To create and install the AutoRun.dat file on your computer

- 1 Create a folder called System on your CK61.
- 2 Open the Notepad application on your PC.
- 3 Write commands for AutoRun.dat using the supported AutoRun script commands.
- 4 Save the Notepad file as AutoRun.dat.
- 5 Copy the AutoRun.dat file to the System folder on the CK61. During every boot, the system scans for AutoRun.dat in the System folder.

AutoRun supports the following script commands in AutoRun.dat:

AutoRun Script Commands

Command	Description
EXEC	Launches a specified program and waits for it to finish (up to 10 minutes).
CALL	Processes a specified file of commands and returns.
CHAIN	Processes a specified file of commands and does not return.
RUN	Loads a specified program and executes it.
LOAD	Loads a specified program and executes it.

Upgrading the System Software

When you upgrade your computer, 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 Add (IVA) functionality such as data collection, configuration, the Intermec wireless security suite, and the SmartSystems™ Foundation. As new features are added to these components, you can upgrade your SSPB files without needing to upgrade the operating system. Alternately, you can choose to upgrade only the operating system if you need new functionality.

There are two ways to upgrade your computer:

- You can upgrade your computer using an storage card. For help, see the next section, “**Upgrading the CK61 Using an SD Card**” on page 73
- You can upgrade your computer using the SmartSystems Console. For help, see “**Upgrading the CK61 Using SmartSystems Foundation**” on page 74.

You need to download the latest upgrade files from the Intermec web site to your desktop PC.

To download the upgrade files

- 1 Start your web browser and go to the Intermec web site at www.intermec.com.
- 2 Go to **Support > Downloads**.
- 3 Click the link to search the product downloads.
- 4 Select your computer from the **Downloads** list. The Downloads page displays all of the downloads available for your computer.
- 5 Download the upgrade file you need. If you want to upgrade both the OS and the SSPB, you will need to download both files.

Upgrading the CK61 Using an SD Card

To use an SD card to upgrade the computer, you need an SD card reader and an SD adapter card formatted as FAT16.

To upgrade the operating system using an SD card

- 1 Insert an SD card into a SD adapter card and then place it in the storage card reader connected to your PC.
- 2 Copy all required OS upgrade files to the SD card.
- 3 Remove the SD card from the adapter card and insert it into the CK61.
- 4 Place the CK61 in a dock connected to external power and press the **Reset** button (using a stylus) located in the battery cavity on the back of the CK61.
- 5 Remove the SD card when the Installation Complete menu appears.
- 6 Remove the CK61 from the dock and replace the battery.

To upgrade the SSPB using an SD card

- 1** Insert an SD card into a SD adapter card and then place it in the storage card reader connected to your PC.
- 2** Copy all required SSPB upgrade files to the SD card.
- 3** Remove the SD card from the adapter card and insert it into the CK61.
- 4** Press and hold the **Power** button as you insert the battery back into the CK61.
- 5** Continue to hold the **Power** button until a Warning message appears on the display.
- 6** Release the **Power** button, read the message, and press the Enter key.

When the progress is complete, the CK61 warm boots to reset the configuration.

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

Upgrading the CK61 Using SmartSystems Foundation

You can use the SmartSystems console to upgrade the operating system on your computer. The console is part of SmartSystems Foundation and is available from the Intermec web site via the Intermec Developer Library (IDL). Before you can upgrade your computer, 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. This file is available from the Intermec web site at www.intermec.com. Go to **Support > Downloads**. Make sure the file you select is for your language.

To upgrade the computer using SmartSystems console

- 1** Install SmartSystems Foundation on your PC and open the SmartSystems console.

- 2** Make sure the SmartSystems console and the computers are on the same subnet.
- 3** Make sure your computers are either in a communications dock or charging dock or that power management is disabled.
- 4** Download the device upgrade .exe file to your desktop PC.
- 5** Double-click the .exe file on your desktop PC. An InstallShield application starts and walks you through the process of extracting the upgrade files in the default location.



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

- 6** From the SmartSystems console, locate the device upgrade to install.
- 7** Drag-and-drop the device upgrade onto each computer you want to upgrade. The SmartSystems console will tell you that it is installing the upgrade on your computer.

Once the upgrade is done downloading to your computer, your computer replaces the operating system and then automatically performs a cold boot. Progress messages appear on the computer screen.



Note: The SmartSystems console will show your computer as offline (note the red stop sign) until the computer reboots and reconnects to the system.

