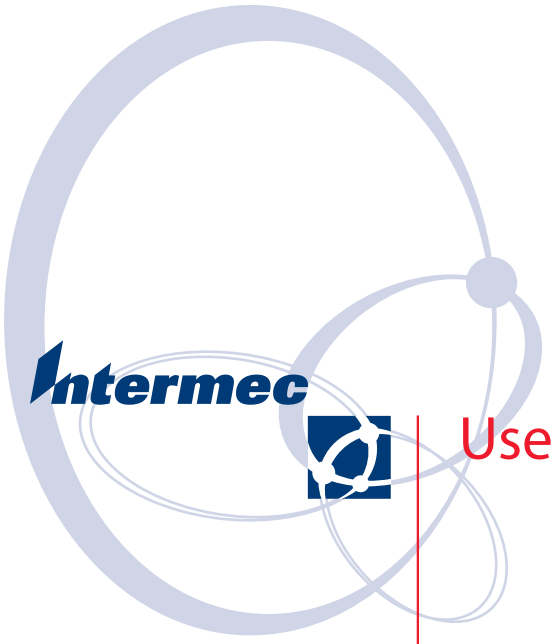
Intermec

User's Manual

CK32 I-Safe Handheld Computer



User's Manual

CK32 I-Safe Handheld Computer

Intermec Technologies Corporation

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Contents

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 dangers, warnings, cautions, and notes that are in this document. You may also see icons that tell you when to follow ESD procedures and when to take special precautions for handling optical parts.

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.

- **The Intermec Models CK32 I-Safe, AB6 Battery Pack, AN1 Communications Adapter, and AC11 Battery Charger contain no user serviceable components. Return these models ONLY to Intermec Authorized Service Centers for Repair. Intrinsic Safety Certifications and Warranties will be void if these models are opened or serviced at locations not certified by Intermec.**
- **Only Intermec provided spare parts should be used in the repair of the CK32 I-Safe and accessory products.**
- **Immediately remove from service any product that exhibits physical damage.**
- **Wired connections to the CK32 I-Safe must only be made through a model AN1 Communications Adapter.**
- **Verify that the CK32 I-Safe is appropriately rated for your hazardous location before use. Consult your Safety Department for assistance.**
- **Use of any accessories not supplied and approved by Intermec could compromise safety.**

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 **Service & Support** > **Warranty**.

Web Support

Visit the Intermec web site at **www.intermec.com** to download our current manuals (in PDF). To order printed versions of the Intermec manuals, contact your local Intermec representative or distributor.

Visit the Intermec technical knowledge base (Knowledge Central) at **intermec.custhelp.com** to review technical information or to request technical support for your Intermec product.

Telephone Support

These services are available from Intermec.

Services	Description	In the USA and Canada call 1-800-755-5505 and choose this option
Order Intermec products	• Place an order. • Ask about an existing order.	1 and then choose 2
Order Intermec media	Order printer labels and ribbons.	1 and then choose 1
Order spare parts	Order spare parts.	1 or 2 and then choose 4
Technical Support	Talk to technical support about your Intermec product.	2 and then choose 2
Service	• Get a return authorization number for authorized service center repair. • Request an on-site repair technician.	2 and then choose 1
Service contracts	• Ask about an existing contract. • Renew a contract. • Inquire about repair billing or other service invoicing questions.	1 or 2 and then choose 3

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

Who Should Read This Manual

The *CK32 I-Safe Handheld Computer User's Manual* is for the person who is responsible for installing, configuring, and maintaining the CK32 I-Safe.

Before you work with the CK32 I-Safe, you should be familiar with your network and general networking terms, such as IP address.

Related Documents

The Intermec web site at **www.intermec.com** contains our documents (in PDF) that you can download for free.

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

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Microsoft, Windows, and the Windows logo are registered trademarks of Microsoft Corporation in the United States and/or other countries.

Bluetooth is a trademark of Bluetooth SIG, Inc., U.S.A.

Wi-Fi is a registered certification mark of the Wi-Fi Alliance.

This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit. (http://www.openssl.org/)

This product includes cryptographic software written by Eric Young. (eay@cryptsoft.com)

This product uses Regex++, Index software during its operational phases. The owner of Regex++ has granted use of the software to anyone provided such use is accompanied by the following copyright and permission notice:

Regex++, Index. (Version 3.31, 16th Dec. 2001)

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Patent Information

This product is covered by one or more of the following US Patents and corresponding international patents worldwide:

4894523, 4953113, 4961043, 4970379, 4988852, 5019699, 5021642, 5038024, 5081343, 5095197, 5144119, 5144121, 5182441, 5187355, 5187356, 5195183, 5216233, 5216550, 5195183, 5195183, 5218191, 5227614, 5233172, 5241488, 5243602, 5258606, 5278487, 5288985, 5308966, 5322991, 5331136, 5331580, 5342210, 5349678, 5359185, 5371858, 5373478, 5389770, 5397885, 5410141, 5414251, 5416463, 5442167, 5464972, 5468947, 5468950, 5477044, 5486689, 5488575, 5500516, 5502297, 5504367, 5508599, 5514858, 5530619, 5534684, 5536924, 5539191, 5541419, 5548108, 5550362, 5550364, 5565669, 5567925, 5568645, 5572007, 5576529, 5592512, 5594230, 5598007, 5608578, 5616909, 5619027, 5627360, 5640001, 5657317, 5659431, 5671436, 5672860, 5684290, 5719678, 5729003, 5742041, 5761219, 5764798, 5777308, 5777309, 5777310, 5786583, 5793604, 5798509, 5798513, 5804805, 5805807, 5811776, 5811777, 5818027, 5821523, 5828052, 5831819, 5834753, 5834749, 5837987, 5841121, 5842070, 5844222, 5854478, 5862267, 5869840, 5873070, 5877486, 5878395, 5883492, 5883493, 5886338, 5889386, 5892971, 5895906, 5898162, 5902987, 5902988, 5912452, 5923022, 5936224, 5949056, 5969321, 5969326, 5969328, 5979768, 5986435, 5987192, 5987499, 5992750, 6003775, 6012640, 6016960, 6018597, 6024289, 6034379, 6859190, 6064763, 6075340, 6095422, 6097839, 6102289, 6102295, 6109528, 6119941, 6128414, 6138915, 6149061, 6149063, 6152370, 6155490, 6158661, 6164542, 6164545, 6173893, 6195053, 6234393, 6234395, 6244512, 6249008, 6328214, 6330975, 6345765, 6356949, 6367699, 6375075, 6375076, 6375344, 6431451, 6435411, 6484944, 6488209, 6497368, 6532152, 6538413, 6539422, 6621942, 6641046, 6681994, 6687403, 6688523, 6732930, 6036093, 6039252, 6889903, 6967280, 7027037, 7035466, 7090137, 7121467

There may be other U.S. and foreign patents pending.

1 Using the CK32 I-Safe Handheld Computer

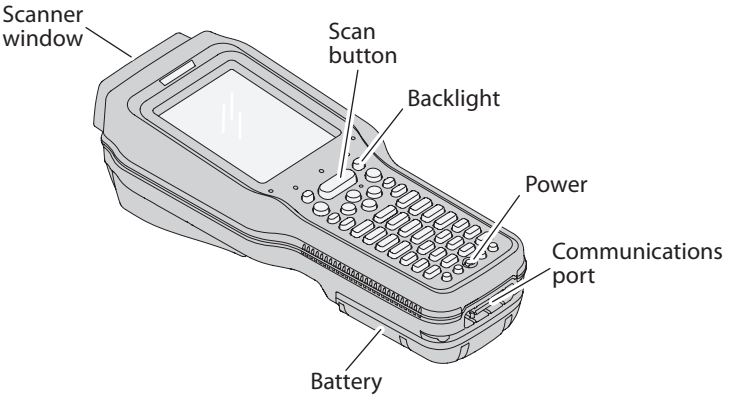
Use this chapter to familiarize yourself with the CK32 I-Safe Handheld Computer. In this chapter you will find these sections:

- Introducing the CK32 I-Safe Handheld Computer
- Using the Battery
- Using the Keypad
- Understanding the Status Lights
- Using the Touch Screen
- About the Audio System
- Understanding the Audio Feedback
- Scanning Bar Codes

Introducing the CK32 I-Safe Handheld Computer

The Intermec CK32 I-Safe is an ergonomically designed handheld computer built on the Microsoft® Windows® Mobile operating system. It is a easy-to-use, reliable computer that runs client/server and browser-based applications and is certified to be intrinsically safe.

The CK32 I-Safe is designed to support world-wide intrinsic safety standards and comply with relevant European Directives. Testing and certification requires meeting the standards of Underwriters Laboratories, ATEX directives in Europe and IEC standards in the rest of the world.



CK32 I-Safe Handheld Computer

CK32 I-Safe Handheld Computers with an IEEE 802.11b/g radio installed are Wi-Fi® certified for interoperability with other 802.11b/g wireless LAN devices.

The CK32 I-Safe includes these features:

- PXA270 Intel Processor
- Windows Mobile 5.0 Operating System
- Voice over IP support. User responsible for software integration.
- Bluetooth support for scanner, RFID, Voice
- 128 MB DRAM, 64 MB Flash
- 512 MB embedded SD Mass Storage Card
- Intrinsic safety certification for North America, Europe and countries accepting IECEx Scheme
- European directive compliance

These options are available for the CK32 I-Safe:

- TE 2000 terminal emulation application including 3270, 5250, and VT/ANSI as well as support for third-party TE applications
- Data Collection Browser (dcBrowser™) application

Use this manual to understand how to use the features and options available on the CK32 I-Safe. For additional help using terminal emulation, see the *TE 2000 Terminal Emulation Programmer's Guide* (P/N 977-055-xxx).

For additional help using dcBrowser, see the documentation that ships with the dcBrowser gateway software or the *Data Collection Browser Client User's Guide* (P/N 070-011-xxx).

iBrowse is a locked-down web browser for Intermec devices that is compatible with Microsoft's Internet Explorer but does not allow the user to exit the browser or access non-work related web sites. For additional help using iBrowse, see the *iBrowse User's Guide* (P/N 961-055-xxx).

For a complete list of accessories, see **"Accessories" on page 122.**

Using the Battery

The CK32 I-Safe uses a model AB6 (P/N 318-021-xxx) lithium-ion battery as its main power source. You must fully charge the main battery before you can use the CK32 I-Safe. When you change the battery, a backup battery maintains your status, memory, and real-time clock for at least 10 minutes. You must suspend your CK32 I-Safe before removing the battery, or data loss may occur..

If the battery is at a critical level, you may not be able to boot the device. You must replace the battery with a fully charged battery

The lithium-ion battery pack that is 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.

When the battery reaches the end of its useful life, the spent battery should be disposed of by a qualified recycler or hazardous materials handler. Do not mix this battery with the solid waste stream. Contact your Intermec Technologies Service Center for recycling or disposal information.

Note: In the U.S.A., the EPA does not consider spent lithium-ion batteries as hazardous waste.

Charging and Installing the Battery

Make sure you fully charge the AB6 battery before using your CK32 I-Safe.

To charge the battery

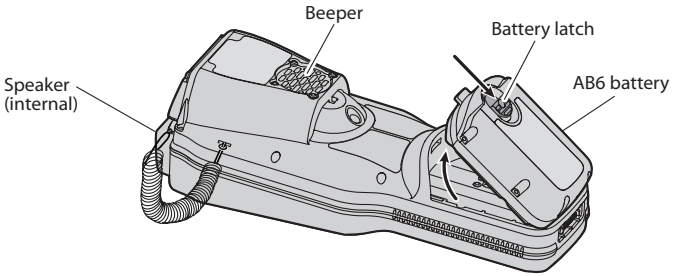
- Insert the battery into the AC11 4-slot battery charger. Charging time is approximately 7 hours.

To install the battery

Caution

You must suspend your CK32 I-Safe before removing the battery, or data loss may occur.

- Insert the tabs on the bottom of the charged battery into the CK32 I-Safe and snap the battery into place.



Inserting the AB6 Battery

Warning

Explosion Hazard – Use Intermec battery pack Model AB6 only. It is rated as Intrinsically Safe but it MUST NOT BE CHANGED while in a Class II or Class III environment. The battery can be changed in a Class 1 (gas) environment.

Maximizing Battery Life

There are several things that you can do to extend the life of your fully charged battery.

- Verify that Radio Power Management is enabled (Fast PSP). Enabling radio power management allows your radio to switch between awake and sleep modes based on network traffic. If you use the default setting of disabled (CAM), you will have the best network performance (data throughput) but it will draw the most power from your battery.
- Verify that the backlight timeout is set to 15 seconds.
- Verify that each setting under Power Management (Device timeout, Screen timeout) has a value of 1 minute.

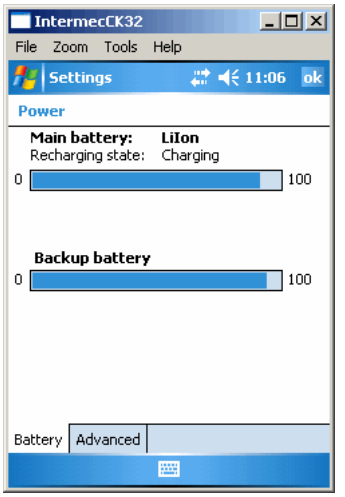
You can use Intermec Settings to easily make all of these configuration changes.

Checking the Battery Status

You can check the battery status by looking at the Battery icon on the front of the CK32 I-Safe or by checking the Power Settings. Tap the Battery icon on the Status bar or use the following procedure to check the Power Settings on your CK32 I-Safe. Either method will take you to the Settings display which indicates the percent of battery charge remaining.

To check the Power Settings

1. Tap **Start**. The Start menu appears.
2. Tap **Settings** > **System**.
3. Tap the **Power** icon. The Power Settings display appears.



Understanding the Low Battery Warnings

When the battery charge is getting low, you will receive an audible alert and an initial pop-up warning message with a blue border. The warning message indicates "Main Battery Low. To prevent possible data loss, replace or recharge your battery according to the owner's manual." A second battery icon with an ! inside also appears on the Status bar.

If the first warning is not dismissed, it is followed by another audible alert and a second pop-up warning message with a red border. This message indicates "Main Battery Very Low. To prevent possible data loss, replace or recharge your battery according to the owner's manual."

If the battery charge continues to drop, the red battery status LED blinks and the CK32 I-Safe enters Suspend mode. If the battery charge continues to drop, the battery status LED will stop blinking

You can change the audible alert using the Sounds & Notifications applet.

To change the audible alert

- Tap **Settings** > **Personal** > **Sounds & Notifications**.

Using the Keypad

Your CK32 I-Safe has one of the following keypad overlay options:

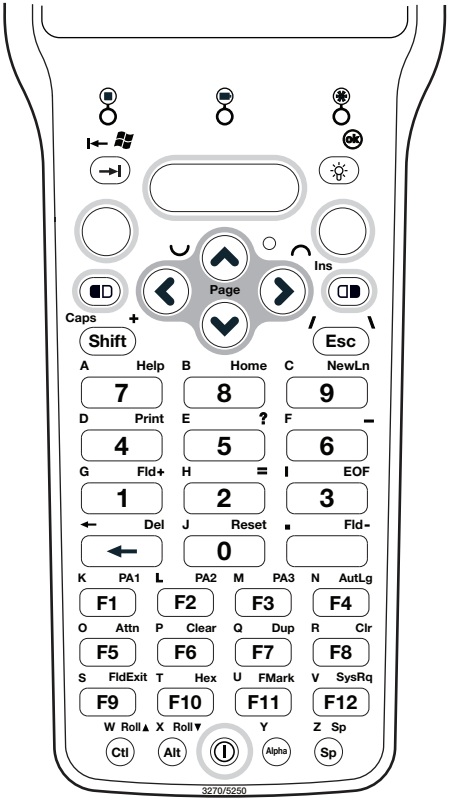
- 42-key large numeric and function
- 56-key full alphanumeric

You enter all of the characters and functions printed above the keys just like you would on a standard keypad.

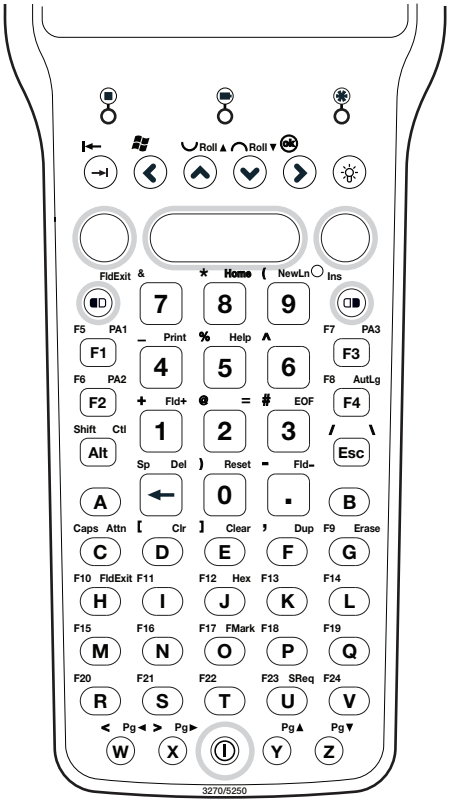
Note: You must use the color-coded keys to access several hidden characters (such as { and }) on the CK32 I-Safe keypad.

