

ITE

Intermec Terminal Emulator

User Guide

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There are U.S. and foreign patents as well as U.S. and foreign patents pending.

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Version Number	Date	Description of Change
006	6/2013	Revised to support ITE release 1.40. Added additional protocol and SSH options. Added keypad diagrams for CK3R and CK3X. Deleted information for unsupported computers (CK32, CK60, CV30). Added new information on creating and using SIPs with CV41 running Windows Embedded Standard.
005	5/2012	Revised to support ITE release 1.35. Added new configuration procedures using Intermecc Settings throughout the manual. Added keypad layouts for the CV41 and CV61 computers. Added support and configuration information for the CV41 and CV61 computers.
004	9/2011	Revised to support ITE release 1.30. Added new information on SSH settings and installing SSL certificates. Added descriptions of the redesigned Toolbar and associated icons. Added information on using Intermecc Settings from within ITE.
003	1/2011	Revised to support ITE release 1.25. Added new information on using the 70 Series, CN50, and CS40 computers, new SSL configuration options in the te_settings.ini file, and a procedure for enabling the phone on the CN50 and CS40 computers while ITE is running.
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Before You Begin

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

Safety Information

Read and follow cautions in this document before handling and operating Intermec equipment. Your equipment and data can be damaged if you do not follow the cautions. This section explains how to identify and understand cautions and notes in this document.



Caution

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



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

Global Services and Support

Warranty Information

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

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

Web Support

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

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

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

Send Feedback

Your feedback is crucial to the continual improvement of our documentation. To provide feedback about this manual, please contact the Intermec Technical Communications department directly at TechnicalCommunications@intermec.com.

Who Should Read This Manual

This document is written for the person who is responsible for installing, configuring, and maintaining the Intermec Terminal Emulator (ITE) application. This document provides you with information about ITE features, and how to install, configure, operate, maintain, and troubleshoot the application.

Before you work with ITE, you should be familiar with your network and general networking terms, such as IP address, and with your terminal emulation system.

Related Documents

This User Guide is intended to be used with the *Intermec Terminal Emulator (ITE) Programmer's Reference Manual*. The Programmer's Reference Manual includes complete information on all terminal emulation commands supported by ITE.

You should also have a copy of the user manual for your Intermec computer:

- *70 Series Mobile Computer User Manual*
- *CK3 Mobile Computer User's Manual*
- *CK3R and CK3X Mobile Computer User Manual*
- *CN3 Series Mobile Computer for Windows Mobile 5.0 User's Manual*
- *CN3 Series Mobile Computer for Windows Mobile 6.1 User's Manual*
- *CN4 Series Mobile Computer User's Manual*
- *CN50 Mobile Computer User's Manual*
- *CS40 Mobile Computer User's Manual*
- *CV41 Vehicle Mount Computer (Windows CE) User Guide*
- *CV41 Vehicle Mount Computer (Windows Embedded Standard) User Guide*
- *CV61 Vehicle Mount Computer User Manual (Windows 7)*
- *CV61 Vehicle Mount Computer User Manual (Windows XP)*

The Intermec website at www.intermec.com contains our documents (as PDF files) that you can download for free.

To download documents

- 1** Go to www.intermec.com and click **Support** > **Manuals**.
- 2** Use the **Product Category**, **Product Family**, and **Product** menus to help you find the documentation you want to download.

1

Getting Started

This chapter introduces the Intermec Terminal Emulator application and includes these sections:

- **About Intermec Terminal Emulator**
- **Setting Up the Computer and the Network**
- **Installing ITE on Your Intermec Computer**
- **Launching ITE**
- **Communicating Through Your WWAN Connection**
- **About ITE Applications**

About Intermec Terminal Emulator

The Intermec Terminal Emulator (ITE) application emulates 3270, 5250, and VT/ANSI terminals on your Intermec computer. These computers support ITE:

- CK3 Mobile Computer with Windows Mobile 6.1
- CK3R and CK3X Mobile Computers with Windows Embedded Handheld 6.5



Note: Throughout this manual, “CK3” also refers to the CK3R and CK3X computers unless otherwise noted.

- CK70 and CK71 Mobile Computers with Windows Embedded Handheld 6.5.3
- CN3 Mobile Computer with Windows Mobile 5.0 or Windows Mobile 6.1
- CN4 Mobile Computer with Windows Mobile 6.1
- CN50 Mobile Computer with Windows Mobile 6.1 or Windows Mobile 6.5
- CN70 Mobile Computer with Windows Embedded Handheld 6.5.3
- CS40 Mobile Computer with Windows Mobile 6.5
- CV41 Vehicle Mount Computer with Windows CE 6.0 or Windows Embedded Standard
- CV61 Vehicle Mount Computer with Windows XP or Windows 7

For all supported Intermec computers, the ITE program name is “IntermTE”.

ITE supports double-byte fonts if your computer operating system uses them. For more information on operating systems that support double-byte fonts, contact your Intermec representative.

About ITE Licensing

Using ITE requires a license. If ITE was preinstalled on your Intermec computer, you do not need to purchase a license until you upgrade ITE. If ITE was not preinstalled on the computer, you need to purchase an application license to use ITE.

After you install or upgrade ITE, the application runs in demo mode for 60 days, or until you purchase a license. During the 60-day demo period, a demo mode message box appears when you launch ITE. After 60 days, the message box appears after every 100 keystrokes. Press **Enter** to close the message.

- If you installed ITE on the computer, you need to purchase an application license.
- If you upgraded the installed version, you need to purchase a maintenance license.

For information on purchasing and installing licenses, contact your Intermec representative.

Checking Licenses Out with SmartSystems

When you use SmartSystems Foundation to manage your Intermec computers, by default ITE checks licenses out from the server when the application is launched, and checks licenses back in when the application is closed. For more information, see “[Enabling License Check-Out](#)” on page 66.

You need to add purchased licenses to the SmartSystems license server before the licenses can be checked out. Some computers may not be able to check out a license for ITE if the number of computers that can run ITE exceeds the number of available licenses.

About Intermec License Manager

If you are not using SmartSystems to manage your computers, you can use Intermec License Manager (ILM) to download and distribute your ITE licenses.

To download Intermec License Manager

- 1 Go to www.intermec.com and select **Support > Downloads**.
- 2 In the **Product Category** list, select **Computers**.
- 3 In the **Product Family** list, select **Fixed/Vehicle Computers** (for CV41 and CV61) or **Handheld Computers** (for all other supported computers).
- 4 In the **Product** list, select your Intermec computer, and then click **Submit**. The Downloads page for your Intermec computer appears.
- 5 In the Console/Server Software section, click **Intermec License Manager ever. 1.xx.xx.xxxx** and follow the prompts to download the application. You must login to download software.

Setting Up the Computer and the Network

ITE can be ordered preinstalled on selected Intermec computers. For more information, contact your Intermec sales representative.

If you need to install ITE on your computer, follow these steps to set up your computer and network before you install ITE.

To set up your computer and network for ITE

- 1 For UDP Plus network connections, configure the Session Persistence Server (SPS) or other Intermec gateways. For more information, see “[About Session Persistence](#)” on page 34.

For TCP/IP connections, configure a TGAP for session persistence. For more information, see “[About the Telnet Gateway Appliance \(TGAP\)](#)” on page 34.

For more information, see the next section, “[About ITE and Network Protocols](#).”
- 2 Configure the access point for your network.

- 3 On your computer, use the Intermecc Settings application to configure the computer to communicate with your RF network.
 - For basic information on using Intermecc Settings, see the computer user manual.
 - For specific information on Intermecc Settings parameters, see the *Intermecc Settings Command Reference Manual*.
- 4 Verify that your computer is communicating correctly with the access point and Intermecc application server (such as the SPS) or the host. For more information, see the computer user manual.

About ITE and Network Protocols

ITE applications use one of the following network protocol options. For network configuration options, refer to your computer user manual.

Network Protocol Options

Protocol	Description
TCP/IP	The computer running ITE communicates through access points directly connected to the host computer on an Ethernet or a token ring network.
TGAP over TCP	Allows a client session to persist on mobile computer clients. This functionality is provided by the Session Persistence Server (running as either a service under the SmartSystems Foundation or as a standalone installation), and supported in VT/ANSI, 5250, and 3270 emulations. For additional information, see “ About the Telnet Gateway Appliance (TGAP) ” on page 34.
UDP Plus	The computer running ITE communicates with the host computer through the Session Persistence Server and an access point. The SPS provides this functionality as a service under the SmartSystems Foundation.

Installing ITE on Your Intermecc Computer

If you use SmartSystems to manage your Intermecc computer, you only need to drag-and-drop the bundle as usual to install ITE. For more information, see the SmartSystems Foundation documentation.

If you do not use SmartSystems, follow the next procedure to download the bundle and extract the necessary application files for your Intermecc computer.

To install ITE without using SmartSystems (except CV41 running Windows Embedded Standard and CV61)

- 1 Go to www.intermecc.com and select **Products > Software and Tools > Terminal Emulators/Browsers > Intermecc Terminal Emulator (ITE)**.
- 2 In the Intermecc Terminal Emulator page, click the **Downloads** tab.
- 3 In the Applications list, select the ITE bundle for your computer, and follow the prompts to download the bundle to your PC.

- 4 On your PC, double-click the bundle and follow the prompts to extract the files. By default, the files are extracted to C:\Program Files\Intermec\SmartSystem\SS_Lib\Software\ITE_ARMV4i_<ITE version>. Select the install file for your computer:

For This Computer:	Use This ITE File:
70 Series: CN70, CK70, CK71	ITE_WM_VGA_WVGA.cab
CV41(Windows CE)	ITE_CV41_CE60_x86.cab
All other compatible computers: CK3, CN3, CN4, CN50	ITE_OTHER_WM_ARMV4I.cab

- 5 Open an ActiveSync connection to the computer and copy the .cab file to the computer:
- For all computers except the CV41, copy the .cab file to the \cabfiles directory.
 - For the CV41, copy the .cab file to the \system\intermec directory.
- Or, copy the files to a storage card (4 MB space required) and install the card in the computer.
- 6 Warm boot the computer. ITE is installed automatically.
- You can also browse to the .cab file and double-tap the file. Follow the prompts to install the ITE components.

To install ITE on the CV41 (Windows Embedded Standard only) or CV61 without using SmartSystems

- 1 Go to www.intermec.com and select **Products > Software and Tools > Terminal Emulators/Browsers > Intermec Terminal Emulator (ITE)**.
- 2 In the Intermec Terminal Emulator page, click the **Downloads** tab.
- 3 In the Applications list, select the ITE bundle for the CV41 (WES only) or CV61, and follow the prompts to download the bundle to your PC
- 4 On your PC, double-click the bundle and follow the prompts to extract the files. By default, the files are extracted to C:\Program Files\Intermec\SmartSystem\SS_Lib\Software\ITE_ARMV4i_<ITE version>.
- 5 Copy ITEXP7Setup.exe to the computer. You can copy the .exe to a USB drive or connect to the computer through your network.
- 6 On the computer, run the .exe to install ITE.
- 7 Warm boot the computer to complete the installation.

Launching ITE

By default, ITE auto-starts after reboot on all computers except the CV41 and CV61. If ITE does not auto-start when the computer is booted, you can start ITE manually.

To start ITE manually

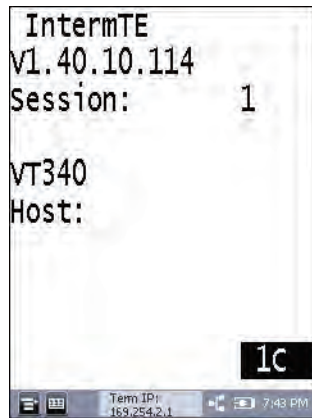
- For Windows Mobile platforms, tap **Start > Programs > ITE**.
- For Windows CE platforms, double-tap the ITE desktop icon.

To prevent ITE from auto-starting, you can enable the “No Auto-Start” setting for ITE using Intermec Settings on the computer. For more information on using Intermec Settings, see **“Configuring ITE With Intermec Settings” on page 21**.



Note: To auto-start ITE on the CV41 and CV61, change “NO Auto-Start” in Intermec Settings and save the changes. ITE auto-starts on all subsequent restarts.

After ITE initializes, the main screen appears. Depending on whether or not the onscreen Soft Input Panel (SIP) is enabled, you see one of these screens:



ITE Main Screen Without SIP

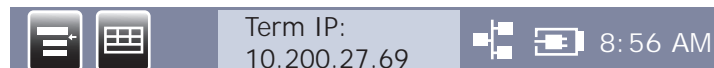


ITE Main Screen With SIP

The ITE version is shown just below the program name. You may need to know the ITE version if you are upgrading or if you need to contact Product Support.

The section along the bottom of the screen is the Toolbar, which includes useful information and several buttons you use while running ITE. The Toolbar appears at the bottom of the screen whether the SIP is enabled or not.

You can configure the toolbar contents as necessary. For help, see **“Configuring the ITE Toolbar” on page 67**.



ITE Toolbar



Note: By default, ITE screens show white text on a black background. For better readability, all ITE screens shown in this manual show black text on a white background. The content and options in each screen depend on the installed hardware options in your computer.

Closing ITE

When ITE is running, there are two ways to close the application and return to the Windows desktop on the computer:

- You can tap the Exit button in the toolbar. By default, the toolbar does not include the Exit button (except for CV41). For information on adding the Exit button to the toolbar, see **“Configuring the ITE Toolbar” on page 67**.
- You can use commands in the ITE Main Menu. For help, see the next procedure.

To close ITE from the Main Menu

- 1 In the ITE main screen:
 - Double-tap the upper right corner. The Main Menu appears.
 Or,
 - In the ITE toolbar, tap the Menu Settings button and choose **ITE Menus** from the list. The Main Menu appears.
- 2 In the ITE Main Menu, tap **Set-up Parm**s or press **1**. The Enter Password field appears.
- 3 Enter the password (default is cr52401) and press **Enter**. The Set-up Parm menu appears.



Note: By default, ITE uses the same password for exiting the application as it does for access to the configuration menus. To change the exit password, see **“Enabling the ITE Exit Password” on page 73**.

- 4 Tap **Exit ITE** or press **6**. The Exit ITE screen appears.
- 5 Press **Y** to close ITE.

Communicating Through Your WWAN Connection

If your Intermec computer includes a cell phone, ITE can attempt to connect to your network through the WWAN connection if the application cannot find the network server IP address. You need to configure the GPRS connection on the computer to enable this feature.

When ITE is connected via the WWAN connection, the Signal Indicator in the Toolbar shows phone signal strength instead of radio signal strength.

If ITE cannot connect via the WWAN connection, a “Cannot Connect” error message appears. Tap **Dismiss** to clear the message, or tap **Settings** to configure your connection. For more information, see the computer user manual.

Enabling the Phone On The CN50 and CS40 Mobile Computers

By default, when ITE is running, the cell phone on the CN50 and CS40 Mobile Computers is disabled. There are three ways to change this setting:

- On the computer, open Intermec Settings and check the **Allow Phone Operations** check box. The phone becomes available the next time you warm boot the computer.
- Change the “allow_phone_operation” parameter in the te_settings.ini file. The phone becomes available the next time you warm boot the computer.
- Use the SmartSystems Foundation console to open Intermec Settings remotely, and check the **Allow Phone Operations** check box. If ITE is running, a message appears on the computer prompting you to warm boot before you can use the phone. If you disable the phone through the console, no message appears and you do not need to warm boot the computer. For more information, see [“Starting Intermec Settings Remotely With SmartSystems Foundation” on page 22.](#)

For more information, see the computer user manual.

About ITE Applications

These sections describe how to use the Intermec Terminal Emulator application for your particular computer.

For the ITE 3270 application, ITE emulates an IBM-3278-2 computer. When color is enabled, ITE emulates an IBM 3279-3 computer.

For the ITE 5250 application, ITE emulates the following:

- IBM-5291-1 computer
- IBM-5555-B01 and IBM-5555-C01 computers (If a double-byte CAB file is installed, a localized operating system is running for a double-byte country, or depending on the Use Color setting).
- IBM-5292-02 computer (If the 5250 color option is enabled).
- IBM-3477-FG and IBM-3477-FC computers (If 132 column mode is selected, depending on the Use Color setting).

For the ITE VT/ANSI application, ITE emulates VT100, VT220, VT320, VT340, or ANSI terminals.

About Annunciators

The computer display reserves a location for annunciators (icons) that monitor RF and network communications or alert you to a condition that requires action.



Note: Although the ITE screen covers computer operating system icons such as battery charge status, you can customize the ITE Toolbar to include many of these system icons so they are visible when ITE is running. For help, see [“Configuring the ITE Toolbar” on page 67.](#)

3270 Annunciators

Icon Name	Icon	Position	Description
Session number	1, 2, 3, 4	1	Session number of the ITE application.
Input inhibit	X	2	Keyboard has accepted enough information for the defined input field. The “key-ahead” feature stores keystrokes after the “input inhibited” annunciator appears. These are saved for the next field. This overrides Insert Mode if both are active.
Insert mode	^	2	Keyboard inserts characters instead of overwriting them.

5250 Annunciators

Icon Name	Icon	Position	Description
Message waiting	M	1	Host has a message waiting for the operator. This overrides Session Number if both are active.
Session number	1, 2, 3, 4	1	Session number of the ITE application.
Input inhibit	X	2	The keyboard has accepted enough information for the defined input field. The “key-ahead” feature stores keystrokes after the “input inhibited” annunciator appears. These are saved for the next field. This overrides Insert Mode if both are active.
Insert mode	^	2	Keyboard inserts characters instead of overwriting them.
Hebrew mode	H	3	If the start of header is set for right to left data input and a 5250 bidirectional Hebrew screen was received.
RTL mode	<	4	If the data input mode when operating in Hebrew is set for right to left, then the cursor is set in a right-to-left mode.

VT/ANSI Annunciators

Icon Name	Icon	Position	Description
Session number	1, 2, 3, 4	1	The session number of the ITE application.
Input inhibit	X	2	Keyboard action mode (KAM) was set. The computer ignores all keystrokes that send characters to the host. This state stays on until KAM is reset. This overrides Insert Mode if both are active.
Keypad mode	K	2	The computer is in Keypad mode.
Character mode	C	2	Computer is in Character mode, sending each character as pressed.
Line Edit (block) mode	B	2	The computer is in Line Edit (block) mode. When you press a terminating key, the computer sends a block of characters to the host.
Local Edit mode	e	2	The computer is in Local Edit mode, which is a feature of the VT330/VT340 computer.

About Alert Sounds

ITE can play an error tone or a bell tone as necessary. The default error sound is the critical.wav file. The default bell tone is the default.wav file. Both sound files are located in the \windows directory on the Intermec computer.

3270 Alert Sounds

In 3270 emulation, alerts occur if the operator tries to enter illegal data into a field (such as trying to enter alphabetic characters into a numeric-only field), or if an opcode error occurs in the data stream.

5250 Alert Sounds

In 5250 emulation, alerts occur when the host sends down a prefix with the alarm bit set, or if the user has “beep on error” enabled and an error occurs (such as trying to enter alphabetic characters into a numeric-only field).

VT/ANSI Alert Sounds

In VT/ANSI emulation, alerts occur when the host sends down a bell character (0x07).

Changing Alert Sounds and Volume

You can change these tones by replacing the.wav file on the Intermec computer with a sound file that produces a different tone on playback. The new file must have the same file name as the one you are replacing, and must be placed in the Windows directory. For more information on copying files to the computer, see the computer user manual.

To change the volume of the alert sounds, you must add Volume Up and Volume Down buttons to the toolbar. For more information, see [“Configuring the ITE Toolbar” on page 67.](#)

About 3270 Emulation Mode

This section describes keypresses specific to 3270 emulation mode.

3278 SNA Keys

To enter an SNA Key, press the keys or scan the bar codes. For instructions and codes, see Appendix A, [“Bar Code Scanning.”](#)

3278 SNA Keys

Key	Description
Clr	Erases the current unprotected field. Also sets the MDT bit and does a reverse tab. A beep means the field is protected and cannot be erased.
Del	Deletes the character over the cursor in the current unprotected field. Data to the right of the cursor shifts left one position. A beep indicates the character is in a protected field and cannot be erased.
Enter	Transmits all modified data fields to the host.

3278 SNA Keys (continued)

Key	Description
EOF	Erases all data from the position of the cursor to the end of the unprotected field. The cursor remains in the same location. A beep indicates that the field is protected.
Home	Sends the cursor to the unprotected field in the display buffer. The first unprotected field is determined by the Insert Cursor order.
Insert	Toggles between insert and normal mode. In insert mode, characters are inserted instead of overwritten.
Reset	Resets from an error condition. The TAB key will also perform the reset function while the terminal input is inhibited.

AID-Generating Keys

An AID-generating key causes a data transmission to the host system, which alerts the host via an AID code that the current session requires some action. ITE emulates all of the AID-generating keys on a 3278 or 3279 Display Station.

AID-Generating Keys

Key	Description
Clear	This key clears the data buffer but leaves the keyboard unlocked. It sends the Clear AID key value to the host.
Programmable function keys F1-F24	These keys send modified input fields and AID key values to the host. The keys lock the keyboard until the host unlocks it. The function keys are used exclusively for 3270 AID key emulation. When you press a programmable function key or scan its bar code, you send the data on the screen to the host, and the function you specified is performed on this data. Each function is determined by the application you use with your system. See the application's user manual for details.
Program Access (PA) keys 1-3	PA1, PA2, and PA3 send the AID key value to the host but leave the keyboard unlocked. When an operator presses a PA key, one of the AID codes (PA AID X6C, PA AID X6E, or PA AID X6B) is returned along with the current cursor address on the normal LU-LU (logical unit) flow. No data is returned to the AS/400 system with any PA key.

About 5250 Applications

This section describes several features of the ITE 5250 emulation mode.

Special Function Keys

This section describes the special function keys. To enter a special function key, press the keys listed in the chapter for the computer or scan the bar codes listed in Appendix A, “[Bar Code Scanning](#).”

For complete descriptions, refer to the appropriate IBM 5250 reference manual.

AID-Generating Keys

AID-generating keys generate AID codes that go in the display data stream to the host system. They alert the host system that the Intermecc application server or controller requires some action. ITE emulates all of the AID-generating keys on a 5291 Display Station.

AID-Generating Keys

Key	Description
Clear	The system environment determines the results of this key. If the computer is in session, [CLEAR] issues the AID code hex BD, which requests the host system issue a Clear Unit command to the computer to clear the display. If not in session, [CLEAR] clears the entire display regeneration buffer.
Enter/Rec Adv	Enters information.
F1-F24	User-defined command functions. Refer to your application's user manual for detail on the functions.
Help (nonerror state)	Issues a hex F3 AID byte to the host system.
Print	Tells the controller that the operator wants to print the contents of the present display. Issues hex F6 to the host system.
Record Backspace (Home)	When pressed with the cursor in the home position, a record backspace is requested. The AID code hex F8 and cursor address are sent to the host system.
Roll Up and Roll Down	Roll display up or down one page. Roll Up issues AID code hex F5. Roll Down issues AID code hex F4.

Roll Keys

Roll Up and Roll Down are AID keys the computer sends to the host to request and display additional screens. The host transmits a new screen in response to this command. The new screens allow you to view data either above or below what appears on the current screen.

Roll Up and Roll Down should not be confused with the Roll command. 5250 computers support the Roll command (hex 23) received from a host application. Using this command, a host application can roll an area of the screen up or down. The direction of the roll and number of lines to roll are specified in the command.

- A Roll command moves the screen, but not the window/viewport. The screen scrolls through the window/viewport when you roll up or down, but the window/viewport remains stationary. The Roll keys cause the host to send down additional screens when you are at a Roll screen. A Roll screen typically has text in the lower right-hand corner of the screen to indicate there are additional screens to view.
- Paging keys (window/viewport page up, window/viewport page down, window/viewport page right, window/viewport page left) move the viewport within one screen. They do not move the screen itself.

Cursor Keys

You can manually move the computer window/viewport by using the cursor keys and paging keys. For more information, see Appendix B, “[Using the Computer Keypad.](#)”

Field Exit Key

Field Exit exits an input field and moves the cursor to the beginning of the next input field. If you press this key while the cursor is between characters, all characters in the field to the right of the cursor are erased.

Signal Keys

Signal keys cause a Signal command to go from the controller to the host system.

Signal Keys

Key	Description
Attention	Press this key to alert the host system that the function request is not honored. Attention is valid when the keyboard is locked or unlocked. It does not change the keyboard state or the cursor location.
Help (from error state)	Operator uses this key to request the host system send data about the error to the display.

Special Control Keys

Use special control keys to change operator-generated information in the display. These keys do not work when the keyboard is locked.

Special Control Keys

Key	Description
Delete	Deletes the character in the position where the cursor was located. All remaining characters in the field shift to the left to fill the column.
Erase Input	Clears all fields to nulls, and cursor moves to the first input position on screen. This command does not erase protected fields. If you press this key when the screen shows only protected fields, the cursor returns to the home position.
Error Reset	Restores the original data on the error line of the display and resets the state.
Hex	Enters hexadecimal codes from the keypad to generate EBCDIC characters needed for input or display.
Home	Moves the cursor to the position specified by the insert cursor (IC) address.
Insert	Sets or turns off the insert mode for the input field the operator has the cursor in. The operator must reset the insert state before exiting it, by either pressing Reset or Insert again.
Shift Lock	Puts the keyboard into shift lock mode.

Special Host Key

The special 5250 host key is System Request.

Special Host Key

Key	Description
System Request	Data on the error line is saved, the error line is cleared, a column separator and underscore field attribute are supplied to column 1 of the error line, and the cursor is located under column 2 to begin polling keystrokes.

Additional Functions

This table lists additional operations you can perform on your computer. To enter an operation, press the keys listed in the chapter for the computer or scan the bar code listed in Appendix A, “[Bar Code Scanning](#).”

5250 Additional Functions

Function	Description
¢ (cent sign)	Enters a cent sign.
↵ (New Line)	Moves the cursor to the first unprotected character position of the first line in the screen. If the screen is a protected field, the cursor returns to the home position.
¬ (Not symbol)	Enters a Not symbol.
Back Tab	Moves the cursor back to the most recent first field position. If in the middle of a field, it moves it to the first position of the same field. If the cursor is at the first position of a field, it moves it to the first position of the preceding input field.
Dup (duplicate enabled fields only)	Controller repeats hex “1C” from the cursor position to the end of the field (appears as an overstruck asterisk).
Field-	Advances cursor to the previous input field. For numeric fields, makes the input a negative number.
Field+	Advances cursor to the next input field. For numeric fields, makes the input a positive number.
Field Mark	This is valid within any unprotected entry input field in which the Dup or Field Mark key is allowed (FFW bit 3 set to on). The Field Mark character (X`1E') is displayed as an overscore on IBM 5251 Display Stations and as a space on all other supported workstations. If an operator presses the Field Mark key in an entry field that does not allow the Dup or Field Mark key, operator error 0019 is posted. The Field Mark code point is allowed in an outbound data stream.
Forward Tab	Moves the cursor to the first position in the next input field.

System Messages

The computer screen reserves a line for status information. The status line can display system (non-local) information such as a message waiting from the host computer, help messages in response to the Help key, or the system request state of the computer.

About VT/ANSI Applications

This section describes several features of VT/ANSI mode.

Main Keypad

The VT/ANSI main keypad consists of standard keys and function keys. Standard keys generate letters, numbers, and symbols. Function keys generate special function codes. The following table describes the keys.

VT/ANSI Main Keypad

Keys	Description
Control	Used with another key to send a control code.
Delete	Operation depends on how the DEL to BS option is set in the TE configuration menus. The key either sends a delete (DEL, 7F hexadecimal) or a backspace (BS, 08 hexadecimal).
Lock	Used with shift-lock, which sets/clears shift-lock.
Enter	Sends either a CR character (0D hexadecimal) or a CR character (0D hexadecimal) and an LF character (0A hexadecimal), depending on the set or reset state of line feed or new line mode (LNM).
Shift	Used with other standard keys to send uppercase characters.
Space bar	Sends an SP character (20 hexadecimal).
Tab	Sends a horizontal tab (HT) character (09 hexadecimal).
Compose character	Not supported.

VT/ANSI Editing Keypad

The editing keypad has editing keys and cursor (arrow) keys.

Cursor Keys

You can use cursor keys and paging keys to manually move the computer window/viewport. For more information, see Appendix B, [“Using the Computer Keypad.”](#)

Editing Keys

Editing keys have functions assigned to them by the application software in use. See your application documentation for information about editing key functions. Editing keys are Find, Insert, Next Screen, Previous Screen, Remove, and Select.

To enter an editing key

- Press the keys listed in the section for the computer or scan the bar codes listed in Appendix A, [“Bar Code Scanning.”](#)

VT/ANSI Auxiliary Keys

The VT/ANSI auxiliary keypad consists of numeric keys (which enter numeric data) and programmable function (PF) keys. The following chart describes VT/ANSI auxiliary keypad operations.

VT/ANSI Auxiliary Keys

Key	Description
0-9	Enters numeric data.
- (hyphen)	Enters a hyphen character.
, (comma)	Enters a comma character.
. (period)	Enters a period character.
Enter	Sends CR, CRLF, or SS# M, depending on the mode settings.
PF1-PF4	The application software in use assign operations to these PF keys. See the application's software manual for programmed uses of these keys.

To enter an auxiliary key

- Press the keys while the computer is in Keypad mode, or scan the bar code in Appendix A, “[Bar Code Scanning.](#)”

VT/ANSI Top-Row Function Keys

VT220/320/340 computers support function keys [F1] to [F20]. Keys [F1] to [F4] are used for hold screen, print screen, set-up, data/talk, and break. For VT220/320/340, [F1] to [F4] are PF1 to PF4.

VT/ANSI Top-Row Function Keys

Key	Description
F6-F20	User-defined keys (UDKs) that have operations assigned to them by the application software in use. Refer to your application's software manual for their uses.