4

Troubleshooting and Maintaining the CK61

If you encounter any problems while using the mobile computer, look in this chapter to find a possible solution. You will also find information on routine maintenance. This chapter contains these sections:

- **Calling Product Support**
- **Troubleshooting Your CK61**
- **Resetting the CK61**
- **Cleaning the CK61**

Calling Product Support

If you cannot find the answer to your problem in the “Troubleshooting the Computer” section, you can visit the Intermec technical knowledge base (Knowledge Central) at intermec.custhelp.com to review technical information or to request technical support. If you still need help after visiting Knowledge Central, you may need to call Product Support.

To talk to an Intermec Product Support representative, call:

1-800-755-5505

Before you call Intermec Product Support, make sure you have the following information ready:

- Configuration number
- Operating system version
- SmartSystems Platform Bundle (SSPB) version
- If you are using security, know the type (Funk or Microsoft) and the full set of parameters
- Power management settings
- If you are using terminal emulation (ITE), know the version and protocol
- If you are not using ITE, know the language your custom application was written in and the tools you used to create it

You can find most of the information listed above in Intermec Settings. Consult your application developer for information on your custom application.

To find your configuration number

- Look at the label on the back of the computer.

To find your operating system version

- 1 Tap the **Windows** icon > **Internet Explorer**.



- 2 Tap the **Intermec** logo. The Intermec page appears and displays the software build information.

Troubleshooting Your CK61

If you send the CK61 in for service, it is your responsibility to save the computer data and configuration. Intermec is responsible only for ensuring that the hardware matches the original configuration when repairing or replacing the computer.

Problems While Configuring the CK61

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 the application 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. Press the necessary key sequence to unlock the key. For help, see “Using the Color-Coded Keys” on page 10 .

Problems While Operating the CK61

Problem	Solution
You press the Power button and nothing happens.	<ul style="list-style-type: none">• Make sure the backlight is on.• Make sure you have a charged battery that is installed correctly. For help, see “Charging the Battery” on page 5.• The battery may be discharged. Replace the battery with a spare charged battery, or charge the battery.• Perform a warm boot or a cold boot.
The Battery status LED is on.	<p>The battery status LED indicates the following states:</p> <ul style="list-style-type: none">• If the battery status LED is a steady green, the battery is more than 95% charged and computer is on a charger.• If the battery status LED is blinking red, then the battery is low. Replace or charge the battery.• If the battery status LED is a steady red, the main battery is on charge.
The computer appears to be locked up and you cannot enter data.	<ul style="list-style-type: none">• Press the power key to turn off the computer, then press the power key again to turn it on.• Press and hold the power key ten seconds to warm boot the computer.• Try reloading the firmware. See “Upgrading the System Software” on page 72.• If the computer does not boot or reset, contact your Intermec representative for help.

Problems With Wireless Connectivity

Problem	Solution
When you turn on the computer after it was suspended for a while (10 to 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 “Keep Alive” message from host to maintain the TCP session while the computer is suspended.
The CK61 is connected to the network and you move to a new site to collect data. Your CK61 now shows you are not connected to the network.	Move closer to an access point or to a different location to reestablish communications until you reconnect with the network. Any data collected while out of range is transmitted over the network.

Problems With Wireless Connectivity (continued)

Problem	Solution
The CK61 appears to be connected to the network, 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 Intermecc 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 CK61 appears to be connected to the network, but the host computer is not receiving any information from the CK61.	In a UDP Plus network, there may be a problem with the connection between the Intermecc Application Server and the host computer. Check with network administrator or see the user’s manual for the Intermecc 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

Problem	Solution
The CK61 indicates that it is authenticated, but it does not communicate with the host.	Make sure the CK61 IP address, host IP address, subnet mask, default router are configured for network.
The CK61 does not appear to be authenticating and a network connection icon does not appear on the toolbar.	The CK61 may not be communicating with the access point. Make sure the CK61 network name matches the access point network name (SSID). 802.1x security network may not be active. Make sure the server software is properly loaded and configured on the server PC. See server software documentation for help.
A network connection icon appears in the toolbar, but then disappears.	The CK61 may not be communicating with the intended access point. Make sure the CK61 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
You are setting up multiple access points in a network, with different SSIDs, and the connection fails.	CK61 does not save WEP key values when changing the SSID. Reenter the WEP key values and apply the network settings. You should now be able to connect.