The CK32 I-Safe supports TE 2000 VT100/220/320/340 and ANSI, TE 2000 5250, and TE 2000 3270. Use the TE 2000 keypad overlays to enter the same keys that you can enter on a VT/ANSI keyboard, and IBM 5250 keyboard, or an IBM 3270 keyboard. Like the standard CK32 I-Safe overlay, the TE 2000 keypad overlays let you enter all the characters printed on or above the keys. The terminal emulation keypads also come with the same color-coded keys that are on the standard overlay.

For help using TE 2000 terminal emulation, see the *TE 2000 Terminal Emulation Programmer's Guide* (P/N 977-055-xxx).



42-Key Large Numeric and Function Keypad: *This keypad is designed for applications that enter mainly numeric data (0-9) and that need dedicated function keys (F1- F12). This keypad also lets you enter the entire alphabet and special characters by pressing color-coded key sequences.*



56-Key Full Alphanumeric Keypad: *This keypad is designed for applications that enter mainly numeric data (0-9) and that may need to enter the entire alphabet. The keypad also provides function keys (F1-F24) and special characters, symbols, and functions by pressing color-coded key sequences.*

Using the Color-Coded Keys

The keypad of the CK32 I-Safe 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 keys and key sequences, you will know how to access all of the additional features printed on the keypad overlay. There are two color-coded modifier keys on the CK32 I-Safe: the orange ◧ key and the green ◨ key.

You press and release the first key and then press and release the second key to access the color-coded character or function printed above a key.

Capitalizing All Characters

To type all alphabetic characters as uppercase letters, you can enable the Caps Lock feature on the CK32 I-Safe keypad.

To enable Caps Lock

1. Press the orange key. The icon appears on the status bar.
2. To enable Caps Lock and make the Caps Lock icon ( ) appear on the status bar, press a second key:
   - On the 42-key keypad, press **Shift**.
   - On the 56-key keypad, press **A**.
3. Type an alphanumeric character. The letter appears as an uppercase character on the screen.

To disable Caps Lock

- Press the orange key and then press either **Shift** or **A** (depending on your keypad). The Caps Lock icon disappears from the status bar.

Using the Power Button

When you press the **Power** button to turn off the CK32 I-Safe, you actually put the computer in Suspend mode. In Suspend mode, the CK32 I-Safe continues to supply power to all memory, but turns off power to most hardware. Network connectivity for 802.11 is not maintained in Suspend mode but are restored upon resume. This power-saving feature is designed to prolong battery life.

When you press the **Power** button to turn the CK32 I-Safe back on, your computer resumes where it was when you turned it off. If you are using WPA or 802.1x security, the computer may need to reauthenticate before it starts your application.

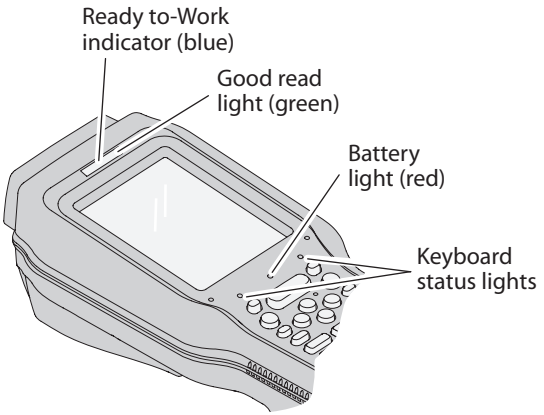
If the Battery light flashes and your CK32 I-Safe does not resume after pressing the **Power** button, your battery may be too low to supply power. Replace the battery. If replacing the battery does not solve the problem, see "Resetting Your Computer" on page 110.

You can also use the **Power** button to reset the CK32 I-Safe. See "Resetting Your Computer:" on page 110 for more information.

Note: Microsoft Windows Mobile supports other power saving modes including Screen Off, Unattend, and Suspend. Refer to Windows Mobile documentation for additional information.

Understanding the Status Lights

The status lights on the CK32 I-Safe turn on to indicate the status of the keyboard, battery, or a successful decode of a bar code.



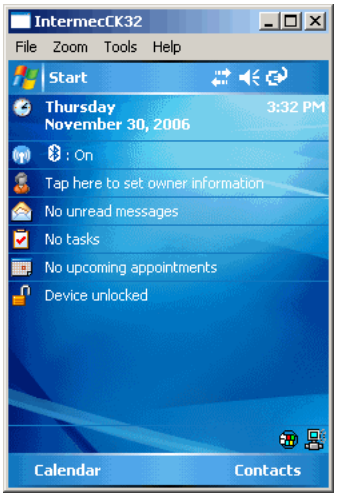
CK32 I-Safe Status Lights

Understanding the CK32 I-Safe Status Lights

Light Name	Description	
Keyboard Status lights	The left keyboard status light indicates the Shift Lock (orange) key is selected. The right keyboard status light indicates the Alpha Lock (green) key is selected.	
Battery	**Light Status**	**What It Means**
	Off	The battery is charged.
	Blinking Red	The battery blinks when the charge is low. Continued use causes the CK32 I-Safe to enter Suspend mode. You may also experience a blinking low battery light when the battery is low and you attempt to take the CK32 I-Safe out of Suspend mode. This is normal and indicates the battery needs to be charged before you use the computer.
Good Read	This green light indicates when the CK32 I-Safe successfully decodes a bar code.	
Ready-to-Work™ indicator	This blue light indicates when the CK32 I-Safe is ready to use in your application, typically TE 2000. If you have problems using TE 2000, see the *TE 2000 Terminal Emulation Programmer's Guide* (P/N 977-055-xxx).	
	Light Status	**What It Means**
	Off	The TE 2000 application has not loaded successfully, or you are not running a Ready-to-Work application.
	Blinking	The CK32 I-Safe is not connected to the host.
	On	A connection to the server has been established and all network connections are active.

Using the Touch Screen

The CK32 I-Safe has a color touch screen display. The screen is 240 x 320 pixels. The desktop is 240 x 300 pixels and the taskbar is 240 x 20 pixels. In addition, the screen supports Unicode characters, user-programmable fonts, and bitmap graphics.



CK32 I-Safe Start Screen

The Start screen has two distinct areas: the desktop and the taskbar.

The desktop displays shortcuts to some of the applications installed on the CK32 I-Safe. The taskbar displays the Start menu icon, the time, the keyboard icon, and the desktop icon.

Using the Stylus

Your CK32 I-Safe has a stylus for selecting items and entering information on the touch screen. Use the stylus in place of a mouse.

Using the Stylus

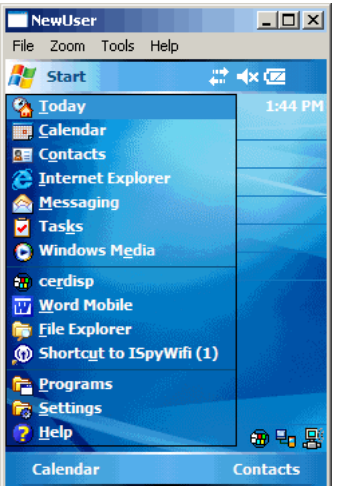
Action	Description
Touch	Touch the screen once with the stylus to select options, launch applications, close applications, or launch menus from the taskbar.
Double-tap	Double-tap the screen with the stylus to launch applications.
Drag	Hold the stylus on the screen and drag across the screen to select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

Aligning the Screen

If the screen does not respond correctly when you tap it with the stylus, you may need to align the screen.

To align the screen

1 Tap the **Start** icon. The Start menu appears.



2 Tap **Settings** > **System**.

3 Tap the **Screen** icon to open the Screen applet and then tap the **Align Screen** button.

About the Audio System

The CK32 I-Safe provides audio paths to support the following third-party applications:

- Interactive VoIP
- Walkie-Talkie
- Digital recording
- AV playback

Understanding the Audio Feedback

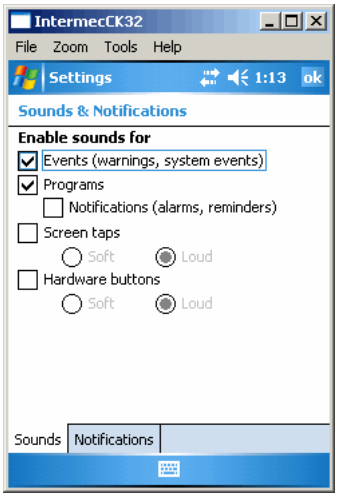
The CK32 I-Safe provide you with audio feedback when it performs some functions. For example, you may hear a beep each time you scan a valid bar code.

You can change the beeper volume for your needs and environment.

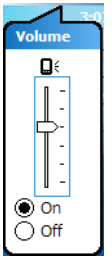
To enable and adjust the beeper volume

1 Tap **Start** > **Settings** > the **Personal** tab > the **Sounds & Notifications** tab > **Sounds** tab.

2 Tap the sounds that you want to enable, then tap **ok** to close the **Sounds** tab.

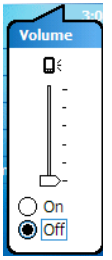


3 Tap the **Volume** icon at the top of the screen, tap **On**, and then move the slider bar to the desired volume level.



To disable the beeper volume

- To disable the beeper, tap the **Volume** icon, then drag the slider to the bottom of the scale, or tap **Off**.



You can also change the beeper volume using the Intermec Setting application or by using the Beeper Volume command as described below.

Additional Ways of Changing the Beeper Volume

Method	Procedure
Use the Intermec Settings application.	Go to **Start** > **Settings** > **System** > **Intermec Settings** > **Device Settings** > **Beeper** > **Volume**. Remember to press **Save** when using Intermec Settings.
Use the Beeper Volume command.	For help, see "Beeper Volume" in the *Intermec Computer Command Reference Manual*.

Scanning Bar Codes

Do not look directly into the window area or at a reflection of the beam while the CK32 I-Safe is scanning. Long-term exposure to the beam can damage your vision.

Use the scanner to scan and enter bar code data. The CK32 I-Safe supports the scanning of 1D linear bar codes.

When you unpack the CK32 I-Safe, these bar code symbologies are enabled:

- Code 39
- Code 128
- PDF417
- UPC-A
- UPC-E
- EAN-8
- EAN-13

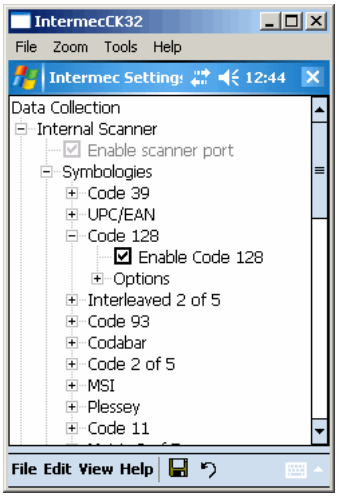
If you are using bar code labels that are encoded in a different symbology, you need to enable the symbology on the CK32 I-Safe. Use Intermec Settings to enable and disable symbologies for your scanner.

Enabling or Disabling Symbologies

Use the following procedure to enable or disable symbologies on your CK32 I-Safe.

To enable or disable symbologies

1. Tap **Start**. The Start menu appears.
2. Tap **Settings** > **System**.
3. Tap the **Intermec Settings** icon. The Intermec Settings application appears.
4. From the Intermec Settings application, go to **Data Collection** > **Internal Scanner** > **Symbologies**.
5. Enable or disable any of the supported symbologies.



6. Tap **File** > **Save Setting** to save your settings.
7. Tap **File** > **Exit** to close Intermec Settings.
8. Scan bar code labels.

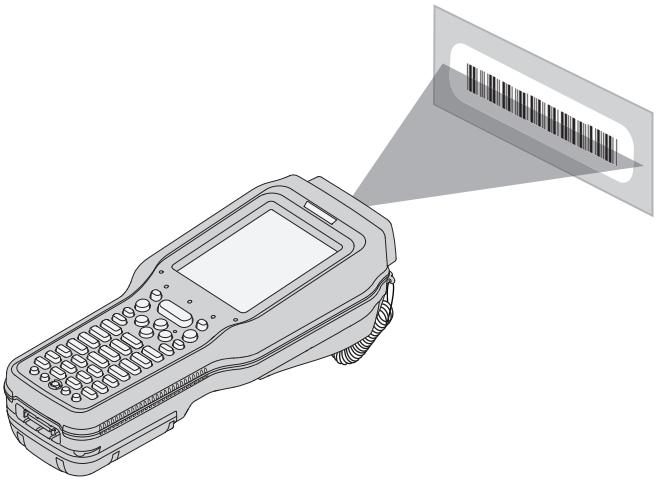
Scanning a Bar Code Label to Verify Scanner Operation

Use the following procedure to practice how to scan a bar code and to verify that your scanner is working correctly.

To scan most bar code labels and verify scanner operation

1. Press the **Power** button to turn on the CK32 I-Safe.
2. Tap **Start** on the navigation bar located at the top of the screen.
3. Tap **Word Mobile** > **New** to open the Word Mobile application and a blank document.
4. Point the scanner window at the bar code label and hold the computer at a slight angle 15 to 25 cm (6 to 10 in) from the label.
5. Press the **Scan** button on the keypad, or pull the trigger on a handle, and direct the red beam so that it falls across all bars in the bar code label.

   The information you scanned appears in the Word Mobile document.



Code 39 Test Bar Code

123456

When the CK32 I-Safe successfully reads a bar code label, you hear a high beep and the green Good Read light turns on briefly.

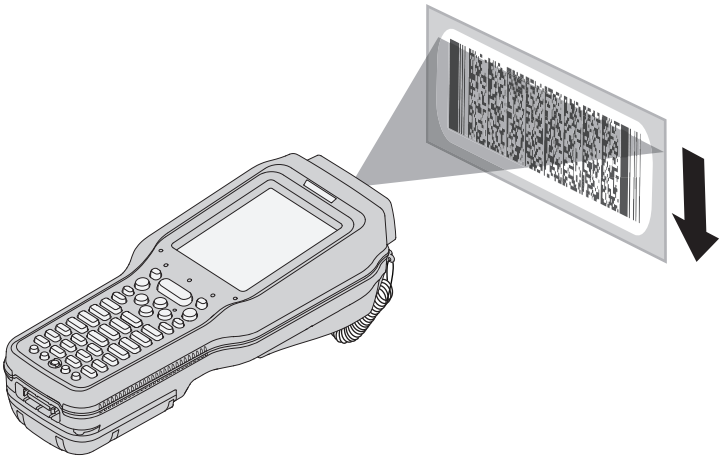
6 Release the **Scan** button.

To scan a PDF417 or Micro PDF417 bar code and verify scanner operation

1 Press the **Power** button to turn on the CK32 I-Safe.

2 Point the scanner window PDF417 or Micro PDF417 bar code label and hold the computer at a slight angle 15 to 25 cm (6 to 10 in) from the label.

3 Press the **Scan** button on the keypad or pull the trigger on a handle, and direct the red beam so that it falls across at the top row of the bar code label.



Scanning a PDF417 or Micro PDF417 Bar Code Label

Use this test bar code:

PDF417 Test Bar Code

123456789abcdefg

4 Move the beam down all rows of the bar code label. The CK32 clicks as it reads each row.

5 The CK32 I-Safe emits a high beep and the green Good Read light turns on briefly when the CK32 I-Safe successfully reads the entire bar code label.

You may need to continue moving the beam from the bottom of the bar code label to the top, and back to the bottom, until you hear the high beep.

6 Release the Scan button.

2 Understanding Windows Mobile

This chapter introduces Microsoft Windows Mobile 5.0 for Pocket PC. In this chapter you will find these sections:

- Understanding Windows Mobile
- Using Microsoft ActiveSync
- Using Internet Explorer Mobile

Understanding Windows Mobile

This chapter introduces Microsoft Windows Mobile 5.0. While using your CK32 I-Safe, keep these key points in mind:

- Tap **Start** on the navigation bar, located at the top of the screen, to quickly move to programs, files, and settings. Use the command bar at the bottom of the screen to perform tasks in programs. The command bar includes menus, icons, and the onscreen keyboard.
- Tap and hold an item to see a pop-up menu containing a list of actions you can perform. Pop-up menus give you quick and easy access to the most common actions.

Tap **Start** > **Help**, then select a topic on your CK32 I-Safe to find additional information on Windows Mobile components.