Note: VT100 computers only support top-row function keys [F11] (Escape), [F12] (Backspace), and [F13] (Line feed).

To enter a top-row function key

- Press the keys listed in the section for the computer or scan the appropriate bar code in Appendix A, “[Bar Code Scanning.](#)”

Transmission Mode

Use the transmission mode (labeled “Mode” on the overlay) to toggle between Line Edit (block) mode and Character mode.

When Lock mode is disabled (default), pressing the Mode key toggles between Line Edit (block) mode and Character mode. Enable Lock mode to disable toggling. You can configure Lock mode with the configuration menus. For more information, see **“Configuring Protocol Options” on page 42**.

For more information on transmission modes, see the *Intermec Terminal Emulator (ITE) Programmer’s Reference Manual*.

Local Edit Mode

If your application software program supports local editing, you can use the computer in Local Edit Mode, a feature of the VT330/ VT340 computer. For more information, see the *Intermec Terminal Emulator (ITE) Programmer’s Reference Manual*.

Printing and Serial Scanning

You can print data from a VT/ANSI host. To connect your computer to a printer, refer to the computer’s user manual for instructions. To configure printing and serial scanning options, see **“About VT/ANSI Options” on page 47**.

The next table defines the print modes you can use with the ITE VT/ANSI application.

Print Modes

Print Mode	Description
Auto print	Prints each line after the cursor leaves that line using a carriage return or when auto-advancing through fields. This mode can be turned on and off from a VT/ANSI host.
Printer controller	Prints all data from a VT/ANSI host. Turn this mode on or off from the host as all host screens are printed without allowing the user to respond. You cannot log on or off while in this mode.
Print cursor line	Prints the line that the cursor is on. This mode can only be turned on from a VT/ANSI host and turns off after the line prints.
Print form feed	After a screen is printed, the printer advances the printed screen out of the printer. This mode can be turned on and off from a VT/ANSI host.

To send commands from the host

- See the programming guide for your VT/ANSI host.

2

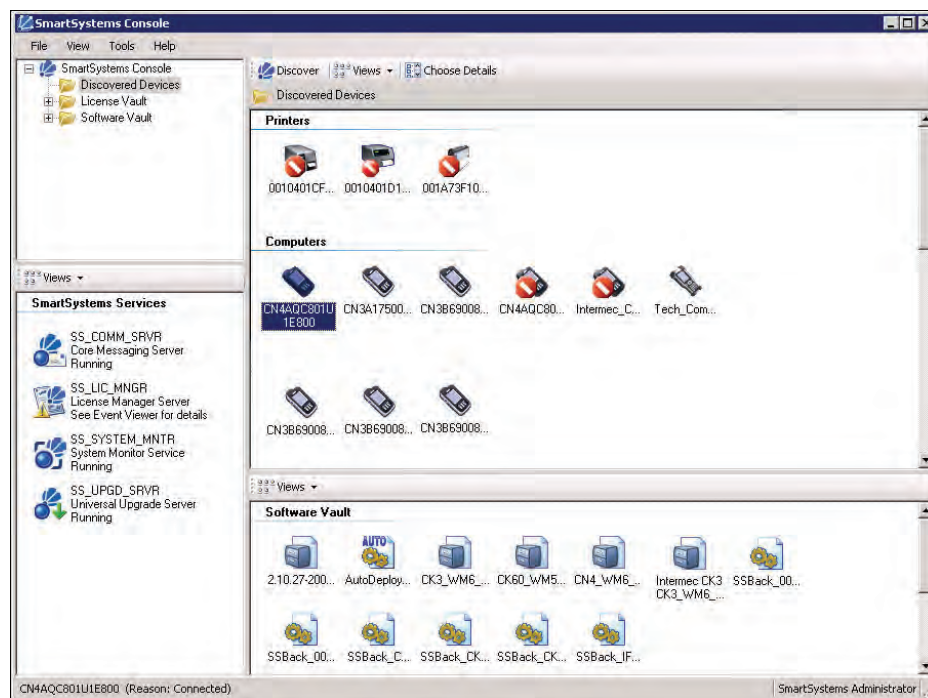
Configuring and Managing ITE

This chapter explains how to configure the Intermec Terminal Emulator application by choosing options, and includes these sections:

- **Managing ITE With SmartSystems**
- **Configuring ITE With Intermec Settings**
- **Configuring for UDP Plus**
- **Using the Out of Range Monitor**
- **Configuring Scan Control Settings**
- **Configuring Access to ITE**
- **Using Voice over IP**
- **Using the SnapShot Feature**
- **Enabling a Trusted Application**
- **Setting the COM Port (CV41 and CV61 only)**
- **Connecting to an RFID Reader**

Managing ITE With SmartSystems

Intermec SmartSystems™ is a software platform that lets you manage all of your SmartSystems-enabled devices simultaneously from a central server. The SmartSystems console displays all SmartSystems-enabled computers and peripherals in your network.



Intermec SmartSystems Console

Through the console, you can:

- drag-and-drop ITE configuration bundles (as well as bundles for other applications), operating system updates, and firmware upgrades to multiple computers.
- save ITE configuration settings from a single computer to a `te_settings.ini` file and deploy the file to many computers simultaneously.
- remotely change ITE application settings and other device settings on SmartSystems-enabled computers.
- manage ITE license check-out and check-in for all computers running ITE.

With a Management license, SmartSystems can automatically push software, configuration settings, and other files to connected computers.

SmartSystems can be downloaded at no charge from the Intermec website. For more information, visit www.intermec.com/SmartSystems. To purchase a Management license, contact your Intermec sales representative.

Configuring ITE With Intermec Settings

You can configure ITE for your work environment. For example, you can set the display font and screen size, or enable an RFID reader connected to the computer.

You view and change ITE operating parameters by using the Intermec Settings application on the computer.




Note: You can also customize parameters in the TE_Settings.ini setup file. For more information, see Chapter 3, “[Customizing Your Configuration](#).”

There are two ways to access Intermec Settings:

- Directly on the computer through the ITE Toolbar, or from the computer Start menu. Using Intermec Settings on the computer changes only the settings on that computer.
- Remotely via Intermec SmartSystems Foundation. When you use SmartSystems, you can remotely configure ITE settings on all your SmartSystems-enabled computers. For more information, see “[Starting Intermec Settings Remotely With SmartSystems Foundation](#)” on page 22.

To configure ITE directly on the computer

1 In ITE:

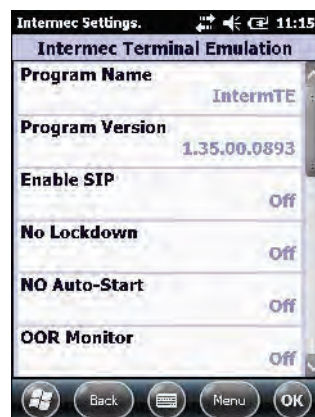
a Tap  and select **Intermec Settings**.

b In the Input Password dialog box, enter cr52401 and press **Enter**.



Note: You can also access Intermec Settings from the computer desktop if you are not currently running ITE. For help, see the computer user manual.

2 In the Intermec Settings main menu, tap **Applications > Intermec Terminal Emulation**. The Intermec Terminal Emulation main menu appears. This example shows the ITE main menu on a CK71 Handheld Computer:



From here, you can tap menu bars to see lists of configurable items and change settings. For more information on using Intermecc Settings on the computer, see the computer user manual.



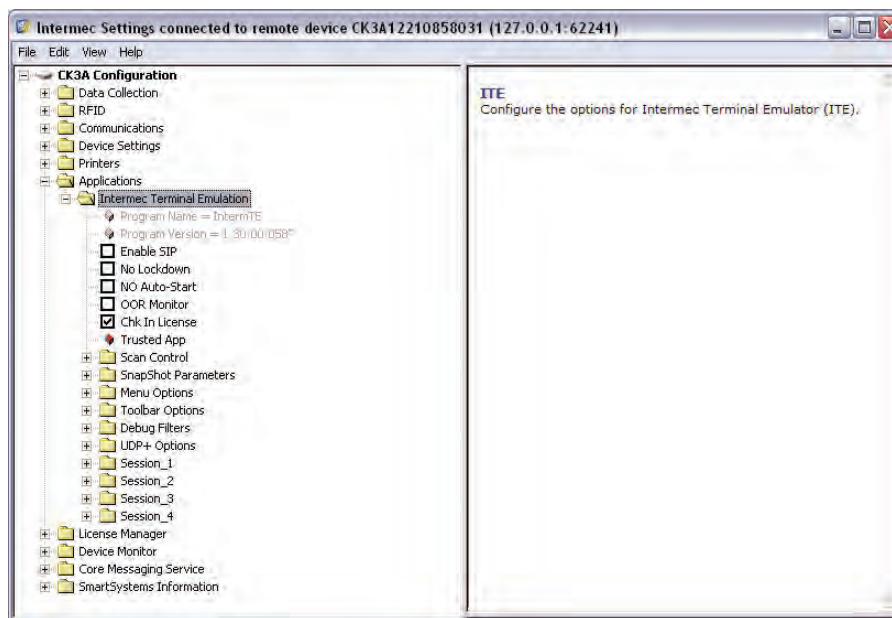
Note: Certain parameters depend on the options available in your Intermecc computer, or on the global values set in Intermecc Settings.

Starting Intermecc Settings Remotely With SmartSystems Foundation

For more information on SmartSystems, see “[Managing ITE With SmartSystems](#)” on page 20.

To open Intermecc Settings from the SmartSystems console

- 1 In the SmartSystems console, right-click a computer.
- 2 Select **Intermecc Settings**. The Intermecc Settings browser window appears.
- 3 In the browser, select **Applications > Intermecc Terminal Emulation**.



For help with using Intermecc Settings, in the browser click **Help > Contents**.

For information on all parameters in Intermecc Settings, see the [Intermecc Settings Command Reference Manual](#).

Configuring Options for Each Session

You can configure a set of options for each of the four sessions. For example, you can assign each session a customizable host name or friendly name, or designate a “hot key” to quickly switch between sessions.

To configure options for each session

- 1 Open the Intermec Terminal Emulation main menu in Intermec Settings. For help, see [“To configure ITE directly on the computer” on page 21.](#)
- 2 Tap **Session 1**, **Session 2**, **Session 3**, or **Session 4**. The list of configuration items for that session appears.



- 4 Tap an option to select it and change the settings as needed. When you are finished, tap **OK** to save your changes and return to the **Session_1** list, or tap **Cancel** to return to the **Session_1** list without saving any changes.

For more information on these settings, see the next table.

Session Options

Option	Description	Values
Session Name	Sets the customizable host name (or friendly name) for the session.	CV41, CV61: String of up to 64 characters. All other computers: String of up to 16 characters.
Menu Password	When set to On, user must enter a password to access the ITE Main Menu.	On or Off. Default is Off.
Change Menu Password	Sets the password required to access the ITE Main Menu. Menu Password must be set to On before you can set this password.	String of 1 to 10 characters. Default is 3193693.
Password	Entry field for the password.	cr52401
Print Device	Sets a printer to use for the session. For more information, see “Selecting a Printer” on page 59.	RS232 IRDA Bluetooth Prt Network Prt Default: RS232 for CK71, CN70, CV41, CV61; Bluetooth for CK3, CN3, CN4, CN50

Session Options (continued)

Option	Description	Values
Set Hot Key	Sets the “hot key” for this session. Press the “hot key” at any time to switch to this session from another session.	F1 through F24. Default is None.
Type-Ahead	When ITE cannot immediately send data to the host, this feature enables ITE to store keystrokes (after the Input Inhibited annunciator appears on the status line) and saves the keystrokes for the next input field.	On or Off. Default is On.
Shift F13-F24	When enabled, press Shift and then press F1 through F12 to generate key values for F13 through F24 .	On or Off. Default is Off.
Bar Code Parm	Sets bar code scanning options. For more information, see “Configuring Scan Control Settings” on page 64.	
Display Opt	Sets ITE screen fonts and screen behaviors, such as URL hot spots. For more information, see “Selecting ITE Fonts and Screen Behaviors” on page 51.	
LCD Parm	Sets ITE screen sizes and colors. For more information, see “Configuring ITE Screen Sizes and Colors” on page 53.	
TCP/IP Options	Sets network options for TCP/IP connections. For more information, see “Configuring a TCP/IP Connection” on page 25.	
UDP+ Options	Sets options for UDP Plus connections to a server. For more information, see “Configuring for UDP Plus” on page 60.	
Protocol Opt	Sets options for 3270, 5250, or VT/ANSI protocols. For more information, see “Configuring Protocol Options” on page 42.	

Configuring a TCP/IP Connection

You can configure different TCP/IP settings for each of up to three hosts.

- 1 Open the Intermec Terminal Emulation main menu in Intermec Settings. For help, see [“To configure ITE directly on the computer” on page 21.](#)
- 2 Tap **Session 1**, **Session 2**, **Session 3**, or **Session 4**. The list of configuration items for that session appears.
- 3 In the Session menu you selected, tap **TCP/IP Options** > **Host A**, **Host B**, or **Host C**. The list of configuration items for that host appears.



Host A Configuration List: This example shows the Host A configuration items list as viewed on a CK71 computer.

- 4 Tap an item to select it and make changes. For information on the configuration items, see the next table. After you make changes, tap **OK** to save your changes, or tap **Cancel** to return to the list of configuration items for that host.

TCP/IP Configuration Item Descriptions

Item	Description	Values
Protocol	Defines the security protocol to use for data communication.	Telnet (Default) TGAP SSH SSL TGAP SSL
Host	IP address of the application server.	None.
Port Number	Selects the port number you want to use to make a connection to the host computer.	0 to 65535. Default is 23.
Emulation	Computer type for this host.	3270 5250 VT/ANSI (Default)
SSL Options	Secure Sockets Layer (SSL) options for this host.	For more information, see “Configuring ITE for SSL” on page 29.
SSH Options	Secure Shell (SSH) options for this host.	For more information, see “Configuring ITE for SSH” on page 31.

TCP/IP Configuration Item Descriptions (continued)

Item	Description	Values
Use WWAN	Determines whether ITE should try to connect to the network through the WWAN radio if it cannot connect through the 802.11 network.	Disabled - ITE will not use WWAN. Exclusive - ITE only uses WWAN. Primary - ITE uses WWAN first, then tries 802.11. Secondary - ITE uses 802.11 first, then tries WWAN. Default is Disabled.
KeyAlive Timer	Sets the number of minutes allowed to pass before the keyalive keypress is sent back to the host to keep the current session open. For more information, see “About the KeyAlive Function” on page 34.	0 to 120. Default is 0.
KeyAlive Key	Sets the key value sent back to the host when the keyalive timer goes off. For more information, see “About the KeyAlive Function” on page 34.	F1 through F24 Attention Help Clear Enter Field Exit Home Reset Roll Down Roll Up Print SysRequest Default is Disabled.
Unit #	Unique value for this computer. Set this value when the host expects a power-up message containing the unit number.	1 to 127. Default is 127.
Keyboard type	Sets the language type for the keyboard. For more information and valid values, see the next section, “About the Keyboard Type, Charset, and Code Page Options.”	Default is USB.
Charset	Sets the graphic character set. For more information and valid values, see the next section, “About the Keyboard Type, Charset, and Code Page Options.”	697
Code Page	Selects a display language for the code page. For more information and valid values, see the next section, “About the Keyboard Type, Charset, and Code Page Options.”	037
Printer Address	IP address of the network printer. You must select Network Print in the Print Device parameter.	None.
Printer Port	Port number ITE uses to communicate with the printer. You must select Network Print in the Print Device parameter.	0 to 65535. Default is 23.

About the Keyboard Type, Charset, and Code Page Options



Note: This section only applies to 3270 or 5250 emulation.

The Keyboard Type, Charset, and Code Page options determine the language for the keyboard, the displayed character set, and page encoding for ITE. For best results, Intermec recommends the following combinations of these options:

Keyboard Type, Charset, and Code Page Options by Language

Language or Country	Keyboard Type	Full CHRID		Limited CHRID	
		Charset	Code Page	Charset	Code Page
Albania	ALI	697	500		
Arabic X/Basic	CLB			235	420
Austria/Germany	AGB	697	273	265	273
Austria/Germany Multinational	AGI	697	500		
Belgium Multinational	BLI	697	500		
Brazilian Portuguese	BRB	697	037		
Bulgaria	BGB	1150	1025		
Canadian French	CAB	341	260	277	260
Canadian French Multinational	CAI	697	500		
Cyrillic	CYB	960	880		
Czech Republic	CSB	959	870		
Denmark	DMB	697	277	281	277
Denmark Multinational	DMI	697	500		
Estonia	ESB	1307	1122		
Finland/Sweden	FNB	697	278	285	278
Finland/Sweden Multinational	FNI	697	500		
France (Azerty)	FAB	697	297	288	297
France (Azerty) Multinational	FAI	697	500		
France (Qwerty)	FQB	697	297	288	297
France (Qwerty) Multinational	FQI	697	500		
FYR (Former Yugoslav Republic of Macedonia)	MKB	1150	1025		
Greece	GKB	925	875		
Greece	GNB	925	875		
Hebrew	NCB	941	424		
Hungary	NNB	959	870		
Iceland	ICB	697	871		

Keyboard Type, Charset, and Code Page Options by Language (continued)

Language or Country	Keyboard Type	Full CHRID		Limited CHRID	
		Charset	Code Page	Charset	Code Page
Iceland Multinational	ICI	697	500		
International and U.S. ASCII	INB	697	500	103	038
International Multinational	INI	697	500		
Iran (Farsi)	IRB	1219	1097		
Italy	ITB	697	280	293	280
Italy Multinational	ITI	697	500		
Japan (English)	JEB	697	281	297	281
Japan (English) Multinational	JEI	697	500		
Japan (Kanji)	JKB	1172	290		
Japan (Katakana)	KAB	332	290		
Japan (Latin Extended)	JPB	1172	1027		
Japan (U.S. Basic)	JUB	697	037		
Korea	KOB	1173	833		
Languages of the Former Yugoslavia (Latin)	YGI	959	870		
Laos	LAB	1341	1132		
Latvia	LVB	1305	1112		
Lithuania	LTB	1305	1112		
Netherlands	NEB	697	037		
Netherlands Multinational	NEI	697	500		
Norway	NWB	697	277	281	277
Norway Multinational	NWI	697	500		
Pakistan (Urdu)	PKB				
Poland	PLB	959	870		
Portugal	PRB	697	037	301	037
Portugal Multinational	PRI	697	500		
Romania	RMB	959	870		
Russia	RUB	1150	1025		
Simplified Chinese	RCB	1174	836		
Slovakia	SKB	959	870		
Spain	SPB	697	284	305	284
Spanish Speaking	SSB	697	284	309	284
Spanish Speaking Multinational	SSI	697	500		
Sweden	SWB	697	278	285	278
Sweden Multinational	SWI	697	500		

Keyboard Type, Charset, and Code Page Options by Language (continued)

Language or Country	Keyboard Type	Full CHRID		Limited CHRID	
		Charset	Code Page	Charset	Code Page
Switzerland/France Multinational	SFI	697	500		
Switzerland/Germany Multinational	SGI	697	500		
Thailand (only with 2924)	THB	1176	838		
Traditional Chinese	TAB	101	037		
Turkey (Qwerty)	TKB	1152	1026		
Turkey (F)	TRB	1152	1026		
Ukraine	UAB	1326	1123		
United Kingdom	UKB	697	285	313	285
United Kingdom Multinational	UKI	697	500		
United States and Canada	USB	697	037	101	037
United States and Canada Multinational	USI	697	500		
Vietnam	VNB	1336	1130		

Configuring ITE for SSL

You can configure ITE for SSL security using any one of the following modes:

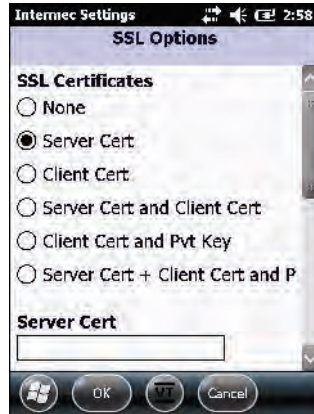
- SSL Encryption only. Server and client identities are not verified during the handshake. You need to disable the Server setting for Client Certificate Verification.
- Server Authentication only. The server identity is verified based on the server certificate, but the client identity is not verified. You need to disable the Server setting for Client Certificate Verification and provide a valid CA certificate.
- Client Authentication only. The client identity is verified based on the client certificate, but the server identity is not verified. You need to enable the Server setting for Client Certificate Verification. You also need to provide a client certificate and a private key.
- Server and Client Authentication. Both the server and client identities are verified. You need to enable the Server setting for Client Certificate Verification and provide a CA certificate, a client certificate, and a private key.

ITE supports the following SSL formats and RFCs:

- PKCS 1 V2.1 as defined by RFC3447, Public-Key Cryptography Standards, for RSA data exchanges
- PKCS 2 V1.4 as defined by RFC2631, Diffie-Hellman Key Agreement Method
- PKCS 8 V1.2 as defined by RFC5208, Private-Key Information Syntax Standard

To configure SSL

- 1 Open the Intermecc Terminal Emulation main menu in Intermecc Settings. For help, see “**To configure ITE directly on the computer**” on page 21.
- 2 Tap **Session 1**, **Session 2**, **Session 3**, or **Session 4**. The list of configuration items for that session appears.
- 3 Tap **TCP/IP Options**.
- 4 Tap **Host A**, **Host B**, or **Host C**.
- 5 Tap **SSL Options**.



- 6 In the SSL Options list, select an option and enter certificate and key information as needed. After you make changes, tap **OK** to save your changes, or tap **Cancel** to return to the Host A configurable items list without saving any changes. For more information, see the next table.

SSL Option Descriptions

Option	Description	Values
SSL Certificates	Defines the parameters for the SSL security protocol.	None Server Cert Client Cert Server Cert and Client Cert Client Cert and Pvt Key Server Cert + Client Cert and Pvt Key
Server Cert	Path of the server CA certificate used for validation during the handshake process to verify the identity of the server.	0 to 260 characters.
ServerCertPassword	Password for the P12 Server Certificate.	Up to 50 characters.
Client Cert	Path of the client certificate used for validation during the handshake process to verify the identity of the client as trusted by the server.	0 to 260 characters.
ClientCertPassword	Password for the P12 Client Certificate.	0 to 50 characters.
ClientPvtKey	Path to the Client Private Key used for encrypting data sent by the client.	0 to 260 characters.
ClientPkeyPassword	Password for the P12 Client Private Key.	0 to 50 characters.

Installing Certificate Files

For SSL connections, you must copy your certificate files to the \Program Files\Intermec\ITE\Certs directory on the computer.



Note: For the CV41 running Windows CE, the installation path is \System\ITEData\Certs.

For information on copying files, see the computer user manual.

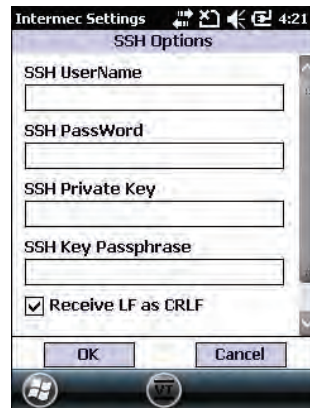


Note: For computers running Windows Mobile 6.x, Windows 7, and Windows XP, you can also use the Windows Certificate Store for server and client certificates. If you use the Windows Certificate Store, you do not need to select a client private key, as ITE uses the private key attached to the certificate.

Certificate chaining is not supported and you can have only one certificate per file. For client certificates, you can keep one private key in the same file as the certificate if the format supports it. PEM, DER, and P12 formats are currently supported. Private keys in DER encoding use PKCS8 format.

Configuring ITE for SSH

- 1 Open the Intermec Terminal Emulation main menu in Intermec Settings. For help, see [“To configure ITE directly on the computer” on page 21](#).
- 2 Tap **Session 1**, **Session 2**, **Session 3**, or **Session 4**. The list of configuration items for that session appears.
- 3 Tap **TCP/IP Options**.
- 4 Tap **Host A**, **Host B**, or **Host C**.
- 5 Tap **SSH Options**.



- 6 Enter the SSH information in the entry fields. After you make changes, tap **OK** to save your changes, or tap **Cancel** to return to the Host A configurable items list without saving any changes. For more information, see the next table.

SSH Option Descriptions

Option	Description	Values
SSH UserName	Stored username you are prompted to enter when you choose to connect to Port 22 (SSH) instead of Port 23 (Telnet).	0 to 80 characters. Default is a null string.
SSH PassWord	Stored password you are prompted to enter when you choose to connect to Port 22 (SSH) instead of Port 23 (Telnet).	0 to 80 characters. Default is a null string.
SSH Private Key	Key file SSH uses for private key authentication. Specify the relative path from \Program Files \Intermec\ITE\SSH\, or prefix the absolute path with \.	0 to 80 characters. Default is a null string.
SSH Key Passphrase	Passphrase required to access the SSH Private Key file. If blank, ITE assumes no passphrase was configured.	0 to 80 characters. Default is a null string.
Receive LF as CRLF	When enabled, when ITE receives a line feed from the host, it is treated as a carriage return + line feed. This is required for proper formatting of some Linux connections, but must be disabled for correct display of some Windows-based server screens.	Enabled or Disabled. Default is Enabled.

Using a Configuration File for SSH Settings

The ITE implementation of the OpenSSH client provides for additional configuration options and settings. To configure these settings, use the Open SSH configuration file located in:

- \Program Files\Intermec\ITE\SSH (all computers except CV41 running Windows CE)
- \System\ITEdata\ssh (CV41 running Windows CE only)

If you use the configuration file, settings made in ITE (such as port number and host name) override the settings in the file.

A complete description of Open SSH options and settings is beyond the scope of this manual. For more information on Open SSH client configuration options and settings, see http://www.manpagez.com/man/5/ssh_config/.



Note: ITE supports public key authentication for Open SSH. This feature is configured from within ITE and not through the configuration file.

Locking Down SSH Applications

To prevent a user from getting to the command prompt, a telnet server can bring itself up during startup (as part of the standard services). Logging into the SSH server as a shell brings up the command prompt.

On a Linux system, you can prevent this by creating a login script that executes your host application and then posts “exit” as its last command. Specifically, in the user account .pro file, append the following lines:

```
trap 2
./ pgmName
exit
```

SSH Server Application Programming Hints

Intermec SSH Client is compatible with most open source SSH servers. Because host implementations of SSH differ from installation to installation, ITE is not guaranteed compatible with all implementations. The following servers support ITE as determined in connectivity tests:

- SUSE 9.1
- SUSE 10.1
- Slackware 6.0.9
- FreeBSD 7.1
- CentOS v5.3
- Tectia 6.4.2.132

ITE supports the SSH connection settings described in this table:

Supported SSH Connection Settings

Setting	Description
Authentication	Password or Public Key Authentication
Compression Algorithm	None
Connection Protocol	Not implemented
Encryption Algorithms	All supported by OpenSSH
Key Exchange Algorithms	All supported by OpenSSH
MACs	MD5 RIPEMD SHAL UMAC
SSH Version	Version2

If you find incompatibilities between ITE SSH support and your host, contact Intermec Product Support and your Intermec sales representative to determine the best solution.

The SSH server provides all the services to connect clients to the host and control the TCP/IP ports. All a SSH server application does is position the cursor and read standard input (stdin). You can use the following procedure if you have already built a TCP/IP server application.

To convert a TCP/IP server application to an SSH server

- 1 Remove all multiprocessing/spawn code and all TCP/IP send() calls that echo the data.
- 2 Replace your TCP/IP recv() calls with the following:


```
while((char ret = getc()) strncat(string, &ret, 1);
```
- 3 Replace all send calls that paint the screen with equivalent putc() or puts() calls.
- 4 Set PasswordAuthentication to Yes.
- 5 Set UsePAM to No.

About Session Persistence

For all emulations, the Session Persistence Server (SPS) supports the Telnet Gateway Appliance (TGAP) Service and UDP Plus Services and provides:

- the ability to configure up to eight different TCP/IP hosts for connections to the various client terminals.
- support for up to 1024 clients.
- client session persistence. If an ITE client loses connectivity for any reason (roams out of range, was powered off, or loses battery power), the gateway can keep the client's session alive to its UDP+ or TCP/IP host.

SPS is transparent to both the ITE client and the host. It listens for connections from clients. When a client connects, the gateway establishes and maintains the connection to a host for the client. If the client loses connectivity, the gateway can hold the host connection open until the client can reconnect.

For more information, see [“Managing ITE With SmartSystems” on page 20](#).

About the Telnet Gateway Appliance (TGAP)

If you use the Session Persistence Server (SPS), you can enable the Telnet Gateway Appliance (TGAP) to ensure connection persistence in a roaming mobile environment. TGAP guarantees delivery of data frames to the computer or server even if the computer is out of range when the frames are sent. If TGAP is not enabled, the last data transaction may not be completed if the computer roams out of range.

TGAP and the SPS support IBM 3270, 5250, and VT/ANSI data streams. When configuring ITE, set the following parameters for TGAP:

- Host Name: SPS server IP address where the TGAP Service is installed.
- Port Number: Port number of the host you want to connect to as configured in the Session Persistence Server.
- Emulation: The emulation type (VT/ANSI, 5250, or 3270).
- TGAP must be enabled.

About the KeyAlive Function

A terminal connection to an IBM host can be kept alive when user data is not being received by the host. Enabling the KeyAlive feature sends a keypress (usually a function key) to the host every so often as if it was pressed by the user. The KeyAlive function is disabled by default.

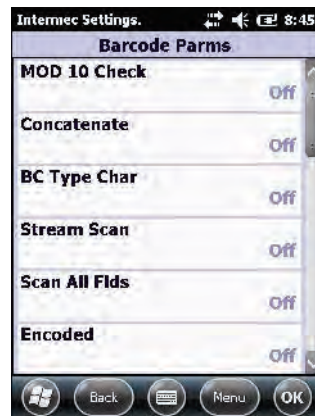
Valid Timer values are between 0 and 120 minutes. A value of 0 disables both the Timer and the KeyAlive feature. The Timer value is saved in the `te_settings.ini` file. When the value of the Timer is changed, connected sessions are disconnected and then reconnected as soon as the menus are exited.