Problems While Configuring 802.1x Security (continued)

Problem	Solution
You are setting up multiple access points in a network, with different SSIDs, and the connection fails.	The CK61 does not save WEP key values when changing the SSID. Reenter the WEP key value after changing the SSID and save your changes. You should now be able to connect to the different access points.
The CK61 indicates it is not authenticated.	Make sure that: <ul style="list-style-type: none">• the User Name and Password parameters on the CK61 must match the user name and password on authentication server. You may need to reenter the password on both the CK61, 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.• the IP address and secret key for access point must match the IP address and secret key on the authentication server. You may need to reenter the IP address and secret key on both your access point and authentication server.• the authentication server software is running on the server PC.
You receive a message saying “The server certificate has expired or your system date is incorrect” after you perform a clean boot on the CK61.	Date and time are not saved when you perform a clean boot. Reenter the date and time, and then save your changes.

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.	<ul style="list-style-type: none">• 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 two feet of a wall to test the effective scan of the scanner. For help scanning bar codes, see “Scanning Bar Codes” on page 15.

Problems While Scanning Bar Codes (continued)

Problem	Solution
The input device attached to the computer 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. For help, see “Configuring the CK61 With Intermec Settings” on page 21.
When you release a Scan button or handle trigger, the Good Read light does not turn off.	The Good Read light will remain on if you configure the computer to use continuous/edge triggering. If you configure the computer for level triggering and the Good Read light remains on, there may be a problem. Press one of the Scan buttons or pull the trigger again without scanning a bar code label. If the light is still on, contact your local Intermec representative.
The scanner will not read the bar code label.	<ul style="list-style-type: none"> • 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. • Make sure 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. • Make sure the computer 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 computer 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.

Resetting the CK61

You rarely need to reset the computer. If the computer does not resume after pressing the Power button, or if the computer or an application lock up, you may need to reset the CK61. The CK61 uses the configuration currently saved in flash memory during the boot process. There are three ways to reset the CK61:

- Warm booting the CK61
- Cold booting the CK61
- Clean booting the CK61

Warm Booting the CK61

You may need to perform a warm boot to correct conditions where an application stops responding to the system.

To warm boot the computer

- Press and hold the **Power** button for 10 seconds.

The computer systematically shuts down, restarts, and goes through the initialization process.

Cold Booting the CK61

In some cases where the computer completely stops responding, it may be necessary to perform a cold boot. Because cold booting may result in data loss, only use this method if all other recovery methods have failed.



Note: Cold booting the CK61 does not guarantee that cached disk data will be saved, so transactional data may be lost during the reset. All other data is preserved.

To cold boot your CK61

- 1 Press the **Power** button to suspend the CK61.
- 2 Remove the battery pack from the CK61.
- 3 Press the **Reset** button on the back of the CK61.
- 4 Insert the battery pack back into the CK61.

Clean Booting the Computer

When you clean boot the CK61, it loads only those files and programs that are absolutely required by the operating system. Use the clean boot to troubleshoot the CK61 by getting it up and running so that you can perform diagnostic tests to determine which elements of the normal boot process are causing problems.



Caution

The clean boot process will erase the memory in the mobile computer, including all applications and data files found in the object store.



Caution

To preserve application programs through a clean boot, you must store them in the Flash File Store.

To clean boot the computer

- 1 Press the **Power** button to suspend the CK61.
- 2 Remove the battery pack from the back of the CK61.
- 3 With a stylus, press the **Reset** button on the battery cavity.
- 4 Press and hold the **Power** button as you insert the battery back into the CK61.
- 5 Continue to hold the **Power** button until a Warning message appears on the display.
- 6 Release the **Power** button, read the message, and press either button on the right side to continue.
- 7 Perform the screen alignment and wait for the CK61 to load files from the miniSD card.

Cleaning the CK61

To keep the CK61 in good working order, you may need to clean the imager window, color camera window, and the touch screen. Clean the windows and the touch screen as often as needed for the environment in which you are using the CK61. To clean the CK61, use a solution of ammonia and water.



There are no user-serviceable parts inside the CK61. Opening the CK61 will void the warranty and may cause damage to the internal components.

To clean the imager window, camera window, and touch screen

- 1** Press the **Power** button to suspend the CK61.
- 2** Dip a clean cloth towel in the ammonia solution and wring out the excess.
- 3** Wipe off the imager window, camera window, and touch screen. Do not allow any abrasive material to touch these surfaces.
- 4** Wipe dry.