Microsoft Windows Mobile contains these standard companion programs:

- Word Mobile
- Excel Mobile
- PowerPoint Mobile

Finding Information in Windows Mobile

This chapter describes your CK32 I-Safe hardware, provides an overview of the programs on your CK32 I-Safe, and explains how to connect your CK32 I-Safe to a desktop, a network, or the Internet. Use the following table to understand more about the CK32 I-Safe.

Finding Information in Windows Mobile

For Information on:	See this Source:
Programs on the CK32 I-Safe.	This chapter and the CK32 I-Safe Help. To view Help, tap **Start** > **Help** and then select a topic.
Additional programs you can install on the CK32 I-Safe.	The Windows Mobile CD.

Finding Information in Windows Mobile (continued)

For Information on:	See this Source:
Connecting to and synchronizing with a PC.	The ActiveSync Help on your desktop. To view Help, click **Help** > **Microsoft ActiveSync Help**.
Last minute updates and detailed technical information.	The readme files located in the Microsoft ActiveSync folder on the desktop and on the Windows Mobile CD.
Up-to-date information on Windows Mobile.	**www.microsoft.com/windowsmobile/**

Windows Mobile and many of the technologies supported by the CK32 I-Safe are not from Intermec Technologies. Many of the utilities and features on a Windows Mobile device come directly from Microsoft without any modification from Intermec Technologies. There may be certain Microsoft-specific issues that Intermec Technologies would not be able to support, so contact our front-line support personnel to determine the best source of assistance.

Use these URLs for additional information about Microsoft Windows Mobile (Pocket PC):

- **msdn.microsoft.com/support/**
- **support.microsoft.com/**
- **news.microsoft.com**

Learning the Basic Skills

Learning to use the CK32 I-Safe is easy. This section describes the basic concepts of using and customizing your CK32 I-Safe Computer.

Using the Today Screen

When you turn on your CK32 I-Safe for the first time each day, you see the Today screen. You can also display it by tapping the **Start** icon at the top left of your display and then **Today**. On the Today screen, you can see important information for the day.

To customize what displays on the Today screen

- Tap **Start** > **Settings** > the **Personal** tab > **Today**.

Status icons display information such as when the CK32 I-Safe is connected to the network or to the Internet. You can tap an icon to open the associated setting or program.

Accessing Programs

You can switch from one program to another by selecting it from the **Start** menu.

To access programs

- Tap **Start** > **Programs** and then the program name.

The following is a partial list of programs that are on your CK32 I-Safe, in the order they appear in the Start menu. Look on the Windows Mobile CD for additional programs that you can install onto your CK32 I-Safe.

- Calendar
- Contacts
- Internet Explorer
- Messaging
- Windows Media

Closing an Application

Tapping the OK at the upper right of the application display does not mean that the application is closed. To make sure that an application is properly closed you need to verify that the memory used by the application is released.

To release memory

- Tap **Start** > **Settings** > **System** > **Memory** > **Running Programs.** **Select the application you want to close and tap Stop**.

Using the Navigation Bar and the Command Bar

The navigation bar is located at the top of the screen. It displays the active program and current time, and allows you to switch to programs and close screens.

Windows Mobile Navigation Bar

The command bar is located at the bottom of the screen. Use the command bar to perform tasks in programs. The command bar includes menu names, functions, and the Input Panel icon when needed.

Windows Mobile Command Bar

Using Pop-Up Menus

Use pop-up menus to quickly perform an action on an item. For example, you can use a pop-up menu to delete or make a copy of an item. To access a pop-up menu, tap and hold the item on which you want to perform the action. When the menu appears, tap the action you want to perform, or tap anywhere outside the menu to close the menu without performing the action.

Entering Information

You can enter information on your CK32 I-Safe in several ways depending on the program you are using:

Understanding the Ways to Enter Information

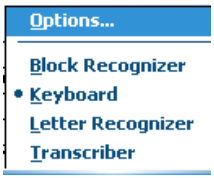
Enter Information By:	Description
Synchronizing	Use Microsoft ActiveSync to synchronize or copy information between your desktop PC and the CK32 I-Safe. For more information on ActiveSync, see *ActiveSync Help* on your desktop PC. Intermec recommends using ActiveSync version 4.1 or later with Windows Mobile devices. You can download the latest version of ActiveSync on the Microsoft web site.
Typing	Enter typed text into the CK32 I-Safe by tapping keys on the onscreen keyboard or by using the handwriting recognition software.
Writing	Use the stylus to write directly on the screen.
Drawing	Use the stylus to draw directly on the screen.
Recording	Create a stand-alone recording or embed a recording into a document or note.

Use the input panel to enter information in any program on your CK32 I-Safe Computer. You can either type using the onscreen keyboard or write using **Block Recognizer**, **Letter Recognizer**, or **Transcriber**. In either case, the characters appear as typed text on the screen.

To show or hide the input panel

1 Tap the **Input Panel** icon.

2 Tap the arrow next to the **Input Panel** icon to see your choices.



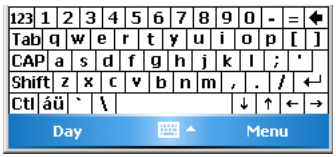
When you use the input panel, your CK32 I-Safe Computer anticipates the word you are typing or writing and displays it above the input panel. When you tap the displayed word, it is inserted into your text at the insertion point. The more you use the CK32 I-Safe, the more it learns to anticipate.

To change word suggestion options, such as the number of words suggested at one time, tap **Start** > **Settings** > the **Personal** tab > **Input** > the **Word Completion** tab.

Typing With the Onscreen Keyboard

Tap the input panel arrow, then tap **Keyboard**. On the soft keyboard that is displayed, tap the keys with your stylus.

- To type lowercase letters, tap the keys with the stylus.
- To type a single uppercase letter or symbol, tap the **Shift** key. To tap multiple uppercase letters or symbols, tap the **CAP** key.
- To convert a letter to uppercase, tap and hold the stylus on the letter and drag up.
- To add a space, drag the stylus to the right across at least two keys.
- To backspace one character, drag the stylus to the left across at least two keys.
- To insert a carriage return, tap and hold the stylus anywhere on the keyboard and drag down.



To use larger keys

1. Tap the input panel arrow.
2. Select **Options**.
3. Select the **Large keys** radio button.

Using Block Recognizer

Character recognition software gives you a fast and easy method for entering information in any program on the CK32 I-Safe. Letters, numbers, and punctuation you write are translated into typed text.

To use Block Recognizer

1. Tap the input panel arrow and then tap **Block Recognizer**.
2. Write a letter in the box. It converts to typed text that appears on the screen.

For help using Block Recognizer, tap the question mark next to the writing area.

Using Letter Recognizer

With Letter Recognizer, you can write letters using the stylus just as you would on paper.

To use Letter Recognizer

1. Tap the input panel arrow and then tap **Letter Recognizer**.
2. Write a letter in the box. It converts to typed text that appears on the screen.

For help using Letter Recognizer, tap the question mark next to the writing area.

Using Transcriber

With Transcriber, you can write anywhere on the screen using the stylus block just as you would on paper. Unlike Letter Recognizer and Clock Recognizer, you can write an entire sentence of information.

To use Transcriber

1. Tap the input panel arrow and then tap **Transcriber**.
2. Tap **ok**.

3 Write anywhere on the screen. Pause and let Transcriber change the written characters to typed characters.

For help using Transcriber, tap the question mark in the lower right-hand corner of the screen.

Selecting Typed Text

If you want to edit or format typed text, you must select it first. Drag the stylus across the text you want to select. You can cut, copy, and paste text by tapping and holding the selected words and then tapping an editing command on the pop-up menu or by tapping the command under **Menu**.

Writing on the Screen

In any program that accepts writing, such as the Notes program, you can use your stylus to write directly on the screen. Write the way you do on paper. You can edit and format what you have written and convert the information to text in the future.

To convert the writing to text

- Select **Menu** > **Tools** > **Recognize**. Your writing is converted to text.

Finding and Organizing Information

You can use File Explorer to find files on your CK32 I-Safe and organize these files into folders.

To open File Explorer

- Select **Start** > **Programs** > **File Explorer**.

Customizing the CK32 I-Safe

You can customize the CK32 I-Safe by adjusting settings and installing additional software.

Adjusting Settings

You can adjust CK32 I-Safe settings for your environment.

To view the Settings options

- Select **Start** > **Settings** > either the **Personal** tab, the **System** tab, or the Connections tab.

Example of the Personal Tab

Adjustable Settings on the CK32 I-Safe

Setting	Why Adjust It?
Buttons	To associate a program with a button or customize the way your Up/Down control repeats.
Input	To select and customize the input method you want to use (Keyboard, Block Recognizer, Letter Recognizer, or Transcriber).
Lock	To limit access to the CK32 I-Safe.
Menus	To customize what appears on the Start menu. Only 7 programs can appear on the Start menu.
Owner Information	To enter your contact information.
Sounds & Notifications	To Enable or Disable sounds for events, programs, or notifications.
Today	To select items to appear on the Today screen. You can also change the appearance of your desktop.

Adding or Removing Programs

Programs added to your CK32 I-Safe at the factory are stored in Read Only Memory (ROM). You cannot remove this software. All other programs and files added to the CK32 I-Safe after factory installation are stored in Random Access Memory (RAM).

You can install any program created for the CK32 I-Safe, as long as the computer has enough memory available. Go to the Windows Mobile web site (www.microsoft.com/windowsmobile/resources/communities/default.mspx) to find software.

Using Microsoft ActiveSync

Use Microsoft ActiveSync to synchronize the information on your desktop with the information on the CK32 I-Safe. Synchronization compares the data on the CK32 I-Safe with your 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 CK32 I-Safe and the desktop.
- Back up and restore the CK32 I-Safe data.
- Control when synchronization occurs by selecting a synchronization mode.
- Select which information types are synchronized and control how much data is synchronized.

Note: Intermec recommends using ActiveSync version 4.1 or later with Windows Mobile devices. You can download the latest version of ActiveSync on the Microsoft web site.

To install ActiveSync

1. Connect the CK32 I-Safe to your desktop PC using the AN1 Communications Adapter (P/N 872-223-xxx).
2. Install ActiveSync on your desktop. ActiveSync is available from the Windows Mobile CD or from the Microsoft web site. ActiveSync is already installed on the CK32 I-Safe.

After installation, ActiveSync automatically launches the ActiveSync Setup Wizard.

3 Follow the screens of the ActiveSync to complete the synchronization process. The wizard helps you connect to the CK32 I-Safe, set up a partnership for synchronization, and customizes synchronization settings.

   The synchronization process automatically begins when you finish the wizard.

4 Disconnect the CK32 I-Safe from your desktop PC.

Once you have set up ActiveSync and completed the first synchronization process, you can initiate synchronization from your CK32 I-Safe.

To start ActiveSync on your CK32 I-Safe

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

For more information about ActiveSync on the CK32 I-Safe, switch to ActiveSync, tap **Start** > **Help**, and then select a topic.

Using Internet Explorer Mobile

You can use Internet Explorer Mobile to run web-based applications, and view pages downloaded to the CK32 I-Safe. You can also connect to the internet through an ISP or a network connection.

You can make connections using a modem, a wireless network, or Ethernet. You can use a modem connection to set up connections with an external modem.

To use Internet Explorer

1. Set up a connection to your ISP or corporate network by going to **Start** > **Settings** > **Connections** > and tap the **Connections icon**. Use the Connections Help to understand the process you need to go through to set up a connection.
2. Tap **Start** > **Internet Explorer**. The default page that appears when you open Internet Explorer contains links to Intermec-specific information and to the Windows Mobile web site.

Default Internet Explorer Web Page

3 Configuring the CK32 I-Safe

Use this chapter to understand how to configure the CK32 I-Safe to communicate in your network. In this chapter, you will find these sections:

- Configuring the CK32 I-Safe Operating Parameters
- Setting Up Ethernet Communications
- Setting Up Bluetooth Communications
- Setting Up 802.11 Radio Communications
- Configuring Security on the CK32 I-Safe

Configuring the Operating Parameters

You can configure many operating parameters on the CK32 I-Safe, such as the symbologies it decodes or the network settings it uses. The CK32 I-Safe provides a configuration application called Intermec Settings that allows you to set all of the operating parameters in one place.

Configuring the CK32 I-Safe Using Intermec Settings

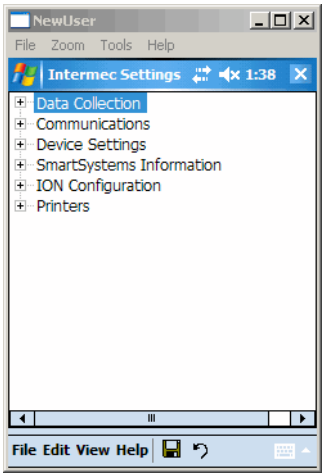
Use Intermec Settings to configure the CK32 I-Safe and to view system information.

Note: Using Intermec Settings, there is no way of detecting preferred networks.

You access Intermec Settings from the Settings menu.

To start Intermec Settings

1. Tap the **Start** icon to open the **Start** menu.
2. From the **Start** menu, select **Settings**.



3. From the Settings window, select the **System** tab.
4. Tap the Intermec Settings icon (Intermec Settings). The Intermec Settings application appears.

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

Navigating in Intermec Settings

To Do This Function	Do This
Select or expand a command	Tap the command
Select text in a text box	Tap in the text box and drag the stylus over the text
Save settings	Tap **File** > **Save Settings** or tap the disk icon.

Remotely Configuring the CK32 I-Safe Using SmartSystems Foundation

The SmartSystems™ server lets you manage all your SmartSystems-enabled devices at the same time from a central host PC. The CK32 I-Safe ships with the SmartSystems client, which means it is SmartSystems enabled. The SmartSystems server has a console that displays all of the CK32 I-Safes in your network. In the console, you can right-click a CK32 I-Safe and a menu appears. To configure the CK32 I-Safe, choose Intermec Settings from the menu.

The SmartSystems server and console are part of SmartSystems Foundation and are 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 manual.

Setting Up Ethernet Communications

You can use the CK32 I-Safe directly in an Ethernet network by connecting to the network using the AN1 Communications Adapter.

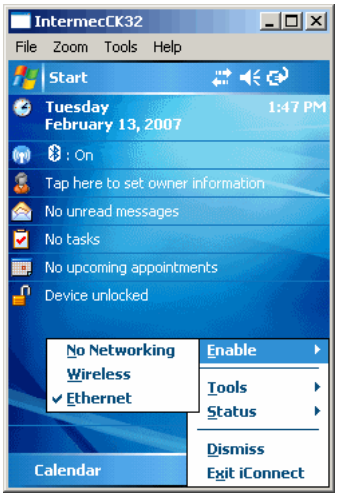
Note: The CK32 I-Safe supports Ethernet communication or 802.11 communications but it cannot support both at the same time. The factory default is no communications are enabled.

Warning

Intrinsically Safe rules prohibit direct connection to the CK32 I-Safe.

To use the CK32 I-Safe in an Ethernet network

1 Tap the iConnect icon ( ) in the lower right corner of the Today screen.From the menu, select **Enable** > **Ethernet**. This change disables 802.11 networking on the CK32 I-Safe.



2 You will be prompted to reboot the device for changes to take affect. Press and hold the **Power** button for 10 seconds to initiate the reboot. Do not use the **Reset** button . See "Preferred Reset Method" on page 110 for more information.

3 Go to **Start** > **Settings** > the **System** tab > **Intermec Settings** > **Communications** > **Ethernet Adapter** > **IP Settings**.

4 If you have a DHCP server, enable DHCP.

or

If you do not have a DHCP server, set these parameters:

- IP address
- Subnet mask
- Default router

5 If required for your network, you may also need to set these parameters on each CK32 I-Safe:

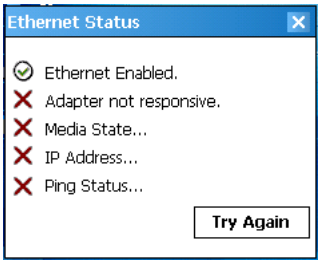
- Primary and secondary DNS servers
- Primary and secondary WINS servers

6 Make sure your CK32 I-Safe is talking to the network and that the network can see your CK32 I-Safe.

To check the status of your Ethernet connection

1 Tap the iConnect icon () in the lower right corner of the Today screen.

2 From the menu, select **Status** > **Ethernet**. The Ethernet Status screen appears and checks the connection.



You can also use iConnect to configure the network settings if you need to change any setting. Tap **Tools** > **Ethernet IP Settings** from the iConnect menu.