Configuring Bar Code Scanning Options

You can configure different sets of bar code scanning options for each of the four available ITE sessions.

To configure bar code scanning options

- 1 Open the Intermec Terminal Emulation main menu in Intermec Settings. For help, see [“To configure ITE directly on the computer” on page 21.](#)
- 2 Tap **Session 1**, **Session 2**, **Session 3**, or **Session 4**. The list of configuration items for that session appears.
- 3 Tap **Bar Code Parm.**



- 4 Tap an item to select it and make changes. For information on the configuration items, see the next table. After you make changes, tap **OK** to save your changes, or tap **Cancel** to return to the list of bar code configuration items for the session.

Bar Code Parm. Configuration Item Descriptions

Item	Description	Values
MOD 10 Check	When enabled, adds a check digit to the end of the bar code after a good read for transmission to the host. The host can then validate the transmitted data using the check. MOD 10 Check is not needed with modem transmission protocols. The bar code number is divided by 10, until the number (or modulus) is less than 10. If the modulus subtracted from 10 (remainder) is equal to zero, then the bar code number is valid.	70 Series: On or Off. CK3: Checked or Not Checked. Default is Off.
Concatenate	Adds each bar code read to the end of the previous bar code read until the computer meets a condition forcing transmission to the host. When disabled, each bar code read is placed at the beginning of the current input field. After a bar code is placed in any field, any subsequent read replaces the first read.	Default is Off.

Bar Code Parm Configuration Item Descriptions (continued)

Item	Description	Values
BC Type Char	When enabled, adds a character associated with the bar code type to the beginning of the scanned bar code.	Default is Off.
Stream Scan	When enabled, scanned bar code data that is too big for the input field appears in the next field and continues until the entire bar code is entered. When disabled, if the bar code is too big for the input field, overflow information is dropped.	Default is Off.
Scan All Flds	When enabled, the scanner is enabled when the cursor is in an input field. When disabled, the host computer must enable the scanner for each input field that requires scanned data.	Default is Off.
Encoded	Enables or disables Encoded Code 39, which combines key presses with normal bar code data.	Default is Off.
Encoded Save	When disabled, scanning a bar code with the characters \$, +, %, and / are ignored along with the following character if the following character is not in the table of encoded pairs. When enabled, this type of invalid encoded pairs will be included and passed along as if they were valid.	Default is Off.
Auto-Encoded	Enables or disables Auto-Encoded Code 39, which combines key presses with normal bar code data.	Default is Off.
Scan Prechar	Sets a character to send preceding scanned data. A value of 20h means that pre-characters are not sent.	Range is 00 to FF. Default is \x20.
Scan Postchar	Sets a character to send after scanned data. A value of 20h means that post-characters are not sent.	Range is 00 to FF. Default is \x20.

Bar Code Parm Configuration Item Descriptions (continued)

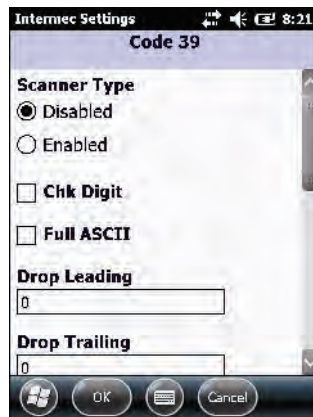
Item	Description	Values
Scan LengthErr	<p>When enabled, scanned data that will not fit into a 5250 field causes an error message to appear at the top left of the ITE display, and the computer emits three beeps.</p> <p>To dismiss the error, you can scan again, press a key or tap the display outside of the message window. Receiving more data from the host also dismisses the message.</p> <p>The field length versus scan data length check is made against the current field regardless of Scan All Flds, Stream Scan, Concatenate, Auto Tab Scan, and Scan AutoEnter settings. The scanner data length includes any pre- or postambles.</p> <p>This is only for scanner API data. Keyboard data and/or scan data that is wedged does not cause this error.</p> <p>If Encoded is enabled, causes scanner data to behave as key presses instead. Enabling Auto-Encoded also causes scanner data to behave as key presses provided the scanner data contains any '\$', '+', '%' or '/' characters.</p>	
CI 2of5	Decode settings for CI 2 of 5 symbology.	
Codabar	Decode settings for Codabar symbology.	
Code 11	Decode settings for Code 11 symbology.	
Code 128	Decode settings for Code 128 symbology.	
Code 39	Decode settings for Code 39 symbology.	
Code 93	Decode settings for Code 93 symbology.	
EAN	Decode settings for EAN symbology.	
Int 2of5	Decode settings for Interleaved 2 of 5 symbology.	
Plessey	Decode settings for Plessey symbology.	
Str 2of5	Decode settings for Str 2 of 5 symbology.	
UPC	Decode settings for UPC symbology.	

Configuring Bar Code Symbology Settings

In addition to global bar code scanning options, you can configure different decode settings for each of the bar code symbologies supported by ITE. You can change decode settings on a per-session basis.

To configure bar code symbology settings

- 1 Open the Intermec Terminal Emulation main menu in Intermec Settings. For help, see **“To configure ITE directly on the computer” on page 21.**
- 2 Tap **Session 1, Session 2, Session 3, or Session 4.** The list of configuration items for that session appears.
- 3 Tap **Barcode Parm.s.**
- 4 Tap the name of the symbology in the **Barcode Parm.s** list. This example shows the list of settings for Code 39:



For each symbology, you can configure settings as described in the next table.

Bar Code Symbology Decode Settings

Setting	Description	Value
Scanner Type	Enables or disables decoding of the symbology.	Enabled or Disabled. Default is Disabled.
Drop Leading, Drop Trailing	Number of characters to drop from the front (leading) or rear (trailing) edge of the bar code. For more information on how this value affects EAN and UPC, see “About EAN/UPC Drop Leading and Drop Trailing Values” on page 41.	0 to 15. Default is 0.
Fix Length 1, Fix Length 2, Fix Length 3, Fix Length 4	Sets the value for fixed length 1, 2, 3, or 4. Fixed-length values override the maximum and minimum length entries. If fixed lengths are not necessary, enter a value of 0 (zero).	0 to 99. Default is 0.
Min Length, Max Length	Set the value for minimum or maximum length of the bar code symbology. For more information, see “Setting Bar Code Lengths” on page 40.	0 to 99. Default is 0.

There are additional settings for some symbologies. For more information, see the next section.

- 5 Change the settings as needed. When you are finished, tap **OK** to save your changes and return to the **BarcodeParms** list, or tap **Cancel** to return to the **BarcodeParms** list without saving any changes.

Additional Decode Settings

These additional decode settings are available for some symbologies.

Additional Decode Settings

Symbology	Setting	Description	Value
Code 11	Chk Dig 1	Sets the check digit to 1 digit, positioned between the final data character and the stop character.	Enabled or Disabled. Default is Disabled.
Code 128	UCC/EAN	Enables or disables UCC/EAN for Code 128.	Enabled or Disabled. Default is Disabled.
	No UCC Type	Enables or disables No UCC Type for Code 128.	Enabled or Disabled. Default is Disabled.
	UCC F1 Value	Sets the value for UCC F1.	0 to 255. Default is 0.
Code 39	Chk Digit	Enables or disables the optional check digit for a higher level of security. The check character is positioned between the final data character and the stop character.	Enabled or Disabled. Default is Disabled.
	Full ASCII	Enables or disables Full ASCII Code 39.	Enabled or Disabled. Default is Disabled.
EAN	Add-on 2	Enables or disables add-on 2, an add-on for EAN 13 often used on newspapers and magazines.	Enabled or Disabled. Default is Disabled.
	Add-on 5	Enables or disables EAN 5, an add-on for EAN 13 often used for the price of books together with the ISBN code.	Enabled or Disabled. Default is Disabled.
	Expand 8to13	Decompresses an EAN 8 symbol and transmits it as an EAN 13 symbol.	Enabled or Disabled. Default is Disabled.
Int 2of5	Chk Digit	Enables or disables the optional check digit for a higher level of security. The check character is positioned between the final data character and the stop character.	Enabled or Disabled. Default is Disabled.
Plessey	MOD10 Chk	After a good read, adds a check digit at the end of the bar code for transmission to the host, which validates the transmitted data using the check.	Enabled or Disabled. Default is Disabled.
UPC	Add-on 2	Enables or disables add-on 2, an add-on for UPC-A often used on newspapers and magazines.	Enabled or Disabled. Default is Disabled.
	Add-on 5	Enables or disables UPC 5, an add-on for UPC-A often used for the price of books together with the ISBN code.	Enabled or Disabled. Default is Disabled.

Additional Decode Settings (continued)

Symbology	Setting	Description	Value
	Sys 0 UPCE	Enables or disables UPCE number system 0.	Enabled or Disabled. Default is Disabled.
	Sys 1 UPCE	Enables or disables UPCE number system 1.	Enabled or Disabled. Default is Disabled.
	Expand E to A	Enables or disables Expand UPC E to UPC A.	Enabled or Disabled. Default is Disabled.



Note: ITE processes EAN 8 and UPC E bar codes in the same manner. The type character for EAN 8 with Add-On 2 or Add-On 5 decodes as UPC E with Add-On 2 or Add-On 5 respectively. The bar code type character also indicates UPC E with Add-On 2 or Add-On 5. Consequently, the drop leading and trailing UPC options are then used when an EAN 8 with Add-On 2 or Add-On 5 is decoded.



Note: The Encoded and Auto-Encoded features always delete invalid encoded pairs from the bar code data, including the preamble and postamble characters added under Intermec Settings Data Collection or Scan Prechar or Postchar.

When a bar code is scanned while Encoded Save is disabled (default), the characters \$ + % / are ignored, as well as the following character, if the following character is not in the table of encoded pairs. This is the standard behavior.

If Encoded Save is enabled, however, such invalid pairs of encoded characters are included and passed on as if valid.

Setting Bar Code Lengths

You can specify the maximum and minimum length for specific bar code symbologies. Setting the length of bar codes helps the computer determine if a scanned bar code is valid and improves response time. The length options must be set for each enabled bar code.

Fixed-length entries override the maximum and minimum length entries (minimum and maximum are used for chosen codes). If fixed lengths are not needed for the enabled bar code, enter zero (0).

These rules apply to specific symbologies:

- Codabar, Str 2of5, Int 2of5, and CI 2of5 bar code symbologies set the length, if fixed-length 1 is non-zero, to three fixed-length entries equal to the first three fixed-lengths (fourth fixed-length is ignored). Otherwise, the length is set to greater than or equal to the minimum length.
- Code 39, Code 128, Code 93, and Plessey set the length to any length greater than or equal to the minimum length.
- UPC/EAN and Code 11 lengths are not used – ANY is allowed.
- Codabar options do not decode less than two data characters (four characters including Start and Stop).
- If both CI 2of5 and Str 2of5 are enabled, CI 2of5 options override Str 2 of 5 options.

- EAN Add-on settings override UPC add-on settings, if both UPC and EAN options are enabled.
- If “Sys 1 UPCE” or “Sys 0 UPCE” is selected, then both UPC E number system 0 and 1 are enabled.
- Code 11 does not support “No check digits.” Select either 1 check digit (Chk Dig 1) or 2 check digits (Chk Dig 2) according to your bar codes. If neither check digit option is selected, then 2 check digits are used by default.

About EAN/UPC Drop Leading and Drop Trailing Values

Drop Leading and Drop Trailing values for UPC and EAN symbologies alter the bar code type and length.

The Drop Leading value is applied first. If this value changes the bar code length, then the displayable bar code type changes. The Drop Trailing value is applied based on the bar code type and new length. As the length changes due to dropped lead characters, the behavior of Drop Trailing changes based on the new bar code type and appearance.

Drop Trailing for UPC and EAN bar codes is designed to drop from the main bar code, not from the add-ons.

The next example demonstrates how Drop Leading and Drop Trailing values affect ITE bar code scanning:

- 1 Start with a UPC-E decode with Add-on 5.
- 2 As shown in the following “Bar Code Type vs. Format” table, Bar Code Type equals UPC E TYPE and length equals 13.
- 3 A Drop Lead of 3 makes the bar code length equal to 10. Now the bar code looks like UPC-E with add-on2, so any Drop Trail value drops characters to the left of the ending 2 add-on characters.



Note: A Drop Lead and Drop Trail value of 1,1 is not recommended with UPC or EAN symbologies. After the Drop Lead of 1, the bar code type and length combination may not be recognized as a valid UPC or EAN format.

If a bar code type and length translation results in an invalid combination, then the bar code type and length from before translation is retained.

Drop Leading and Drop Trailing operations work together as follows:

- 1 Translate Bar Code Type into Displayable Bar Code Type.
- 2 Apply the Drop Leading value based on the translated Bar Code Type.
- 3 Re-translate Bar Code Type with new length into Displayable Bar Code Type.
- 4 Apply the Drop Trailing value before the add-on based on the Translated Bar Code Type Add-On characters.
- 5 Re-translate Bar Code Type with new length into Displayable Bar Code Type.

- 6 Return translated Bar Code Type and bar code without the dropped characters and with the new length.

Bar Code Type vs. Format

Bar Code Type	Length	Displayable Bar Code Type	Bar Code Format
UPC E	8	0	EAN Short
EAN 8	8	1	EAN Short
UPC	12	2	UPC Long
EAN	13	3	EAN Long
UPC E	10	4	UPC Short Add-On 2
EAN 8	10	5	EAN Short Add-On 2
UPC	14	6	UPC Long Add-On 2
EAN	15	7	EAN Long Add-On 2
UPC E	13	8	UPC Short
EAN 8	13	9	EAN Short Add-On 5
UPC	17	:	UPC Long Add-On 5
EAN	18	;	EAN Long Add-On 5

Raw Bar Code Type Values

Raw Bar Code Type	Raw Value
UPC	0x10 (no add-ons)
EAN TYPE	0x11 (no add-ons)
UPC EAN	0x12 (no add-ons)
UPC E	0x13 (no add-ons)
EAN 8	0x14 (Add-On 2)

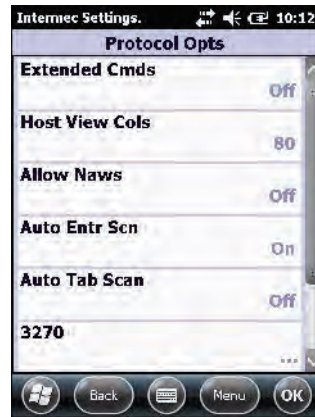
Configuring Protocol Options

You can select the emulation type and set protocol options for each of up to four different sessions.

To configure protocol options

- 1 Open the Intermec Terminal Emulation main menu in Intermec Settings. For help, see **“To configure ITE directly on the computer” on page 21.**
- 2 Tap **Session 1, Session 2, Session 3, or Session 4.** The list of configuration items for that session appears.

3 Tap Protocol Opts.



For information on protocol options, see the next table.

Protocol Options

Option	Description	Value
Extended Ccmds	Enable or disable extended commands. Extended commands allow the host computer to change or use RS-232 communications, set bar code options, change display screen and font size, configure a connected RFID reader, or set error tone features. For more information on extended commands, see the <i>Intermec Terminal Emulation Programmers' Reference Manual</i> .	On or Off. Default is Off.
Host View Cols	Sets the number of columns after which the computer automatically inserts a <CR><LF>. This parameter allows you to design a screen on the host and have it wrap differently depending on the actual screen size of the computer running ITE.	3270: 1 to 80. 5250: 80 or 132. VT/ANSI: 80. Default for all emulations is 80.
Allow Naws	Enable or disable NAWS (Negotiate About Window Size). When enabled, the terminal supports Telnet option 31 if prompted. When disabled, this option returns a “won’t do” message.	On or Off. Default is Off.
Auto Entr Scn	Causes the computer to perform the Enter function after a good scan. Auto Entr Scan cannot be enabled at the same time as Auto Tab Scan.	On or Off. Default is On.
Auto Tab Scan	Enables or disables Auto Tab Scan. When enabled, this causes the cursor to automatically tab forward to the next input field after a good scan.	On or Off. Default is Off.

Protocol Options (continued)

Option	Description	Value
3270, 5250, VT-ANSI	Settings for each emulation type. For more information, see: <ul style="list-style-type: none"> • “About 3270 Options” on page 46. • “About 5250 Options” on page 44. • “About VT/ANSI Options” on page 47. 	

- 4 Change the settings as needed. When you are finished, tap **OK** to save your changes and return to the **Protocol Opts** list, or tap **Cancel** to return to the **Protocol Opts** list without saving any changes.

About 5250 Options

This section describes configurable settings for 5250 emulation.

5250 Protocol Options

Option	Description	Value
5250 Allow Alias	When enabled, if your current device name returns an error, then the computer appends a “\$” (dollar sign) to the end of its device name to initiate a session to the host. When disabled, the device name is resent to the host, which then sends a FIN packet to the computer, causing the computer to restart. This continues until the device name is no longer in use.	Enabled or Disabled. Default is Enabled.
Beep on Error	Determines if the beeper beeps when there is an error.	Enabled or Disabled. Default is Disabled.
Destructive BS	Enables or disables the destructive backspace key. When enabled, the backspace key removes (deletes) any previously keyed data characters. When disabled, the backspace key goes back one character, but does not delete that character.	Enabled or Disabled. Default is Disabled.
Device Name	Physical name for a device. Allowable values include all uppercase and lowercase alphanumeric characters, wildcards, pound symbols (#), dollar signs (\$), ampersands (@), and underscores (_). The first character of Device Name must be a letter. Do not use a wildcard character. To create a unique device name for the computer, use the following wildcard characters to return computer specific information: <ul style="list-style-type: none"> • %I1, %I2, %I3, %I4 return the 1st through 4th octets of the IP address. • %M1, %M2, %M3, %M4, %M5, %M6 return the 1st through 6th parts of the MAC address. • %S0, %S1, %S2, %S3, %S4, %S5, %S6, %S7, %S8, %S9, %SA return the 1st through 11th digits of the computer serial number. 	Range is 1 to 30 characters. Default is none.

5250 Protocol Options (continued)

Option	Description	Value
Enable Half-Width Double Byte Chars	Enabling this option displays thin double-byte characters using one character width instead of two, and displays wide double-byte characters using two character widths. This option is disabled by default.	Enabled or Disabled. Default is Disabled.
Hide SISO Chars	Enabling this option prevents ITE from showing a blank space when the application receives a Shift-In (SI) or Shift-Out (SO) character. When this is enabled, ITE continues to parse double-byte characters.	Enabled or Disabled. Default is Disabled.
Lock Error Msg	Enabling this option causes a 5250 Write Error Code command error message to be visible by placing the cursor on the error message line. When Reset is pressed, the cursor is restored to where it would have been if this option was disabled (the location specified by a 5250 Insert Cursor command) and the cursor mode option then causes that area of the screen to be visible. Disabling this option causes normal behavior for the 5250 Write Error Code command error message.	Enabled or Disabled. Default is Disabled.
Scan AutoEnter	Forces an Enter command if and only if the cursor is on the last field on the screen, and if the field attribute is not set for auto-enter.	Enabled or Disabled. Default is Disabled.
Skip FldExit	When enabled, fields that require a field exit command before sending data on an Enter keypress (thus generating a “0020” error code) send the field data without generating an error.	Enabled or Disabled. Default is Disabled.
Use Color	When enabled, ITE emulates a 5250 single-byte IBM-5292-2 and double-byte IBM-5555-C01.	Enabled or Disabled. Default is Disabled.
3477-FX Mode	When enabled, ITE supports a 5250 132-column screen display. The supported display can either be an IBM-3477-FG when color is disabled or an IBM-3477-FC when color is enabled.	Enabled or Disabled. Default is Disabled.
Allow RTL	When enabled, ITE supports all 5250 commands that use right-to-left text direction. When disabled, all 5250 commands for right-to-left are ignored.	Enabled or Disabled. Default is Enabled.

About 3270 Options

This section describes configurable settings for 3270 emulation.

3270 Protocol Options

Option	Description	Value
3270 Allow Alias	<p>When enabled, if your current device name returns an error, then the computer appends a “\$” (dollar sign) to the end of its device name to initiate a session to the host.</p> <p>When disabled, the device name is resent to the host, which then sends a FIN packet to the computer, causing the computer to restart. This continues until the device name is no longer in use.</p>	Enabled or Disabled. Default is Enabled.
Any Auto Enter	<p>When enabled, an automatic Enter occurs when a reverse video attribute field is filled by keying or scanning data. Any extra scanned data is discarded.</p> <p>When disabled, the screen waits for the user to press the AID key prior to sending data back to the host.</p>	Enabled or Disabled. Default is Disabled.
BRT Auto Enter	<p>When enabled, if the last field on a screen has the reverse video attribute set, then when that field is exactly filled, ITE automatically sends the data for this screen back to the host with an “Enter AID” code.</p> <p>When disabled, the screen waits for the user to press the AID key prior to sending data back to the host.</p>	Enabled or Disabled. Default is Disabled.
3270 Device Name	<p>Physical name for a device. Allowable values include all uppercase and lowercase alphanumeric characters, wildcards, pound symbols (#), dollar signs (\$), ampersands (@), and underscores (_). The first character of Device Name must be a letter. Do not use a wildcard character.</p> <p>To create a unique device name for the computer, use the following wildcard characters to return computer specific information:</p> <ul style="list-style-type: none"> • %I1, %I2, %I3, %I4 return the 1st through 4th octets of the IP address. • %M1, %M2, %M3, %M4, %M5, %M6 return the 1st through 6th parts of the MAC address. • %S0, %S1, %S2, %S3, %S4, %S5, %S6, %S7, %S8, %S9, %SA return the 1st through 11th digits of the computer serial number. 	Range is 1 to 30 characters. Default is none.
ESC Key Definition	Sets the behavior of the ESC key. By default, ESC acts as a Reset key in 3270 emulation. You can also set ESC to act as a Clear key.	Reset Key or Clear Key. Default is Reset Key.

3270 Protocol Options (continued)

Option	Description	Value
Enable TN3270E	When enabled, ITE emulates an IBM 3278-2-E terminal. If 3270 Use Color is also enabled, ITE emulates an IBM-3279-3-E terminal. When disabled, ITE emulates either an IBM-3278-2 or IBM-3279-3 terminal, depending on the 3270 Use Color setting.	Enabled or Disabled. Default is Disabled.
Keybrd Unlock	When enabled, unlocks the keyboard after the PA1 , PA2 , or Clear keys are pressed. When using Token Ring on your host, the Tab key also unlocks the keyboard.	Enabled or Disabled. Default is Disabled.
Origin Set	When enabled, resets the screen origin when an exclamation mark is found in the data stream.	Enabled or Disabled. Default is Disabled.
3270 Use Color	When enabled, ITE emulates an IBM-3279-3 terminal and accepts Start Field Extended and Set Buffer commands which contain color data. When disabled, ITE emulates an IBM-3278-2 terminal.	Enabled or Disabled. Default is Disabled.

About VT/ANSI Options

This section describes configurable settings for VT/ANSI emulation.

VT/ANSI Protocol Options

Option	Description	Value
Allow LineMode	When enabled, the terminal prompts to negotiate to the default LineMode RFC 1184. When disabled, the terminal does not negotiate to LineMode RFC 1184.	On or Off. Default is On.
Answerback	When enabled, the computer sends this character string to the host in response to an inquiry (hexadecimal 05). When ENQ is sent, only the first thirty characters of the name are transmitted back to the host. For more information, see “About the Answerback Character String” on page 49 .	Range is 0 to 50 characters. Default is the computer serial number.
Auto Wrap	When enabled, graphic display characters received when the cursor is at the right margin appear on the next line. The screen scrolls up if the cursor is at the end of the scrolling region. When disabled, graphic characters received when the cursor is at the right margin replace previously displayed characters.	On or Off. Default is Off.
CR to CRLF	When enabled, pressing Enter performs a carriage return and a line feed. When disabled, pressing Enter performs a carriage return only.	On or Off. Default is Off.

VT/ANSI Protocol Options (continued)

Option	Description	Value
DEL to BS	When enabled, pressing the Clear key deletes the character to the left of the cursor position, and moves the cursor back one space. When disabled, the Clear key deletes the character at the cursor position.	On or Off. Default is Off.
Discretebells	When enabled, each bell character is played one after the other. When disabled, the bell characters are concatenated into one.	On or Off. Default is Off.
Do Gold Key	When enabled, F1 acts as the gold key on a VT/ANSI terminal.	On or Off. Default is On.
Do UTF8	Enables UTF-8 encoding as defined by RFC 2279. For more information, see “About UTF-8 Encoding” on page 50.	On or Off. Default is Off.
Ignore DL Ext	When enabled, the Datalogic terminal emulator escape characters are ignored.	On or Off. Default is Off.
Keypad Mode	Selects the keypad mode for VT/ANSI. If Application is selected, application ESC sequences are generated for the key code. If Numeric is selected, ANSI cursor control ESC sequences corresponding to what appears on the face of the keys are generated.	Numeric or Application . Default is Numeric .
Local Echo	When enabled, local echo displays characters from terminal memory but not from host memory.	On or Off. Default is Off.
Term Setup	Selects the compliance level of the emulated terminal.	ANSI, VT100, VT220, VT320, VT340, or IBM 330X. Default is VT340 .
Terminal Mode	Sets the terminal mode to 7-bit or 8-bit.	7-Bit or 8-Bit . Default is 7-bit .
Transmit BS	When enabled, press the backspace key to send a backspace to the host for the host to echo back to the computer. When disabled, the backspace key is handled locally on the computer by doing a destructive backspace to the printed data characters on the display.	On or Off. Default is Off.
Screen Lock	When enabled, the screen is locked to a specified size. Any characters outside this screen size are ignored by the handheld unit.	On or Off. Default is Off.
Lock Mode	When enabled, press the Mode key to toggle between Line Edit (block) mode and Character mode.	On or Off. Default is Off.
Send XON	When enabled, when an RIS is received from the host, the XON character is returned after compliance of this command.	On or Off. Default is On.

VT/ANSI Protocol Options (continued)

Option	Description	Value
Terminal ID	Terminal ID enables the entry of a character string sent back to the host in response to IAC SB terminal type SE. If set to null, then ANSI, VT100, VT220, VT320, or VT340 is returned as selected.	0 to 30 characters. Default is a null string.
Use PC Char Set	When enabled, the font character set defaults to the computer character set instead of a DEC terminal character set.	On or Off. Default is Off.
UserKey Locked	When enabled, the host ignores a host command defining the Function keys.	On or Off. Default is Off.
VT Cursor Mode	Determines what is returned to the host when cursor keys are pressed. Application generates application ESC sequences for the key code. Cursor generates ANSI cursor control ESC sequences that correspond to what appears on the face of the cursor key.	Cursor or Application . Default is Cursor .
VT220 Mode	Selects character or block mode for VT220. If Character is selected, the computer sends each character as it is pressed. If Block is selected, the computer sends a block of characters when a terminating key is pressed.	Character or Block . Default is Character .
RS232 Setup	Configure the serial communications port. For more information, see “About RS232 Setup Options” on page 50 .	

About the Answerback Character String

Enable Answerback to send a character string to the host in response to an inquiry (hexadecimal 05). The string can be 0 to 30 characters long, and possibly longer if you use wildcards as described in this section. Default is the computer serial number.



Note: Although the string can be longer than 30 characters, only the first thirty characters of the name are transmitted back to the host when ENQ is sent.

Use the keypad or SIP to enter the character string. If you enter any of the following control characters, it is sent out. Note that control strings count as one character.

<ACK> <BEL> <BS> <CAN> <CR> <DC1> <DC2> <DC3>
 <DC4> <DLE> <ENQ> <EOT> <ESC> <ETB> <ETC>
 <FF> <FS> <GS> <HT> <LF> <NAK> <NUL> <RS>
 <SI> <SO> <SOH> <STX> <SUB> <SYN> <US> <VT>

To configure an Answerback string that includes computer-specific information, use wild card characters in the string as follows:

Wild Card Characters for Answerback

Use	To Get
%I1, %I2, %I3, %I4	1st through 4th octet of IP address.

Wild Card Characters for Answerback (continued)

Use	To Get
%M1, %M2, %M3, %M4, %M5, %M6	1st through 6th part of MAC address.
%S0, %S1, %S2, %S3, %S4, %S5, %S6, %S7, %S8, %S9, %SA	1st through 11th position of computer serial number.

For example, the Answerback string `Example%S0` is 10 characters long. However, %S0 represents the first character of the serial number, effectively making the string only 8 characters long. If the computer serial number begins with a 2, then the Answerback string evaluates to `Example2`.

About UTF-8 Encoding

When you enable Do UTF8, you enable UTF-8 encoding as defined by RFC3629:

If the character is between 0 and 0x7f, then nothing changes.

If the character is between 0xc0 and 0xfd, then convert the character to a displayable character using the following formula where x is the first character in the string and y is the second character.

$$(x - 0xc0) * 2^{*6} + (y - 0x80)$$

If the character is between 0x8000-0xffff, then the UTF8 translation is done using the following formula. `0xef 0xbb 0xbf` is looked for saying that the following characters are encoded using ISO/IEC 10646 Universal Multiple-Octet Code Character Set with the UTF8 signature.

Then each character is comprised of three characters x , y , and z which are converted using the following formula:

$$(x-0xe0) * 0x1000 + (y-0x80) * 0x40 + (z-0x80)$$

If disabled (default), then characters are translated regularly as defined by the current gl, gr character sets selected.

About RS232 Setup Options

For VT/ANSI emulation, you can set RS-232 serial communications options as described in the next table.