A

Specifications

Physical and Environmental Specifications

Physical Dimensions

Length:	22.2 cm (8.7 in)
Width:	9.0 cm (3.5 in)
Height:	5.3 cm (2.1 in)
Weight:	704 g (24.8 oz)

Hardware

Microprocessor:	Intel XScale PXA272 520 MHz
Memory:	64 MB or 128 MB RAM
Persistent storage:	128 MB, provides onboard non-volatile storage
Removable storage:	SD card slot, user-accessible
Keypad:	Numeric and alphanumeric keypads

Operating System

Microsoft Windows CE 5.0

Standard Communications

USB host, USB client, Bluetooth, Ethernet 10/100 Base-T, 802.11 a/b/g, V2.0 + EDR, RS232, IrDA 1.1

Electrical Specifications

External charge power: 11 - 28 VDC, 1.5 A (18 W max)

Environmental

Operating temperature:	-20° to 50°C (-4° to 122°F)
Storage temperature:	-30° to 70°C (-22° to 158°F)
Humidity:	5% to 95% non-condensing
Rain and dust resistance:	IP64 compliant
Drop specifications:	Multiple 1.8 m (6 ft) drops to steel or concrete

Power Specifications

Battery type:	Rechargeable Lithium-Ion (Li-ion) batteries: AB11: 7.2 V, 2400 mAh (17.3 Watt-hours)
Recharge time:	4 hours or less
Backup battery:	Super capacitor supplies 10 minutes bridge time

Wireless LAN

Standards compliant: IEEE 802.11g (2.4 GHz, OFDM)
IEEE 802.11b (2.4 GHz, DSSS)
IEEE 802.11a (5.0 GHz, OFDM)

Data rates: Up to 54 Mbps for 802.11g
Up to 11 Mbps for 802.11b
Up to 54 Mbps for 802.11a

Radio power output: 50 mW

Security: WEP, WPA, 802.11i, 802.1x (EAP-TLS, TTLS, LEAP, PEAP)

Certifications: Wi-Fi, WPA, WPA2, Cisco Compatible Extensions

Screen Specifications

Transflective TFT; QVGA Color with touch panel, 240 x 320 pixels, 9.7 cm (3.8 in) diagonal active area, 5-level LED backlight control with high and low settings.

Bar Code Symbologies

Australian Post, British Post, Codabar, Codablock A, Codablock F, Code 11, Code 2 of 5, Code 39, Code 93, Code 93i, Code 128, Datamatrix, Dutch Post, ISBT 128, Interleaved 2 of 5, Macro 2 of 5, Matrix 2 of 5, Maxicode, Micro PDF417, MSI, PDF417, Planet, Plessey, Postnet, QR Code, RSS 14, RSS Expanded, RSS Limited, Telepen, TLC39, UCC-EAN Composite Code, UPC/EAN

Regulatory Approvals

UL and cUL Listed, UL60950 and UL 1604 and CSA 22.2 No. 157, FCC Part 15, TUV, CE mark