Setting Up Bluetooth Communications

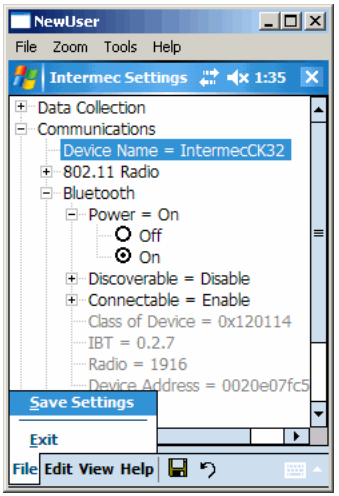
You can send information to a Bluetooth device wirelessly using the standard Bluetooth radio in the CK32 I-Safe. The Bluetooth technology uses short-range radio links and allows for communications over a 10-meter (32.8 foot) range.

You can use the Bluetooth radio to connect to wireless devices including:

- Scanners
- Printers
- Headsets

To turn the Bluetooth radio on

1 Select **Start** > **Settings** > **System** > **Intermec Settings** > **Bluetooth**.



2 Tap the **Power On radio button** and tap **File** > **Save Settings**.

Once Bluetooth is enabled, it stays enabled through a warm or cold boot and maintains virtual COM ports (such as printing) registration.

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 this table 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.
Class of Device	Determines how the device appears to other devices during discovery.
Discoverable	Makes the CK32 I-Safe discoverable.
Connectable	Makes the CK32 I-Safe connectable.
IBT	Displays the version of the Intermec Bluetooth Library.
Radio	Displays the version of the Bluetooth Radio Hardware.
Device Address	Displays the Bluetooth address of your CK32 I-Safe.

Configuring Bluetooth Communications for Wireless Printing

This section explains how to configure the CK32 I-Safe for Bluetooth wireless printing. You need to:

- make sure Bluetooth power is on. For help, see the procedure in "Setting Up Bluetooth Communications" on page 39.
- create an application that lets you print. For help, see the next section.
- select the current wireless printer on the CK32 I-Safe. For help, see "Selecting the Current Wireless Printer on the CK32 I-Safe" on page 42.

Creating an Application That Lets You Print Wirelessly

The CK32 I-Safe 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 CK32 I-Safe. For help, see the Bluetooth Resource Kit section of the IDL Resource Kit Developer's Guide, P/N 934-006-xxx.

The Wireless Printing applet is available from **Start** > **Settings** > **System**. The applet separates the task of wireless printing setup from other Bluetooth management tasks.

The Wireless Printing applet uses the concept of a "current wireless printer." The CK32 I-Safe connects to the current wireless printer when your application opens the wireless printing COM port on the CK32 I-Safe. If there is no current wireless printer selected on your CK32 I-Safe, there is no wireless printing COM port registered on your CK32 I-Safe. You must select a current wireless printer on your CK32 I-Safe, as described in the next section.

The Wireless Printing applet performs these tasks on the CK32 I-Safe:

- 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 applet uses the Bluetooth COM Port Control to handle COM port registration/deregistration.

Selecting the Current Wireless Printer on the CK32 I-Safe

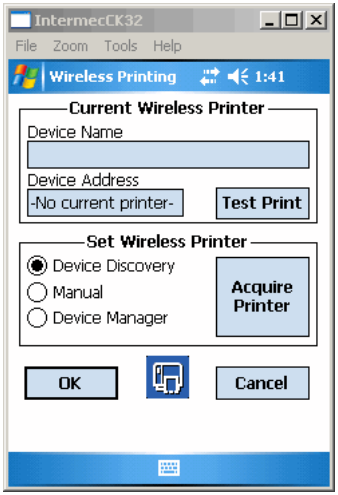
By default, there is no current wireless printer selected on the CK32 I-Safe.

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 **Start** > **Settings** > the **Systems** tab > **Wireless Printing**. The Wireless Printing wizard appears.



2 Tap **Acquire Printer** to initiate printer discovery. All Bluetooth printers discovered within range appear in the devices list.

3 Select the printer you want to connect to and then tap **OK**.

If your preferred printer does not appear, make sure the printer is turned on and discovery is enabled, and then repeat Steps 1 through 3.

4 Tap **Test Print**. The printer prints out the test page.

To manually enter the device address of the printer

1 Select **Start** > **Settings** > the **System** tab > **Wireless Printing**. The Wireless Printing wizard appears.

2 Tap **Manual** > **Acquire Printer**. The wizard advances to the next screen where you enter the device address.

3 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 CK32 I-Safe when you manually enter the printer address.

4 Tap **Test Print**. 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 **Start** > **Settings** > the **System** tab > **Wireless Printing**. The Wireless Printing wizard appears.

3 Tap Set Different Printer. The Devices list appears with the list of previously discovered printers.

4 Select the printer you want and tap **OK**.

5 Tap **Test Print**. 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 microphone gain for the connected Bluetooth audio device.

To connect to a Bluetooth headset

1. Select **Start** > **Settings** > the **System** tab > **Bluetooth Audio**.
2. Tap **Search for devices**. Discovered audio devices are added to the list with an icon to identify them.
3. Double-tap a Bluetooth audio device from the list of Connect headsets / hands-free devices.
4. When a pop-up menu appears and then select **Activate**. The device icon changes to include a check mark.
5. Double-tap the device name and then select **Connect**. When a connection is established, the statues changes to connected.
6. Tap the **Volume** slider bar or **Microphone** slider bar to adjust the setting.

Setting Up 802.11 Radio Communications

The CK32 I-Safe has 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, you also need to have your Intermec Application Server communicating with a host computer.

Note: The CK32 I-Safe supports Ethernet communication or 802.11 communications but it cannot support both at the same time. The factory default is no communications are enabled.

The CK32 I-Safe supports these network protocols:

- TCP/IP
- UDP Plus

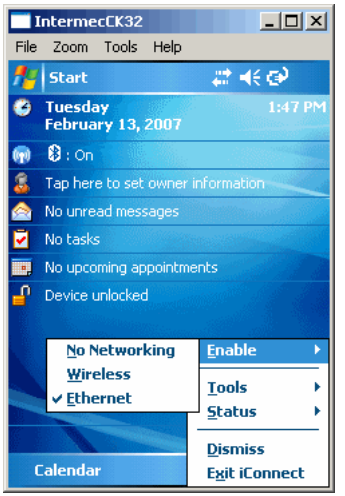
The next sections explain the parameters you need to configure for the CK32 I-Safe to work in your wireless network.

Configuring the Network Parameters for a TCP/IP Network

In a TCP/IP network, the CK32 I-Safe 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 iConnect icon ( ) in the lower right corner of the Today screen.From the menu, select **Enable** > **Wireless**. This disables the Ethernet connection.



2 You will be prompted to reboot the device for changes to take affect. Press and hold the **Power** button for 10 seconds to initiate the reboot. Do not use the **Reset** button. See "Preferred Reset method" on page 110 for more information.

3 Go to **Start** > **Settings** > the **System** tab > **Intermec Settings** > **Communications** > **802.11 Radio**.

4 Configure these network parameters on each CK32 I-Safe in the network:

- Network name (SSID)
- IP settings (if not using DHCP)

5 Make sure that the CK32 I-Safe is talking to the network and that the network can see the CK32 I-Safe.

6 Configure security. For help, see See "Using ISpyWiFi" on page 48.

You can configure the network parameters on the CK32 I-Safe to using Intermec Settings or ISpyWiFi. For information on Intermec Settings, see "Configuring the CK32 I-Safe Using Intermec Settings" on page 36.

Configuring the Network Parameters for a UDP Plus Network

In a UDP Plus network, the CK32 I-Safe 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 network 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 Go to **Start** > **Settings** > the **System** tab > **Intermec Settings** > **Communications** >**UDP Plus**.

2 Configure these network parameters on the CK32 I-Safe:

- UDP Plus Activate
- Controller IP address
- Controller Port

3 Make sure the CK32 I-Safe is talking to the network and that the network can see the CK32 I-Safe.

4 Configure security. For help, see "Configuring Security on the CK32 I-Safe" in the next section.

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 lower right corner of the Today screen.

2 From the menu, select **Status** > **Wireless**. The Wireless Status screen appears and checks the connection.

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

Using ISpyWiFi

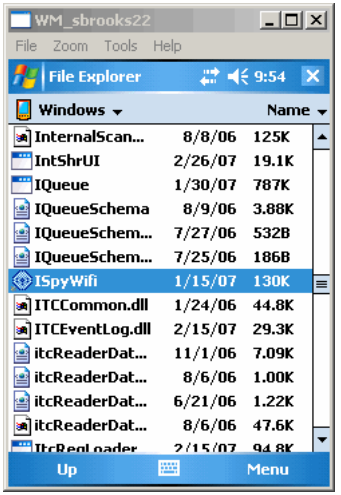
The ISpyWiFi utility provides more detailed information for the 802.11 radio connection in your CK32 I-Safe, such as MAC address, access point information, association, encryption, power management, antenna status, RSSI, data link rates, and supplicant status.

Starting the Utility

The ISpyWiFi utility is installed in your CK32 I-Safe as an executable. You can either start the utility using File Explorer, or creating a shortcut to start the utility from the CK32 I-Safe desktop, or from iConnect.

To start the ISpy WiFi utility via File Explorer

- Tap **Start** > **Programs** > the **File Explorer** icon, then tap the "\Windows" folder from the root. Scroll down for, then double-click the **ISpyWifi** executable.



To place the ISpyWiFi utility in the Programs group

1 Press and hold your stylus on the **ISpyWifi** executable for its pop-up menu, then select **Copy**.

2 Scroll up to the "\Start Menu\Programs" folder, then tap it to open.

3 Press and hold your stylus in an empty (white) area in the folder, for its pop-up menu, then select **Paste Shortcut**.

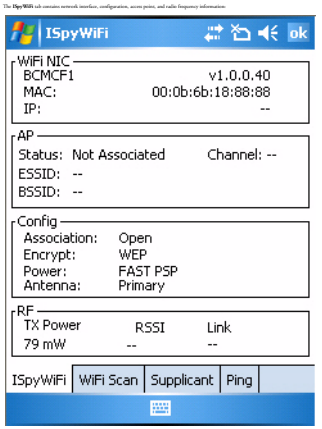
Close the File Explorer, select **Start** > **Programs** to locate the **Shortcut to ISpyWifi** icon, like the following. Tap this icon to access the ISpyWifi application.

To start iSpyWiFi from iConnect

1 Tap the iConnect icon () in the lower right corner of the Today screen.

2 From the menu, select **Status** > **Wireless** > **Advanced**. The iSpyWiFi screen appears.

ISpyWiFi



ISpyWiFi Tab Contents

WiFi NIC (Network Interface Card)	
BCMCF1	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

AP	
Status	Shows whether the radio is associated with the access point
Channel	The channel on which the radio is communicating with the access point
ESSID	The text SSID (Network Name) for your network
BSSID	MAC address of radio AP with which the client radio is communicating

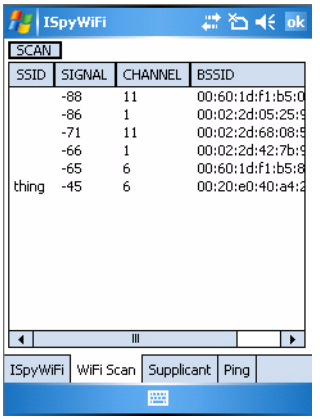
Config	
Association	Shows one of the following types: Open, WPA, WPA-PSK, WPA2, Network EAP
Encrypt	Shows potential encryptions for the association shown: Key Absent/WEP, TKIP, Key Absent, TKIP/AES, WEP
Power	CAM (Constantly Awake Mode) or FAST PSP (Power Save Poll)
Antenna	Diversity (multiple antennas), Primary (one antenna)

RF	
TX Power	Transmit power level in milliwatts (mW).
RSSI	The Received Signal Strength Indicator. The closer to zero, the better. For example: -40dBm is excellent, while -60dBm is good.
Link	The data rate at which the radios are communicating

WiFi Scan

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

Tap **Scan**, then wait for the table to fill with information. Tap any of the columns to sort by ascending or descending order. Tap the slider bar on the bottom to scroll left and right to view all of the information.

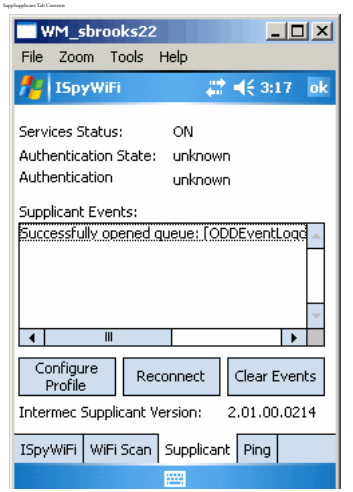


WiFi Scan Tab Contents

Scan	
SSID	The SSID broadcast from the access point
Signal	The RSSI seen from the access point
Channel	Channel on which client radio is communicating with access point
BSSID	The MAC address for the access point radio
Privacy	“Y” - WEP, TKIP, or AES encryption is being used; “N” - no encryption is being used

Supplicant

The **Supplicant** tab provides you with security and authentication information configured elsewhere in the CK32 I-Safe.



Supplicant Tab Contents

Supplicant	
Service Status	ON: Intermec Funk Security is enabled OFF: Microsoft Security is enabled Starting Up: Shutting Down: Unknown/Undefined:
Authentication State:	authenticated: Authentication Server successful authentication failed: Previous authentication attempt failed disconnected: No authentication used, Open or Static WEP connection used acquired: Access point located, authentication process not initiated authenticating: Attempting authentication with Authentication Server logoff: Current session terminated by supplicant unknown: Error occurred, but not defined

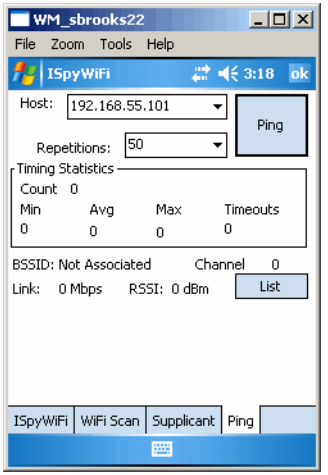
Supplicant Tab Contents (continued)

Authentication Result	success: Authentication successful time-out: Authentication Server not responding to requests, you may be out of range no credentials: Proper credentials not configured in device client reject: Unable to validate access point certificate server reject: Authentication Server rejects submitted credentials unknown: No authentication used or in the process of authentication
Supplicant Events	Displays output from the supplicant detailing its status.
Intermec Supplicant Version	Version of Intermec Funk Security in the CK32 I-Safe

- 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 then reassociates and reauthenticates, but does not do anything with the radio driver.
- Click **Clear Events** to remove the information shown in the **Supplicant Event** box.

Ping

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



Ping Tab Contents

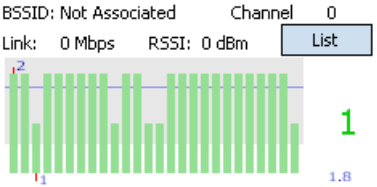
Ping	
Timing Statistics	Min: The shortest ping reply in milliseconds (ms) Max: The maximum ping reply in milliseconds Avg: The average ping reply time Count: The number of pings already completed Timeouts: The number of pings that did not receive a response
BSSID	The MAC address for the access point radio
Channel:	The channel on which the access point is communicating
RSSI	The RSSI seen on the access point
Link	The speed at which the last ping occurred.

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

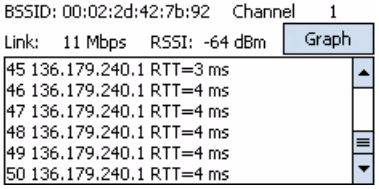
4 Depending on how the screen is set up, you can toggle between a graph and a list of ping results:

- Tap **Graph** to toggle to the graphical view of 25 of the most recent pings and their response results, like in the following sample graph:



Note the size of the gray area represents the standard deviation from the mean.

- Tap **List** to toggle to detailed information showing what ping touched what host and its RTT (Round Trip Time).

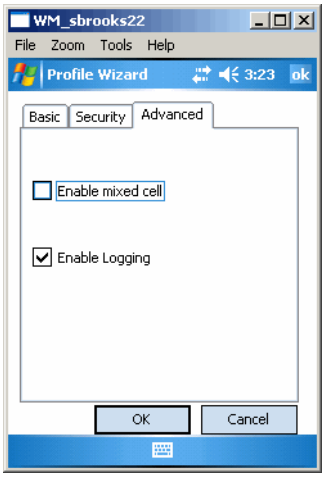


Supplicant Logging

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

1 Tap the **Supplicant** tab, then tap **Configure Profile** to access the Profile Wizard.

2 Tap **Edit Selected Profile**, then tap the **Advanced** tab.Check **Enable Logging**, tap **ok** to close the profile settings, then tap **ok** to close the Profile Wizard.



The debug output file is then stored in the "\My Device" root folder as a text file called "uroddsvc." Using File Explorer, press and hold your stylus on this file for its pop-up menu, then select any of its options to copy, beam, send, or delete this file.