RS232 Setup Options

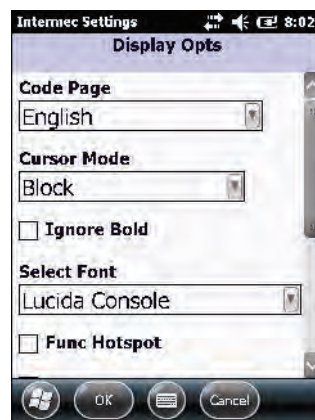
Option	Value
RS232 Baudrate	9600 (Default), 19200, 38400, 57600, or 115200
RS232 Parity	None (Default), Odd, or Even
RS232 StopBits	1 (Default) or 2
RS232 DataBits	8-Bit (Default) or 7-Bit
RS232 Flow	None (Default), DTR, or XON/XOFF

Selecting ITE Fonts and Screen Behaviors

You can select the ITE fonts and screen behaviors to fit the needs of your work environment. For example, you can change the display language and character set encoding, or enable function key and URL hot spots. You can change these settings for each of the four available sessions.

To customize fonts and behaviors

- 1 Open the Intermec Terminal Emulation main menu in Intermec Settings. For help, see [“To configure ITE directly on the computer” on page 21](#).
- 2 Tap **Session 1**, **Session 2**, **Session 3**, or **Session 4**. The list of configuration items for that session appears.
- 3 Tap **Display Opts**.



For information on Display Opts settings, see the next table.

Display Options

Option	Description	Value
Code Page	Selects the character set for the display language (3270 and 5250 emulation only). For more information, see “About Code Page Options” on page 53 .	English (Default) Cyrillic Central Europe Hebrew Greek Latin 2 Turkish Cyrillic Win Arabic
Cursor Mode	Sets the cursor style.	Underln Blink Block Blink Underline Block (Default)
Ignore Bold	When enabled, the bold attribute is ignored and text is displayed using the normal attribute. When disabled, characters with the bold attribute applied display in bold.	Enabled or Disabled. Default is Disabled.

Display Options (continued)

Option	Description	Value
Select Font	Sets the font for the ITE screens.	Lucida Console (Default) Courier New Courier New Bold Courier New Bold Italic
Func Hotspot	When enabled, ITE recognizes function key descriptions on the screen for F1 through F24, such as “F3=Exit”. The format must be: ((<line begin> | <space(s)>) ‘F’ <digit(s)> ‘=’ <non-space>). This sends the Function key represented by <numeric string> to the keypad as if you pressed that key. On a double-click, if this is enabled but is not recognized, the computer emits an error beep.	Enabled or Disabled. Default is Disabled.
Menu Hotspot	When this option is enabled, it recognizes a numeric menu option on the screen such as “90. Sign off”. The format must be: ((<line begin> | <space(s)>) <digit(s)> `.' <space> <non-space>). This sends the <numeric string> to the keypad followed by the Enter key as if you pressed those keys. On a double-click, if this is enabled but is not recognized, then the computer emits an error beep.	Enabled or Disabled. Default is Disabled.
URL Hotspot	When enabled, you can double-tap a displayed http://url address or file:// address to open that location in the default web browser. Tap the Exit button in the upper right corner to close the browser window.	Enabled or Disabled. Default is Disabled.
Copy/Paste	When enabled, you can copy and paste text on an ITE screen as follows: 1 Tap and drag to select characters. 2 Select Copy from the popup menu. 3 Tap the point where the characters should be pasted and select Paste from the popup menu. Because the upper corners of the screen are reserved for hot spots, you cannot copy or paste characters at those locations. When Copy/Paste is enabled, you cannot use the Focus via Touch Panel or Pan via Touch Panel features.	Enabled or Disabled. Default is Disabled.
Ignore CnrTaps	When enabled, the computer ignores double-taps in the upper corners of the display to switch between sessions.	Enabled or Disabled. Default is Disabled.

- 4 Change the settings as needed. When you are finished, tap **OK** to save your changes and return to the **Display Opts** list, or tap **Cancel** to return to the **Display Opts** list without saving any changes.

About Code Page Options

Code page choices are shown in the next table.

Code Page Options and Descriptions

Language or Region	Code Page	Notes
Arabic	1256	The following characters are not supported and display as boxes: <ul style="list-style-type: none"> • 0x8a (unicode character 0x679) • 0x8f (unicode character 0x688) • 0x9a (unicode character 0x691) • 0x9f (unicode character 0x6ba) • 0xaa (unicode character 0x6be) • 0xc0 (unicode character 0x6c1)
Central Europe	1250	Displays text in Polish.
Cyrillic	855	Displays text in Russian.
Cyrillic Win	1251	Displays text in Windows Russian.
English	437	
Greek	1253	
Hebrew	862	
Latin 2	8859-2	Displays text in Latin.
Turkish	1254	
Western Europe	1252	

If you are running the 3270 or 5250 emulations which display characters in EBCDIC, additional requirements may be necessary to correctly display the fonts in your selected language. For more information, see [“Customizing 5250 EBCDIC to ASCII Translation” on page 130](#).

Configuring ITE Screen Sizes and Colors

You can set the ITE screen size and colors for each of the four available sessions.

To configure screen size and colors

- 1 Open the Intermec Terminal Emulation main menu in Intermec Settings. For help, see [“To configure ITE directly on the computer” on page 21](#).
- 2 Tap **Session 1**, **Session 2**, **Session 3**, or **Session 4**. The list of configuration items for that session appears.

3 Tap **LCD Params**.



- 4 Change the settings as needed. When you are finished, tap **OK** to save your changes and return to the **LCD Params** list, or tap **Back** to return to the **LCD Params** list without saving any changes.

For more information on these settings, see the next table.

LCD Params Settings

Setting	Description	Values
Screen Rows	Number of rows that display onscreen.	8 to 21: CK3, CN3, CN4, CN50, CS40 8 to 24: CK70, CK71, CN70 8 to 27: CV41, CV61
Screen Cols	Number of columns that display onscreen.	10 to 32: CK3, CN3, CN4, CN50, CS40 10 to 80: CK70, CK71, CN70 10 to 132: CV41, CV61

LCD Parm Settings (continued)

Setting	Description	Values
Alt Screen Sizes	Defines alternate screen sizes that allow you to quickly change from one size of font to another making the screen information easier to read. To move between the alternate screen sizes, press the screen size button on the toolbar. The Alt1 Screen and Alt2 Screen sizes are predefined. You can define a total of five alternate screen sizes.	All Alt Screen Size values are defaults: Alt1 Screen Rows: <ul style="list-style-type: none"> • 14 for CK3, CN3, CN4, CN50, CS40 • 16 for CK70, CK71, CN70, CV41, CV61 Alt1 Screen Cols: <ul style="list-style-type: none"> • 24 for CK3, CN3, CN4, CN50, CS40 • 25 for CK70, CK71, CN70, CV41, CV61 Alt2 Screen Rows: <ul style="list-style-type: none"> • 16 for CK3, CN3, CN4, CN50, CS40 • 18 for CV41, CV61 Alt2 Screen Cols: <ul style="list-style-type: none"> • 28 for CK3, CN3, CN4, CN50, CS40 • 30 for CK70, CK71, CN70, CV41, CV61 Alt3, Alt4, and Alt5 Screen Rows: 0 Alt3, Alt4, and Alt5 Screen Cols: 0
Screen Mode	Configures how the cursor positions itself on the display. For more information, see “About Screen Mode” on page 56.	Center Cursor Corner Mode (Default) Page Mode Lazy Mode Locked Mode
X Origin	Sets the X origin of the computer display.	0 to 79. Default is 0.
Y Origin	Sets the Y origin of the computer display.	0 to 23. Default is 0.
Annun Position	Sets the annunciator position.	Upper Right (Vertical) Upper Left (Vertical) Lower Right (Vertical) Lower Left (Vertical) Upper Right (Horizontal) Upper Left (Horizontal) Lower Right (Horizontal) Lower Left (Horizontal) Stealth (annunciator is hidden) Default is Lower Right (CK3, CK70, CK71, CN3, CN4, CN50, CN70, CS40 only) or Stealth (CV41, CV61 only).

LCD Parm Settings (continued)

Setting	Description	Values
Key Uppercase	When enabled, alpha keys (A to Z) appear as uppercase characters regardless of the Shift or Caps Lock mode settings.	On or Off. Default is Off.
Scroll Window	Defines how far the cursor moves each time you press the arrow keys.	Tab Size (scrolls the current tab distance) Screen Size (scrolls the current screen size) Scroll Setting (uses the current settings for Define Height and Define Width)
Define Height	Height of the scroll window.	1 to 24. Default is 8.
Define Width	Width of the scroll window.	1 to 80. Default is 8.
Foreground RGB	Configures the text color in RGB values.	Red: 0 to 255. Green: 0 to 255. Blue: 0 to 255. Default for all is 255 (white text).
Background RGB	Configures the background color in RGB values.	Red: 0 to 255. Green: 0 to 255. Blue: 0 to 255. Default for all is 0 (black background).

About Screen Mode

Screen Mode defines the cursor position and movement as you scroll through data in the display buffer, which stores data in a standard CRT format as sent from the host computer. Use Screen Mode options to optimize your view.

Screen Mode Option Descriptions

Option	Description
Center Cursor	Cursor remains in the center of the screen as you scroll through data. On reaching a boundary of the full CRT screen, the cursor moves past the center of the screen. When the cursor reaches the boundary of the CRT screen, an error tone sounds and the cursor does not wrap to the next line in the display.
Corner Mode (default)	Cursor remains in the lower-right corner of the screen as you scroll through data, beginning at the upper-left corner of the full CRT screen. Cursor remains there as data advances in the scrolled direction (up, down, right, or left). On reaching a boundary of the full CRT screen, the display and cursor move in the scrolled direction. Cursor stops moving when it reaches the CRT screen boundary and does not wrap to the next line in the display. An error tone sounds if you try to move the cursor beyond the boundary. Use this option when your application uses only the upper-left corner of the full CRT screen.

Screen Mode Option Descriptions (continued)

Option	Description
Page Mode	<p>Divides the full CRT screen into predefined “pages,” and starts the computer display on page 1. Cursor first appears in the upper right corner. As you scroll, only the cursor moves and the data on the screen does not appear to move. When you scroll off the edge of the displayed page, the display snaps to the next (or previous) page. On reaching a boundary of the CRT screen, the cursor stops moving and an error tone sounds each time you attempt to move beyond the boundary.</p> <p>Because the 24-row by 80-column CRT screen cannot be divided equally, some pages in Page Mode overlap each other and the same information is shown on both pages.</p>
Lazy Mode	<p>Cursor starts in the upper left corner of the screen and moves across the display in the scrolled direction. When the cursor goes beyond the edge of the display, the data moves in the opposite direction to the cursor, which remains at the edge of the display. On reaching an outside boundary of the full CRT display, an error tone sounds each time you try to move beyond the boundary.</p>
Locked Mode	<p>Screen view is locked to the upper left corner of the display. Characters selected outside of the display window size are written to the screen but are not visible. The windowing keys do not move the visible window. In 5250 emulation, the err_row is mapped to the last row of the screen size selected.</p>

Moving the ITE Viewport by Dragging Across the Screen

You can move the computer window/viewport by using the cursor keys and paging keys. You can also enable the Pan via Touch Panel feature, which allows you to move the viewport by dragging your finger or stylus across the computer screen. Pan via Touch Panel is disabled by default and applies to all sessions when enabled.

To enable Pan via Touch Panel

1 Open the Intermec Terminal Emulation main menu in Intermec Settings. For help, see **“To configure ITE directly on the computer” on page 21.**

2 Tap **Pan via Touch Panel.**

3 Select a mode:

- **Viewport Mode:** Drag your stylus or finger across the screen to move the viewport in the opposite direction. This behavior mimics Windows Mobile devices.
- **Screen Mode:** Drag your stylus or finger across the screen to move the viewport in the same direction.
- **Disabled** (default).

4 Tap **OK.**



Note: Pan via Touch Panel settings are ignored if Copy/Paste or Focus via Touch Panel are enabled.

Moving the Cursor Location by Tapping the Screen

You can move the cursor location by pressing **Tab**, which moves the cursor to the beginning of the next entry field. You can also enable the Focus via Touch Panel feature, which moves the cursor to any entry field when you tap the computer screen at the field location.

Focus via Touch Panel is disabled by default and applies to all sessions when enabled.

To enable Focus via Touch Panel

- 1 Open the Intermecc Terminal Emulation main menu in Intermecc Settings. For help, see **“To configure ITE directly on the computer” on page 21**.
- 2 Tap **Focus via Touch Panel**.
- 3 Select **Enable**.
- 4 Tap **OK**.

About the Focus via Touch Panel Feature

For VT/ANSI sessions:

- Focus via Touch Panel is not supported when the application is in Block mode.
- The entire screen is defined as a field unless you are using VT340+ form commands.
- For 3270, 5250, or VT forms, tap the entry field to move the cursor to the first position in that field. Tapping the screen outside an entry field does not move the cursor.

Note: Focus via Touch Panel is ignored if Copy/Paste is enabled.

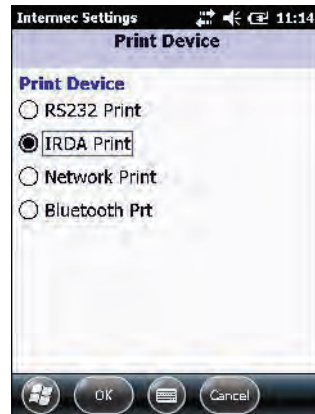


Selecting a Printer

You can select a printer for each of the four sessions. The printer can be on your network, or connected to the computer through IrDA, Bluetooth, or a serial port.

To select a printer

- 1 Open the Intermec Terminal Emulation main menu in Intermec Settings. For help, see [“To configure ITE directly on the computer” on page 21.](#)
- 2 Tap **Session 1**, **Session 2**, **Session 3**, or **Session 4**. The list of configuration items for that session appears.
- 3 Tap **Print Device**.



Note: Print device options will differ depending on your Intermec computer.

- 4 Select one of the options:
 - Tap **RS232 Print** for the RS-232 print driver. This setting is the default for the CV41 and CV61.
 - (CK70, CK71, CN70 only) Tap **IRDA Print** or press **2** to select an IrDA printer connection.
 - Tap **Network Print** to select a network printer.
 - Tap **Bluetooth Prt** to select the current Bluetooth printer. This setting is the default for the CK3, CK70, CK71, CN3, CN4, CN50, CN70, and CS40 computers.



Note: ITE only supports Bluetooth devices connected to COM6.

- 5 Tap **OK** to save your changes and return to the **LCD Parm**s list, or tap **Cancel** to return to the **Print Device** list without saving any changes.
- 6 If you chose **IrDA Print**, **RS232 Print**, or **Bluetooth Prt**, ITE is ready to print to the printer connected to the computer by that method. Before you try to print, make sure you have a valid connection to your printer.

If you chose **Network Print**, you need to specify the printer IP address and printer port. For more information, see [“Configuring a TCP/IP Connection” on page 25.](#)

Configuring for UDP Plus



Note: When UDP Plus is enabled, it applies to all sessions. ITE does not support mixed TCP/IP and UDP Plus sessions.

- 1 Open the Intermec Terminal Emulation main menu in Intermec Settings. For help, see **“To configure ITE directly on the computer” on page 21.**
- 2 Tap **UDP+ Options**.
- 3 Select **Enable UDP+**.



Enabling UDP Plus

The UDP+ Options list includes global UDP Plus settings. For information on these global settings, see the next table.

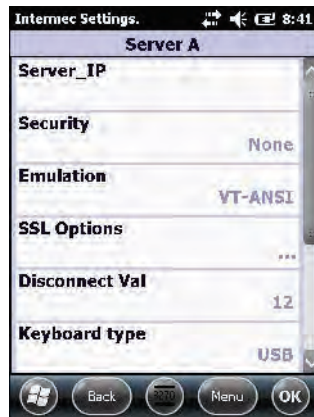
Global UDP Plus Configuration Item Descriptions

Item	Description	Values
UDP+ Port	Port to access the UDP Plus server.	Range is 0 to 65535. Default is 5555.
Max Retries	Maximum number of times to retry the connection before starting the watchdog timer.	Range is 1 to 99. Default is 7.
WD Rcv Timeout	After the maximum number of retries is reached, this is the amount of time that ITE waits before closing the connection when receiving.	Range is 1 to 3600 ms. Default is 45.
WD Send Timeout	After the maximum number of retries is reached, this is the amount of time that ITE waits before closing the connection when sending.	Range is 1 to 3600 ms. Default is 20.
Ack Lower Bound	Amount of time that ITE waits before expecting an acknowledgement.	Range is 200 to 2000 ms. Default is 300.
Ack Upper Bound	Amount of time that ITE waits when expecting an acknowledgement.	Range is 2000 to 60000 ms. Default is 5000.



Note: UDP Plus settings must be identical to those set in the SPS. Intermec recommends that you keep the default values.

- 4 Tap an item in the list to select it and make changes. After you make changes, tap **OK** to save your changes, or tap **Cancel** to return to the UDP+ Options list.
- 5 In the UDP+ Options list, tap **Back**. The ITE main menu in Intermec Settings appears.
- 6 In the ITE main menu, select **Session 1**, **Session 2**, **Session 3**, or **Session 4**. The list of configuration items for that session appears.
- 7 In the Session menu you selected, tap **UDP Options** > **Server A**, **Server B**, or **Server C**. The list of UDP configuration items for that server appears.



Note: Server A is the primary UDP Plus server. If ITE is unable to connect to Server A before the disconnect timer expires, ITE tries to connect to Server B and then Server C.

UDP Plus - Server Configuration Item Descriptions

Item	Description	Values
Server_IP	IP address for this server (Server A, Server B, or Server C).	None.
Security	Defines the security protocol this server uses for data communication.	None or SSL. Default is None.
Emulation	Server computer type.	3270 5250 VT-ANSI (Default)
SSL Options	Secure Sockets Layer (SSL) options for this server. For more information, see “Configuring ITE for SSL” on page 29 .	

UDP Plus - Server Configuration Item Descriptions (continued)

Item	Description	Values
Disconnect Val	When the ITE client is disconnected from its initial controller, this value sets the number of 10-second intervals that the ITE client waits before it attempts to connect to a secondary controller (if one is defined).	0 to 255. Default is 12 (total of 120 seconds in 12 10-second intervals).
Keyboard Type	Sets the language type for the keyboard. For more information, see “About the Keyboard Type, Charset, and Code Page Options” on page 27.	Default is USB.
Charset	Sets the graphic character set. or more information, see “About the Keyboard Type, Charset, and Code Page Options” on page 27.	697
Codepage	Selects a display language for the code page. or more information, see “About the Keyboard Type, Charset, and Code Page Options” on page 27.	037
Printer Address	IP address of the network printer. You must select Network Print in the Print Device parameter.	None.
Printer Port	Port number the ITE uses to communicate with the printer. You must select Network Print in the Print Device parameter.	0 to 65535. Default is 23.

- 8** Tap an item to select it and make changes. For information on the configuration items, see the next table. After you make changes, tap **OK** to save your changes, or tap **Back** to return to the list of UDP configuration items for the server.

Using the Out of Range Monitor

You can use the Out of Range Monitor to alert users when the computer is trying to send data but is out of range of an access point. When this happens, the computer beeps three times and ITE shows this message:



To clear the message, the operator needs to move the computer closer to an access point. When the computer can connect to the access point, the last active ITE screen appears and ITE sends the data to the host.



Note: While this message is onscreen, the computer scanner is disabled. ITE ignores all keypresses except for the Menu button. Although you can view the ITE menus while out of range, when you exit the menus this message appears again if the computer is still out of range.

The Out of Range Monitor is disabled by default. Follow the next steps to enable the Out of Range Monitor.

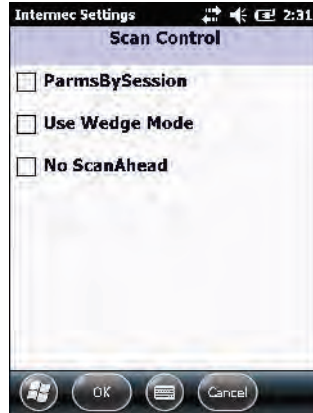
To enable the Out of Range Monitor

- 1** Open the Intermec Terminal Emulation main menu in Intermec Settings. For help, see [“To configure ITE directly on the computer” on page 21](#).
- 2** Tap **OOR Monitor**.
- 3** Select the **OOR Monitor** check box and then tap **OK**.

Configuring Scan Control Settings

You can configure whether or not ITE uses the bar code symbology settings you have configured within the ITE section of Intermec Settings. ITE can also use the settings in the Data Collection section of Intermec Settings, which can be configured separately from the ITE settings.

- 1 Open the Intermec Terminal Emulation main menu in Intermec Settings. For help, see **“To configure ITE directly on the computer” on page 21.**
- 2 Tap **Scan Control**.



- 3 Select the check box for each of the parameters you want to enable. For information, see the next table.

Scan Control Configuration Item Descriptions

Item	Description	Value
ParmsBySession	When ParmsBySession is enabled, ITE uses the symbology parameters configured in the Barcode Parms section on a per-session basis. When disabled, symbology parameters configured in the Barcode Parms section of Intermec Settings are ignored, and instead ITE uses the settings from the Data Collection section of Intermec Settings.	On or Off.

Scan Control Configuration Item Descriptions (continued)

Item	Description	Value
Use Wedge Mode	<p>When enabled, all scanned data comes into ITE from the system Virtual Wedge per the Virtual Wedge settings, as if the scanned bar code data was typed into the keyboard. The following ITE-specific scanning options are disabled:</p> <ul style="list-style-type: none"> • Auto Tab Scan • Auto Entr Scn • BRT Auto Enter • ANY Auto Enter • Scan PreChar • Scan PostChar • Symbology specific-options including enable/disable, min-max or fixed lengths, drop leading/trailing characters <p>Also, when Use Wedge Mode is enabled, scanned data is subject to all symbology options and data filtering as set in the Data Collection section of Intermec Settings on the computer.</p>	On or Off.
No ScanAhead	When enabled, No ScanAhead prevents Bluetooth scanners from scanning ahead until the host sends a scanner enable command.	On or Off.



Note: ParmsBySession does not work with Bluetooth scanners.

- 4 After you make selections, tap **OK** to save your changes, or tap **Cancel** to return to the ITE main menu in Intermec Settings without making any changes.

Configuring Access to ITE

You can choose the ways to access ITE and how it operates, including control of password input, configuration menus in Intermec Settings, using external wizards to connect to Bluetooth devices, and so on.

About the No Lockdown Setting

By default, **No Lockdown** is disabled (except for CV41, where this feature is enabled by default), and ITE functions as a locked-down application, which means that users cannot access other applications on the computer through the Windows toolbar or Start menu. When you enable **No Lockdown**, ITE switches to a normal Windows display with an accessible system taskbar. This option applies to all sessions.



Note: Depending on the items in the Menu Settings list, you may still be able to access the Windows Start menu even though ITE is running in lockdown mode. For more information, see [“Selecting Items for the Menu Button” on page 72.](#)

Enabling the Configuration Menu Password

By default, you do not need to enter a password to access the ITE Main Menu. You can enable password protection to prevent unauthorized access. You can set a different password for each session.

To enable this password, see [“Configuring Options for Each Session” on page 23](#).

Enabling License Check-Out

If you use SmartSystems Foundation to manage Intermec devices, by default ITE checks an ITE license out from the SmartSystems server when the application is launched. When you close ITE (using the menus or the **Exit** button in the Toolbar), the application tries to check its license back in to the license pool.

- If ITE cannot communicate with the server at shutdown time, the computer keeps the license, and ITE tries to check the license in the next time ITE is closed.
- If you suspend the computer without closing ITE, the computer keeps the license until you close ITE.
- If you warm boot the computer while ITE is running, the computer keeps the license. After the warm boot is done, ITE starts with the same license as before.

You can disable license check-in if:

- you want to assign one license to each computer running ITE, eliminating the need to check licenses out or in.
- the SmartSystems server is difficult to reach, or on a subnet used only for setup.

To configure ITE license check-out

- 1 Open the Intermec Terminal Emulation main menu in Intermec Settings. For help, see [“To configure ITE directly on the computer” on page 21](#).
- 2 Tap Chk In License.



- 3 Select **Chk In License** to enable this feature, and then tap **OK** to save your changes. Or, tap **Cancel** to return to the ITE main menu without enabling license check-in.

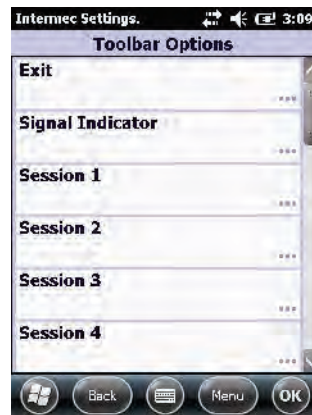
For general information on ITE licensing, see [“About ITE Licensing” on page 2](#).

Configuring the ITE Toolbar

When ITE is running, the toolbar appears at the bottom of the screen. The toolbar includes status icons and information as well as buttons you tap to access other features. You can select the items that are shown in the toolbar and the order in which they appear in the toolbar.

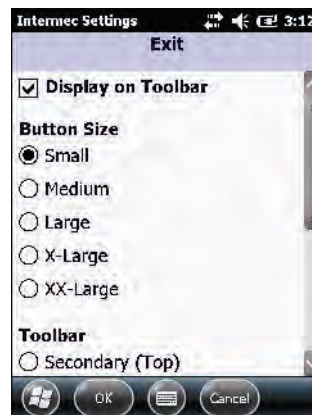
To configure the toolbar

- 1 Open the Intermec Terminal Emulation main menu in Intermec Settings. For help, see [“To configure ITE directly on the computer” on page 21.](#)
- 2 Tap **Toolbar Options**.








The Toolbar Options list includes buttons and icons that can appear in the toolbar.

- 3 Tap an item in the list to select it. The menu for that item appears. For example, this is the menu for the Exit button:



- 4 Tap an item in the list to select it or to enter values. For information, see the next table.

Toolbar Button and Icon Options

Option	Description
Display on Toolbar	Select to show the button or icon in the toolbar.
Button Size	<p>Sets the size of the button or icon (some cannot be resized):</p> <ul style="list-style-type: none"> • Small  • Medium  • Large  • X-Large  • XX-Large 
Toolbar	Selects the toolbar in which the button or icon appears. Default is Primary . If you select Secondary , the toolbar is expanded to two rows, and all buttons or icons set to the Secondary toolbar appear in the top row.
Button order (left-to-right)	Sets the priority order in which the button or icon appears in the toolbar. The lower the number, the more to the left the button appears in the toolbar.
Number of spaces before	<p>Sets the number of blank spaces that are placed to the left of the button or icon. Use this value as a spacer between toolbar items.</p> <p>1 blank space = width of a small button.</p>





Note: Because there is a limit to the number of buttons and icons you can view in the toolbar, Intermec recommends that you place only those buttons and icons you use regularly. Buttons and icons on the extreme right end of the toolbar may not be visible on the computer screen.

For more information on each toolbar button and icon, see the next table.

- 5 When you are finished making changes, tap **OK** to save your changes. Or, tap **Cancel** to return to the Toolbar Options menu without saving any changes.









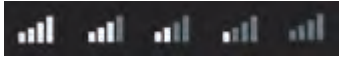




Toolbar Button and Icon Descriptions

Name	Description
Battery Indicator	Shows the battery status, including percentage of charge remaining. (Not available for CV61)
	Battery is charging.
	Battery is charged and computer is on external power.










Toolbar Button and Icon Descriptions (continued)

Name	Description
	 Battery is fully charged (approximately 66% to 100%).
	 Battery is about half charged (33% to 66%).
	 Battery is less than half charged (11% to 33%).
	 (Blinking) Battery is almost empty (less than 11% charge remaining).
Change Font Size 	Tap to change the display font size. As you tap, the size of the characters cycles through the available sizes for your computer display. The size of this button is adjustable.
Exit 	Tap this button to exit ITE. The size of this button is adjustable.
Hebrew Mode 	Indicates that ITE is configured for right-to-left reading and entry.
Host 	Displays the host IP address. Actual text depends on the host protocol.
Input Inhibited 	Appears when the keyboard has accepted enough information for the defined input field. When this icon appears in the Toolbar, the “key-ahead” feature stores keystrokes and saves them for the next field. Input Inhibited overrides Insert mode if both are active.
Insert 	Keyboard inserts characters instead of overwriting them. When this icon is enabled, it appears in the Toolbar when ITE is in Insert mode.
Intermec Browser 	Tap to run the Intermec Browser application. The size of this button is adjustable.
Keyboard Status 	Indicates Shift key, CTRL key, ALT key, and Caps Lock status. <ul style="list-style-type: none"> • If Shift is enabled, “SHF” appears. • If CTRL is pressed, “CTL” appears. • If ALT is pressed, “ALT” appears. • If Caps Lock is enabled, “CAP” appears.
Keypad Mode 	Determines how the Enter, period (“.”), and number keys are returned to the host in VT/ANSI emulation. When this icon is enabled, it appears in the Toolbar when ITE is in Keypad mode.
Mail Waiting 	Indicates that email addressed to this computer is available.
Menu Settings 	Tap to access the configuration menus. For more information, see “Selecting Items for the Menu Button” on page 72 . The size of this button is adjustable.

Toolbar Button and Icon Descriptions (continued)

Name	Description
Reader State	Shows the status for an associated RFID reader. The size of this button is adjustable.
	 CK3, CN3, or CN4 with IP30, or CV41 with IF4 or IV7: Valid socket connection to the data collection engine exists.
	 CK3, CN3, or CN4 with IP30: Reader trigger state is set to scan.
	 CK3, CN3, or CN4 with IP30, or CV41 with IF4 or IV7: No socket connection, or there is a communication error between the computer and reader.
Session 1, Session 2, Session 3, Session 4	Shows the status of each session (Session 1 icons shown as examples). The size of this button is adjustable.
	 Session is connected to the host and active.
	 Session is connected to the host but not active.
	 Session is configured, but not connected to the host.
	 Session is not configured and not connected.
Signal Indicator	Shows the RSSI (Radio or Ready Signal Strength Indicator) retrieved from the radio module, or an active Ethernet connection. Radio information is updated every 5 seconds.
	For a Wi-Fi network:
	
	For WAN:
	
	For Ethernet:  (connected) or  (disconnected)
SIP Toggle	Tap to hide or display the SIP. The size of this button is adjustable.
	