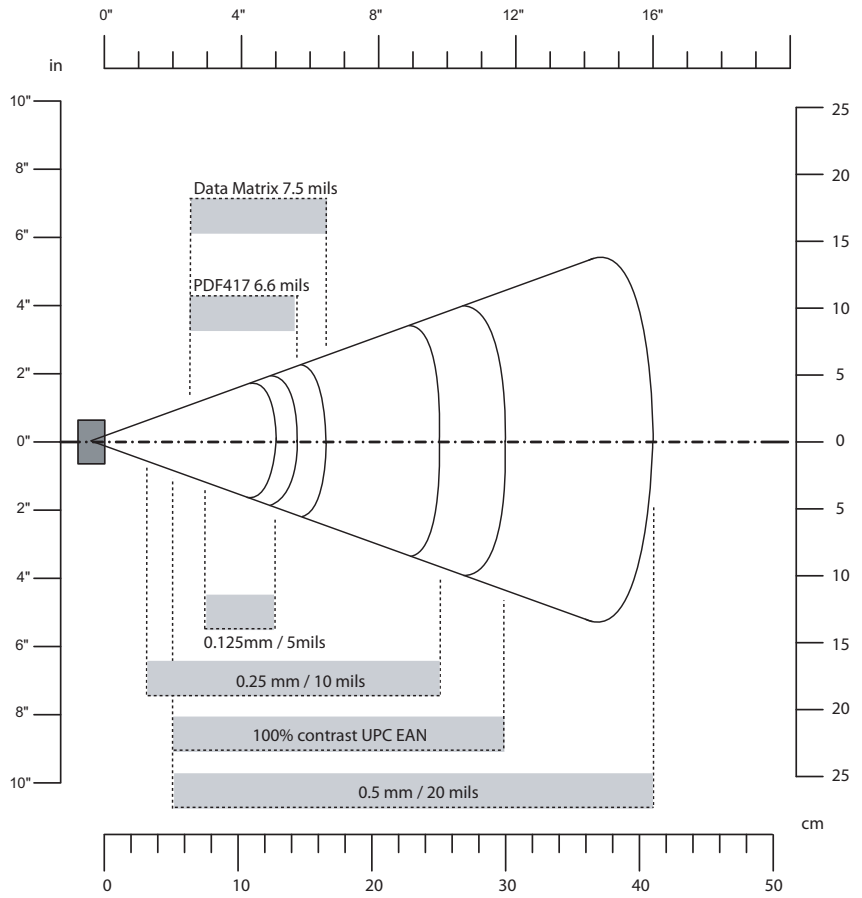
EA11 2D Area Imager Reading Distances

Typical reading distances are done in an office environment using office lights (4 lux). Minimum distances are measured in the dark (0 lux). When correctly mounted, and exit window reduces reading distances by about 4% for all scan engines. Both reading distances are provided in respective scan engine integration guides. Contact your local Intermec representative for more information.

EA11 Minimum Reading Distances

Symbology	Density	Minimum Distance	Maximum Distance
Code 39	0.125 mm (5 mil)	7.26 cm (2.86 in)	12.09 cm (4.76 in)
	0.20 mm (8 mil)	3.96 cm (1.56 in)	20.98 cm (8.26 in)
	0.25 mm (10 mil)	3.45 cm (1.36 in)	25.04 cm (9.86 in)
	0.50 mm (20 mil)	4.98 cm (1.96 in)	40.28 cm (15.86 in)
UPC/EAN	0.33 mm (13 mils)	4.98 cm (1.96 in)	29.62 cm (11.66 in)
Data Matrix	0.191 mm (7.5 mils)	3.71 cm (2.46 in)	16.41 cm (6.46 in)
	0.254 mm (10 mils)	5.98 cm (2.35 in)	20.73 cm (8.16 in)
	0.381 mm (15 mils)	*	27.58 cm (10.86 in)
PDF417	0.168 mm (6.6 mils)	6.25 cm (2.46 in)	13.87 cm (5.46 in)
	0.254 mm (10 mils)	4.47 cm (1.76 in)	21.74 cm (8.56 in)
	0.381 mm (15 mils)	4.98 cm (1.96 in)	33.43 cm (13.16 in)

Minimum distance depends on symbology length and scan angle.