Configuring Security on the CK32 I-Safe

The CK32 I-Safe provides three types of security for your wireless network:

- Wi-Fi Protected Access (WPA)
- 802.1x
- WEP

This section explains how to configure security on your wireless CK32 I-Safe. If you choose not to use security, see **"Disabling Security" on page 79.** Intermec always recommends that you implement security.

You must use either Funk or Microsoft security to implement your security solution. For details, see **"Choosing Between Funk and Microsoft Security" on page 60.**

If you are using WPA-802.1x, WPA2-802.1x, or 802.1x security, this section assumes that your authentication server and authenticators are properly configured.

Note: Your security choice does not depend on your authentication server. For example, you can choose Funk security if you use Microsoft's Internet Authentication Service.

Understanding the Wireless Network

Your wireless radio adapter (network interface card) connects to wireless networks of two types: infrastructure and ad-hoc networks.

- Infrastructure networks get you onto your corporate network and the internet. The CK32 I-Safe establishes a wireless connection to an access point, which links you to the rest of the network. When you connect to a network using an access point, you are using the 802.11 b/g infrastructure mode.
- Ad-hoc networks are private networks shared between two or more clients.

Each wireless network is assigned a name or SSID (Service Set Identifier) to allow multiple networks to exist in the same area without infringing on each other.

Intermec recommends using security with wireless networks to prevent unauthorized access to your network and to ensure the privacy of transmitted data. Authentication by both the network and the user are required elements for secure networks. Use the following table to understand some of the wireless network terminology.

Using WPA Security

Wi-Fi Protected Access (WPA) is a strongly enhanced, interoperable Wi-Fi security that addresses many of the vulnerabilities of Wired Equivalent Privacy (WEP). Instead of WEP, WPA uses Temporal Key Integrity Protocol (TKIP) for its data encryption method.

Currently, WPA satisfies some of the requirements in the IEEE 802.11i draft standard. When the standard is finalized, WPA will maintain forward compatibility.

WPA runs in 802.1x (Enterprise) mode or PSK (Pre-Shared Key) mode:

- In Enterprise mode, WPA provides user authentication using 802.1x and an Extensible Authentication Protocol (EAP). That is, an authentication server (such as a RADIUS server) must authenticate each device before the device can communicate with the wireless network.
- In PSK mode, WPA provides user authentication using a shared key between the authenticator and the CV30. WPA-PSK is a good solution for small offices or home offices that do not want to use an authentication server.

To use WPA security, you need:

- an authentication server (Enterprise mode only).
- an access point with an 802.11 b/g radio that supports WPA.
- a CK32 I-Safe with the 802.11b/g radio and the 802.1x/WPA security option.

The CK32 I-Safe also supports Wi-Fi Protected Access 2 (WPA2) if you are using Funk security. WPA2 uses an Advanced Encryption Standard (AES) for data encryption.

WPA2 runs in 802.1x (Enterprise) mode or PSK (Pre-Shared Key) mode:

- For WPA2-802.1x mode, WPA2 requires authentication in two phases; the first is an open system authentication and the second uses 802.1x and an Extensible Authentication Protocol (EAP) authentication method.
- In PSK mode, WPA2 provides user authentication using a shared key between the authenticator and the CK32 I-Safe. WPA2-PSK is a good solution for small offices or home offices that do not want to use an authentication server.

Using Static WEP Security

The CK32 I-Safe uses the Wired Equivalent Privacy (WEP) protocol to add security to your wireless network based on the 802.11 standard.

To use WEP security, you need:

- a CV30 with an 802.11b/g radio.
- an access point with an 802.11b/g radio.

Using 802.1x Security

802.1x security provides centralized user authentication using an authentication server, authenticators (access points), and supplicants. These components communicate using an EAP authentication type, such as TLS (Transport Layer Security) or PEAP (Protected Extensible Authentication Protocol). 802.1x security provides data encryption using dynamic WEP key management.

To use 802.1x security, you need:

- an access point with an 802.11b/g radio.
- a CK32 I-Safe with an 802.11b/g radio and the 802.1x/WPA security option.
- an authentication server.

Using LEAP Security

Lightweight Extensible Authentication Protocol (LEAP), 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 an Ethernet hub or wireless network access point until it successfully authenticates itself.

The station must identify itself and prove that it is an authorized user before it is actually allowed to use the LAN. LEAP also delivers a session key to the authenticated station, so that future frames can be encrypted with a key that is different than keys used by other sessions.

To use LEAP security, you need:

- a RADIUS server.
- Cisco access points.

LEAP security is not supported with Microsoft security.

Choosing Between Funk and Microsoft Security

The CK32 I-Safe provides both Funk and Microsoft security choices. Funk security is the default setting. Use the following sections to set security using either Funk or Microsoft as your security choice. Both security choices offer similar features, but Funk security also offers these features:

- CCX v2.0 compliance
- Support for LEAP, TTLS, and FAST
- Configuration of up to four profiles

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." or "Configuring Funk Security Using the Profile Wizard."

If you want to use Microsoft security, you need to select it as your security choice. For help, see "Configuring Microsoft Security" on page 73.

Configuring Funk Security Using Intermec Settings

You can define up to four profiles for Funk security. Different profiles let your CK32 I-Safe 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. Select **Start** > **Settings** > the **System** tab > **Intermec Settings**.
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:
   a. Select Profile Label and a text box appears.
   b. 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 fro 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, WPA-PSK, or WPA2-PSK security on your CK32 I-Safe with Funk security.

To configure WPA-802.1x with Funk security

1 Open Intermec Settings.

2 Make sure you have configured the communications and radio parameters on your CK32 I-Safe.

3 Make sure you have selected Funk as your security choice.

4 Open Intermec Settings.

5 Choose **Communications** > **802.11 Radio** > **Funk Security** > **Profile**.

6 For **Association**, choose **WPA** or **WPA2** and press **Enter**. Encryption automatically defaults to TKIP if you are using WPA. Encryption automatically defaults to WEP if you are using Shared.

7 For **8021x**, 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. By choosing **Enter credentials now**, you are storing the user name and password on the device so that you will not need to enter it every time.

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 CK32 I-Safe set correctly when you enable Validate Server Certificate.

If you choose TLS:

a Load a user and root certificate on your CK32 I-Safe. For help, see "Loading a Certificate" on page 76.

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.

8 Save your settings.

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

1 Open Intermec Settings.

2 Make sure you have configured the communications parameters and selected Funk as your security choice.

3 Make sure you have selected Funk as your security choice.

4 Open Intermec Settings.

5 Choose **Communications** > **802.11 Radio** > **Funk Security** > **Profile**.

6 For **Association**, choose **WPA** or **WPA2**.

7 For **8021x**, choose **None**.

8 For **Pre-Shared Key**, enter the pre-shared key or the passphrase.

The pre-shared key may be given in hexadecimal by prefixing a string of 64 hex digits with 0x for a total of 66 characters, or by entering a passphrase of 8 to 63 characters.

The pre-shared key value must exactly match the key on the authenticator.

9 Save your settings.

Configuring 802.1x Security With Funk Security

1 Open Intermec Settings.

2 Make sure you have configured the communications and radio parameters on your CK32 I-Safe.

3 Make sure you have selected Funk as your security choice.

4 Choose **Communications** > **802.11 Radio** > **Funk Security** > **Profile**.

5 For **Association**, choose **Open**.

6 For **Encryption**, choose **WEP**.

7 For **Inner 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 CK32 I-Safe. For help, see "Loading a Certificate" on page 76.

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.

8 Save your settings.

Configuring LEAP Security on the CK32 I-Safe

1 Open Intermec Settings.

1 Make sure you have selected Funk as your security choice.

2 Make sure you have configured the communications parameters and selected Funk as your security choice.

3 From Intermec Settings, choose **Communications** > **802.11 Radio** > **Funk Security** > **Profile**.

4 For **8021x**, 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**, select **Enter credentials now**.

7 Select **User name** and type your user name.

8 Select **User Password** and type your user password.

9 Save your settings.

Configuring Static WEP Security With Funk Security

1 Open Intermec Settings.

2 Make sure you have configured the communications parameters and selected Funk as your security choice.

3 Choose **Communications** > **802.11 Radio** > **Funk Security** > **Profile**.

4 For **Association**, choose **Open**.

5 For **Encryption**, choose **WEP**.

6 For **8021x**, choose **None**.

7 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.

8 For **Transmit key**, choose the key you want to use for transmitting data.

9 Save your settings.

Configuring Funk Security Using the Profile Wizard

You can start 802.11 b/g communications on the CK32 I-Safe 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 CK32 I-Safe 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

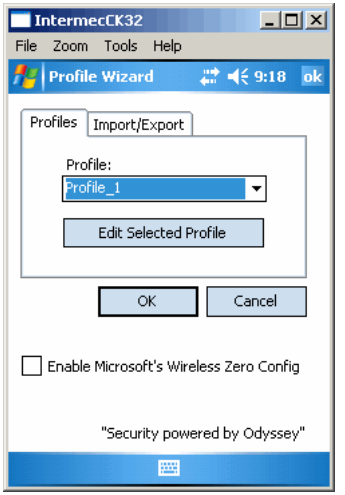
1 Open Intermec Settings.

2 Select **Start** > **Settings** > the **Systems** tab > **Wireless Network**.

or

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

The Profile Wizard appears on the screen.



3 From the **Profile** list, select the profile you want to configure

4 Tap **Edit Selected Profile**.

5 (Optional) Give your profile a meaningful name by selecting the text in the Profile Label text box and typing a meaningful name.

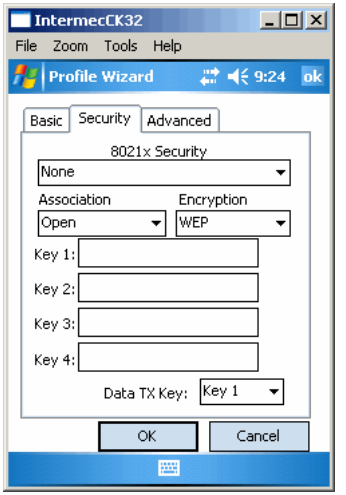
6 From the **Network type** list, select either **Infrastructure** or **Ad-Hoc**. Select Infrastructure if the network uses access points to connect to the corporate network or internet. Select Ad-Hoc to set up a private network with one or more participants.

7 Enter the **SSID (Network Name)** if different than the profile name.

8 Tap **OK**.

Configuring WEP Security With Profile Wizard

1 In the Profile Wizard, select the **Security** page.



2 For **8021x 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 **8021x Security**, choose **None**.

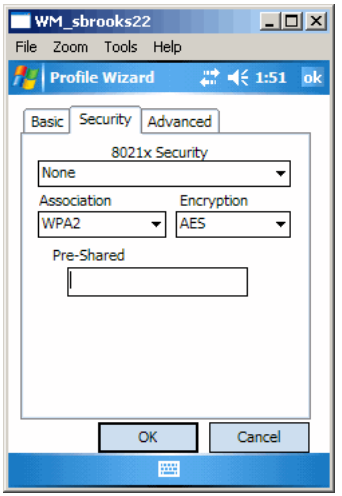
3 For **Association**, choose **WPA**.

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 **8021x Security**, choose **None**.

3 For **Association**, choose **WPA2**.

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.

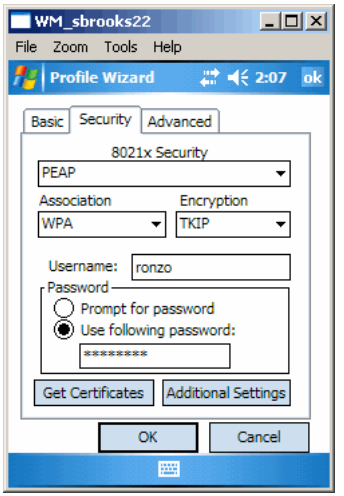
5 Tap **OK**.

Configuring 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 **8021x Security**, choose **PEAP**.

3 For **Association**, choose **Open**, **WPA**, or **Network EAP**.

4 For **Encryption**, choose **TKIP** if you selected WPA for association, or **WEP** if you selected Network EAP for association.

5 For **Username**, type a unique username for this protocol.

6 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 CK21 I-Safe.

7 In the **Password** field, type a unique password for this protocol.

8 Tap **Get Certificates** to obtain or import server certificates. For help with certificates, see "Loading a Certificate" on page 76.

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 **8021x 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** or **CKIP** if you selected Network EAP for association.

5 For **Username**, type a unique username for this protocol.

6 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 CK32 I-Safe.

7 In the **Password** field, type a unique password for this protocol.

8 Tap **Get Certificates** to obtain or import server certificates. For help with certificates, see **"Loading a Certificate" on page 76.**

9 Tap **Additional Settings** to Certificate Settings.

10 Check **Validate Server Certificate** to verify the identity of the authentication server based on its certificate when using TLS.

11 Tap **Root CA**, select a root certificate, and then tap **OK**.

12 Enter the Common Names of trusted servers.

13 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 **8021x 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** 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 CK32 I-Safe.

8 (Optional) Tap **Get Certificates** to obtain or import server certificates. For help with certificates, see **"Loading a Certificate" on page 76.**

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 PEAP.

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 **8021x 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** 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 CK32 I-Safe.
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 CicsoSecure ACS. EAP-FAST does not require certificate management.

1. In the Profile Wizard, select the **Security** page.
2. For **8021x Security**, choose **EAP-FAST**.
3. For **Association**, choose **Open**, **WPA**, **WPA2,** or **Network EAP**.
4. For **Encryption**, choose **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 CK32 I-Safe.
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 CK32 I-Safe. Tap **ok** to return to the Additional Settings screen.

10 If you already have a PAC on the CK32 I-Safe, clear **Allow Automatic PAC provisioning** to avoid receiving more PACs from the server.

11 If **Allow Automatic PAC provisioning** is selected, 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**.

Configuring Microsoft Security

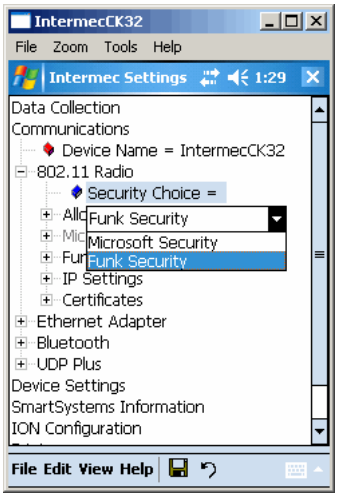
The default security setting is Funk. If you want to use Microsoft security, you need to select it as your security choice. After you select Microsoft as your security choice, you will be prompted to save your settings and reset your computer for your change to take effect.

To select Microsoft security as your security choice

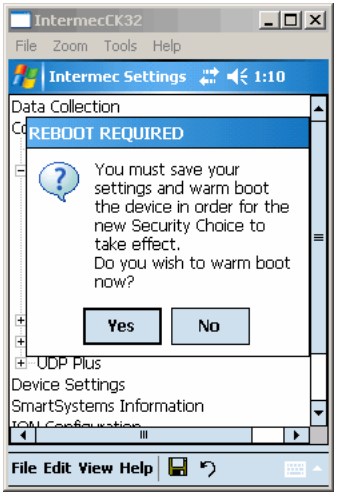
1 Select **Start** > **Settings** > the **System** tab > **Intermec Settings**. The Intermec Settings application appears.

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 CV30 for the new security choice to take effect.



4 An alert box appears telling you that you must save your settings and warm boot the CK32 I-Safe for the new security choice to take effect. Tap **Yes** to warm boot the CK32 I-Safe 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 CK32 I-Safe 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 computer-to-computer (ad-hoc) network; wireless access points are not used**.
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 provided automatically** 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**.

5 From the **EAP type** list, select either **MD5-Challenge**, **PEAP** or **TLS**.

6 Tap **OK** to close the screen.

Note: If you select to automatically connect to non-preferred networks, the CK32 I-Safe 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 CK32 I-Safe and a trusted root certificate authority (CA) certificate. You can use a third-party CA to issue unique client certificates and a root certificate.

There are three ways to load certificates on the CK32 I-Safe:

- 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 CK32 I-Safe must be set to the correct date and time. After cold booting the CK32 I-Safe, 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 CK32 I-Safe 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 CK32 I-Safe for WPA, or 802.1x 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 CK32 I-Safe for WPA, or 802.1x security.

To load multiple certificates

1. Create the \Temp\Root and the \Temp\User folders on the CK32 I-Safe.
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 = False**. Choose **True** from the drop-down menu.
6. Select **Import User Certificates = False**. Choose **True** from the drop-down menu.
7. Exit Intermec Settings and save your settings. The certificates are immediately imported:
   a. All root certificates in \Temp\Root are imported into the Trusted Authorities certificate store.

   Note: You are prompted when a root certificate is imported, unless that certificate is already in the store.

   b. All certificate and key files in \Temp\User are imported into the My Certificates certificate store.
   c. The Import Root Certificates and the Import User Certificates settings are changed from **True** to **False**.
8. Configure your CK32 I-Safe for WPA, or 802.1x security.