SnapShot	Tap to use the SnapShot feature. If the Intermec computer has an EAxX imager, this feature lets you use the imager to capture high-quality greyscale images. If the Intermec computer has a camera, this feature lets you take high-quality color pictures. For more information, see “Using the SnapShot Feature” on page 75 . The size of this button is adjustable.
	
	For information on using the imager or camera, see the computer user manual.

Toolbar Button and Icon Descriptions (continued)

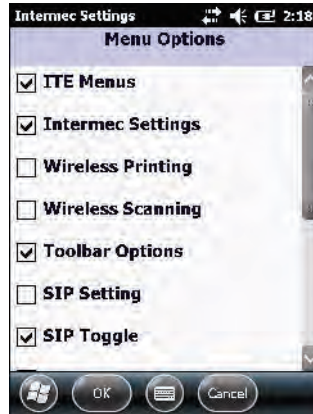
Name	Description
Term ID 	Shows the device name (3270 and 5250 emulation only) for the computer in the Toolbar. For VT/ANSI emulation, this shows “N/A”.
Term IP 	Shows the IP address of the computer in the Toolbar. If the IP address is not known because DHCP has not assigned an address to the computer, then this field reads “unknown”.
Time 	Shows the current time in the Toolbar. The size of this icon is adjustable.
Transmission Mode	Shows the current transmission mode. For more information, see “Transmission Mode” on page 17. <hr/>  Character Edit mode <hr/>  Line Edit mode <hr/>  Local Edit mode
Trusted App 	Tap to run your trusted application. For more information, see “Enabling a Trusted Application” on page 78. The size of this button is adjustable.
VOIP 	Tap to launch an installed voice application. For more information, see “Using Voice over IP” on page 73. The size of this button is adjustable.
Volume	Tap to turn the computer audio volume up or down as needed for your work environment. When you tap a Volume button, ITE plays the default error sound at the new volume. You can set the volume to one of six levels. <hr/>  Volume down <hr/>  Volume up

Selecting Items for the Menu Button

When you tap the Menu button in the Toolbar, a popup menu appears that includes several items. The next procedure explains how to select the items that appear in the popup menu.

To select items for the Menu Button

- 1 Open the Intermec Terminal Emulation main menu in Intermec Settings. For help, see [“To configure ITE directly on the computer” on page 21.](#)
- 2 Tap **Menu Options**.



Items that appear in the Menu Button popup menu are selected in the list.

- 3 Change the selections as needed. When you are finished, tap **OK** to save your changes and return to the **Menu Options** list, or tap **Cancel** to return to the **Menu Options** list without saving any changes.

For more information on the Menu Button options, see the next table.

Menu Button Option Descriptions

Setting Name	Description
Wireless Printing	Launches the Wireless Printing wizard to connect a Bluetooth printer.
Wireless Scanning	Launches the Wireless Scanning wizard to connect to a Bluetooth scanner.
Intermec Settings	Launches the Intermec Settings application. Requires password input if selected. Default password is cr52401.
ITE Menu	Opens the ITE Main Menu. Using this menu to configure ITE is deprecated and may not be supported by future releases.
Session Menu	Opens the Switch Session menu.
Session 1, 2, 3, 4	Launches the selected session.
SIP Select	Opens the Keyboard Select menu. Not supported by CV41 running WES or CV61. For help, see “Configuring Options for Each Session” on page 23.
SIP Toggle	Displays or hides the onscreen keyboard.
Toolbar Options	Opens the Toolbar options dialog box. For help, see “Configuring the ITE Toolbar” on page 67.

About Lockdown Mode and Accessing the Windows Start Menu

Although ITE is locked down by default, users can still access the Windows Start menu through Intermec Settings or the Wireless Printing and Wireless Scanning wizards. The Wireless Printing and Wireless Scanning wizards do not require a password for access. To maintain true lockdown mode, Intermec recommends that you do not add these items to the Menu Button options.

Enabling the ITE Exit Password

By default, you use the same password to exit ITE as you do to access the ITE configuration settings. You can enable and specify a different exit password to further limit access.

To enable and set the ITE exit password

- 1 Open the Intermec Terminal Emulation main menu in Intermec Settings. For help, see [“To configure ITE directly on the computer” on page 21.](#)
- 2 Tap **Enable Exit Password**.
- 3 Tap the **Enable** check box.
- 4 Tap **OK**.
- 5 Tap **Exit Password**.
- 6 Enter a string of up to 10 characters for the exit password. The default is cr52401 (identical to the configuration password).
- 7 Tap **OK**.

Using Voice over IP

ITE provides support for these Voice over IP (VoIP) applications:

- HipVoice
- TABLETMedia iTalkie™

You can launch the VoIP application by tapping the Voice button in the ITE Toolbar. For more information, see [“Configuring the ITE Toolbar” on page 67.](#)



Note: After you install one of these applications on the Intermec computer, run ITE to automatically configure the PTT button and warm boot the computer.

Using ITE with HipVoice

When you tap the Voice button:

- if HipVoice is currently running, it is brought to the foreground.
- if HipVoice is not currently running, ITE launches the application.

After you install HipVoice, the first launch may take 30 to 40 seconds.

The Windows Mobile Start menu and the HipVoice start menu appear. You can go to the HipVoice application to change contact information, login into a new session, send sticky notes, or have a conversation.



Note: If you press the PTT button when ITE is running, HipVoice momentarily comes to the foreground and then control is returned to ITE.

To return control back to ITE, tap **Start > ITE**.

Using ITE with iTalkie

Tap the Voice button in the ITE Toolbar to launch iTalkie.

You can also select the silent interface to keep iTalkie running in the background as you use ITE. Otherwise, iTalkie comes to the foreground each time you page someone or are paged by someone else.

With the silent interface enabled, when someone calls your computer, a dialog box appears asking if you want to accept the call.

- If you do not accept the call, ITE resumes.
- If you accept the call, the dialog box disappears and your call begins, and the call continues until the caller terminates the call.

You can continue to use ITE while you are in the call.

About VoIP Error Messages

If there is a problem with your VoIP application, an error message may appear when you tap the Voice button.

VOIP Error Message Descriptions

Error Message Text	Description
ERROR_FILE_NOT_FOUND (0x02)	The specified file was not found.
ERROR_PATH_NOT_FOUND (0x03)	The specified path was not found.
ERROR_DDE_FAIL (0x482)	The Dynamic Data Exchange (DDE) transaction failed.
ERROR_NO_ASSOCIATION (0x483)	There is no application associated with the given file name extension.
ERROR_ACCESS_DENIED (0x05)	Access to the specified file is denied.
ERROR_DLL_NOT_FOUND (0x485)	One of the library files necessary to run the application can not be found.
ERROR_CANCELLED (0x4C7)	The function prompted the user for additional information, but the user canceled the request.
ERROR_NOT_ENOUGH_MEMORY (0x08)	There is not enough memory to perform the specified action.
ERROR_SHARING_VIOLATION (0x20)	A sharing violation occurred.
No VOIP Application Installed	No supported VOIP application is installed on the computer.

Using the SnapShot Feature

You can use the SnapShot feature to take high-resolution pictures. For example, you might use SnapShot to take a picture of damaged goods in a warehouse.




SnapShot Sample Image

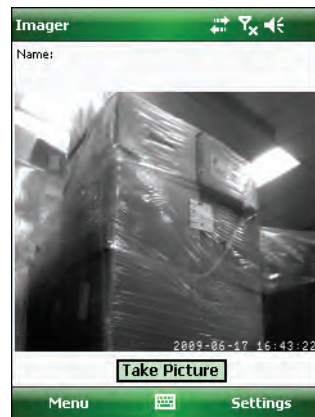
To use SnapShot, you need to add a SnapShot button to the ITE toolbar. For help, see [“Configuring the ITE Toolbar” on page 67](#).



Note: SnapShot is supported by all Intermec computers with an EAxx imager or color camera.

To capture images with SnapShot

- 1 In the ITE Toolbar, tap . The imager or camera turns on and the Imager screen shows streaming video. A date and time stamp appears at the bottom of the video frame. This sample was taken with the imager in a CN4 computer:



- Center the subject in the streaming video frame, and tap **Take Picture** or press **Enter** to capture the scene. The PreviewImage screen appears, showing the captured image.



- Tap **Accept** to save the image, or tap **Reject** to delete the image. By default, images are saved to the \My Documents\My Pictures directory on the computer. After you accept an image, the name of the last saved image appears at the top of the main Imager screen. Image file names include the serial number of the computer, its IP address, and the date and time when the image was captured.



- To exit SnapShot and return to ITE, tap **Menu > Exit**. Or, to send pictures to the host, continue with the next procedure.

To send picture files to the host

- Tap **Menu > Send Files**.
- In the SendPictures list, check the check box for each file you want to send to the host. You can also tap **Options > Select All** or **Deselect All** as needed. By default, all files are selected.
- Tap **Menu > FTP Files**. The files are sent to the host.

To delete files from the image directory

- 1 Tap **Menu** > **Send Files**.
- 2 In the SendPictures list, check the check box for each file you want to delete. You can also tap **Options** > **Select All** or **Deselect All** as needed. By default, all files are selected.
- 3 Tap **Menu** > **Delete Files**.

Configuring SnapShot Image Settings

When you are running SnapShot, you can change text and brightness settings as follows:

- To add a text string to the picture, tap **Settings** > **Text** > **Add Text**, enter the text string in the entry field, and tap **Save**.
- To delete a text string, tap **Settings** > **Text** > **Clear Text**.
- (Imager only) To change the brightness setting, tap **Settings** > **Auto Brightness**. Auto Brightness is enabled by default and automatically adjusts the contrast and brightness of the image based on the current lighting.

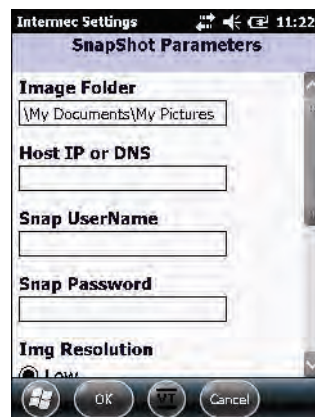
Configuring SnapShot Settings

You can configure these SnapShot settings:

- Folder in which captured images are saved
- Host IP or DNS where image files are sent
- Username and password
- Port
- Image resolution

To configure SnapShot settings

- 1 Open the Intermec Terminal Emulation main menu in Intermec Settings. For help, see [“To configure ITE directly on the computer” on page 21](#).
- 2 Tap **SnapShot Parameters**.



- 4 Change the settings as needed. When you are finished, tap **OK** to save your changes and return to the **SnapShot Parameters** list, or tap **Cancel** to return to the **SnapShot Parameters** list without saving any changes.

For more information on these settings, see the next table.

SnapShot Parameter Descriptions

Setting	Description
Image Folder	Path to and name of the folder where you want to store images. Folder can be on the computer or on a mapped network drive. Value is a text string from 1 to 201 characters. Default is “\my documents\my pictures”.
Host IP or DNS	IP address of a server to which image files are sent. Value is a text string from 1 to 201 characters. Default is null.
Snap Username	User name required for access to the host. Value is a text string from 1 to 21 characters. Default is null.
Snap Password	Password required for access to the host. Value is a text string from 1 to 21 characters. Default is null.
Port	Port number for the host. Range is 0 to 65535. Default is 21.
Img Resolution	Resolution level for images. Select Low (smallest file size), Medium , or High (best quality). Default is Low.
Image Type	File type for images. Select JPG or BMP . Default is JPG.

You can also configure SnapShot settings in the te_settings.ini file. For more information, see “**Camera and Imager Parameters**” on page 106.

Enabling a Trusted Application

When ITE is running, it functions as a locked-down application, which means that users cannot access other applications on the computer through the Windows toolbar or Start menu. However, you can enable a single “trusted” application that you can only access by tapping the Trusted App icon in the Toolbar.

To enable a trusted application

- 1 Open the Intermec Terminal Emulation main menu in Intermec Settings. For help, see “**To configure ITE directly on the computer**” on page 21.
- 2 Tap **Trusted App**.
- 3 Enter the application name and full path in the **Trusted App** field (maximum 260 characters).
- 4 Tap **OK** to save your changes and return to the ITE main menu, or tap **Cancel** to return to the ITE main menu without saving any changes.

Setting the COM Port (CV41 and CV61 only)

If you are running ITE on the CV41 or CV61 computers, you can select which COM port to use while doing extended commands #F, #G, or #P, or to direct output from the media copy command in the VT/ANSI data stream. For more information on the #F, #G, and #P extended commands, see the *Intermec Terminal Emulator (ITE) Programmer's Reference Manual*.

To set the COM port

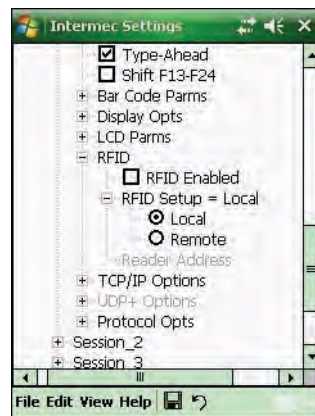
- 1 Open the Intermec Terminal Emulation main menu in Intermec Settings. For help, see “[To configure ITE directly on the computer](#)” on page 21.
- 2 Tap **Session 1**, **Session 2**, **Session 3**, or **Session 4**. The list of configuration items for that session appears.
- 3 Tap **Com Select**.
- 4 Tap **Com2** or press **2** to select COM2.
- 5 Tap **OK** to save your changes and return to the Session menu, or tap **Cancel** to return to the ITE main menu without saving any changes.

Connecting to an RFID Reader

If your computer supports RFID, follow the next procedure to connect to and enable an RFID reader.

To connect to an RFID reader

- 1 Open the Intermec Terminal Emulation main menu in Intermec Settings. For help, see “[To configure ITE directly on the computer](#)” on page 21.
- 2 Tap RFID.



ITE RFID Settings: This example shows the RFID settings on the CK3 computer.

- 4 Change the settings as needed. When you are finished, tap **OK** to save your changes and return to the **SnapShot Parameters** list, or tap **Cancel** to return to the **SnapShot Parameters** list without saving any changes.

For more information on these settings, see the next table.

RFID Settings Descriptions

Setting	Description
RFID Enabled	When enabled, ITE searches for an RFID reader. Default is disabled.
RFID Setup	Determines the connection type your computer uses to connect to the RFID reader. For the CK3 and CN3, default is Local . For the CV41, default is Remote .
Reader Address	IP address for the RFID reader. Default is a null string.

3

Customizing Your Configuration

This chapter describes the procedures you can use to customize Intermecc Terminal Emulator and includes these sections:

- **Customizing Intermecc Terminal Emulator**
- **Using the Auto-Login Feature**
- **Creating a Custom Parameter File**
- **Changing Text in Menus, Messages, and Settings**
- **Preinitializing the ITE Program**
- **Remapping the Computer Keypad**
- **Remapping Displayed Characters**
- **Implementing ITCColor.dat Attribute Colors**
- **Customizing 5250 EBCDIC to ASCII Translation**

Customizing Intermec Terminal Emulator

You customize the ITE program by creating or modifying configuration files and then copying them to your computer.



Note: If a config.dat file is present on your computer, its settings are backed up in a config.old file and then written into a te_settings.ini file. If there is no config.dat file on your computer, all settings are written to the te_settings.ini file.

Using the Auto-Login Feature

Use the auto-login feature to send the same login information each time you log in to the host. When you start ITE, the computer checks for an auto-login script file. If a script file exists, the computer runs the login commands from the auto-login script file before ITE starts.

To use this feature, develop an auto-login script file and load it on the computer. This section explains how to develop a script and includes a list of control characters and the procedure for disabling auto-login.

Developing Auto-Login Script Files

A typical auto-login script file consists of Input and InputHidden commands followed by a HostName command, followed by a series of WaitFor and Send commands. A very simple script file may not have any input commands if all of the computers are using the same account.



Note: The auto-login script must be an ASCII text file with autolog.scr as the required file name, or the file is not processed.

Commands for Auto-Login Script Files

You can use several commands to create auto-login script files. All commands are case-sensitive. For example, WaitFor is a command, but Waitfor is not a valid command. For examples of script files, see [“Sample Auto-Login Script Files” on page 87](#).

Display

Determines if data from the host application appears on the computer screen. For additional security, the display can be turned off from updating messages from the host during the auto-login process.

Display has three parameters: OFF, ON, and HREF. Display ON enables displaying data received from the host. Display OFF disables displaying data received from the host. HREF specifies a bitmap to display instead data received from the host, if any. Specify the file as follows:

```
Display "<Link HREF=file://\te2000\ball.bmp></Link>"
```

The bitmap appears on the screen using its actual dimensions and is not adjusted to fit the screen. No further screen updates occur until a Display ON command is executed in the auto-login script file.

Input

This is called with two parameters:

- a character string enclosed in quotes used as a user prompt.
- a string variable name indicating where the text string is stored.

InputHidden

Same as the Input script command except that user input is echoed as a string of asterisks.

HostName

HostName is case-sensitive and must be presented as mixed-case letters. HostName is followed by a character string enclosed in quotes. The character string can be a host name or an asterisk. The HostName command acts as an IF clause. If the host name matches, the following section of the script file is executed up to the next HostName command. If an asterisk is used, it matches any host name.



Note: If a session (friendly) name is entered, then this is used in place of the host name or server IP name to section off the auto-login script.

WaitFor

Wait for a list of up to ten strings. Strings must be enclosed in quotes, separated by a comma, and cannot exceed 20 characters in length.

Send

Sends a character string enclosed in quotes or a string variable to the host. The character string enclosed in quotes can have an embedded control key in the ITE application.

Pause “xxxxx”

Delays the computer for x milliseconds, halting computer operation from receiving and processing for the duration specified.

PromptSessionStart

If this variable is defined and set to any value other than 0, the application prompts the user to press **Enter**:

- before starting a Telnet session with the host.
- when the connection to the host is lost.

Do not put quotes around the variable.

This prompt does not appear when you use auto-login restart, since doing so does not close an existing connection.

Restart “x”

Restarts the autologin script file. The “x” is a dummy argument.

KeyBoard “0”

Disables the keyboard. Keypresses are ignored.

KeyBoard “1”

Enables the keyboard. Keypresses are processed. The keyboard is enabled by default.



Note: The KeyBoard command names are case-sensitive. If these command names are not entered correctly, you get a syntax error on the incorrect line.



Note: Input the KeyBoard “0” or KeyBoard “1” command into the auto-login script file after the PromptSessionStart command (if present) and after the HostName command (if present) but before any other HostName command in the file.

(pound symbol)

Documents the script file. Text following a # (pound) symbol is considered a comment unless the # symbol is in a quoted string.

Using Auto-Login Search Strings

Conditions for auto-login search strings are as follows:

- Searches are case-sensitive.
- Maximum search string length is 20 characters.
- Each WaitFor command searches the entire screen from the top.

Use line wrapping to look for unique strings. If a screen from the host has multiples of the word you are looking for, use the preceding spaces to identify a unique string.

Example: If the screen sent to the computer is:

```
Linux rlogin 2.4.6
login
```

The autologin script would be:

```
PromptSessionStart=1
HostName "*"
#wait for host login screen and send login and password
WaitFor "login"
Send "billy<ENTER>"
WaitFor "password"
Send "letmein<ENTER>"
```

Using Control Characters

To include control characters in your auto-login script file, all control characters must be enclosed by < > (angle brackets).



Note: Some control characters may be represented by their hexadecimal values.

3270 Control Characters for Auto-Login Script File

Control Character	Definition	Control Character	Definition
<CLEAR>	Clear	<INS>	Insert
<CUR_DN>	Cursor Down	<LTAB>	Left Tab
<CUR_LF>	Cursor Left	<NEWLN>	New Line
<CUR_RT>	Cursor Right	<PA1>	PA1
<CUR_UP>	Cursor Up	<PA2>	PA2
	Delete	<PA3>	PA3
<ENTER>	Enter	<RESET>	Error reset
<ERS_EOF>	Erase EOF	<RTAB>	Right Tab
<F1> - <F24>	Function keys	<SPACE>	Space
<HOME>	Home		

5250 Control Characters for Auto-Login Script File

Control Character	Definition	Control Character	Definition
<ATTN>	Attention	<HOME>	Home
<CLEAR>	Clear	<INS>	Insert
<CUR_DN>	Cursor Down	<LTAB>	Left Tab
<CUR_LF>	Cursor Left	<NEWLN>	New Line
<CUR_RT>	Cursor Right	<RESET>	Error Reset
<CUR_UP>	Cursor Up	<ROLL_DOWN>	Roll Down
	Delete	<ROLL_UP>	Roll Up
<ENTER>	Enter	<RTAB>	Right Tab
<ERS_EOF>	Erase Input	<SPACE>	Space
<F1> - <F24>	Function keys		

VT/ANSI Control Characters for Auto-Login Script File

Control Character	Definition	Control Character	Definition
<ACK>	Acknowledgment	<F1> - <F20>	Function keys
<BEL>	Bell	<F21>	Toggles from Character mode/ Line Edit (block) mode
<BS>	Backspace	<FF>	Form Feed
<CAN>	Cancel	<FS>	File Separator
<CR>	Carriage Return	<GS>	Group Separator
<CUR_DN>	Cursor Down	<HT>	Horizontal Tab
<CUR_LF>	Cursor Left	<INS>	Insert
<CUR_RT>	Cursor Right	<LF>	Line Feed
<CUR_UP>	Cursor Up	<LTAB>	Left Tab
<DC1>	Device Control 1 (XON)	<NAK>	Negative Acknowledge

VT/ANSI Control Characters for Auto-Login Script File (continued)

Control Character	Definition	Control Character	Definition
<DC2>	Device Control 2	<NUL>	Null, or all zeros
<DC3>	Device Control 3 (XOFF)	<RS>	Record Separator
<DC4>	Device Control	<RTAB>	Right Tab
	Delete	<SI>	Shift In
<DLE>	Data Link Escape	<SO>	Shift Out
	End of Medium	<SOH>	Start of Heading
<ENQ>	Enquiry	<SPACE>	Space
<ENTER>	Enter	<STX>	Start of Text
<EOT>	End of Transmission	<SUB>	Substitute
<ESC>	Escape	<SYN>	Synchronous Idle
<ETB>	End Transmission Block	<US>	Unit Separator
<ETX>	End of Text	<VT>	Vertical Tab

Loading the Auto-Login Script File

After you create an auto-login script, copy the file to your computer. For more information on copying files, see the user manual for your computer.

To ensure that your customized files (such as AutoLog.scr, remap.cfg, te_settings.ini, or cflit.dat) are executed, you need to copy the files to the directory where the ITE executable is stored. If the same file exists in more than one location, only the file stored in the directory with the highest precedence will be executed. The other files will be ignored. The order of precedence is:

- 1 In the directory with the executable (\System\ITEData for CV41 running Windows CE, or \Program Files\Intermec\ITE for all other computers).
- 2 In the root of the Secure Digital card, if present.
- 3 In the Flash File Store, if present.
- 4 In the computer root directory.

Disabling the Auto-Login Feature

To disable auto-login, rename or delete the AutoLog.scr file. Renaming the file ensures that you can use the same auto-login script file later by changing the name back to AutoLog.scr. To enable a new script file, rename a different script file to AutoLog.scr.

Follow this procedure to rename or delete the auto-login script file.

To rename or delete the auto-login file

- 1 Open an ActiveSync connection to the computer.
- 2 Browse to the auto-login file.
- 3 Right-click the file and select **Delete** from the popup menu. The file is deleted.
Or, select **Rename** from the popup menu and rename the file to disable the feature.

Sample Auto-Login Script Files

You can use these sample script files as they are or as the starting point for creating your own auto-login script files.

Example 1: Auto-Login With All Computers Using the Same Account

```

HostName "*"                               #Use this to log into any host
WaitFor "login:"                           #Wait for the login prompt
Send "username<NEWLN>"                     #Send the user name
WaitFor "Password:"                         #Wait for the password prompt
Send "letmein<ENTER>"                       #Send the password

```

- The HostName command matches the host the user accesses.
- The WaitFor command waits for a string to be displayed by the host. WaitFor takes up to 10 strings, 20 characters long. The strings must be enclosed in quotes and separated by a comma.
- The first Send command sends a fixed user name, the second Send sends a fixed password.
- Angle brackets < and > can enclose uppercase mnemonics or hexadecimal values.

Example 2: Auto-Login With Different User Names and Passwords

```

Input "Enter user name", username          #Prompt for user name
InputHidden "Enter password", password    #Prompt for password
HostName "*"                               #Prompt for host name
WaitFor "login:"                           #Wait for login prompt
Send username                              #Send the user name
Send "<NEWLN>"                             #Send a carriage return
WaitFor "Password:"                         #Wait for password prompt
Send password                              #Send the users password
Send "<ENTER>"                             #Send a carriage return

```

- The Input and Send commands use input variables. Input commands require a prompt string followed by a comma and a variable name in which to store the string.
- The InputHidden command displays "*" in place of any characters the user types. Place all Input commands before the first HostName command.
- The Send command only accepts a single argument, so you need two Send commands to send the user name and a carriage return.

Example 3: Auto-Login to an Application

Example 3 modifies the script file in Example 2. The additional modification (which starts with WaitFor “Main Menu”) allows you to move automatically to an application after logging in.

```
Input "Enter user name", username      #Prompt for user name
InputHidden "Enter Password", password #Prompt for password
HostName "*"
WaitFor "login:"                       #Wait for login prompt
Send username                          #Send the user name
Send "<NEWLN>"                          #Send a carriage return
WaitFor "Password:"                   #Wait for password prompt
Send password                          #Send the users password
Send "<ENTER>"                           #Send a carriage return
WaitFor "Main Menu"                   #Wait for the main menu
Send "3"
Send "<ENTER>"                           #Pick option 3 from menu
WaitFor "Wip Menu"                    #Await work-in-process menu
Send "1"
Send "<ENTER>"                           #Pick option 1 from menu
```

Example 4: Auto-Login With Variable Processing

```
Input "Enter user name", username      #Prompt for user name
InputHidden "Enter Password", password #Prompt for password
HostName "BigHost"                     #Use script portion for BigHost
WaitFor User:"                         #Wait for the user prompt
Send username                          #Send the user name
Send "<NEWLN>"                          #Send a carriage return
WaitFor "Password:"                   #Wait for password prompt
Send password                          #Send the users password
Send "<ENTER>"                           #Send a carriage return
HostName "*"                           #Match any host name
WaitFor "login:"                       #Wait for login prompt
Send username                          #Send the user name
Send "<NEWLN>"                          #Send a carriage return
WaitFor "Password:"                   #Wait for password prompt
Send password                          #Send the users password
Send "<ENTER>"                           #Send a carriage return
WaitFor "Main Menu"                   #Wait for the main menu
Send "3"
Send "<ENTER>"                           #Pick option 3 from menu
WaitFor "Wip Menu"                    #Await work-in-process menu
Send "1"
Send "<ENTER>"                           #Pick option 1 from menu
```

- A section for the host name BigHost is added to the beginning of the script file. If you log into any host other than BigHost, the script file starts at the HostName “*” line. This allows for different processing on each host.

Restarting the Auto-Login

Restarts the auto-login script file from the correct HostName statement in the script file when a host session is broken. For this command to work, the WaitFor string must match the last data sent from the host. For example, if the WaitFor string is the login prompt “login:” with a space after the colon, the WaitFor string must include a space for the auto-login restart to work.

To use the Auto-Login Restart command, press the keys listed in Appendix B, “Using the Computer Keypad.” If Code 39 Full ASCII is enabled on the computer, you can also scan the following bar code:

Auto-Login Restart

 %ALRS



Note: Code 39 Full ASCII is disabled by default. Use Intermec Settings to enable this feature.

Creating a Custom Parameter File

At startup, ITE uses parameter settings found in the te_settings.ini file. These parameter settings become the default (cold start) configuration for the computer. You can customize this setup file to preset almost any parameter you can set from the ITE configuration menus.



Note: Currently, Intermec does not support the imager via the “Barcode ParmS” section described in Chapter 3. There are also some limitations to the laser implementation. If the next message (or similar) appears when you access ITE on your Intermec computer, tap **OK** to close the message.

ITE Image Scanner
 Barcode ParmS
 menu options
 NOT supported!

Upgrading from Config.dat Configuration

Note that the settings from the config.dat file are the same as the settings for the te_settings.ini file. For example, the config.dat setting:

```
[Host A].Host
```

appears as:

```
session_1|host_a|host = 136.179.84.76
```

in the te_settings.ini file.

All values follow the [iccu values] section and use the pipe character to separate the names. The settings and literals are the same as the old config.dat with the exception of the use of the different naming convention using the pipe (“|”). Below are a few values from the config.dat file as they appear in the te_settings.ini file.

```
[iccu values]
  session_1|host_a|host = 136.179.84.76
  session_1|host_a|port_number = 23
  session_1|destructive_bs = 0
```

TE_Settings.ini Configuration

"enable_sip" = 0 or 1

This enables or disables the interaction between ITE and the onscreen keyboard. If the value is 1, ITE displays the SIP when it starts and when it gains focus. If the value is 0, ITE does not display the SIP.

"sip_settings" = {674EC110-EFF0-47D3-B828-CDB2A6CCD3EB}

This is a GUID (globally unique identifier) identifying the SIP that the ITE application is to use by default. This can be the GUID of any registered SIP in the system.