EA11 Minimum Reading Distances

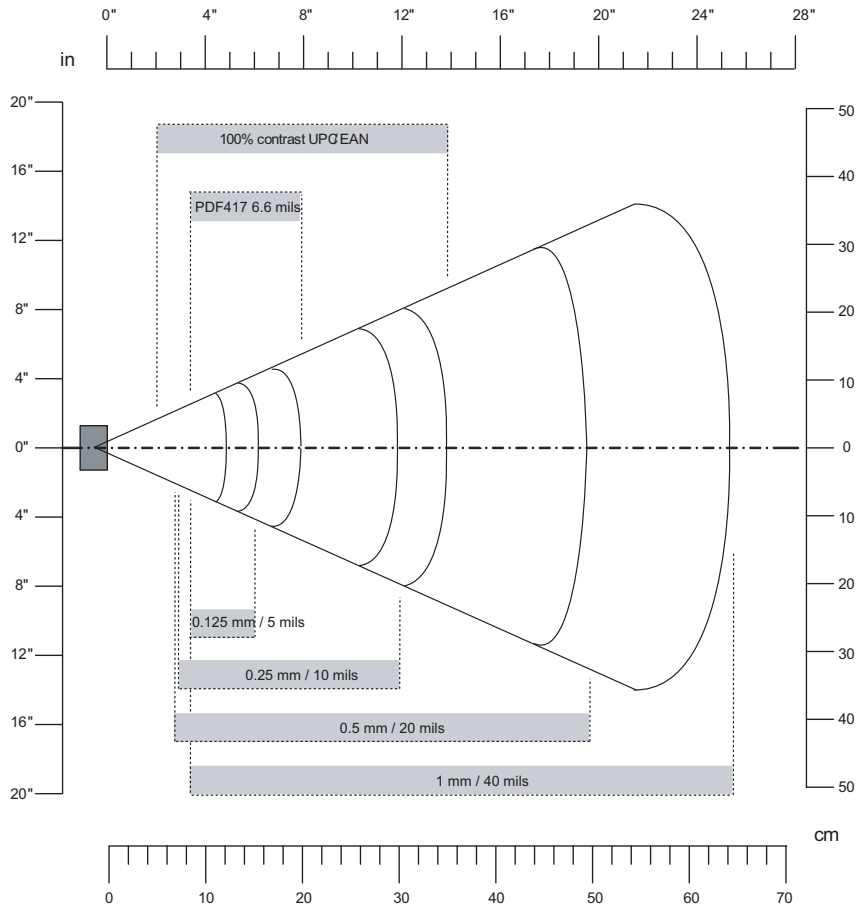
EL10 Scan Engine Reading Distances

Typical reading distances are done in an office environment (200 lux). Minimum reading distances are measured in the dark (0 lux). When correctly mounted, and exit window reduces reading distances by about 4% for all scan engines. Both reading distances are provided in respective scan engine integration guides. Contact your local Intermec representative for more information.

EL10 Minimum Reading Distances

Symbology	Density	Minimum Distance	Maximum Distance
Code 39	0.1 mm (4 mils)	9 cm (3.6 in)	12 cm (4.7 in)
	0.125 mm (5 mils)	8.5 cm (3.3 in)	15 cm (5.9 in)
	0.25 mm (10 mils)	7.5 cm (3 in)	30 cm (11.8 in)
	0.5 mm (20 mils)	7 cm (2.8 in)	50 cm (20 in)
	1 mm (40 mils)	8.5 cm (3.3 in)	64 cm (25.2 in)
UPC/EAN	0.33 mm (13 mils)	6 cm (2.4 in)	35 cm (13.8 in)
PDF417	0.17 mm (6.6 mils)	8.5 cm (3.3 in)	20 cm (7.9 in)

Minimum distance depends on symbology length and scan angle.



EL10 Minimum Reading Distances

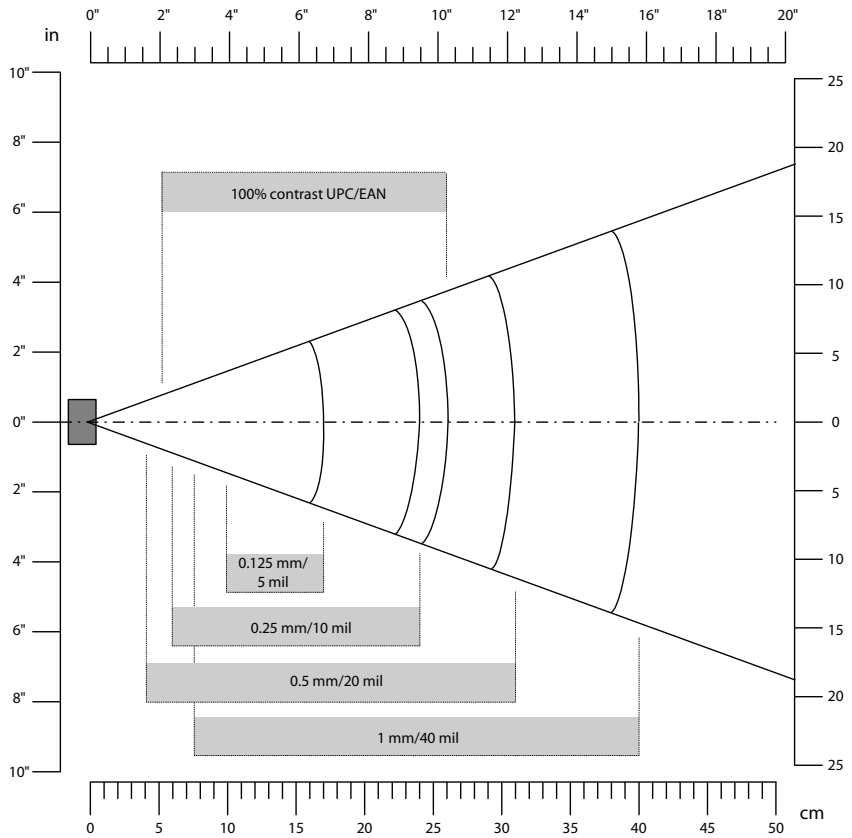
EV10 Scan Engine Reading Distances

Typical reading distances are done in an office environment (200 lux). Minimum reading distances are measured in the dark (0 lux). When correctly mounted, and exit window reduces reading distances by about 4% for all scan engines. Both reading distances are provided in respective scan engine integration guides. Contact your local Intermec representative for more information.