Disabling Security

If you choose not to use security with your wireless network, you can disable it on the CK32 I-Safe. 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.

4 Developing and Installing Applications

Use this chapter to understand the guidelines for developing applications and converting existing Trakker Antares applications for use on the CK32 I-Safe. You will also find information on installing applications and automatically launching them. This chapter contains these sections:

- Developing Applications for the CK32 I-Safe
- Installing Applications on the CK32 I-Safe
- Launching an Application Automatically

Developing Applications for the CK32 I-Safe

The CK32 I-Safe Handheld Computers run applications programmed in Microsoft Visual Studio 2003 or later. You can also use Microsoft eMbedded Visual C++ version 4.2 or later, but some features may not be available. Use this section to understand the hardware and software you need to:

- develop a new application for the CK32 I-Safe.
- develop a web-based application for the CK32 I-Safe.
- convert a Trakker Antares application to a CK32 I-Safe application.

Developing a New Application Using the Intermec Developer Library

Use the Intermec resource kits to develop new applications to run on the CK32 I-Safe. The Intermec resource kits are a library of C#, C++, and .NET components grouped by functionality that you can use to create applications for the CK32 I-Safe. 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**.

At a minimum, you need the following hardware and software components to use the Intermec resource kits:

- Pentium PC, 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 PC specification
- VGA or higher-resolution monitor (Super VGA recommended)
- Microsoft Mouse or compatible pointing device

Developing a Web-Based Application

You can develop web-based data collection applications for use on the CK32 I-Safe. For help, see any HTML source book. The CK32 I-Safe contains Internet Explorer Mobile for you to use. Microsoft Internet Explorer Mobile is available from the Start menu and provides all of the common elements you expect to find.

Converting a Trakker Antares Application for the CK32 I-Safe

If you have an existing Trakker Antares application that you would like to run on the CK32 I-Safe, you can use the Antares Migration Resource Kit to convert it. The Antares Migration Resource Kit is a set of libraries and tools that you use to convert your existing Trakker Antares C applications into C++ applications for use on the CK32 I-Safe.

The CK32 I-Safe does not support all Trakker Antares functions. You may need to rewrite parts of your application when converting it for use on the CK32 I-Safe. See the resource kit for a list of functions that are not supported.

You need these hardware and software components to use the resource kit:

- PC with at least 100 MB of free disk space running Microsoft Windows 2000/XP
- Microsoft Visual Studio 2003 (or later)
- Microsoft eMbedded Visual C++ version 4.2 or later
- Antares Migration Resource Kit (from IDL 2.4 or later)

The resource kit is part of the Intermec Developer Library (IDL), which you can download from the Intermec web site at www.intermec.com/idl.

Installing Applications on the CK32 I-Safe

There are several ways you can install applications on the CK32 I-Safe:

- 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 CK32 I-Safe uses standard Windows Mobile .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 CK32 I-Safe:

- Applications can be installed into the Object Store or the Flash File Store. Both locations are virtual partitions on the embedded storage card in the system. The Object Store will be erased during a 'clean' boot, but the Flash File store will persist. Neither location will be erased during a normal reset of the system. The registry always persists to the Object Store region for normal resets. If you need files and/or registry entries to persist through a 'clean' boot, it is suggested that you use a cab file installed from the Flash File Store area. For more information on 'clean' boots, see "Resetting Your Computer" on page 110.

There are several ways you can install files and applications on the CK32 I-Safe:

- SmartSystems server
- ActiveSync
- Wavelink Avalanche

The following sections explain how to use each one of these processes to install your application on the CK32 I-Safe.

Installing Applications Using SmartSystems Foundation

You can use the SmartSystems server to drag-and-drop Intermec applications onto your CK32 I-Safe. The CK32 I-Safe 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 install an application using SmartSystems Foundation

1. Download your application file to 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 CK32 I-Safe in your network.

Installing Applications Using Microsoft ActiveSync

You can use Microsoft ActiveSync to establish a connection between your PC and the CK32 I-Safe. ActiveSync transfers files, synchronizes files, performs remote debugging, and other device management activities. For more information on ActiveSync see "Using Microsoft ActiveSync" on page 32.

You can have a USB or 802.11 b/g ActiveSync connection to the CK32 I-Safe. When you only have a few CK32 I-Safes 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 using ActiveSync

1. Use the AN1 Communications Adapter to connect the CK32 I-Safe to a PC or host via the USB port.


Warning

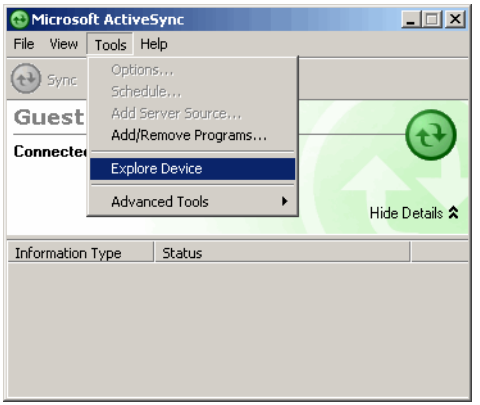
Intrinsically Safe rules prohibit direct connection to the CK32 I-Safe.

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 CK32 I-Safe.

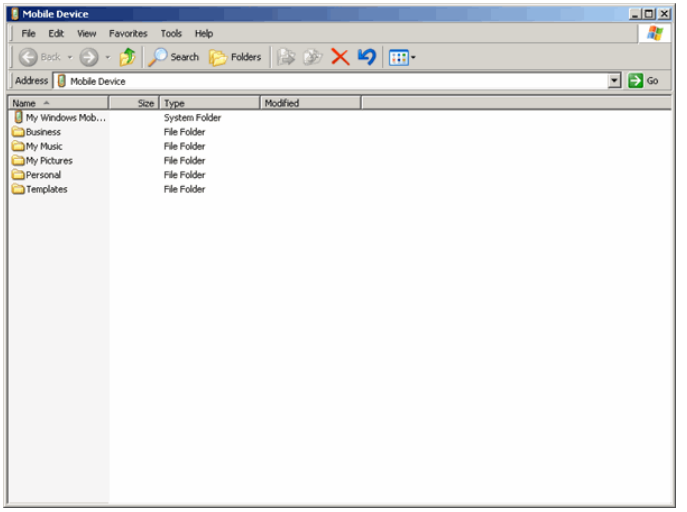
If necessary, select **File** > **Get Connected** to initiate a connection.

3 Click **Tools** > **Explore Device** to open the Mobile Device window on the CK32 I-Safe.



4 On your desktop PC, locate the .cab file you want to download to the CK32 I-Safe and copy it.

5 From the Mobile Device window, open the My Windows Mobile-Based Device 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, reset the CK32 I-Safe.

8 After the CK32 I-Safe is done resetting, tap **Start** > **Programs** > **File Explorer** to locate the newly copied files.

9 Tap the .cab files to install them.

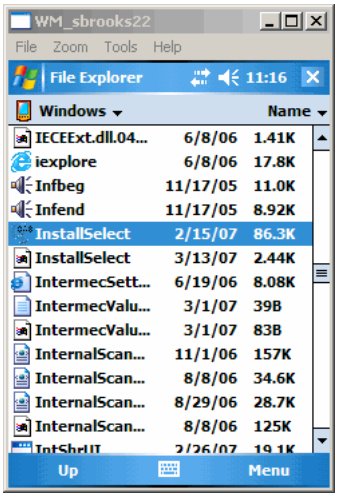
Installing Applications Using Wavelink Avalanche

You can use the Wavelink Avalanche device management system to install applications on all of your wireless CK32 I-Safes. The CK32 I-Safe ships with the Avalanche Enabler already loaded on it. In order to use Avalanche Enabler you must also have the Avalanche Administrative Console installed on your PC.

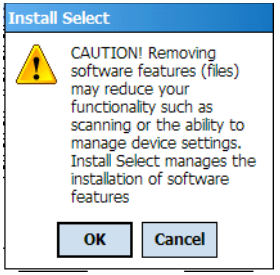
To install Avalanche Enabler

1 Tap **Start** > **Programs** > **File Explorer** and navigate to the Windows folder.

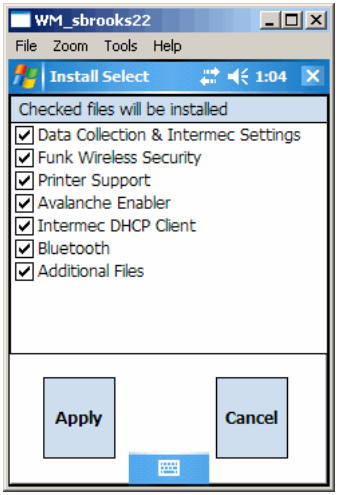
2 Locate and tap **InstallSelect** to launch the application



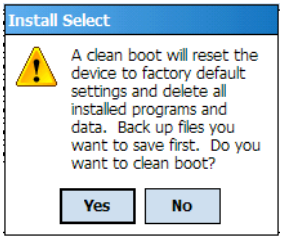
3 Tap **OK** on the Install Select Caution dialog.



4 Select Avalanche Enabler and tap the **Apply** button.



5 You will need to clean boot the CK32 I-Safe to install the selected files. Tap **Yes** to initiate a clean boot. For help, see "Performing a Clean Boot" on page 111.



This completes the installation process for Install Select.

Each time the Avalanche Enabler is activated (typically on a reset), the CK32 I-Safe attempts to connect to the Avalanche Agent. When the CK32 I-Safe connects to the agent, the agent determines whether an update is available and immediately starts the software upgrade, file transfer, or configuration update.

You can now install software packages and updates for the CK32 I-Safe using the Avalanche Administrative Console. Schedule the CK32 I-Safe updates or manually initiate an update using the Avalanche Administrative Console.

For more information on using Wavelink Avalanche, contact your local Intermec representative or visit the Wavelink web site at www.wavelink.com.

Launching An Application Automatically

Note: This describes the system component startup for Intermec provided components only. It does not describe the bootstrap loader process. It only describes the component installation process provided by Windows Mobile. It is assumed that you understand the Microsoft Mobile startup procedures and are familiar with how Microsoft components start up.

You can configure the various media used in the Windows Mobile system with a folder name and can change the media in the registry of the system. Many of the startup components rely on folder names to locate information files, applications, or other related data.

During normal Windows Mobile system startup, there are Intermec-specific and non-Intermec components that require an orderly start to properly function. These non-Intermec components may also need to start themselves so the Windows Mobile device can function properly. Since there are possible configurations that come from using one or more optional built-in peripheral devices, the platform components starting on the next page are required to manage startup.

RunAutoRun

System components are installed and configured during the power up process from a single starting point. RunAutoRun (RunAutoRun.exe), built into the operating system image and located in the "\Windows\Startup" folder, checks for AutoExec (AutoExec.exe) in a "2577" directory on a mounted volume in this order: miniSD, Object Store (or User Store), which may be non-volatile storage or RAM, and Flash File Store which may map as Object Store *(default location for the AutoExec program in Intermec systems)*. Intermec system applications start from this folder. However, the ordering of mounted volumes does override this feature.

Folder names used for the mounted volumes above are retrieved from the registry to maintain coherence with the naming of the mounted volumes on the platform. These folder names are not hard-coded. If AutoExec is present in the "\SYSTEM" folder on any of these media, it executes the program only on the first media it is found on and no other.

AutoExec is reserved for Intermec use to configure Intermec-specific applications. It launches the .cab installer, AutoCab (AutoCab.exe), to install platform .cab files to the system, such as the SSPB.

When the AutoExec is complete, RunAutorun then checks for the existence of AutoRun (AutoRun.exe) and executes this program from the first media it is found on. This order is the same as what is used by AutoExec.

AutoRun is reserved for customer use to configure application launch sequences. It launches the AutoCab installer and any customer programs added to the AutoUser.dat file. Shown is the hierarchy of these files.

AutoExec

AutoExec (AutoExec.exe) automates operations such as pausing, launching processes, or signaling, and is configured through the AutoExec data file (AutoExec.dat). This script file must be in the same directory as the program itself.

Note: Intermec considers the usage of the AutoExec data file as "Intermec Private." AutoExec installs Intermec applications such as Data Collection, Security Supplicants, Intermec Management, applets, and shortcuts from components found in the Flash File System. Do not modify the AutoExec data file. Instead, use the AutoRun program to add software components.

Usage:

```
AutoExec [-%[W]] [-E=["X"]] [-F=["Y"]] [-LOG=] [-W=[Z]]
```

AutoExec Commands

Command	Description
-%	Passes an ID to use in a call to SignalStarted. This argument is useful only during system startup that relies on a SignalStarted to call. W is an integer value.
-E	Passes a signal event name to use when autoexec completes. X is a string value.
-F	Overrides the data file to use. This must be a fully qualified name. Default is “autoexec.dat” in the same location as the AutoExec.exe program. “Y” is a string value.
-LOG	Set to any value logs activity to AutoExec.txt (in the same location as the AutoExec.exe program). Default is disabled.
-W	Pauses the autoexec process by calling sleep for the number of seconds specified by Z. Z is an integer value.

Process return code uses standard error codes defined in WinError.h.

AutoExec Keywords

Keyword	Description
-%	Passes an ID to use in a call to SignalStarted. This argument is useful only during system startup that relies on a SignalStarted to call. W is an integer value.
-E	Passes a signal event name to use when autoexec completes. X is a string value.
-F	Overrides the data file to use. This must be a fully qualified name. Default is “autoexec.dat” in the same location as the AutoExec.exe program. “Y” is a string value.
-LOG	Set to any value logs activity to AutoExec.txt (in the same location as the AutoExec.exe program). Default is disabled.
-W	Pauses the autoexec process by calling sleep for the number of seconds specified by Z. Z is an integer value.

There are two ways to automatically launch your application when you perform a reset on the CK32 I-Safe:

- 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 CK32 I-Safe 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. This script file must be located in the same directory as the program.

AutoRun

AutoRun (AutoRun.exe) automates operations such as launching other processes and is configured through the AutoRun data file (AutoRun.dat). This file must be in the same directory as the program itself.

AutoRun supports the following script commands in AutoUser.dat and AutoRun.dat.

Note: If you need to add steps at boot time, add them to AutoUser.dat, not to AutoRun.dat. AutoRun.dat is provided by Intermec and is subject to change. AutoUser.dat is the designated place to add steps to the boot time process.

Command	Description
EXEC	Launches a specified program, waits for it to complete (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.

AutoRun handles quoted file names for the first parameter to allow specifying path names or file names that contain white space. Note only one set of quotes per command is supported. AutoRun.dat entry examples

Command	Description
RUN	“Flash File Store\Apps\some.exe” arg1, arg2, arg3
CALL	“Flash File Store\2577\usercmds.dat”

AutoRun supports the following script commands in AutoRun.dat:

AutoRun Script Commands

Command	Description
QUIET	Enables user notification when an error occurs.
LOGGING	Enables logging to a trace file.
SIGNAL	Enables the specified named event and is immediately signaled. Useful for notifying other components of the current status.
CALL	Opens another .dat file to process. After the called file is completed, this file is resumed.
RUN	Runs a program with a *SW_SHOWNORMAL* attribute. Autoexec does not wait for the child process to exit.
LOAD	Runs a program with a *SW_HIDE* attribute. Autoexec waits for 60 seconds for the child process to exit or *EXECWAIT* seconds if set.
EXEC	Runs the specified program. AutoExec waits 60 seconds for the child process to exit or *EXECWAIT* seconds if set.
EXECWAIT	Changes the default EXEC wait time from 60 seconds to the number of seconds specified. There is a maximum 10-minute limit imposed.
WAIT	Forces a sleep for the specified number of seconds to occur.
WAITFOR	Forces a sleep until the named event is signaled.

Examples of keyword usage:

```
; Allow message pop up if an error occurs.
QUIET 0
```

```
; Log any debug output to a trace file.
LOGGING 1
; Perform a SetEvent on the event name "autoexec_started".
SIGNAL "autoexec_started"
; Include this child data file, childexec.dat.
CALL "\childexec.dat"
; Use autocopy to copy the audio control panel from flash file store
to the windows directory. Wait for up to 60 seconds for it to exit.
EXEC "\Flash File Store\SYSTEM\autocopy.exe" -S"\Flash File
Store\System\CPLAudio.cpl" -D"\Windows\CPLAudio.cpl"
; Change the default EXEC wait time to 90 seconds.
EXECWAIT 90
; Suspend processing any commands for 10 seconds.
WAIT 10
; Suspend processing any commands until event called MyEventName is
signaled.
WAITFOR "MyEventName"
```

AutoCopy

AutoCopy (AutoCopy.exe) copies/moves files between locations. It has no user interface and is configured through command line arguments. It has support for the following parameters, in no particular order:

Usage:

```
AutoCopy [-D["W"]] [-L["X"]] [-M[D]] [-Q[Y]] [-S["Z"]]
```

AutoCopy Script Commands

Command	Description
-D	Indicates the destination file name and must be fully qualified. W is a string value.
-L	Indicates a fully qualified file name for logging to enable. Default is disabled. X is a string value.
-M	Moves file to a destination rather than copies the file. Default value is disabled. D is an integer value. D=1 indicates enabled, 0 is disabled.
-Q	Indicates if a message box should appear when an error occurs. Default is disabled. Y is an integer value.
-S	Indicates a source file name and must be fully qualified. Z is a string value.