These are for debugging purposes only. They inform which version of ITE created the te_settings.ini file. For example, these values could be:

- program_name = IntermTE
- program_version = 1.0

TE_Settings.ini Parameter Formats

Each parameter in the setup file is followed by one of three different formats that indicates the type of parameter and the values it can contain. Formats are as follows:

- Literal strings: a list of fixed values to select from.

For example, Session 1 or 2 may qualify Screen Mode. It may take the value Center Cursor, Corner Mode, Page Mode, Lazy Mode, or Locked Mode. Session 1 is the default qualifier. These configuration lines are valid:

```
screen_mode = Lazy Mode;
session_1|screen_mode = Lazy Mode;
session_2|screen_mode = Lazy Mode;
```

- Numeric parameters with minimum and maximum values. Parameters can be either decimal or hexadecimal:
 - Decimal parameters consist of digits 0 through 9.
 - Hexadecimal parameters consist of 0x or 0X, followed by 1 to 4 digits of 0 through 9, a through f, or A through F. These are equivalent: 160, 0xA0, and 0Xa0.

For example, Port Number is a variable with a range of 0 to 65535. These lines are valid:

```
port_number = 1;
session_1|host_a|port_number = 1;
session_2|host_a|port_number = 1;
```

- String parameters: variables with specific or minimum and maximum lengths. For example, Program Name is unqualified. It must have eight characters. These configuration lines are valid:

```
program_name = ABCDEFGH;
program_name = InterMTE;
```

TE_Settings.ini Parameters and Qualifiers

This section lists each parameter and valid values. To use the default value for qualifiers that have a default, omit the parameter from the parameter setup file. Parameters in the setup file apply to all computers unless otherwise noted.



Note: If parameters are duplicated, an error is not generated. Instead, the computer processes the entire file and uses the last entered value of the duplicated parameter.

The cflit.dat file specifies the text of setup menus or system messages. Parameters and qualifier strings in the setup file assume the default cflit.dat is used. For instructions on how to change this file, see **“Changing Text in Menus, Messages, and Settings” on page 116.**

Setup Parameters

Setup Parameter Options and Descriptions

Option	Session [1], 2, 3, 4	Values	Default Value
Authentication Options	host_a | auth_option host_b | auth_option host_c | auth_option	0 = None 1 = Server CA certificate is provided 2 = Client certificate is provided 3 = Server CA and client certificates are provided 4 = Client private key is provided 5 = Server CA and client private key are provided 6 = Client certificate and private key are provided 7 = Server CA, client certificate, and client private key are provided	0
Character Set	host_a | charset host_b | charset host_c | charset	Numeric. Sets the character set. For valid values, see “About the Keyboard Type, Charset, and Code Page Options” on page 27.	697
Code Page	host_a | code_page host_b | code_page host_c | code_page	Numeric. Sets the code page. For valid values, see “About the Keyboard Type, Charset, and Code Page Options” on page 27.	037
Data Stream	host_a | data_stream (default) host_b | data_stream host_c | data_stream	1 = 3270 2 = 5250 3 = VT/ANSI	VT/ANSI
Host Name	host_a | host (default) host_b | host host_c | host	String of up to 64 characters.	Null
KeyAlive Key	host_a | keyalive_key host_b | keyalive_key host_c | keyalive_key	Numeric. Range is 0 to 120. For valid values, see “About the KeyAlive Function” on page 34.	0 (disabled)

Setup Parameter Options and Descriptions (continued)

Option	Session [1], 2, 3, 4	Values	Default Value
KeyAlive Timer	host_a | keyalive_timer host_b | keyalive_timer host_c | keyalive_timer	Numeric. Range is 0 to 120. For valid values, see “About the KeyAlive Function” on page 34.	0 (disabled)
Keyboard Type	host_a | keyboard_type host_b | keyboard_type host_c | keyboard_type	Alphabetic. Sets the language for the keyboard. For valid values, see “About the Keyboard Type, Charset, and Code Page Options” on page 27.	USB (United States and Canada)
Password for client certificate	host_a | clientcertpassword host_b | clientcertpassword host_c | clientcertpassword	Password for P12 format certificate. String of 0 to 50 characters. For other formats this field is discarded.	Null
Password for client private key	host_a | clientpkeypassword host_b | clientpkeypassword host_c | clientpkeypassword	Password for P12 format private key. String of 0 to 260 characters. For other formats this field is discarded.	Null
Password for server certificate	host_a | servercertpassword host_b | servercertpassword host_c | servercertpassword	Password for P12 format certificate. String of 0 to 50 characters. For other formats this field is discarded.	Null
Path to server certificate	host_a | server_cert host_b | server_cert host_c | server_cert	Path to Server CA certificate. String of 0 to 260 characters.	Null
Path to client certificate	host_a | client_cert host_b | client_cert host_c | client_cert	Path to client certificate. String of 0 to 260 characters.	Null
Path to client private key	host_a | clientpvtkey host_b | clientpvtkey host_c | clientpvtkey	Path to client private key. String of 0 to 260 characters.	Null
Port Number	host_a | port_number host_b | port_number host_c | port_number	Numeric. Range is 0 to 65535.	23
Printer Address	host_a | printer_address host_b | printer_address host_c | printer_address	String of up to 16 characters.	Null
Printer Port	host_a | printer_port host_b | printer_port host_c | printer_port	Numeric. Range is 0 to 65535.	23
Protocol	host_a | protocol host_b | protocol host_c | protocol	0 = Telnet 1 = SSH 2 = SSL 4 = TGAP 6 = TGAP SSL	0 (Telnet)
SSH Password	host_a | ssh_password host_b | ssh_password host_c | ssh_password	String of 0 to 80 characters.	Null

Setup Parameter Options and Descriptions (continued)

Option	Session [1], 2, 3, 4	Values	Default Value
SSH Username	host_a|ssh_username host_b|ssh_username host_c|ssh_username	String of 0 to 80 characters.	Null
SSH Private Key	host_a|ssh_private_key host_b|ssh_private_key host_c|ssh_private_key	String of 0 to 80 characters.	Null
SSH Key Passphrase	host_a|ssh_key_passphrase host_b|ssh_key_passphrase host_c|ssh_key_passphrase	String of 0 to 80 characters.	Null
Receive LF as CRLF	host_a|receive_lf_as_crlf host_b|receive_lf_as_crlf host_c|receive_lf_as_crlf	0 = Disabled 1 = Enabled	1
SSL Certificates	host_a|ssl_certificate host_b|ssl_certificate host_c|ssl_certificate	0 = None 1 = Server cert 2 = Client cert 3 = Server cert and client cert 6 = Client cert and private key 7 = Server cert, client cert, and private key	0
Unit Number (same as radio number)	host_a|unit_# host_b|unit_# host_c|unit_#	Numeric. Range is 0 to 127.	127
Use WWAN	host_a|use_wwan host_b|use_wwan host_c|use_wwan	0 = Disabled 1 = Exclusive 2 = Primary 3 = Secondary	0

Server-Specific Options and Descriptions**Server-Specific Options and Descriptions**

Option	Session [1], 2, 3, 4	Values	Default Value
Character set	server_a|charset server_b|charset server_c|charset	For valid values, see “About the Keyboard Type, Charset, and Code Page Options” on page 27.	697
Client certificate	server_a|client_cert server_b|client_cert server_c|client_cert	Alphanumeric. Range is 0 to 260 characters.	N/A
Client private key	server_a|client_pvtkey server_b|client_pvtkey server_c|client_pvtkey	Alphanumeric. Range is 0 to 260 characters.	N/A
Client certificate password	server_a|clientcertpassword server_b|clientcertpassword server_c|clientcertpassword	Alphanumeric. Range is 0 to 50 characters.	N/A

Server-Specific Options and Descriptions (continued)

Option	Session [1], 2, 3, 4	Values	Default Value
Client private key password	server_a|clientpkeypassword server_b|clientpkeypassword server_c|clientpkeypassword	Alphanumeric. Range is 0 to 50 characters.	N/A
Code page	server_a|code_page server_b|code_page server_c|code_page	For valid values, see “About the Keyboard Type, Charset, and Code Page Options” on page 27.	037
Disconnect value	server_a|disconnect_val server_b|disconnect_val server_c|disconnect_val	Numeric. Range is 0 to 255.	12
Emulation	server_a|emulation server_b|emulation server_c|emulation	3270 5250 VT/ANSI	VT/ANSI
Keyboard type	server_a|keyboard_type server_b|keyboard_type server_c|keyboard_type	For valid values, see “About the Keyboard Type, Charset, and Code Page Options” on page 27.	USB (United States and Canada)
Print device	server_a|printer_address server_b|printer_address server_c|printer_address	Numeric. Valid IP address.	None
Printer port	server_a|printer_port server_b|printer_port server_c|printer_port	Numeric. Range is 0 to 65535.	23
Security	server_a|security server_b|security server_c|security	None SSH SSL	None
Server certificate	server_a|server_cert server_b|server_cert server_c|server_cert	Alphanumeric. Range is 0 to 260 characters.	N/A
UDP Plus server IP	server_a|server_ip server_b|server_ip server_c|server_ip	Numeric. Valid IP address. This setting is used only when UDP Plus is enabled.	None.
Server certificate password	server_a|servercertpassword server_b|servercertpassword server_c|servercertpassword	Alphanumeric. Range is 0 to 50 characters.	N/A
SSH password	server_a|ssh_password server_b|ssh_password server_c|ssh_password	Alphanumeric. Range is 0 to 80 characters.	Null string
SSH username	server_a|ssh_username server_b|ssh_username server_c|ssh_username	Alphanumeric. Range is 0 to 80 characters.	Null string
SSL certificates	server_a|ssl_certificates server_b|ssl_certificates server_c|ssl_certificates	None Server Cert Client Cert Server Cert and Client Cert	

Bar Code Parameters

Bar Code Parameter Descriptions

Parameter	Session [1], 2, 3, 4	Values	Default Value
BC Type	bc_type_char	Enabled or Disabled.	Disabled
Concatenate	concatenate	Enabled or Disabled.	Disabled
MOD 10 Check	mod_10_check	Enabled or Disabled.	Disabled
Scan All Fields	scan_all_flds	Enabled or Disabled.	Disabled
Scan Postamble Character	scan_postchar	Numeric. Range is 0 to 255.	32
Scan Preamble Character	scan_prechar	Numeric. Range is 0 to 255.	32
Scanner Type	scanner_type	1 = Disabled 8 = Enabled for Plessey 16 = Enabled for UPC 17 = Enabled for EAN 32 = Enabled for Codabar 40 = Enabled for Code 39 49 = Enabled for Straight 2 of 5 50 = Enabled for Interleaved 2 of 5 51 = Enabled for CI 2 of 5 56 = Enabled for Code 11 64 = Enabled for Code 128 72 = Enabled for Code 93	Disabled
Stream Scan	stream_scan	Enabled or Disabled.	Disabled
Use Wedge Mode	use_wedge_mode	Enabled or Disabled.	Disabled

Bar Code Symbology Parameters

Bar Code Symbology Parameter Descriptions

Symbology	Session [1], 2, 3, 4	Values	Default Value
Codabar	codabar	When enabled, scanner_type is 32.	1 (Disabled)
Code 11	code_11	When enabled, scanner_type is 56.	1 (Disabled)
Code 39	code_39	When enabled, scanner_type is 40.	1 (Disabled)
Code 93	code_93	When enabled, scanner_type is 72.	1 (Disabled)
Code 128	code_128	When enabled, scanner_type is 64.	1 (Disabled)
Computer Identics 2 of 5	ci_2of5	When enabled, scanner_type is 51.	1 (Disabled)
EAN	ean	When enabled, scanner_type is 17.	1 (Disabled)
Interleaved 2 of 5	int_2of5	When enabled, scanner_type is 50.	1 (Disabled)
Plessey	plessey	When enabled, scanner_type is 8.	1 (Disabled)
Straight 2 of 5	str_2of5	When enabled, scanner_type is 49.	1 (Disabled)
UPC	upc	When enabled, scanner_type is 16.	1 (Disabled)

Generic Bar Code Options



Note: Generic bar code options must be qualified by one of the bar code symbology strings. For example: “session_1|upc|max_length = 13;”.

Generic Bar Code Option Descriptions

Option	Session [1], 2, 3, 4	Values	Default Value
Drop Leading	upc|drop_leading ean|drop_leading code_128|drop_leading code_39|drop_leading codabar|drop_leading abc_codabar|drop_leading str_2of5|drop_leading int_2of5|drop_leading ci_2of5|drop_leading code_11|drop_leading code_93|drop_leading plessey|drop_leading	Numeric. Range is 0 to 15.	0
Drop Trailing	upc|drop_trailing ean|drop_trailing code_128|drop_trailing code_39|drop_trailing codabar|drop_trailing abc_codabar|drop_trailing str_2of5|drop_trailing int_2of5|drop_trailing ci_2of5|drop_trailing code_11|drop_trailing code_93|drop_trailing plessey|drop_trailing	Numeric. Range is 0 to 15.	0
Fixed Length 1	upc|fix_length_1 ean|fix_length_1 code_128|fix_length_1 code_39|fix_length_1 codabar|fix_length_1 abc_codabar|fix_length_1 str_2of5|fix_length_1 int_2of5|fix_length_1 ci_2of5|fix_length_1 code_11|fix_length_1 code_93|fix_length_1 plessey|fix_length_1	Numeric. Range is 0 to 99.	0

Generic Bar Code Option Descriptions (continued)

Option	Session [1], 2, 3, 4	Values	Default Value
Fixed Length 2	upc|fix_length_2 ean|fix_length_2 code_128|fix_length_2 code_39|fix_length_2 codabar|fix_length_2 abc_codabar|fix_length_2 str_2of5|fix_length_2 int_2of5|fix_length_2 ci_2of5|fix_length_2 code_11|fix_length_2 code_93|fix_length_2 plessey|fix_length_2	Numeric. Range is 0 to 99.	0
Fixed Length 3	upc|fix_length_3 ean|fix_length_3 code_128|fix_length_3 code_39|fix_length_3 codabar|fix_length_3 abc_codabar|fix_length_3 str_2of5|fix_length_3 int_2of5|fix_length_3 ci_2of5|fix_length_3 code_11|fix_length_3 code_93|fix_length_3 plessey|fix_length_3	Numeric. Range is 0 to 99.	0
Fixed Length 4	upc|fix_length_4 ean|fix_length_4 code_128|fix_length_4 code_39|fix_length_4 codabar|fix_length_4 abc_codabar|fix_length_4 str_2of5|fix_length_4 int_2of5|fix_length_4 ci_2of5|fix_length_4 code_11|fix_length_4 code_93|fix_length_4 plessey|fix_length_4	Numeric. Range is 0 to 99.	0
Maximum Length	upc|max_length ean|max_length code_128|max_length code_39|max_length codabar|max_length abc_codabar|max_length str_2of5|max_length int_2of5|max_length ci_2of5|max_length code_11|max_length code_93|max_length plessey|max_length	Numeric. Range is 0 to 99.	0

Generic Bar Code Option Descriptions (continued)

Option	Session [1], 2, 3, 4	Values	Default Value
Minimum Length	upc|min_length ean|min_length code_128|min_length code_39|min_length codabar|min_length abc_codabar|min_length str_2of5|min_length int_2of5|min_length ci_2of5|min_length code_11|min_length code_93|min_length plessey|min_length	Numeric. Range is 0 to 99.	0

UPC Options**UPC Option Descriptions**

Option	Session [1], 2, 3, 4	Values	Default Value
Add-On 2	upc|add-on_2	Enabled or Disabled.	Disabled
Add-On 5	upc|add-on_5	Enabled or Disabled.	Disabled
Expand E to A	upc|expand_e_to_a	Enabled or Disabled.	Disabled
System 0 UPCE	upc|sys_0_upce	Enabled or Disabled.	Disabled
System 1 UPCE	upc|sys_1_upce	Enabled or Disabled.	Disabled

EAN Options**EAN Option Descriptions**

Option	Session [1], 2, 3, 4	Values	Default Value
Add-On 2	ean|add-on_2	Enabled or Disabled.	Disabled
Add-On 5	ean|add-on_5	Enabled or Disabled.	Disabled
Expand 8 to 13	ean|expand_8to13	Enabled or Disabled.	Disabled

Code 39 Options**Code 39 Option Descriptions**

Option	Session [1], 2, 3, 4	Values	Default Value
Auto-Encoded	auto-encoded	Enabled or Disabled.	Disabled
Check Digit	code_39|chk_digit	Enabled or Disabled.	Disabled
Encoded	encoded	Enabled or Disabled.	Disabled
Encoded Save	encoded_save	Enabled or Disabled.	Disabled
Full ASCII	code_39|full_ascii	Enabled or Disabled.	Disabled

Code 11, Interleaved 2 of 5, and Plessey Options

Code 11, Interleaved 2 of 5, and Plessey Option Descriptions

Option	Session [1], 2, 3, 4	Values	Default Value
Code 11 Check Digit 1	code_11|chk_dig_1	Enabled or Disabled.	Disabled
Interleaved 2 of 5 Chk Digit	int_2of5	Enabled or Disabled.	Disabled
Plessey MOD 10 Check	plessey|mod10_chk	Enabled or Disabled.	Disabled

Code 128 Options

Code 128 Option Descriptions

Option	Session [1], 2, 3, 4	Values	Default Value
No UCC Type	code_128|no_ucc_type	Enabled or Disabled.	Disabled
UCC/EAN	code_128|ucc/ean	Enabled or Disabled.	Disabled
UCC F1 Value	code_128|ucc_f1_value	Numeric. Range is 0 to 255.	0

Generic Protocol Options

Generic Protocol Option Descriptions

Option	Session [1], 2, 3, 4	Values	Default Value
Allow Negotiate About Window Size (NAWS)	allow_naws	Enabled or Disabled.	Disabled
Auto Enter Scan	auto_entr_scn	Enabled or Disabled.	Enabled
Auto Tab Scan	auto_tab_scan	Enabled or Disabled.	Disabled
Auto Wrap	auto_wrap	Enabled or Disabled.	Disabled
Extended Commands	extended_cmds	Enabled or Disabled.	Disabled
Host View Columns	host_view_cols	1-80 (3270) 80,132 (5250) 80 (VT/ANSI)	NA

3270 Protocol Options

3270 Protocol Option Descriptions

Option	Session [1], 2, 3, 4	Values	Default Value
Allow Alias	3270_allow_alias	Enabled or Disabled.	Enabled
Any Auto Enter	any_auto_enter	Enabled or Disabled.	Disabled
Auto Enter Scan	auto_entr_scn	Enabled or Disabled.	Enabled
Bright (BRT) Auto Enter	brt_auto_enter	Enabled or Disabled.	Disabled
Device Name	3270_device_name	String of 0 to 30 characters.	Null
ESC Key Definition	Esc_definition	0 (Reset Key) 1 (Clear Key)	0
Enable 3278E	enable_3278e	0 = Disabled 1 = Enabled	0
Keyboard Unlock	keybrd_unlock	Enabled or Disabled.	Disabled
Origin Set	origin_set	Enabled or Disabled.	Disabled
Skip Field Exit	skip fldexit	Enabled or Disabled.	Disabled
Use Color	3270_use_color	Enabled or Disabled.	Disabled

5250 Protocol Options

5250 Protocol Option Descriptions

Option	Session [1], 2, 3, 4	Values	Default Value
3477-Fx Mode	3477-fx_mode	Enabled or Disabled.	Disabled
Allow Alias	5250_allow_alias	Enabled or Disabled.	Enabled
Allow RTL	allow_rtl	Enabled or Disabled.	Enabled
Beep On Error	beep_on_error	Enabled or Disabled.	Disabled
Device Name	devicename	String of length 0 to 30 characters.	Null
Destructive BS	destructive_bs	Enabled or Disabled.	Disabled
Enable Half-Width Double-Byte Chars	enable_half-width_double_byte_chars	Enabled or Disabled.	Disabled
Hide SISO Chars	hide_siso_chars	Enabled or Disabled.	Disabled
Lock Error Message	lock_error_msg	Enabled or Disabled.	Disabled
Scan AutoEnter	scan_autoenter	Enabled or Disabled.	Disabled
Scan Length Error	scan_lengtherr	Enabled or Disabled.	Disabled
Skip Field Exit	skip fldexit	Enabled or Disabled.	Disabled
Use Color	use_color	Enabled or Disabled.	Disabled

VT/ANSI Protocol Options

VT/ANSI Protocol Option Descriptions

Option	Session [1], 2, 3, 4	Values	Default Value
Allow LineMode	allow_linemode	Enabled or Disabled.	Enabled
AnswerBack	answerback	String of length 0 to 30 characters. Use wildcards to represent multiple characters. For more information, see “About the Answerback Character String” on page 49.	Computer serial number
CR to CRLF	cr_to_crlf	Enabled or Disabled.	Disabled
DEL to BS	del_to_bs	Enabled or Disabled.	Disabled
Discrete Bells	discrete_bells	Enabled or Disabled.	Disabled
Do Gold Key	do_gold_key	Enabled or Disabled.	Enabled
Do UTF-8	do_utf8	Enabled or Disabled.	Disabled
Ignore Data Logic Extensions	ignore_dl_ext	Enabled or Disabled.	Disabled
Keypad Mode	keypad_mode	Numeric or Application	Numeric
Local Echo	local_echo	Enabled or Disabled.	Disabled
Lock Mode	lock_mode	Enabled or Disabled.	Disabled
RS232 Baudrate	rs232_baudrate	1 = 1200 2 = 2400 3 = 4800 4 = 9600 5 = 19200 6 = 57600 7 = 115200	9600
RS232 DataBits	rs232_databits	7 or 8	8
RS232 Flow	rs232_flow	0 = NONE 1 = DTR 2 = XON/XOFF	NONE
RS232 Parity	rs232_parity	78 = NONE 79 = ODD 80 = EVEN	NONE
RS232 StopBits	rs232_stopbits	1 or 2	1
Screen Lock	screen_lock	Enabled or Disabled.	Disabled
Send XON	send_xon	Enabled or Disabled.	Enabled
Terminal Mode	terminal_mode	7-Bit or 8-Bit	7-Bit
Terminal Type	terminal_id	String of length 0 to 30 characters.	Null string, undefined
Terminal Setup	term_setup	0 = ANSI 1 = VT100 2 = VT220 3 = VT320 4 = VT340 5 = IBM 330x	VT340
Transmit BS	transmit_bs	Enabled or Disabled.	Disabled
Use PC Character Set	use_pc_char_set	Enabled or Disabled.	Disabled
User Key Locked	userkey_locked	Enabled or Disabled.	Disabled

VT/ANSI Protocol Option Descriptions (continued)

Option	Session [1], 2, 3, 4	Values	Default Value
VT Cursor Mode	vt_cursor_mode	0 = Cursor 1 = Application	Cursor
VT220 Mode	vt220_mode	128 = Character 130 = Block	Char

Display Options**Display Option Descriptions**

Option	Session [1], 2, 3, 4	Values	Default Value
Alternate Screen Sizes	alt1_screen_cols = 25 alt1_screen_rows = 16 alt2_screen_cols = 30 alt2_screen_rows = 18 alt3_screen_cols = 0 alt3_screen_rows = 0 alt4_screen_cols = 0 alt4_screen_rows = 0 alt5_screen_cols = 0 alt5_screen_rows = 0	Numeric. Range as follows: 70 Series: Rows: 8 to 24 Columns: 10 to 80 CV41, CV61: Rows: 8 to 27 Columns: 10 to 132 All other computers: Rows: 8 to 21 Columns: 10 to 32 For all computers, use 0 to disable alternate screens.	
Code Page	code_page	1 = English 2 = Cyrillic (Russian), 3 = Greek 4 = Hebrew 5 = Central Europe 6 = Latin 2 7 = Turkish, 8 = Cyrillic Win (Russian) 9 = Arabic 10 = Western Europe	English
Cursor Mode	cursor_mode	0 = Underln Blink 2 = Underline 3 = Block 9 = Block Blink	Block
Func Hotspot	func_hotspot	Enabled or Disabled.	Disabled
Ignore Bold	ignore_bold	Enabled or Disabled.	Disabled
Ignore CnrTaps	ignore_cnrtaps	Enabled or Disabled.	Enabled
Menu Hotspot	menu_hotspot	Enabled or Disabled.	Enabled
Select Font	select_font	0 = Lucida Console 1 = Courier New 2 = Courier New Bold 3 = Courier New Bold Italic	0 (Lucida Console)
URL Hotspots	url_hotspots	Enabled or Disabled.	Disabled

Miscellaneous Options

Miscellaneous Option Descriptions

Option	Session [1], 2, 3, 4	Values	Default Value
Allow Phone Operation	allow_phone_operation	0 = Don't allow 1 = Allow If this is changed to "Allow" at runtime, a message appears prompting you to warm boot the computer to enable the phone.	0 (CN50 and CS40 only)
Background Color	background_rgb|blue background_rgb|green background_rgb|red	Numeric. Range is 0 to 255.	0
Change Menu Password	change_menu_password	String of 1 to 10 characters. You must enable and set the password before you can change it. Use "Main Menu Password" to enable the password.	3193693
Com Select	com_select	0 = COM1 1 = COM2 (CV41, CV61 only)	COM1
Extended Commands	extended_cmds	Enabled or Disabled.	Disabled
Foreground Color	foreground_rgb|blue foreground_rgb|green foreground_rgb|red	Numeric. Range is 0 to 255.	255
Main Menu Password	menu_password	Enabled or Disabled. You must enable and set the password to access the Main Menu. Use "Change menu password" to set the password.	Disabled
Setup Parm Password	password	String of 1 to 10 characters.	cr52401
Print Device	print_device	0 = RS232 Print 1 = IRDA Print 2 = Network Print 3 = Bluetooth Print	RS232 Print: CV41, CV61 only IRDA Print: CK70, CK71, CN70 only Bluetooth Print: All other computers
Reader Address	reader_address	String of 0 to 16 characters.	Null
RFID Enabled	rfid_enabled	Enabled or Disabled.	Disabled
RFID Setup	rfid_setup	0 = Local 1 = Remote	Local: CK3, CN3 Remote: CV41
Wireless Printing	wireless_printing	0 = No access to Wireless Printer wizard 1 = Launch Wireless Printer wizard	0
Wireless Scanning	wireless_scanning	0 = No access to Wireless Scanning wizard 1 = Launch Wireless Scanning wizard	0

LCD Options

LCD Option Descriptions

Option	Session [1], 2, 3, 4	Values	Default Value
Annunciator Position	annun_position	1 = Upper right (vertical) 2 = Lower right (vertical) 4 = Lower left (vertical) 8 = Upper left (vertical) 16 = Stealth (annunciator not visible) 129 = Upper right (horizontal) 130 = Lower right (horizontal) 132 = Lower left (horizontal) 136 = Upper left (horizontal)	Stealth: CV41, CV61 only Lower right: all other computers
Define Height (Scroll Window)	define_height	Numeric. Range is 1 to 24.	8
Define Width (Scroll Window)	define_width	Numeric. Range is 1 to 80.	8
Key Uppercase	key_uppercase	Enabled or Disabled.	Disabled
Screen Columns	screen_cols	Numeric. Range is as follows: <ul style="list-style-type: none"> • 70 Series: 10 to 80 • CV41, CV61: 10 to 132 • All other computers: 10 to 32 	20
Screen Mode	screen_mode	0 = Center Cursor 1 = Corner Mode 2 = Page Mode 3 = Lazy Mode 4 = Locked Mode	Corner Mode
Screen Rows	screen_rows	Numeric. Range is as follows: <ul style="list-style-type: none"> • 70 Series: 8 to 24 • CV41, CV61: 8 to 27 • All other computers: 8 to 21 	10
Scroll Window	scroll_window	0 = Scroll Setting 1 = Screen Size 8 = Tab Size	Tab Size
XOrigin	xorigin	Numeric. Range is 0 to 79.	0
YOrigin	yorigin	Numeric. Range is 0 to 23.	0

Non-Session-Specific Parameters

Non-Session Specific Parameter Descriptions

Parameters	Session [1], 2, 3, 4	Values	Default Value
Enable Exit Password	enable_exit_password	0 = Disabled 1 = Enabled	0
Exit Password	exit_password	String of length 0 to 10 characters.	cr52401
Enable SIP	enable_sip	0 = ITE does not display the SIP onscreen 1 = ITE displays SIP when it starts and gains focus	0 (CK3, CV41, CV61) 1 (CN3, CN4, CN50, CS40)
Enable UDP Plus	enable_udp+	0 = false (UDP Plus disabled, TCP/IP enabled) 1 = true (UDP Plus enabled)	0
Focus via Touch Panel	focus_via_touch_panel	0 = Disabled 1 = Enabled	0
Foreground Session	foreground_sess	0 = Session 1 1 = Session 2 2 = Session 3 3 = Session 4	0
Key Event	key_event	Enabled or Disabled.	Disabled
No auto-start	no_auto-start	0 = Disabled (ITE auto-starts when the computer is restarted) 1 = Enabled (ITE does not auto-start when the computer is rebooted)	Enabled for CV41 and CV61. Disabled for all other computers.
No Lockdown	no_lockdown	Enabled or Disabled.	Enabled for CV41. Disabled for all other computers.
No ScanAhead	no_scanahead	Enabled or Disabled.	Disabled
OOR Monitor	oor_monitor	Enabled or Disabled.	Disabled
Pan via Touch Panel	pan_via_touch_panel	0 = Disabled 1 = Viewport mode 2 = Screen mode	0
ParmsBySession	parmsbysession	Enabled or Disabled.	Disabled
Program Name (appears on initialization and version screens)	program_name	String of length 1 to 8 characters.	IntermTE
Program Version (appears on initialization and version screens)	program_version	String of length 1 to 16 characters.	NA
Return Result (test feature)	return_result	Enabled or Disabled. If disabled, extended commands (#K only) do not return results to the host application.	Enabled
Setup Parms Password	password	String of 1 to 10 characters.	cr52401
SIP Alignment	sip_alignment	0 = Center 1 = Left 2 = Right	0 (CV41 running WES, CV61) Not supported by other computers.