EV10 Minimum Reading Distances

Symbology	Bar Code Content	Density	Minimum Distance	Maximum Distance
Code 39	RESO 0.100 MM	.1 mm (4 mil)	11 cm (4.3 in)	14 cm (5.5 in)
	R 0.125 MM	.125 mm (5 mil)	10 cm (3.9 in)	17 cm(6.7 in)
	0.25	.25 mm (10 mil)	6 cm (2.4 in)	24 cm (9.4 in)
	.5	.5 mm (20 mil)	4 cm (1.6 in)	31 cm (12.2 in)
	RIMM	1 mm (40 mil)	7.5 cm (3 in)	40 cm (15.7 in)
UPC/EAN	1200100010100	.33 mm (13 mil)	5.2 cm (2 in)	26 cm (10.2 in)
PDF417	10 mil	.254 mm (10 mil)	10 cm (3.9 in)	17 cm (6.7 in)
	15 mil	.381 mm (15 mil)	8 cm (3.1 in)	19 cm (7.5 in)

Minimum distance depends on symbology length and scan angle.



EV10 Minimum Reading Distances

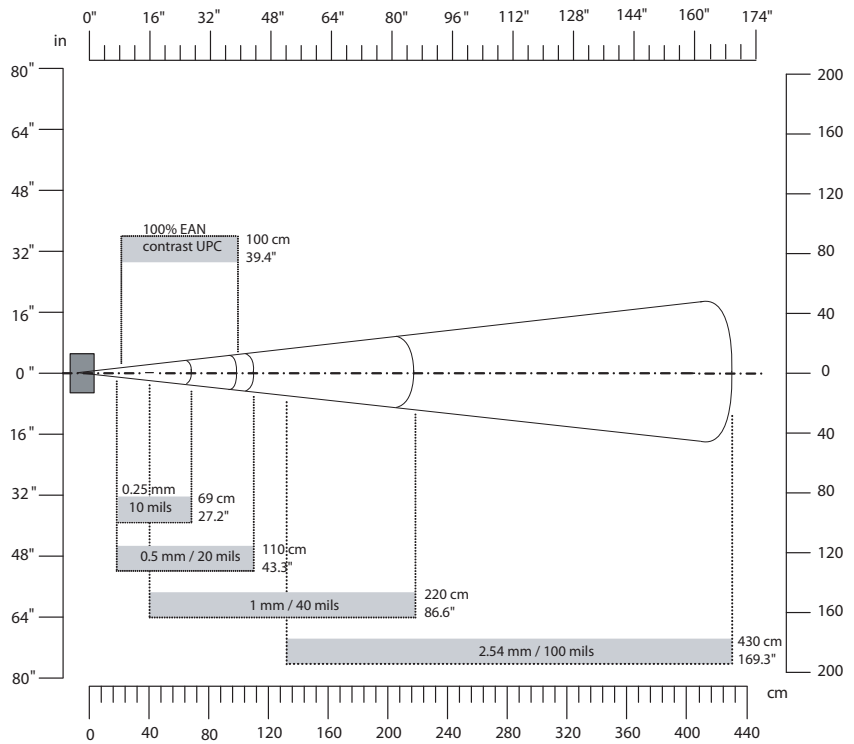
EX25 Near-Far Range Area Imager Reading Distances

Typical reading distances are done in an office environment (200 lux). Minimum reading distances are measured in the dark (0 lux). When correctly mounted, and exit window reduces reading distances by about 4% for all scan engines. Both reading distances are provided in respective scan engine integration guides. Contact your local Intermecc representative for more information.

EX25 Minimum Reading Distances for 1D Symbologies

Symbology	Density	Minimum Distance	Maximum Distance
Code 39	0.1 mm (3.8 mils)	18 cm (7.09 in)	32 cm (12.60 in)
	0.25 mm (10 mils)	18 cm (7.09 in)	69 cm (27.16 in)
	0.5 mm (20 mils)	19 cm (7.48 in)	110 cm (43.31 in)
	1 mm (40 mils)	40 cm (15.75 in)	220 cm (86.61 in)
	1.3 mm (51 mils)	100 cm (39.37 in)	310 cm (122.95 in)
	2.5 mm (100 mils)	130 cm (51.18 in)	430 cm (169.29 in)
UPC/EAN	0.33 mm	22 cm (7.87 in)	100 cm (39.37 in)

Minimum distance depends on symbology length and scan angle.