Process return code uses standard error codes defined in WinError.h.

Example:

```
; use AutoCopy to copy the control panel from flash file store to
windows.
autocopy.exe -S"\Flash File Store\System\Audio.cpl" -
D"\Windows\Audio.cpl"
; use AutoCopy to move the control panel from flash file store to
windows.
autocopy.exe -M1 -S"\Flash File Store\System\Audio.cpl" -
D"\Windows\Audio.cpl"
```

AutoReg

The AutoReg (AutoReg.exe) component adds registry information to the Windows Mobile registry. It has no user interface and is configured through command line arguments.

Usage:

```
AutoReg [-D] [-HKey] [-Q] "filename"
```

AutoReg Script Commands

Command	Description
-D	Deletes the registry file after successfully loading it. This allows for systems that have hives implemented.
-H	Saves the registry path, and all child entries, to the specific .REG registry file.
-Q	Indicates whether a message box should appear when a fatal error occurs.
filename	Fully qualified file name to read from or write to, encased in double quotes to support spaces in paths or file names. See examples below.

Process return code uses standard error codes defined in WinError.h.

Example:

```
; use AutoReg to install this registry information.
autoreg.exe "\Flash File Store\install.reg"
; use AutoReg to install this registry information. Delete the file
afterwards.
autoreg.exe -D "\Flash File Store\install.reg"
; use AutoReg to extract registry information to a file.
autoreg.exe -HHKEY_LOCAL_MACHINE\Software\Intermec\Version
"\version.reg"
```

The format of the input file, in this example, is the standard registry format which should ease the creation of the input file since there are many publicly available utilities to generate a registry file besides Notepad. One example of a tool is the Microsoft Remote Registry Editor.

AutoCab

AutoCab (AutoCab.exe) extracts files, registry settings, and shortcuts from Windows Mobile cabinet (.cab) files. The Windows Mobile startup sequence invokes AutoCab as a part of AutoExec and AutoRun. During the Windows Mobile startup sequence, AutoCab processes all CAB files in the "\CabFiles" directory relative to the current location of Autocab, unless the location is overridden by command line arguments. AutoCab can run as a stand-alone program to install a CAB file or a directory of CAB files.

AutoCab only installs the CAB file if it was not installed before by AutoCab. To track the installation of a .cab file, AutoCab marks the .cab file with the System attribute. This attribute is ignored if the device is performing a clean-boot on a non-persistent file system.

AutoCab preserves the .cab file after installation if the ReadOnly attribute is set. If not set, the .cab file is deleted automatically after installation. Command line switches are described as follows.

Usage:

```
AutoCab [-ChkRst=][-File=][-Force][-Log=][-Move=][-Quiet=][-Show=][-
Signal=]
```

If <PathName> references a single .cab file, that file is processed. If <PathName> references a directory, all the .cab files in that directory is processed. If <PathName> is a wild card pattern, all files matching that pattern is processed, If <PathName> is omitted, InstallCab processes all the .cab files in directory "\CabFiles."

AutoCab Script Commands

Command	Description
-ChkRst=	Set to 1 to configure AutoCab to check for the Reset flag after all .cab files are installed. This file is created by .cab files that want a clean reset after installation. Default is 0 (do not check for flag).
-File=	Specifies the .cab files to extract. Note that the specified files need not end with the .cab extension.
-Force	Forces the specified .cab files to extract regardless of whether it was previously extracted.
-Log=	Set to 1 to create a log file in the same folder that AutoCab is running. Useful for debugging .cab installation. Default is 0 (disabled).
-Move=	Set to 1 to force source .cab file deletion, even when read-only bit set on file. Default is 0 (disabled).
-Quiet=	Set to 0 to allow AutoCab to display user message box on errors. Useful for debugging .cab installation. Default is 1 (keep quiet).
-Show=	Set to 0 to prevent showing any installation progress interfaces and also prevents canceling the installation. Set to 1 to show normal installation. Set to 2 to show Intermec installation progress interface (user can see what is installing but cannot cancel it). Default is 1 (show normal).
-Signal=	Set to string name of signal to use at the completion of .cab installation before a reboot occurs (if enabled). AutoCab uses WaitForSingleObject on this name. Default is disabled.

Example:

```
; Install all cab files in the \Flash File Store\XYZ directory,
regardless.
AutoCab -FILE="\Flash File Store\XYZ\.cab" -FORCE
; Install only one cab file, use Intermec cab installation display
AutoCab -FILE=”\myCab\app.cab” =show=2
```

5 Troubleshooting and Maintenance

Use this chapter to solve problems you may encounter while using the CK32 I-Safe. You will also find information on booting the computer and routine maintenance.

If you have any problems using the CK32 I-Safe, look in this chapter to find a possible solution. This chapter consists of the following section.

- Upgrading the CK32 I-Safe Using SmartSystems
- Contacting Product Support
- Troubleshooting the CK32 I-Safe
- Resetting Your Computer
- Cleaning the Scanner Window, Screen, and Computer

Upgrading the CK32 I-Safe Using SmartSystems

You can use the SmartSystems™ Foundation application from Intermec to perform operating system upgrades on your CK32 I-Safe. SmartSystems client is installed on your CK32-I-Safe, which means it is SmartSystems-enabled. The console is part of SmartSystems Foundation, which you can download from www.intermec.com/SmartSystems.

When you upgrade the operating system, you erase the current configuration and replace it with the new default configuration. You will need to reset the network parameters on the CK32 I-Safe to reestablish communications with other devices in the network. In other words, if you upgrade the operating system and the default registry from the operating system has changed, the registry is rolled back to the new default.

When you upgrade your CK32 I-Safe , you are updating the operating system (OS) and the SmartSystems Platform Bundle (SSPB) files.

The SSPB files are stored on the Flash File Store, and deliver Intermec Value Add (IVA) functionality such as data collection, configuration, and wireless security. As new features are added to these components, you can upgrade your SSPB files without needing to upgrade the operating system. Similarly, features added to the operating system do not affect the functionality of the SSPB, and you can choose to upgrade only the operating system. If you choose to update only the operating system, the SSPB will need to be re-installed.

If you are upgrading the OS and SSPB files, you first install the OS upgrade and then you install the SSPB upgrade. The installation process is very similar for both type of upgrade but the way the files install is different.

Downloading the Upgrade Files

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

To download the upgrade files

1. Start your web browser and go to the Intermec web site at **www.intermec.com**.
2. Go to **Service & Support** > **Downloads**.

3 Select **Computers: CK32 I-Safe Mobile Computer** from the list.

4 Select the download you need. Make sure the download you select is for the CK32 I-Safe computer and that it contains the upgrade you want: operating system only, SSPB only, or operating system and SSPB.

5 Download the .zip file to your desktop computer.

6 Use the SmartSystems server to upgrade the CK32 I-Safe.

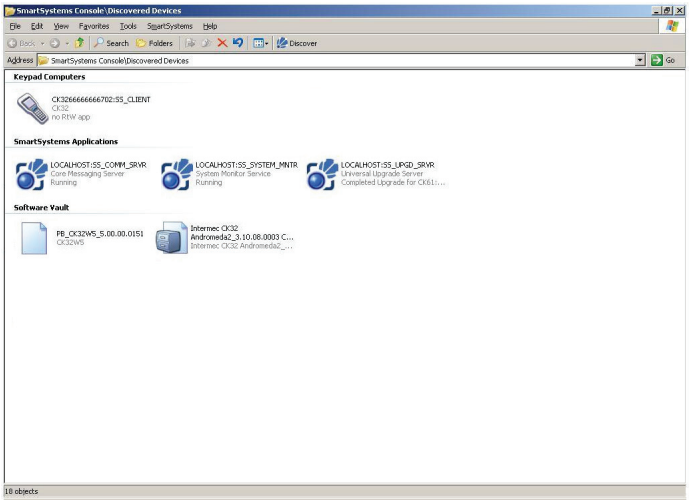
Note: You cannot install the files for the OS and the SSPB bundle at the same time. You need to install one and then install the other or install only the bundle that you need to upgrade.

To Upgrade the Operating System

1 Connect your the CK32 I-Safe to your network that has the SmartSystem Server installed.

2 Install SmartSystems Foundation on your desktop or laptop computer, then double-click the icon on your toolbar to start the SmartSystems Console.

3 Double-click the SmartSystems icon on your taskbar to start the SmartSystems Console.

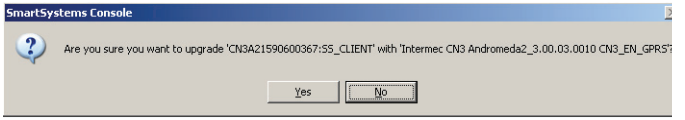


The SmartSystem Console screen has three sections:

- Keypad Computers (devices you are using)
- SmartSystem Applications (used to upgrade)
- Software Vault (where your upgrades are stored)

4 Click the Discover icon on the SmartSystems Console. Your CK32 I-Safe should appear in the Keypad Computers area of the screen.

5 Click and drag the OS bundle from the Software Vault and drag to the C32 I-Safe icon. Release the OS bundle on the device icon and the following message will appear.



6 Click the **Yes** button and SmartSystems Server will start transferring files to the CK32 I-Safe. A white screen with text on it will appear on the CK32 I-Safe icon as the files are being downloaded.

Caution

Make sure that the CK32 I-Safe does not suspend during the download or errors could occur.

When the file download is complete, the CK32 I-Safe performs a warm boot and starts to install the upgrade files. After the OS file installation is completed, the CK32 I-Safe warm boots again and the Windows Mobile welcome screen appears. You will need to recalibrate the screen at this time.

To upgrade the SSPB

1 Connect your the CK32 I-Safe to your network that has the SmartSystem Server installed.

2 Install SmartSystems Foundation on your desktop or laptop computer, then double-click the icon on your toolbar to start the SmartSystems Console.

3 Double-click the SmartSystems icon on your taskbar to start the SmartSystems Console.

4 Click the Discover icon on the SmartSystems Console. Your CK32 I-Safe should appear in the Keypad Computers area of the screen.

5 Click and drag the SSPB bundle from the Software Vault and drag to the C32 I-Safe icon. Release the SSPB bundle on the device icon.

6 Click the **Yes** button when the SmartSystem message appears. The SmartSystems Server will start transferring files to the CK32 I-Safe. A white screen with text on it will appear on the CK32 I-Safe icon as the files are being downloaded.

Make sure that the CK32 I-Safe does not suspend during the download or errors could occur.

When the file download is complete, the CK32 I-Safe performs a warm boot and starts to install the upgrade files. When the Today screen appears, SSPB file installation begins. After all files are installed, you will need to reconnect the CK32 I-Safe to your network.

Contacting Product Support

If you cannot find the answer to your problem in the "Troubleshooting the CK32 I-Safe" section, you can visit the Intermec technical knowledge base (Knowledgebase Central) at intermec.custhelp.com to review technical information or to request technical 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:

- Operating system version
- Configuration number
- 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 (TE), know the version and protocol
- If you are not using TE, 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 Diagnostics or Intermec Settings. Consult your application developer for information on your custom application.

To find your operating system version

- Tap **Start** > **Internet Explorer** > **Intermec**. An Intermec page opens and displays the Windows Mobile version loaded on your CK32 I-Safe.

To find your configuration number

- Look at the label on the back of the CK32 I-Safe.

To open Intermec Settings

- Tap **Start** > **Settings** > **System** > **Intermec Settings**.

Troubleshooting the CK32 I-Safe

If you send the CK32 I-Safe in for service, it is your responsibility to save the computer data and configuration. Intermec is responsible only for ensuring that the keypad and other hardware features match the original configuration when repairing or replacing your computer.

Problems While Operating the CK32 I-Safe

If you have trouble operating the CK32 I-Safe, check these problems and possible solutions.

Problems While Operating the CK32 I-Safe

Problem	Solutions
You press the Power button to turn on the CK32 I-Safe and nothing happens.	Make sure the backlight is on by pressing ☼. Make sure you have a charged battery installed correctly. For help, see "Charging and Installing the Battery" on page 5. The battery may be discharged. Replace the battery with a spare charged battery, or charge the battery and try again.
The Battery light is blinking.	The battery is running low. Replace the battery with a spare charged battery, or charge the battery.
You use your stylus to tap the screen and nothing happens.	Recalibrate your touch screen. For help, see "Using the Touch Screen" on page 14.
The blue Ready-to-Work indicator is off.	Try these possible solutions: The Ready-to-Work application (such as TE 2000) has not loaded successfully. For help, see the documentation or online help for the application. The CK32 I-Safe is not running a Ready-to-Work application.
The blue Ready-to-Work indicator is blinking.	The Ready-to-Work application (such as TE 2000) may be running, but is not connected to a host. Verify that the application is properly configured to communicate with the host.
The blue Ready-to-Work indicator is on.	A connection has been established, and all network connections are active. There is nothing to troubleshoot.

Problems While Configuring Security

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

Problems While Configuring Security

Problem	Solution
You are using static WEP keys and you have a strong connection to the access point, but you cannot communicate with it.	Make sure that you are using the correct static WEP key.
You are setting up multiple access points in a network, with different SSIDs, and the connection fails.	The CK32 I-Safe does not save WEP key values when you change the SSID. Re-enter the WEP key value after you change the SSID and save your changes. You should now be able to connect to the different access points.
You receive a message saying "The server certificate has expired or your system date is incorrect" after you cold boot the CK32 I-Safe.	The correct date and time on the CK32 I-Safe are not always saved through a cold boot. You need to re-enter the date and time, and then save your changes.
The CK32 I-Safe indicates that it is not authenticated	Make sure that: • the User Name and Password on your CK32 I-Safe match the user name and password on your authentication server. You may need to reenter the password on both your CK32 I-Safe and authentication server. • on your authentication server, the user and group are allowed and the group policy is allowed to log in to the server. For help, see the documentation that shipped with your authentication server software. • the IP address and secret key for your access point must match the IP address and secret key on your authentication server. You may need to re-enter the IP address and secret key on both your access point and authentication server.

Problems with Wireless Connectivity

If you have trouble with wireless connectivity, check these problems and possible solutions.

Problems With Wireless Connectivity

Problem	Solution
When you turn on the CK32 I-Safe after it was suspended for 10-15 minutes or longer, it can no longer send or receive messages over the network.	The host may have deactivated or lost your current terminal emulation session. In a TCP/IP direct connect network, you need to turn off the "Keep Alive" message (if possible) from the host so that the TCP session is maintained while a CK32 I-Safe is suspended.
The network connection icon is in the status bar, but the host computer is not receiving any data from the CK32 I-Safe.	In a UDP Plus network, there may be a problem with the connection between the Intermec Application Server and the host computer. Check with your network administrator or see the user's manual for the Intermec Application Server. In a TCP/IP network, there may be a problem with the connection between the access point and the host computer. Check with your network administrator or use your access point user's manual.
The no network connection icon ( )appears on the status bar.	• The CK32 I-Safe is not connected to the access point. Make sure the access point is turned on and operating. You may also be using the CK32 I-Safe out of range of an access point. Try moving closer to an access point to re-establish communications. • Make sure the CK32 I-Safe is configured correctly for your network. The radio parameters on the CK32 I-Safe must match the values set for all access points the CK32 I-Safe may communicate with. For help, see "Setting Up 802.11 Radio Communications" on page 45. • If you have an 802.11b radio, the radio initialization process may have failed. Try resetting the CK32 I-Safe. See "Resetting Your Computer" on page 110. • If you have tried these possible solutions and the no network connection icon still appears, you may have a defective radio card. For help, contact your local Intermec service representative.

Problems With Wireless Connectivity (continued)

Problem	Solution
The CK32 I-Safe is connected to the Intermec Application Server or host computer and you move to a new site to collect data. The network connection icon was visible but now the no network connection icon ( ) is visible.	You may have gone out of range of an access point. Try moving closer to an access point or to a different location to re-establish communications. Once you are in range again, the network connection icon appears again. Any data you collected while out of range is transmitted over the network
While configuring or using wireless printing, you see the message, "The Bluetooth COM port does not exist [55]. This is probably because the computer was just resumed. Please wait a few seconds and try again."	If you recently resumed the CK32 I-Safe, wait a few seconds and try again. Otherwise, you need to make sure that the device you selected as the current wireless printer is a printer, is turned on, and is discoverable. To learn about the current wireless printer and the Bluetooth COM port, see ""Creating an Application That Lets You Print Wirelessly" on page 41.
While configuring or using wireless printing, you see the message, "Bluetooth is off. Would you like to turn it on and continue?"	Tap **Yes** to dismiss the message. Follow the instructions in "Setting Up Bluetooth Communications" on page 39 to turn on the power to the Bluetooth radio.