Non-Session Specific Parameter Descriptions (continued)

Parameters	Session [1], 2, 3, 4	Values	Default Value
SIP Height	sip_height	Numeric. Range is 125 to the maximum height of the work area (in pixels).	125 (CV41 running WES) 265 (CV61) Not supported by other computers.
SIP Width	sip_width	Numeric. Range is 400 to the maximum width of the work area (in pixels).	400 (CV41 running WES) 1000 (CV61) Not supported by other computers.
Trusted app	trusted_app	String of up to 260 characters specifying the application to start when you press the Trusted App toolbar button.	Blank

UDP Plus Parameters

Note: These settings are in effect only when UDP Plus is enabled. For more information, see **“Configuring for UDP Plus” on page 60.**

UDP Plus Parameter Descriptions

Parameters	Session [1], 2, 3, 4	Values	Default Value
UDP Plus Server IP	server_a | server_ip server_b | server_ip server_c | server_ip	Numeric. Valid IP address.	None.
UDP+ Port	udp+_port	Numeric. Range is 0 to 65535.	5555
Maximum Retries	max_retries	Numeric. Range is 1 to 99.	7
WD Receive Timeout	wd_rcv_timeout	Numeric. Range is 1 to 3600.	45
WD Send Timeout	wd_send_timeout	Numeric. Range is 1 to 3600.	20
Acknowledgement Timeout Lower Boundary	ack_lower_bound	Numeric. Range is 200 to 2000.	300
Acknowledgement Timeout Upper Boundary	ack_upper_bound	Numeric. Range is 2000 to 60000.	5000

Camera and Imager Parameters

Note: These settings are supported only by the 70 Series, CK3, CN3, CN4, CN50, and CS40 computers with an imager or color camera.

Camera and Imager Parameter Descriptions

Option	Session [1], 2, 3, 4	Values	Default Value
Image Folder	image_folder	Path to the folder where images are stored.	\my documents\my pictures
Host IP or DNS	host_ip_or_dns	IP address of the host or DNS server.	NA

Camera and Imager Parameter Descriptions (continued)

Option	Session [1], 2, 3, 4	Values	Default Value
Snap UserName	snap_username	User name required for host access. Maximum of 21 characters.	NA
Snap Password	snap_password	Password required for host access. Maximum of 21 characters.	NA
Port	port	Port number to which images are sent.	21
Img Resolution	img_resolution	Resolution of saved images: 0 = Low (smallest file size) 1 = Medium 2 = High (best detail)	Low
Image Type	image_type	File type for saved images: 0 = JPG format 1 = BMP format	JPG

Additional Main Menu 2 Options**Additional Main Menu 2 Option Descriptions**

Options	Session [1], 2, 3, 4	Values	Default Value
Check In License	chk_in_license	Enabled or Disabled.	Enabled
Key Event	key_event	Enabled or Disabled.	Disabled
Session Name	session_name	String of 0 to 64 characters.	Null
Set Hot Key	set_hot_key	-1 = None. 4145 = F1 4146 = F2 4147 = F3 4148 = F4 4149 = F5 4150 = F6 4151 = F7 4152 = F8 4153 = F9 4193 = F10 4194 = F11 4195 = F12 4196 = F13 4197 = F14 4198 = F15 4199 = F16 4200 = F17 4201 = F18 4202 = F19 4203 = F20 4204 = F21 4205 = F22 4206 = F23 4207 = F24	-1 (none)
Shift F13-F24	shift_f13_f24	Enabled or Disabled.	Disabled
Type-Ahead	type-ahead	Enabled or Disabled.	Enabled

Toolbar Options

These options determine the presence, size, and location of icons in the Toolbar. Some items may not be available, depending on the hardware in your Intermec computer. For more information, see “” on page 68.

Toolbar Option Descriptions

Option	Session [1], 2, 3, 4	Values	Default Value
Battery indicator	battery_indicator|display_on_toolbar = 1	0 = Off 1 = On	0 for CV41. 1 for all other computers. Not available for CV61.
	battery_indicator|button_order_(left-to-right) = 5	Range is 1 (leftmost on Toolbar) to 23 (rightmost on Toolbar).	1 for CV41, CV61. 5 for all other computers.
	battery_indicator|button_size = 1	1 = Small	1
	battery_indicator|number_of_spaces_before = 0	Range is 0 to 23.	0
	battery_indicator|toolbar = 0	0 = Primary (bottom) Toolbar 1 = Secondary (top) Toolbar	0
Change font size	change_font_size|display_on_toolbar = 1	0 = Off 1 = On	0
	change_font_size|button_order_(left-to-right) = 5	Range is 1 (leftmost on Toolbar) to 23 (rightmost on Toolbar).	1
	change_font_size|button_size = 1	1 = Small 2 = Medium 3 = Large 4 = X-Large 5 = XX=Large	1
	change_font_size|number_of_spaces_before = 0	Range is 0 to 23.	0
	change_font_size|toolbar = 0	0 = Bottom Toolbar 1 = Top Toolbar	0
	Exit	exit|display_on_toolbar = 1	0 = Off 1 = On	0 for all computers except CV41. 1 for CV41.
exit|button_order_(left-to-right) = 1		Range is 1 (leftmost on Toolbar) to 23 (rightmost on Toolbar).	1 for all computers except CV41. 3 for CV41.
exit|button_size = 1		1 = Small 2 = Medium 3 = Large 4 = X-Large 5 = XX=Large	1
exit|number_of_spaces_before = 0		Range is 0 to 23.	0
exit|toolbar = 0		0 = Primary (bottom) Toolbar 1 = Secondary (top) Toolbar	0
Hebrew mode	hebrew_mode|display_on_toolbar = 1	0 = Off 1 = On	0

Toolbar Option Descriptions (continued)

Option	Session [1], 2, 3, 4	Values	Default Value
	hebrew_mode|button_order_(left-to-right) = 1	Range is 1 (leftmost on Toolbar) to 23 (rightmost on Toolbar).	1
	hebrew_mode|button_size = 1	1 = Small	1
	hebrew_mode|number_of_spaces_before = 0	Range is 0 to 23.	0
	hebrew_mode|toolbar = 0	0 = Primary (bottom) Toolbar 1 = Secondary (top) Toolbar	0
Host	host|display_on_toolbar = 0	0 = Off 1 = On	0
	host|button_order_(left-to-right) = 1	Range is 1 (leftmost on Toolbar) to 23 (rightmost on Toolbar).	1
	host|button_size = 3	3 = Large	1
	host|number_of_spaces_before = 0	Range is 0 to 23.	0
	host|toolbar = 0	0 = Primary (bottom) Toolbar 1 = Secondary (top) Toolbar	0
Input inhibit	input_inhibit|display_on_toolbar = 0	0 = Off 1 = On	0
	input_inhibit|button_order_(left-to-right) = 1	Range is 1 (leftmost on Toolbar) to 23 (rightmost on Toolbar).	1
	input_inhibit|button_size = 1	1 = Small	1
	input_inhibit|number_of_spaces_before = 0	Range is 0 to 23.	0
	input_inhibit|toolbar = 0	0 = Primary (bottom) Toolbar 1 = Secondary (top) Toolbar	0
Insert	insert|display_on_toolbar = 0	0 = Off 1 = On	0
	insert|button_order_(left-to-right) = 1	Range is 1 (leftmost on Toolbar) to 23 (rightmost on Toolbar).	1
	insert|button_size = 1	1 = Small	1
	insert|number_of_spaces_before = 0	Range is 0 to 23.	0
	insert|toolbar = 0	0 = Primary (bottom) Toolbar 1 = Secondary (top) Toolbar	0
Intermec Browser	intermec_browser|display_on_toolbar = 0	0 = Off 1 = On	0
	intermec_browser|button_order_(left-to-right) = 1	Range is 1 (leftmost on Toolbar) to 23 (rightmost on Toolbar).	1
	intermec_browser|button_size = 1	1 = Small	1
	intermec_browser|number_of_spaces_before = 0	Range is 0 to 23.	0
	intermec_browser|toolbar = 0	0 = Primary (bottom) Toolbar 1 = Secondary (top) Toolbar	0
Keyboard status	keyboard_status|display_on_toolbar = 0	0 = Off 1 = On	0
	keyboard_status|button_order_(left-to-right) = 1	Range is 1 (leftmost on Toolbar) to 23 (rightmost on Toolbar).	1
	keyboard_status|button_size = 1	1 = Small	1
	keyboard_status|number_of_spaces_before = 0	Range is 0 to 23.	0

Toolbar Option Descriptions (continued)

Option	Session [1], 2, 3, 4	Values	Default Value	
	keyboard_status | toolbar = 0	0 = Primary (bottom) Toolbar 1 = Secondary (top) Toolbar	0	
Keypad mode	keypad_mode | display_on_toolbar = 0	0 = Off 1 = On	0	
	keypad_mode | button_order_(left-to-right) = 1	Range is 1 (leftmost on Toolbar) to 23 (rightmost on Toolbar).	1	
	keypad_mode | button_size = 1	1 = Small	1	
	keypad_mode | number_of_spaces_before = 0	Range is 0 to 23.	0	
	keypad_mode | toolbar = 0	0 = Primary (bottom) Toolbar 1 = Secondary (top) Toolbar	0	
Mail waiting	mail_waiting | display_on_toolbar = 0	0 = Off 1 = On	0	
	mail_waiting | button_order_(left-to-right) = 1	Range is 1 (leftmost on Toolbar) to 23 (rightmost on Toolbar).	1	
	mail_waiting | button_size = 1	1 = Small	1	
	mail_waiting | number_of_spaces_before = 0	Range is 0 to 23.	0	
	mail_waiting | toolbar = 0	0 = Primary (bottom) Toolbar 1 = Secondary (top) Toolbar	0	
Menu settings	menu_settings	4723 = Session 1 4724 = Session 2 4726 = Session 3 4727 = Session 4 4912 = Session Menu 5680 = SIP Toggle 12069 = ITE Menus 12084 = Toolbar Opts 12113 = Intermec Settings 12129 = SIP Settings 12131 = Wireless Printing 12132 = Wireless Scanning	12069, 12113, 12084, 4723, 4724, 4726, 4727, 5680	
	menu_settings | display_on_toolbar = 1	0 = Off 1 = On	0	
	menu_settings | button_order_(left-to-right) = 1	Range is 1 (leftmost on Toolbar) to 23 (rightmost on Toolbar).	1	
	menu_settings | button_size = 1	1 = Small	1	
	menu_settings | number_of_spaces_before = 0	Range is 0 to 23.	0	
	menu_settings | toolbar = 0	0 = Primary (bottom) Toolbar 1 = Secondary (top) Toolbar	0	
	Reader state	reader_state | display_on_toolbar = 0	0 = Off 1 = On	0
		reader_state | button_order_(left-to-right) = 1	Range is 1 (leftmost on Toolbar) to 23 (rightmost on Toolbar).	1
		reader_state | button_size = 1	1 = Small 2 = Medium 3 = Large 4 = X-Large 5 = XX=Large	1
		reader_state | number_of_spaces_before = 0	Range is 0 to 23.	0

Toolbar Option Descriptions (continued)

Option	Session [1], 2, 3, 4	Values	Default Value
	reader_state | toolbar = 0	0 = Primary (bottom) Toolbar 1 = Secondary (top) Toolbar	0
Right-to-left mode	rtl_mode | display_on_toolbar = 0	0 = Off 1 = On	0
	rtl_mode | button_order_(left-to-right) = 1	Range is 1 (leftmost on Toolbar) to 23 (rightmost on Toolbar).	1
	rtl_mode | button_size = 1	1 = Small	1
	rtl_mode | number_of_spaces_before = 0	Range is 0 to 23.	0
	rtl_mode | toolbar = 0	0 = Primary (bottom) Toolbar 1 = Secondary (top) Toolbar	0
Session 1	session_1 | display_on_toolbar = 0	0 = Off 1 = On	0
	session_1 | button_order_(left-to-right) = 1	Range is 1 (leftmost on Toolbar) to 23 (rightmost on Toolbar).	1
	session_1 | button_size = 2	1 = Small 2 = Medium 3 = Large 4 = X-Large 5 = XX=Large	2
	session_1 | number_of_spaces_before = 0	Range is 0 to 23.	0
	session_1 | toolbar = 0	0 = Primary (bottom) Toolbar 1 = Secondary (top) Toolbar	0
Session 2	session_2 | display_on_toolbar = 0	0 = Off 1 = On	0
	session_2 | button_order_(left-to-right) = 1	Range is 1 (leftmost on Toolbar) to 23 (rightmost on Toolbar).	1
	session_2 | button_size = 2	1 = Small 2 = Medium 3 = Large 4 = X-Large 5 = XX=Large	2
	session_2 | number_of_spaces_before = 0	Range is 0 to 23.	0
	session_2 | toolbar = 0	0 = Primary (bottom) Toolbar 1 = Secondary (top) Toolbar	0
Session 3	session_3 | display_on_toolbar = 0	0 = Off 1 = On	0
	session_3 | button_order_(left-to-right) = 1	Range is 1 (leftmost on Toolbar) to 23 (rightmost on Toolbar).	1
	session_3 | button_size = 2	1 = Small 2 = Medium 3 = Large 4 = X-Large 5 = XX=Large	2
	session_3 | number_of_spaces_before = 0	Range is 0 to 23.	0
	session_3 | toolbar = 0	0 = Primary (bottom) Toolbar 1 = Secondary (top) Toolbar	0

Toolbar Option Descriptions (continued)

Option	Session [1], 2, 3, 4	Values	Default Value
Session 4	session_4|display_on_toolbar = 0	0 = Off 1 = On	0
	session_4|button_order_(left-to-right) = 1	Range is 1 (leftmost on Toolbar) to 23 (rightmost on Toolbar).	1
	session_4|button_size = 2	1 = Small 2 = Medium 3 = Large 4 = X-Large 5 = XX=Large	2
	session_4|number_of_spaces_before = 0	Range is 0 to 23.	0
	session_4|toolbar = 0	0 = Primary (bottom) Toolbar 1 = Secondary (top) Toolbar	0
Signal indicator	signal_indicator|display_on_toolbar = 1	0 = Off 1 = On	1
	signal_indicator|button_order_(left-to-right) = 6	Range is 1 (leftmost on Toolbar) to 23 (rightmost on Toolbar).	1
	signal_indicator|button_size = 1	1 = Small	1
	signal_indicator|number_of_spaces_before = 0	Range is 0 to 23.	5 for CV41. 6 for CV61. 4 for all other computers.
	signal_indicator|toolbar = 0	0 = Primary (bottom) Toolbar 1 = Secondary (top) Toolbar	0
SIP toggle	sip_toggle|display_on_toolbar = 1	0 = Off 1 = On	1
	sip_toggle|button_order_(left-to-right) = 2	Range is 1 (leftmost on Toolbar) to 23 (rightmost on Toolbar).	2
	sip_toggle|button_size = 1	1 = Small 2 = Medium 3 = Large 4 = X-Large 5 = XX=Large	1
	sip_toggle|number_of_spaces_before = 0	Range is 0 to 23.	0
	sip_toggle|toolbar = 0	0 = Primary (bottom) Toolbar 1 = Secondary (top) Toolbar	0
SnapShot	snapshot|display_on_toolbar = 0	0 = Off 1 = On	0
	snapshot|button_order_(left-to-right) = 1	Range is 1 (leftmost on Toolbar) to 23 (rightmost on Toolbar).	1
	snapshot|button_size = 1	1 = Small 2 = Medium 3 = Large 4 = X-Large 5 = XX=Large	1
	snapshot|number_of_spaces_before = 0	Range is 0 to 23.	0
	snapshot|toolbar	0 = Primary (bottom) Toolbar 1 = Secondary (top) Toolbar	0

Toolbar Option Descriptions (continued)

Option	Session [1], 2, 3, 4	Values	Default Value
Term ID	term_id|display_on_toolbar = 0	0 = Off 1 = On	0
	term_id|button_order_(left-to-right) = 1	Range is 1 (leftmost on Toolbar) to 23 (rightmost on Toolbar).	1
	term_id|button_size = 3	3 = Large	3
	term_id|number_of_spaces_before = 0	Range is 0 to 23.	0
	term_id|toolbar = 0	0 = Primary (bottom) Toolbar 1 = Secondary (top) Toolbar	0
Term IP	term_ip|display_on_toolbar = 1	0 = Off 1 = On	1
	term_ip|button_order_(left-to-right) = 3	Range is 1 (leftmost on Toolbar) to 23 (rightmost on Toolbar).	4 for CV41. 3 for all other computers.
	term_ip|button_size = 3	3 = Large	3
	term_ip|number_of_spaces_before = 0	Range is 0 to 23.	8 for CV61. 4 for CV41. 1 for all other computers.
	term_ip|toolbar = 0	0 = Primary (bottom) Toolbar 1 = Secondary (top) Toolbar	0
Time	time|display_on_toolbar = 1	0 = Off 1 = On	1
	time|button_order_(left-to-right) = 6	Range is 1 (leftmost on Toolbar) to 23 (rightmost on Toolbar).	5 for CV61. 6 for all other computers.
	time|button_size = 3	2 = Medium 3 = Large	2
	time|number_of_spaces_before = 0	Range is 0 to 23.	0
	time|toolbar = 0	0 = Primary (bottom) Toolbar 1 = Secondary (top) Toolbar	0
Transmission mode	transmission_mode|display_on_toolbar = 0	0 = Off 1 = On	0
	transmission_mode|button_order_(left-to-right) = 1	Range is 1 (leftmost on Toolbar) to 23 (rightmost on Toolbar).	1
	transmission_mode|button_size = 1	1 = Small 2 = Medium 3 = Large 4 = X-Large 5 = XX=Large	1
	transmission_mode|number_of_spaces_before = 0	Range is 0 to 23.	0
	transmission_mode|toolbar = 0	0 = Primary (bottom) Toolbar 1 = Secondary (top) Toolbar	0
Trusted application	trusted_app|display_on_toolbar = 0	0 = Off 1 = On	0
	trusted_app|button_order_(left-to-right) = 1	Range is 1 (leftmost on Toolbar) to 23 (rightmost on Toolbar).	1

Toolbar Option Descriptions (continued)

Option	Session [1], 2, 3, 4	Values	Default Value
	trusted_app|button_size = 1	1 = Small 2 = Medium 3 = Large 4 = X-Large 5 = XX=Large	1
	trusted_app|number_of_spaces_before = 0	Range is 0 to 23.	0
	trusted_app|toolbar = 0	0 = Primary (bottom) Toolbar 1 = Secondary (top) Toolbar	0
VOIP	voip|display_on_toolbar = 0	0 = Off 1 = On	0
	voip|button_order_(left-to-right) = 1	Range is 1 (leftmost on Toolbar) to 23 (rightmost on Toolbar).	1
	voip|button_size = 1	1 = Small 2 = Medium 3 = Large 4 = X-Large 5 = XX=Large	1
	voip|number_of_spaces_before = 0	Range is 0 to 23.	0
	voip|toolbar = 0	0 = Primary (bottom) Toolbar 1 = Secondary (top) Toolbar	0
Volume down	volume_down|display_on_toolbar = 0	0 = Off 1 = On	0
	volume_down|button_order_(left-to-right) = 4	Range is 1 (leftmost on Toolbar) to 23 (rightmost on Toolbar).	4
	volume_down|button_size = 1	1 = Small 2 = Medium 3 = Large 4 = X-Large 5 = XX=Large	1
	volume_down|number_of_spaces_before = 0	Range is 0 to 23.	0
	volume_down|toolbar = 0	0 = Primary (bottom) Toolbar 1 = Secondary (top) Toolbar	0
Volume up	volume_up|display_on_toolbar = 0	0 = Off 1 = On	0
	volume_up|button_order_(left-to-right) = 3	Range is 1 (leftmost on Toolbar) to 23 (rightmost on Toolbar).	4
	volume_up|button_size = 1	1 = Small 2 = Medium 3 = Large 4 = X-Large 5 = XX=Large	1
	volume_up|number_of_spaces_before = 0	Range is 0 to 23.	0
	volume_up|toolbar = 0	0 = Primary (bottom) Toolbar 1 = Secondary (top) Toolbar	0

Debug Parameters



Caution

ITE_DBG controls are reserved for Intermec technical staff and disabled by default. Do not attempt to enable these controls.

These debug events have no session qualifiers.

```
dbg_3270 = 0
dbg_5250 = 0
dbg_ansi = 0
dbg_ascii = 0
dbg_autologin = 0
dbg_display = 0
dbg_ebcdic = 0
dbg_events = 0
dbg_extend = 0
dbg_hex = 0
dbg_kbd = 0
dbg_kbdbg = 0
dbg_network = 0
dbg_recv = 0
dbg_rfiddata = 0
dbg_rfiddev = 0
dbg_rpc = 0
dbg_rtc = 0
dbg_scandata = 0
dbg_scandev = 0
dbg_scanparms = 0
dbg_send = 0
dbg_settings = 0
dbg_ssh = 0
dbg_sip = 0
dbg_startup = 0
dbg_telnet = 0
```

Changing Text in Menus, Messages, and Settings

To change the text in the ITE configuration menus, configuration parameters, or system messages, you modify strings in the `cfglit.dat` file.

An identification (ID) number identifies each literal string. To create your own literal file, you create a text file that associates these numbers with the actual literal strings. You then use `makelit.exe` to convert the text file to a format the configuration program can use.

Each line in the literal text file begins with the literal ID number. After the ID number, you type the quoted string that is used when that ID number is referenced. If you omit an ID number, its string appears as “Bad Literal File” when you run the program in the computer.

Literal ID numbers are available upon request from Intermec. Contact your Intermec representative for more information about ID numbers.

You can create a sample file containing the default literal strings using `makelit.exe` to “reverse engineer” the standard `cfglit.dat` file. To do this, type the following command line to unpack `cfglit.dat` into a `cfglit.txt` file:

```
makelit -r cfglit.dat cfglit.txt
```

The `cfglit.txt` file this command creates contains all the default strings the configuration program uses. One line in `cfglit.txt` looks like this:

```
0x2f10 "RS232\nPORT IN USE\n\nPLEASE WAIT!"
```

“0x2f10” is the literal ID number for the RS-232 port-in-use message that appears when a personal computer sends an RS-232 command to the TE program. The message text follows the ID number in a quoted string. The embedded “\n” sequence within the quoted string indicates a “new line” character and outputs a carriage return/line feed. To change the text of the message that appears, change the quoted string.

For example, change the previous line to look like this:

```
0x2f10 "Printing\nPlease Wait!"
```

When you have a text file with one line for every ID number, use `makelit.exe` to convert the file to an indexed literal file. If your text file is named `cfglit.txt`, you would type the following command which creates the new literal `cfglit.dat` file.

```
makelit cfglit.txt cfglit.dat
```

You must copy the new literal file to the folder where ITE was installed on the Intermec computer, and then restart ITE to make your changes active. For help with copying the file, see the computer user manual.

Preinitializing the ITE Program

To preinitialize the ITE program, you must name the 3270 initialization file as `3270.ini`, the 5250 initialization file as `5250.ini`, or the VT/ANSI initialization file as `VT220.ini`. The file is processed when you reset or warm boot the computer. The file is processed as if the radio had received the data, and must be in the “on-air” format.

Data is encoded in binary format. To create the .ini file, you may need a hex editor or similar program.

Preinitializing the 3270 Program

3270.ini contains 3270 data stream commands and orders. Below is the format for the 3270 data stream. The information assumes you have a working knowledge of the data stream command formats or escape sequences, or both. The following 3270 commands and orders are supported:

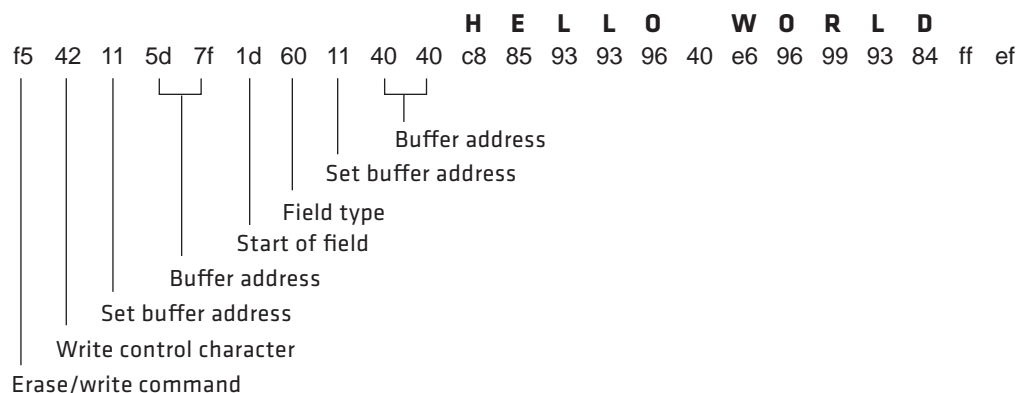
Supported 3270 Commands

Value	Command	Value	Command
0xf1	Write	0xf6	Read modified
0xf2	Read buffer	0x7e	Erase write alternate
0xf3	Write structured field	0x6e	Read modified all
0xf5	Erase write	0x6f	Erase all unprotected

Supported 3270 Orders

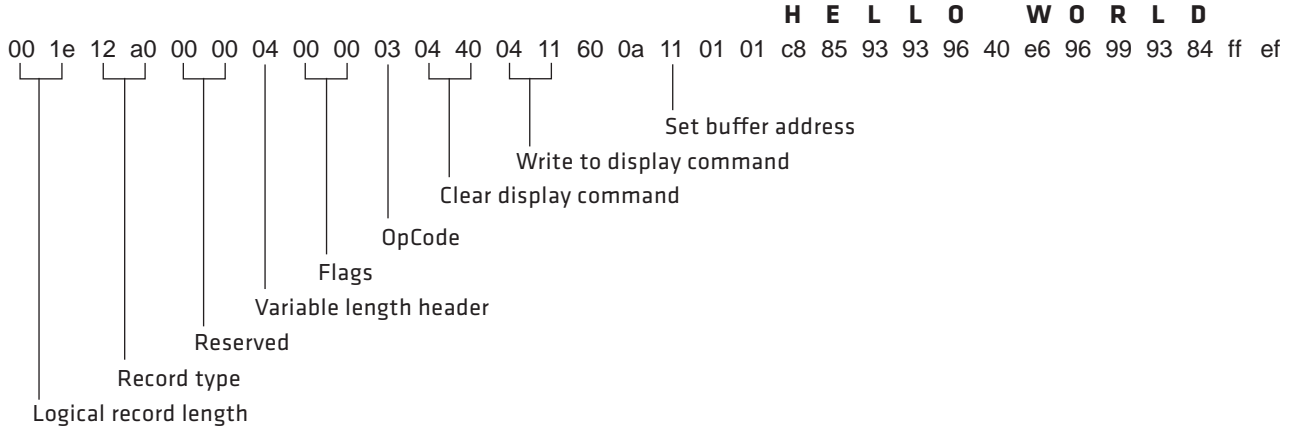
Value	Command	Value	Command
0x07	Beep (Intermec extension)	0x14	Repeat to address
0x09	Program tab	0x1d	Start of field
0x11	Set buffer address	0x1f	Scanner (Intermec extension)
0x12	Erase unsupported to address	0x28	Set attribute
0x13	Insert cursor	0x29	Start field extended

The following example shows how to display “HELLO WORLD” from within a data stream initialization file. The line of hexadecimal digits represent the binary values that must be stored in the initialization files.



Preinitializing the 5250 Program

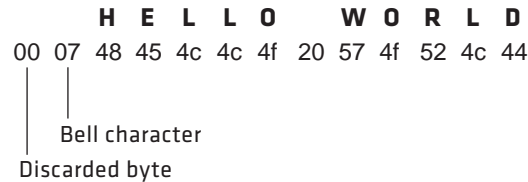
The following example shows how to display “HELLO WORLD” and beep the beeper from within a data stream initialization file. The line of hexadecimal digits represent the binary values that must be stored in the initialization files.



Preinitializing the VT/ANSI Program

The VT220.ini file starts with a single byte that the computer ignores. This byte should always be 0 (zero). The remainder of the file contains standard computer escape sequences.

The following example shows how to display “HELLO WORLD” and beep the beeper from within a data stream initialization file. The line of hexadecimal digits represent the binary values that must be stored in the initialization files.



Remapping the Computer Keypad



Note: These instructions assume the remap.cfg file is copied to your computer. For help with copying files, see the computer user manual.

You may need to remap the computer keypad to send a key in ITE that is not on a standard 101-key keyboard. You can also remap a computer key to transmit a text string or message to the personal computer.

To remap the computer keys, you create the remap.cfg file and add a Remap command to remap a computer key. You can remap a single key or a two-key sequence. You can add a Remap command or create a macro in the remap.cfg file that remaps a single key or a two-key sequence.

You can remap any computer key or two-key sequence that does not perform a specific function on the computer. For example, you can remap the [B] key because it only types the lowercase letter B.

Each computer key or two-key sequence generates a 4-digit hexadecimal remap code as listed in the “**Key Code Table**” on page 121. The key code tables list the 4-digit hexadecimal codes for ASCII characters for the computers. These codes identify the key or keys pressed. For example:

Key	Action	4-Digit Hex Key Code
[B]	Types a lowercase B	0062
[SHIFT] [B]	Types an uppercase B	0042
None	0002	

Remapping a Key or Two-Key Sequence

- 1 Select the key or two-key sequence to remap.
- 2 Determine the current 4-digit hexadecimal code of the keys and the code you will enter to remap the keys. For help, see “**Key Code Table**” on page 121.
- 3 Connect the mobile computer to your desktop PC.
- 4 Using any text editor, enter the keys you want remapped on individual lines in this format: `remap=<key>="string"` or `remap=<key><key>`, where:
 - “remap” is the command you enter in `remap.cfg`.
 - “key” is the 4-digit hexadecimal key or keys to which or from which you are remapping.
 - “string” is the new function for the key or keys, which can be a text string, ASCII mnemonic, or other 2-byte hexadecimal code. Enclose the entire string in quotation marks.
- 5 Save the new file as `remap.cfg`.
- 6 Download `remap.cfg` to the ITE folder on the mobile computer.