EX25 Minimum Reading Distances for 1D Symbologies

Accessories

You can use the following accessories with the CK61. To order these accessories, contact your local Intermec representative.

AC4 Quad Battery Charger

Use the quad battery charger to charge up to four CK61 battery packs, and provides power and Ethernet connections to each CK61.

AD3 Ethernet Multidock

Use the AD3 Ethernet Multidock to hold up to four CK61s with a batteries installed. The multidock charges the batteries, provides power to the CK61s, provides one Ethernet connector, and provides a serial port for each inserted CK60.

AD5 Single Dock

Use the AD5 Single Dock to hold a CK61 with its battery installed. The single dock charges the battery, provides power to the CK61, an Ethernet connector, a USB port, an ActiveSync USB port, and a serial port for the inserted CK61.

AD6 Single Dock with Modem

Use the vehicle dock to hold and charge the CK61 while using it on a vehicle.

CK61 Holster and Belt

Use the holster and belt to carry your CK61. The holster and belt support either right- or left-handed use and you can use it to carry a CK61 with or without a handle. You can only use this with a CK61 that has either the 1D linear imager or the 2D imager.

CK61 Power Adapter, USB Adapter, and Snap-On Adapters

Provides power to all of the docks and chargers.

B

Keypads and Keystrokes

Standard Characters

Use the following tables to learn how to enter standard characters with the CK61 keypads.


















Standard Key Characters

Character	Alphanumeric Keypad
a	[A]
b	[B]
c	[C]
d	[D]
e	[E]
f	[F]
g	[G]
h	[H]
i	[I]
j	[J]
k	[K]
l	[L]
m	[M]
n	[N]
o	[O]
p	[P]
q	[Q]
r	[R]
s	[S]
t	[T]
u	[U]
v	[V]
w	[W]
x	[X]
y	[Y]
z	[Z]






















Standard Key Characters (continued)

Character	Alphanumeric Keypad
Shift	[Shift]
Esc	[Esc]
Space	[Space]
Enter	[Enter]
A	[Shift] [A]
B	[Shift] [B]
C	[Shift] [C]
D	[Shift] [D]
E	[Shift] [E]
F	[Shift] [F]
G	[Shift] [G]
H	[Shift] [H]
I	[Shift] [I]
J	[Shift] [J]
K	[Shift] [K]
L	[Shift] [L]
M	[Shift] [M]
N	[Shift] [N]
O	[Shift] [O]
P	[Shift] [P]
Q	[Shift] [Q]
R	[Shift] [R]
S	[Shift] [S]
T	[Shift] [T]
U	[Shift] [U]
V	[Shift] [V]
W	[Shift] [W]
X	[Shift] [X]
Y	[Shift] [Y]
Z	[Shift] [Z]
0 - 9	[0 - 9]

Standard Key Characters (continued)

Character	Alphanumeric Keypad
)	[Shift] [0]
!	[Shift] [1]
@	[Shift] [2]
#	[Shift] [3]
\$	[Shift] [4]
%	[Shift] [5]
^	[Shift] [6]
&	[Shift] [7]
*	[Shift] [8]
([Shift] [9]
F1	[F1]
F2	[F2]
F3	[F3]
F4	[F4]
F5	 [F1]
F6	 [F2]
F7	 [F3]
F8	 [F4]
F9	 [A]
F10	 [B]
F11	 [C]
F12	 [D]
F13	 [E]
F14	 [F]
F15	 [G]
F16	 [H]
F17	 [I]
F18	 [J]
F19	 [K]
F20	 [L]
F21	 [M]

Standard Key Characters (continued)

Character	Alphanumeric Keypad
F22	 [N]
F23	 [O]
F24	 [P]
,	 [V]
<	 [W]
>	 [X]
/	 [Y]
\	 [Z]
]	 [0]
+	 [1]
-	 [2]
	 [3]
_	 [4]
=	 [5]
‘	 [6]
Ins	 [7]
Home	 [8]
[ [9]
Del	 [Ctrl]
.	 [←]
Caps	 [Space]

Appendix B – Keypads and Keystrokes



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Worldwide Headquarters
6001 36th Avenue West
Everett, Washington 98203
U.S.A.

tel 425.348.2600

fax 425.355.9551

www.intermec.com

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