Problems While Scanning Bar Codes

Problem	Solution
You cannot see a red beam of light from the scanner when you press the **Scan** button and aim the scanner at a bar code label.	You may be too far from the bar code label. Move closer to the bar code label and try again. You may be scanning the bar code label "straight on." Change the scanning angle and try again. You can test the effective range of the scanner. Move within 61 cm (2 feet) of a wall and try again. You must be within the scanning range to scan bar code labels. For help, see "Scanning Bar Codes" on page 18.
When you release the **Scan** button or handle trigger, the red beam of light from the scanner does not turn off.	Press the **Scan** button or pull the trigger again without scanning a bar code label. If the red beam is still on, contact your local Intermec service representative.
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.	Try these possible solutions in order: 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. To operate the computer quickly and efficiently, you should enable only the bar code symbologies that you are going to scan.

Resetting Your Computer

You may need to reset your computer if:

- the CK32 I-Safe completely stops responding
- an application is locked up and stops responding
- when you upgrade the firmware
- when you reflash the CK32 I-Safe

Preferred Reset Method

This procedure is the recommended method in recovering the CK32 I-Safe. It performs a graceful system shutdown and no data is lost in the process.

To recover the CK32 I-Safe

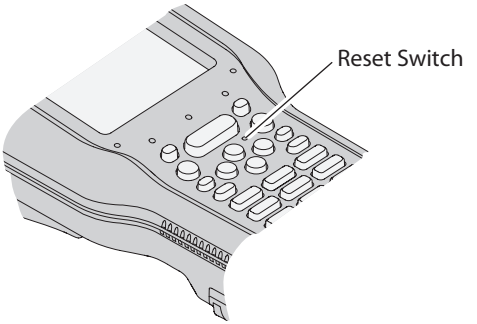
- Press and hold the **Power** button for about 10 seconds.

Secondary Reset Method

If performing the preferred reset method does not restore system operation, try using the secondary reset method. This method does not guarantee that cached disk data will be saved, and as such, transactional data may be lost during the reset. All other data is preserved.

To press the reset switch

1. Press the **Power** button to suspend the CK32 I-Safe.
2. With a bent paper clip or similar device, press the recessed reset switch on the CK32 I-Safe keypad.



Performing a Clean Boot

If performing either reset method fails to restore system operation, you may have to perform a clean boot. This is a boot method which formats the Object Store (user store) to clean data and registry information from the CK32 I-Safe system and restore them to their factory-default state.

The clean boot process will erase the memory in the CK32 I-Safe, including all applications and data files found in the object store.

To preserve application programs through a clean boot they must be stored in the Flash File Store.

To perform a clean boot

1. Press the **Power** button to suspend the CK32 I-Safe.
2. With a bent paper clip or similar device, press the recessed reset switch on the CK32 I-Safe keypad.
3. Press and hold the **Power** button until a Warning message appears on the display, release the **Power** button, then read the message.
4. Press and release the **right side of the Scan** button to perform a clean boot. Press and release the left side of the **Scan** button to cancel the clean boot.

Cleaning the Scanner Window, Screen, and Computer

To keep the computer in good working order, you may need to perform these minor maintenance tasks:

- clean the scanner window
- clean the screen
- clean the computer housing and handle

Cleaning the Scanner Window and Screen

Clean the scanner window and screen as often as needed for the environment in which you are using the computer. To clean the window and screen, use a solution of ammonia and water. Mixing of ammonia and water should be done in a well ventilated area.

There are no user-serviceable parts inside the CK32 I-Safe or in the battery. Opening the unit outside of an Intermec approved service facility will void the I-Safe certification.

To clean the scanner window and computer screen

1. Press the **Power** button to turn off the CK32 I-Safe.
2. Dip a clean towel or rag in the ammonia solution and wring out the excess. Wipe off the scanner window and screen. Do not allow any abrasive material to touch these surfaces.
3. Wipe dry.

Cleaning the Handle and Computer

The exterior of the computer and the handle should be cleaned with a mild solution of soap and water. Other cleaners may affect the ESD dissipation characteristics of the handle and CK32 I-Safe body.

Mild soap refers to soaps you use on your hands and/or body that don't contain any abrasive media or filler. The soap should not contain a large amount of artificial fragrance or any of the following: witch hazel, aloe vera, vegetable and herbal oils such as evening primrose oil, olive oil, or coconut oil, or chamomile, lavender, rosemary or peppermint. Do not use products labeled as detergents.

Examples of mild soaps are:

- Ivory Snow liquid or powder
- Ivory bar soap
- Jergens mild soap (bar)
- Woolite (an exception to hand/body soaps)

Add just enough soap to a quantity of water to start and create sudsing (using agitation while adding), but no more; you can't go wrong with this solution. Keep in mind that the water should just be warm; hot water can have adverse affects on some plastics.

- Ammonia is not compatible with polycarbonates, a major component in the CK32 I-Safe housing; it is NOT recommended as a cleaner.
- Plastic cleaners like 3M Plastic Cleaner, Plexus®, Meguiar's® PlastX, All Kleer Plastic Cleaner & Polish and the like all have polishes (micro-abrasives) and waxes that make them unsuitable for cleaning the handle and computer.
- Plastic protectants like **Armor All® or Son of a Gun®** are for protecting plastic from UV rays. They clean to some degree, but can leave the product slippery. Use at your own risk.

To clean the handle and computer

1. Unscrew the handle and remove it from the CK32 I-Safe.
2. Clean the surface of the magnet with a damp cloth.
3. Use adhesive tape to remove any metal debris from the surface of the magnet in the handle.
4. Clean the computer and handle.
5. Reattach the handle.

A Specifications

Physical and Environmental Specifications

Use this section to locate technical information about the CK32 I-Safe and its available features and options.

Physical Dimensions

Length: 24.6 cm (9.41 in)

Width: 8.89 cm (3.5 in)

Thickness: 7.62 cm (3.0 in)

Weight

CK32 I-Safe Weight (without battery): 893.59 g (31.52 oz)

Battery weight: 194.48 g (6.86 oz)

Handle weight: 132.96 g (4.69 oz)

Power Specifications

Operating: Rechargeable 2400 mA lithium-ion battery

Backup: Super capacitor supplies 10 minutes bridge time while replacing the main battery

Electrical Specifications

Electrical rating: ⎓ 7.4 to 12; 500 mA peak

Temperature and Humidity Specifications

Operating temperature: -20°C to 50°C (-4°F to 122°F)

Operating humidity: 5 to 90% non-condensing

Storage temperature: -20°C to 60°C with battery 70°C without (-4°F to 140°F with battery 158°F without)

Storage humidity: 0 to 95% relative humidity, non-condensing

LCD Touch Screen Specifications

- 240 x 320 QVGA
- 8.89 cm (3.5 in) diagonal square active area
- LED backlight with high and low settings
- No ambient light sensor

Keypad Options

- 42-key large numeric and function keypad, available with programmable, 3270 TE/5250 TE, and VT/ANSI TE overlays
- 56-key full alphanumeric keypad, available with programmable, 3270 TE/5250 TE, and VT/ANSI TE overlays

Bar Code Symbologies

The CK32 I-Safe supports these bar code symbologies:

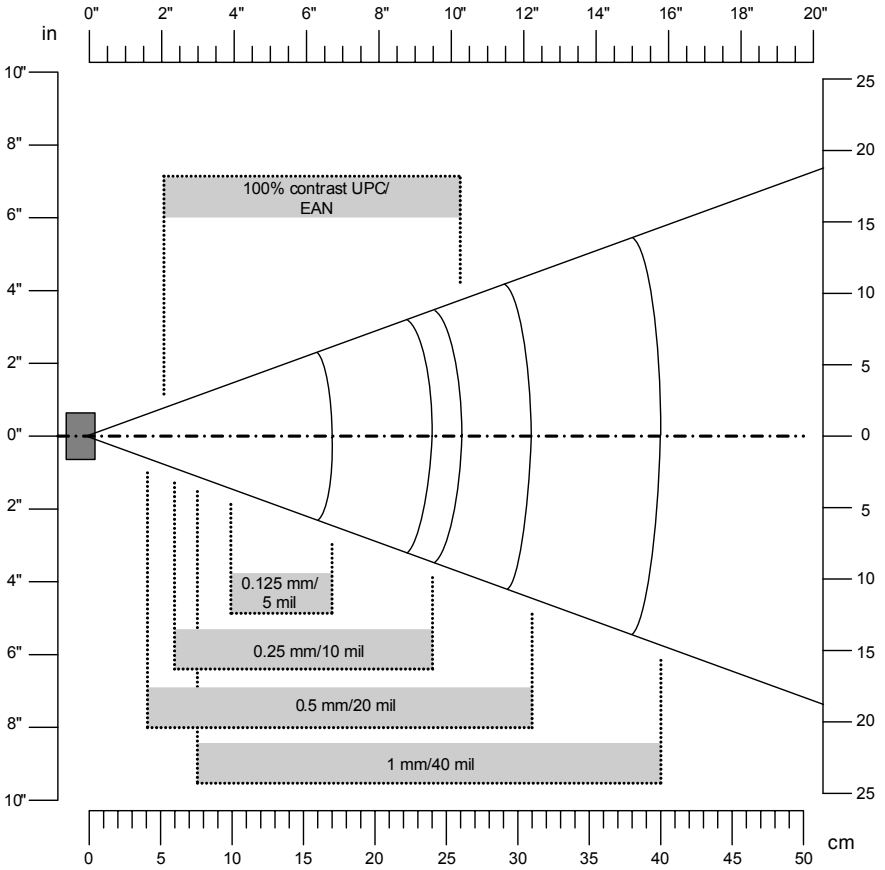
• Codabar	Micro PDF417
• Codablock A	MSI
• Codablock F	PDF417
• Code 11	Plessey
• Code 2 of 5	RSS 14
• Code 39	RSS Limited
• Code 93	RSS Expanded
• Code 128	Telepen
• EAN.UCC Composite	TLC 39
• Interleaved 2 of 5	UPC/EAN
• Matrix 2 of 5	

Linear Imager Reading Distances

Minimum reading distances are measured in the dark (0 lux).

Minimum Reading Distances With 0.655 cm (0.258 in) Setback

Symbology	Bar Code Contents	Density	Minimum Distance	Maximum Distance
Code 39	RESO 0.100 MM	0.1 mm (4 mils)	10.27 cm (4.04 in)	13.31 cm (5.24 in)
	R 0.125 MM	0.125 mm (5 mils)	9.25 cm (3.64 in)	16.36 cm (6.44 in)
	0.25	0.25 mm (10 mils)	5.44 cm (2.14 in)	23.22 cm (9.14 in)
	0.5	0.5 mm (20 mils)	3.41 cm (1.34 in)	30.33 cm (11.94 in)
	R1MM	1 mm (40 mils)	6.96 cm (2.74 in)	39.22 cm (15.44 in)
UPC/EAN	120010010100	0.33 mm (13 mils)	4.42 cm (1.74 in)	25.25 cm (9.94 in)
PDF417	10 mils	0.254 mm (10 mils)	9.25 cm (3.64 in)	16.10 cm (6.34 in)
	15 mils	0.381 mm (15 mils)	7.22 cm (2.84 in)	18.39 cm (7.24 in)



Linear Imager Minimum Reading Distances: *This graphic does not include the 0.665 cm (0.258 in) setback for the CK32 I-Safe.*

Minimum Reading Distances With 1.087 cm (0.428 in) Setback

Symbology	Density	Minimum Distance	Maximum Distance
Code 39	0.125 mm (5 mils)	8.564 cm (3.272 in)	17.962 cm (7.072 in)
	0.25 mm (10 mils)	5.770 cm (2.272 in)	37.774 cm (14.872 in)
	0.5 mm (20 mils)	7.802 cm (3.072 in)	78.922 cm (31.072 in)
	1 mm (40 mils)	8.818 cm (3.472 in)	130.992 cm (51.572 in)
	1.3 mm (51 mils)	Depends on the symbology length and scan angle	148.772 cm (58.572 in)
UPC/EAN	0.33 mm (13 mils)	5.516 cm (2.172 in)	46.918 cm (18.472 in)

Typing Characters Not Printed on the Keypads hidden key sequences to access characters not printed on the keypad overlay. Use the following table to understand how to access these hidden characters on the keypads.

Typing Hidden Characters on the Keypad

	Press This Key Sequence on One of the Keypads:	
To Type:	**42-Key**	**56-Key**
$	Not hidden	⊃■ and then **6**
`	⊃■ and then **F9**	⊃■ and then **G**
!	Not hidden	⊃■ and then **I**
“	⊃■ and then **F6**	⊃■ and then **K**
'	⊃■ and then **F7**	⊃■ and then **L**
{	⊃■ and then **F11**	⊃■ and then **N**
}	⊃■ and then **F12**	⊃■ and then **O**
:	⊃■ and then **F3**	⊃■ and then **P**
;	⊃■ and then **F4**	⊃■ and then **Q**
|	⊃■ and then **F8**	⊃■ and then **R**
?	Not hidden	⊃■ and then **S**
~	⊃■ and then **F10**	⊃■ and then **T**
Y	⊃■ and then **Alpha**	Not hidden
,	⊃■ and then **Right Enter**	Not hidden

Typing Hidden Characters on the International Keypads

To Type:	Press This Key Sequence on One of the Keypads: 42-Key	56-Key
$	Not hidden	and then **6**
{	and then ▲	and then **9**
}	and then ▼	and then **0**
<	and then ◀	Not hidden
>	and then ▶	Not hidden
]	and then **9**	Not hidden
[	and then **Tab**	Not hidden
,	and then **Right Enter**	Not hidden

Typing Hidden Characters on the 3270/5250 TE Keypads

To Type:	Press This Key Sequence on One of the Keypads: 42-Key	56-Key
$	Not hidden	and then **6**
<	and then ◀	Not hidden
>	and then ▶	Not hidden
]	and then **Alpha**	Not hidden
[	and then **Tab**	Not hidden
`	Not applicable	and then **G**
!	Not hidden	and then **I**
“	Not applicable	and then **K**
‘	Not applicable	and then **L**
{	and then ▲	and then **N**
}	and then ▼	key and then **O**
:	Not applicable	and then **P**
;	Not applicable	and then **Q**
?	Not hidden	and then **R**
~	Not applicable	and then **T**
,	and then **Right Enter**	Not hidden

Typing Hidden Characters on the VT/ANSI TE Keypads

	Press This Key Sequence on One of the Keypads:	
To Type:	**42-Key**	**56-Key**
$	Not hidden	⊃■ and then **6**
`	Not applicable	⊃■ and then **G**
!	Not hidden	⊃■ and then **I**
«	Not applicable	⊃■ and then **K**
‘	Not applicable	⊃■ and then **L**
{	■⊂ and then ▲	⊃■ and then **N**
}	■⊂ and then ▼	⊃■ key and then **O**
:	Not applicable	⊃■ and then **P**
?	⊃■ and then **5**	⊃■ and then **R**
]	⊃■ and then **Alpha**	Not hidden
[	⊃■ and then **Tab**	Not hidden
<	■⊂ and then ◀	Not hidden
>	■⊂ and then ▶	Not hidden
,	⊃■ and then **Right Enter**	Not hidden

Accessories

You can use these accessories (sold and ordered separately) with the CK32 I-Safe. To order accessories, contact your local Intermec sales representative.

AN1 Communications Adapter (P/N 871-223-xxx)

An external adapter used to connect the CK32 I-Safe with wired networks.

Note: You must use the AN1 Communtications Adapter for all wired connections to the CK32 I-Safe.

AC11 Quad Battery Charger (P/N 852-914-xxx)

Four battery charger. Charge rate is limited by I-Safe requirements.

Handle (P/N 714-625-xxx)

The handle provides a convenient scanning trigger.

Hand Strap (P/N 825-183-xxx)

I-Safe leather hand strap

Carrying Strap Kit (P/N 825-186-xxx)
I-Safe leather carrying strap

AB6 Battery Pack (P/N 318-021-xxx)
Battery pack

Tethered Stylus (P/N 203-828-xxx)
Use the tethered stylus to make sure that you never lose your stylus.

Battery Eliminator (P/N 714-619-xxx)
The battery eliminator provides AC power to your CK32 I-Safe handheld computer.

Power Supply (P/N 851-061-xxx)
Power supply for the Communications Adapter and Quad Battery Charger.

Screen Protector (P/N 346-065-004)
Clear covering designed to protect the CK32 I-Safe screen.

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CK32 I-Safe Handheld Computer User's Manual

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