Example 1: Suppose you want to remap “+” on your computer to send a message and then enter a carriage return. In the `remap.cfg` file, add this command:

```
remap=<002b>="My battery is low."<CR>
```

Example 2: To remap the function of the function keys to another key, replace *string* with the transmitted code for the function and replace *key* with the 4-digit hexadecimal key that will do the function. For example, to remap the [F6] function to the “B” key, add this command to the `remap.cfg` file:

```
remap=<0042>=<ESC>" [17~"
```

Example 3: This is an example of multiple hexadecimal codes in the right-most argument which makes a key into a text sequence with embedded EHLLAPI values for the [F4] and [F5] keys:

```
remap=<xxxx>="EHLLAPI value"<1034>"EHLLAPI value  
2"<1035>"END
```

Creating a Remapping Macro

- 1 Using any text editor, add the `macro=<key>="string"` Macro command to the end of the `remap.cfg` file, where:
 - “macro” is the command you enter in `remap.cfg`.
 - “key” is the 4-digit hexadecimal key or keys you are remapping.
 - “string” is the new action for the key or keys. The string can be a text string, ASCII mnemonic, or other 2-byte hexadecimal code. Enclose the entire string in quotation marks.
- 2 At the end of the macro, type `runmacro=<key>`, where key is the 4-digit hexadecimal code that identifies the keys that activate the macro.
- 3 Save the file name as `remap.cfg` for the macros to work.
- 4 Append the new remap to the original hex file.
- 5 Copy `remap.cfg` to the ITE folder on the mobile computer.

Example: Assign the * key to activate a macro which remaps the 1-9 keys and the 0 key to F1-F9 and F10 respectively.

```
macro=<0031>=<1031>
macro=<0032>=<1032>
macro=<0033>=<1033>
macro=<0034>=<1034>
macro=<0035>=<1035>
macro=<0036>=<1036>
macro=<0037>=<1037>
macro=<0038>=<1038>
macro=<0039>=<1039>
macro=<0030>=<1061>
runmacro=<002a>
```

Normally, if the user presses the 1 key the value of “1” is sent to the host. Using this macro, if the user presses the * key and then the “1” key the F1 AID key is sent to the host.

Nesting Macros

Macros do not nest. The right-most argument is processed as key strokes and not scanned for macro values. For example:

```
// swap "3" and "5" keys
remap=<0033>="5"          // map "3" key to a "5" key
remap=<0035>="3"          // map "5" key to a "3" key
```

The “3” key produces a “5” key. If nesting was allowed, the “5” key is recognized as a macro that produces the “3” key and the “3” key is recognized as a “5” key that produces the “7” key, and so forth.

Remapping Keys for Each Session

Use the following syntax to remap keys for each session. The session number can be 1, 2, 3, or 4.

```
remap=Session1<keyval>="string"
Macro=Session1<keyval>="string"
Runmacro=Session1<keyval>
```



Note: The string comparison for the “Session” string is case-sensitive.

Key Code Table

To remap keys to send non-display characters, which have ASCII values of less than 20, see the [“String Code Table” on page 125](#).



Note: Values not listed here may work but are not supported.

```
remap=<0020>="string" /* SPACE key */
remap=<0021>="string" /* ! key */
remap=<0022>="string" /* " key */
remap=<0023>="string" /* # key */
remap=<0024>="string" /* $ key */
remap=<0025>="string" /* % key */
remap=<0026>="string" /* & key */
remap=<0027>="string" /* ' key */
remap=<0028>="string" /* ( key */
remap=<0029>="string" /* ) key */
remap=<002a>="string" /* * key */
remap=<002b>="string" /* + key */
remap=<002c>="string" /* , key */
remap=<002d>="string" /* - key */
remap=<002e>="string" /* . key */
remap=<002f>="string" /* / key */

remap=<0030>="string" /* 0 key*/
remap=<0031>="string" /* 1 key*/
remap=<0032>="string" /* 2 key*/
remap=<0033>="string" /* 3 key*/
remap=<0034>="string" /* 4 key*/
remap=<0035>="string" /* 5 key*/
remap=<0036>="string" /* 6 key*/
remap=<0037>="string" /* 7 key*/
remap=<0038>="string" /* 8 key*/
remap=<0039>="string" /* 9 key*/

remap=<003a>="string" /* : key */
remap=<003b>="string" /* ; key */
remap=<003c>="string" /* < key */
remap=<003d>="string" /* = key */
remap=<003e>="string" /* > key */
remap=<003f>="string" /* ? key */
remap=<0040>="string" /* @ key */
```

```
remap=<0041>="string" /* A key*/
remap=<0042>="string" /* B key*/
remap=<0043>="string" /* C key*/
remap=<0044>="string" /* D key*/
remap=<0045>="string" /* E key*/
remap=<0046>="string" /* F key*/
remap=<0047>="string" /* G key*/
remap=<0048>="string" /* H key*/
remap=<0049>="string" /* I key*/
remap=<004a>="string" /* J key*/
remap=<004b>="string" /* K key*/
remap=<004c>="string" /* L key*/
remap=<004d>="string" /* M key*/
remap=<004e>="string" /* N key*/
remap=<004f>="string" /* O key*/
remap=<0050>="string" /* P key*/
remap=<0051>="string" /* Q key*/
remap=<0052>="string" /* R key*/
remap=<0053>="string" /* S key*/
remap=<0054>="string" /* T key*/
remap=<0055>="string" /* U key*/
remap=<0056>="string" /* V key*/
remap=<0057>="string" /* W key*/
remap=<0058>="string" /* X key*/
remap=<0059>="string" /* Y key*/
remap=<005a>="string" /* Z key*/

remap=<005b>="string" /* [ key */
remap=<005c>="string" /* key */
remap=<005d>="string" /* ] key */
remap=<005e>="string" /* ^ key */
remap=<005f>="string" /* _ key */
remap=<0060>="string" /* ` key */

remap=<0061>="string" /* a key*/
remap=<0062>="string" /* b key*/
remap=<0063>="string" /* c key*/
remap=<0064>="string" /* d key*/
remap=<0065>="string" /* e key*/
remap=<0066>="string" /* f key*/
remap=<0067>="string" /* g key*/
remap=<0068>="string" /* h key*/
remap=<0069>="string" /* i key*/
remap=<006a>="string" /* j key*/
remap=<006b>="string" /* k key*/
remap=<006c>="string" /* l key*/
remap=<006d>="string" /* m key*/
remap=<006e>="string" /* n key*/
remap=<006f>="string" /* o key*/
remap=<0070>="string" /* p key*/
remap=<0071>="string" /* q key*/
remap=<0072>="string" /* r key*/
remap=<0073>="string" /* s key*/
remap=<0074>="string" /* t key*/
remap=<0075>="string" /* u key*/
remap=<0076>="string" /* v key*/
remap=<0077>="string" /* w key*/
remap=<0078>="string" /* x key*/
```

```

remap=<0079>="string" /* y key*/
remap=<007a>="string" /* z key*/

remap=<007b>="string" /* { key */
remap=<007c>="string" /* | key */
remap=<007d>="string" /* } key */
remap=<007e>="string" /* ~ key */
remap=<007f>="string" /* Del key */

remap=<1030>="string" /* Home key */
remap=<1031>="string" /* F1 key */
remap=<1032>="string" /* F2 key */
remap=<1033>="string" /* F3 key */
remap=<1034>="string" /* F4 key */
remap=<1035>="string" /* F5 key */
remap=<1036>="string" /* F6 key */
remap=<1037>="string" /* F7 key */
remap=<1038>="string" /* F8 key */
remap=<1039>="string" /* F9 key */
remap=<103c>="string" /* Backspace key */

remap=<1061>="string" /* F10 key */
remap=<1062>="string" /* F11 key */
remap=<1063>="string" /* F12 key */
remap=<1064>="string" /* F13 key */
remap=<1065>="string" /* F14 key */
remap=<1066>="string" /* F15 key */
remap=<1067>="string" /* F16 key */
remap=<1068>="string" /* F17 key */
remap=<1069>="string" /* F18 key */
remap=<106a>="string" /* F19 key */
remap=<106b>="string" /* F20 key */
remap=<106c>="string" /* F21 key */
remap=<106d>="string" /* F22 key */
remap=<106e>="string" /* F23 key */
remap=<106f>="string" /* F24 key */

```

3270 Key Codes

```

remap=<1042>="string" /* Back Tab key */
remap=<1043>="string" /* Clear key */
remap=<1044>="string" /* Del key */
remap=<1045>="string" /* Enter key */
remap=<1046>="string" /* Erase End of Field (EOF) */
remap=<1049>="string" /* Insert key */

remap=<104c>="string" /* Window/viewport left key */
remap=<104e>="string" /* New line */
remap=<1052>="string" /* Reset key */
remap=<1054>="string" /* Tab key */
remap=<1055>="string" /* Window/viewport up key */
remap=<1056>="string" /* Window/viewport down key */
remap=<105a>="string" /* Window/viewport right key */

remap=<1078>="string" /* PA1 */
remap=<1079>="string" /* PA2 */
remap=<107a>="string" /* PA3 */

remap=<304c>="string" /* Page left key */
remap=<3045>="string" /* Field Exit key */
remap=<3055>="string" /* Page up key */

```

```
remap=<3056>="string" /* Page down key */
remap=<305a>="string" /* Page right key */
```

5250 Key Codes

```
remap=<1042>="string" /* Back Tab key */
remap=<1043>="string" /* Clear key */
remap=<1044>="string" /* Del key */
remap=<1045>="string" /* Enter key */
remap=<1048>="string" /* Help key */
remap=<1049>="string" /* Insert key */
remap=<104c>="string" /* Window/viewport left key */
remap=<104e>="string" /* New Line key */

remap=<1050>="string" /* Print key */
remap=<1052>="string" /* Reset key */
remap=<1054>="string" /* Tab key */
remap=<1055>="string" /* Window/viewport up key */
remap=<1056>="string" /* Window/viewport down key */
remap=<105a>="string" /* Window/viewport right key */

remap=<1075>="string" /* Roll Up key */
remap=<1076>="string" /* Roll Down key */

remap=<302d>="string" /* Field minus key */
remap=<302b>="string" /* Field plus key */

remap=<3045>="string" /* Field Exit key */
remap=<3046>="string" /* Erase Input key */
remap=<3048>="string" /* System request key */
remap=<304c>="string" /* Page left key */

remap=<3051>="string" /* Attention key */
remap=<3055>="string" /* Page up key */
remap=<3056>="string" /* Page down key */
remap=<3057>="string" /* Field mark key */
remap=<3058>="string" /* HEX key */
remap=<305a>="string" /* Page right key */

remap=<4044>="string" /* Duplicate key */
```

VT/ANSI Key Codes

```
remap=<1054>="string" /* Tab key */
remap=<1042>="string" /* Back Tab key */
remap=<1044>="string" /* Del key */
remap=<1045>="string" /* Enter key */
remap=<1049>="string" /* Insert key */
remap=<104c>="string" /* Left key */
remap=<1055>="string" /* Up key */
remap=<1056>="string" /* Down key */
remap=<105a>="string" /* Right key */

remap=<1075>="string" /* Page up key */
remap=<1076>="string" /* Page down key */

remap=<304c>="string" /* Window/viewport left key */
remap=<3045>="string" /* Field Exit key */
remap=<3055>="string" /* Window/viewport up key */
remap=<3056>="string" /* Window/viewport down key */
remap=<305a>="string" /* Window/viewport right key */
```



```

remap=<3061>="string" /* Find key */
remap=<3062>="string" /* Insert here key */
remap=<3063>="string" /* Remove key */
remap=<3064>="string" /* Select key */
remap=<3065>="string" /* Previous screen key */
remap=<3066>="string" /* Next screen key */

remap=<3067>="string" /* Keypad key */
remap=<3068>="string" /* Keypad Enter key */
remap=<3069>="string" /* Keypad 0 key */
remap=<306a>="string" /* Keypad 1 key */
remap=<306b>="string" /* Keypad 2 key*/
remap=<306c>="string" /* Keypad 3 key*/
remap=<306d>="string" /* Keypad 4 key*/
remap=<306e>="string" /* Keypad 5 key*/
remap=<306f>="string" /* Keypad 6 key*/
remap=<3070>="string" /* Keypad 7 key*/
remap=<3071>="string" /* Keypad 8 key*/
remap=<3072>="string" /* Keypad 9 key*/
remap=<3073>="string" /* Keypad . key*/

remap=<3075>="string" /* Page left key */
remap=<3076>="string" /* Page right key */

remap=<3077>="string" /* Keypad - key*/
remap=<3078>="string" /* Keypad + key*/

```

String Code Table

Keys can be remapped to send non-display characters. To remap a key to send non-display characters, find the ASCII value for that key in the tables above and use the following formatting. More than one non-display value can be included in a single string. For example:

```
remap=<0020>="<STX>5<HT>6<EOT>"
```

remaps the space key to send a Start of Text, a five, a Horizontal Tab, a six, and an End of Text.

```

remap=<0001>="<SOH>" /* Start of Heading (Ctrl-A) */
remap=<0002>="<STX>" /* Start of Text (Ctrl-B) */
remap=<0003>="<ETX>" /* End of Text (Ctrl-C) */
remap=<0004>="<EOT>" /* End of Transmission (Ctrl-D) */
remap=<0005>="<ENQ>" /* Enquiry (Ctrl-E) */
remap=<0006>="<ACK>" /* Acknowledgment (Ctrl-F) */
remap=<0007>="<BEL>" /* Bell (Ctrl-G) */
remap=<103c>="<BS>" /* Backspace (Ctrl-H) */
remap=<1054>="<HT>" /* Horizontal Tab (Ctrl-I) */
remap=<000a>="<LF>" /* Line Feed (Ctrl-J) */
remap=<000b>="<VT>" /* Vertical Tab (Ctrl-K) */
remap=<000c>="<FF>" /* Form Feed (Ctrl-L) */
remap=<1045>="<CR>" /* Carriage Return (Ctrl-M) */
remap=<000e>="<SO>" /* Shift Out (Ctrl-N) */
remap=<000f>="<SI>" /* Shift In (Ctrl-O) */
remap=<0010>="<DLE>" /* Data Link Escape (Ctrl-P) */
remap=<0011>="<DC1>" /* Device Control 1 (Ctrl-Q) */
remap=<0012>="<DC2>" /* Device Control 2 (Ctrl-R) */
remap=<0013>="<DC3>" /* Device Control 3 (Ctrl-S) */
remap=<0014>="<DC4>" /* Device Control 4 (Ctrl-T) */
remap=<0015>="<NAK>" /* Negative Acknowledge (Ctrl-U) */

```

```

remap=<0016>=" <SYN>" /* Synchronous Idle (Ctrl-V) */
remap=<0017>=" <ETB>" /* End Transmission Block (Ctrl-W) */
remap=<0018>=" <CAN>" /* Cancel (Ctrl-X) */
remap=<0019>=" <EM>" /* End of Medium (Ctrl-Y) */
remap=<001a>=" <SUB>" /* Substitute (Ctrl-Z) */
remap=<001c>=" <FS>" /* File Separator (Ctrl-1)*/
remap=<001d>=" <GS>" /* Group Separator (Ctrl-2) */
remap=<001e>=" <RS>" /* Record Separator (Ctrl-3) */
remap=<001f>=" <US>" /* Unit Separator (Ctrl-4)*/
remap=<0000>=" <NULL>" /* NULL (Ctrl-5) */
remap=<001b>=" <ESC>" /* Escape (Esc key)*/

```

Remapping Displayed Characters

You can use display character translation files to remap characters as they are written to the display. The translation file name for ITE must be 3270.xlt for 3270, 5250.xlt for 5250, or VT220.xlt for VT/ANSI. For help with downloading the file to the computer, see the computer user manual.

Display character translation files are binary files consisting of ordered pairs of 8-bit values. Each pair of values remaps a displayable character to a different displayable character:

- The first byte of a pair is the ASCII value of the character to replace.
- The second byte of a pair is the ASCII value that replaces the first.

These translations are made when a character is written to a display device. If the character is sent to the host (as a keystroke or scan data) or sent to an external device such as a printer, it is sent as the original, untranslated value.

Suppose you want a computer running terminal emulation to replace the uppercase B with the Greek letter beta, and replace the uppercase Z with the Greek letter omega. Create an .xlt file that is four bytes long (two ordered pairs of two bytes each). The file should contain the 0x42, 0xE1, 0x5A, and 0xEA bytes in this order. These represent the ASCII display character set values for B, beta, Z, and omega, respectively.

ASCII Equivalents for EBCDIC Values (3270, 5250)

Language	EBCDIC Value													
	4A	4F	5A	5B	5F	6A	79	7B	7C	7F	A1	C0	D0	E0
English (US)	9B	0E	21	24	AA	7C	60	23	40	22	7E	7B	7D	5C
German	8E	21	9A	24	5E	94	60	23	15	22	E1	84	81	99
Danish/Norwegian	23	21	0F	8F	5E	ED	60	92	05	22	81	91	86	5C
Finnish/Swedish	15	21	0F	8F	5E	7C	82	8E	99	22	81	84	86	90
Italian	F8	21	82	24	5E	95	97	9C	15	22	8D	85	8A	87
Spanish	5B	0E	5D	-	AA	A4	60	A5	40	22	06	7B	7D	5C
French	F8	21	15	24	5E	97	60	9C	85	22	06	82	8A	87
Belgian	5B	21	50	24	5E	97	60	23	85	22	06	82	8A	87
English (UK)	24	0E	21	9C	AA	7C	60	23	40	22	5F	7B	7D	5C

ASCII Equivalents for EBCDIC Values (VT/ANSI)

Characters	Default Display Values
0xA0 to 0xAF	0x20, 0xAD, 0x9B, 0x9C, 0x20, 0x9D, 0x20, 0x15, 0x0F, 0x20, 0xFE, 0xAE, 0x20, 0x20, 0x20, 0x20
0xB0 to 0xBF	0xF9, 0xF1, 0xFD, 0x20, 0x20, 0xE6, 0x20, 0xFA, 0x20, 0x20, 0xA7, 0xAF, 0xAC, 0xAB, 0x20, 0xA8
0xC0 to 0xCF	0x85, 0xA0, 0x83, 0x01, 0x8E, 0x8F, 0x92, 0x80, 0x8A, 0x90, 0x88, 0x89, 0x8D, 0xA1, 0x8C, 0x8B
0xD0 to 0xDF	0x20, 0xA5, 0x95, 0xA2, 0x93, 0x03, 0x99, 0x20, 0x18, 0x97, 0xA3, 0x96, 0x9A, 0x1F, 0x20, 0xE1
0xE0 to 0xEF	0x85, 0xA0, 0x83, 0x02, 0x84, 0x86, 0x91, 0x87, 0x8A, 0x82, 0x88, 0x89, 0x8D, 0xA1, 0x8C, 0x8B
0xF0 to 0xFF	0x20, 0xA4, 0x95, 0xA2, 0x93, 0x03, 0x94, 0x20, 0xED, 0x97, 0xA3, 0x96, 0x81, 0x98, 0x20, 0x20

IBM Character Sets

Number	Language	IBM Set
1	English (U.S.)	037-850
2	German	273-850
3	Danish/Norwegian	277-850
4	Swedish/Finnish	278-850
5	Italian	280-850
6	Spanish	284-850
7	French	297-850
8	Belgian	500-850

Example

This example remaps 14 characters appropriate to U.S. English to characters more appropriate to Austrian/German. ASCII hexadecimal file 5250.XLT remaps for German.

```
0x9B 0x8E
0x0E 0x21
0x21 0x9A
0x24 0x24
0xAA 0x5E
0x7C 0x94
0x60 0x60
0x23 0x23
0x40 0x15
```

0x22 0x22
 0x7E 0xE1
 0x7B 0x84
 0x7D 0x81
 0x5C 0x99

Hex Values and Character Mapping for Example

EBCDIC Hex Value	Original to be Replaced	Replacement for Display
4A	¢	Ä
4F	|	!
5A	!	Ü
5B	\$	\$
5F	¬	^
6A	¡	ö
79	˘	˘
7B	#	#
7C	@	§
7F	"	"
A1	~	β
C0	{	ä
D0	}	ü
E0	\	Ö

Implementing ITCColor.dat Attribute Colors

You must name the file `ITCColor.dat` and you may place this where the other ITE configuration files are placed for discovery by the ITE application.

The color file contains lines defining the color Index and the Color for eight normal foreground (Text) and background (Back) color pairs and eight inverse color pairs for a total of 32 colors. Each line is a maximum of 80 characters. A line can be empty, have leading spaces, have a comment indicated by a semicolon character, have a pair of values (color Index and Color). All characters from a semicolon to the end of the line are ignored. A line is terminated by a carriage return, line feed character, or both. Invalid lines are ignored. You may define all, none, or any of the colors in the file in any order. The file may exist or not. The normal Text colors and the Inverse Text color are defaulted to black. If an Index-Color is not defined or the file does not exist, default colors are used.

The color Index is a decimal value of 0 through 31. It specifies the character attributes associated with Color. The index values are documented in the sample `ITCColor.dat` file on the next page.

Color is a 32-bit hex value used to specify an RGB color (0x00bbggr). In RGB format, the low-order (rr) byte contains a value for the relative intensity of red; the second byte (gg) contains a value for green; and the third byte (bb) contains a value for blue. The high-order byte must be zero. The maximum value for a single byte is 0xFF.

Sample Color File

```

Column 1      2      3      4      5      6      7
123456789012345678901234567890123456789012345678901234567890
=====
; comment
; Normal
00 0x00000000 ;Text
01 0x007f7f7f ;Back
02 0x000000ff ;Text  Bold
03 0x007f7f00 ;Back  Bold
04 0x0000ff00 ;Text  Blink
05 0x007f007f ;Back  Blink
06 0x0000ffff ;Text  Bold  Blink
07 0x007f0000 ;Back  Bold  Blink
08 0x00ff0000 ;Text  Underline
09 0x00007f7f ;Back  Underline
10 0x00ff00ff ;Text  Bold  Underline
11 0x00007f00 ;Back  Bold  Underline
12 0x00ffff00 ;Text  Blink  Underline
13 0x0000007f ;Back  Blink  Underline
14 0x00ffffff ;Text  Bold  Blink  Underline
15 0x00000000 ;Back  Bold  Blink  Underline

; Inverse
16 0x00000000 ;Text
17 0x00ffffff ;Back
18 0x0000007f ;Text  Bold
19 0x00ffff00 ;Back  Bold
20 0x00007f00 ;Text  Blink
21 0x00ff00ff ;Back  Blink
22 0x00007f7f ;Text  Bold  Blink
23 0x00ff0000 ;Back  Bold  Blink
24 0x007f0000 ;Text  Underline
25 0x0000ffff ;Back  Underline
26 0x007f007f ;Text  Bold  Underline
27 0x0000ff00 ;Back  Bold  Underline
28 0x007f7f00 ;Text  Blink  Underline
29 0x000000ff ;Back  Blink  Underline
30 0x007f7f7f ;Text  Bold  Blink  Underline
31 0x007fffff ;Back  Bold  Blink  Underline

```

Customizing 5250 EBCDIC to ASCII Translation

The 5250 data stream translates all data from the host from 8-bit EBCDIC to 8-bit ASCII for processing in the computer. Before the data is sent back to the host, it is again translated from ASCII to EBCDIC.

You can customize the operation of the 5250 data stream by changing the default EBCDIC to ASCII translation table. You can replace the default table with one that is combined with the HEX file that you download to the computer. You can use ASEBTBLD.exe to create the file. You must name it ASCEBD.tbl.

Creating the Custom EBCDIC_ASCII Translation Table

Type asebtbld to display this information:

```
ASEBTBLD ASCII-EBCDIC Translation Table Creation.
$Revision: 1.0 $
$Date: 03 Apr 1998 13:46:14 $
Copyright 1995, Norand Corporation.
Usage: ASEBTBLD [<options>] <commands> <fname>
  <options>:
  -r<file>      Input file containing replacement table type,
                 0x00-0xff table index, 0x00-0xff value.
  -v           Verbose * display processing steps.
  <fname>      Output file name, extension ignored.
```

ASEBTBLD creates <fname>.TBL from the default ASCII and EBCDIC tables using replacement values specified in -r<file>. Type the following command to create the ASCEBD.tbl file, with the replacement values specified in changes.my:

```
asebtbld -rchanges.my ascebd
```

The replacement file is an ASCII text file formatted as follows:

```
-----top of replacement file-----
/* Any line beginning with '/' in column 1 is a comment.
/* A=ASCII=>EBCDIC
/* E=EBCDIC=>ASCII

/* ASCII  Index  ValueAnything after 'Value' is a comment
/* A      0x30   0xF0ASCII '0' returns EBCDIC '0'
/* E      0xF0   0x30EBCDIC '0' returns ASCII '0'
/* E      0xC9   0x3FUnknown EBCDIC 0xC9 returns ASCII '?'

/* Any number of blanks and tabs are allowed before, between
/* and after values. Blank lines are allowed.
-----bottom of replacement file-----
```

ASEBTBLD creates the default tables starting on the next page if there is no replacement file, or if an empty replacement file is specified.



Note: When you select the Central Europe (1250) or Western Europe (1252) code page, you must modify the default translation table in order to customize the displayed characters. For more information, see [“Displaying EBCDIC Non-English Code Pages” on page 131](#).

Displaying EBCDIC Non-English Code Pages

If you have selected a code page other than the default English, you need to perform these steps to ensure the associated EBCDIC is displayed correctly.

To display non-English code pages

- 1 Find the appropriate EBCDIC code and the ASCII code page.
- 2 Check for a default translation in the EBCDIC to ASCII table.
- 3 If there is a translation, verify whether you have the correct ASCII character for the code page you had selected.
- 4 If there is no translation, add an entry to the changes.my file.
- 5 Do this process for every character that needs translation.
- 6 When all of the characters are translated, save the changes.my file.
- 7 Run the asebtbld application as described on [“Creating the Custom EBCDIC_ASCII Translation Table” on page 130](#).

Example: If you had selected the Turkish code page (ASCII code page 1026) and you want to display the EBCDIC code page 1254 for Turkey, look up character 0x42. This character shows that the default EBCDIC to ASCII translation is 0x00 (no default translation). Searching the ASCII code page 1026 reveals the 0xe2 character, which you add to the changes.my file as follows.

```
E 0x42 0xe2
```

Code Page 01026 HEX Digits

1st >	2nd v	4-	5-	6-	7-	8-	9-	A-	B-	C-	D-	E-	F-
-0	(SP)	&	-	ø	Ø	°		¢	ç			ü	0
-1	(RSP)	é	/	É	a	j	ö	£	A	J	÷		1
-2	â	ê	Â	Ê	b	k	s	¥	B	K	S		2
-3	ä	ë	Ä	Ë	c	l	t	·	C	L	T		3
-4	à	è	À	È	d	m	u	©	D	M	U		4
-5	á	í	Á	Í	e	n	v	§	E	N	U		5
-6	ã	î	Ã	Î	f	o	w	¶	F	O	W		6
-7	â	ï	Å	Ï	g	p	x	¼	G	P	X		7
-8	{	ì	[	Ì	h	q	y	½	H	Q	Y		8
-9	ñ	ß	Ñ		i	r	z	¾	I	R	Z		9
-A	Ç			:	«	ä	ı	¬	-	1	2	3	
-B	.	|	,	Ö	»	ö	¿	|	ô	û	Ô	Û	
-C	<	*	%	}	æ]	-	~	\	#	..		
-D	(	)	_	·	`	,	\$	..	ò	ù	Ò	Ù	
-E	+	;	>	=	|	Æ	@	'	ó	ú	Ó	Ú	
-F	!	^	?	Û	±	≠	®	×	õ	ÿ	Ô	(EO)	

Code Page 01254 Windows Turkish HEX Digits

1st> 2nd v	0-	1-	2-	3-	4-	5-	6-	7-	8-	9-	A-	B-	C-	D-	E-	F-
-0			(SP)	0	@	P	`	p	_		(RSP)	°	À		à	
-1		!	1	A	Q	a	q			i	±	Á	Ñ	á	ñ	
-2		¨	2	B	R	b	r	,	'	¢	2	Â	Ò	â	ò	
-3		#	3	C	S	c	s		«	£	3	Ã	Ó	ã	ó	
-4		\$	4	D	T	d	t	“	”	≠	'	Ä	Ô	ä	ô	
-5		%	5	E	U	e	u	...	²	¥		Å	Õ	å	õ	
-6		&	6	F	V	f	v		-	|	¶	Æ	Ö	æ	ö	
-7			7	G	W	g	w		-	§	·	Ç	×	ç	÷	
-8		(	8	H	X	h	x	^	~	¨	,	È	Ø	è	ø	
-9		)	9	I	Y	i	y		t	E	1	É	Ù	é	ù	
-A		*	:	J	Z	j	z					Ê	Ú	ê	ú	
-B		+	;	K	[	k	{	<	>	«	»	Ë	Û	ë	û	
-C		,	<	L		l	|			¬	¼	Ï	Û	ï	û	
-D		-	=	M	]	m	}			-	½	Í	Ü	í	ü	
-E		.	>	N	^	n	~			®	¾	Î		î		
-F		/	?	O	_	o				-	¿	Ï	ß	ï	ÿ	

About Custom Translation Tables for Code Page 1250 and 1252

When you select the Central Europe (1250) or Western Europe (1252) code page, the characters displayed by the EBCDIC to ASCII translation are determined by the selected keyboard type. To customize the displayed characters, you need to modify the appropriate EBCDIC to ASCII translation table:

Default Translation Tables - Code Page 1250 or 1252

Code Page	Keyboard Type	Modify This Translation Table
1250	CSB (Czech) PLB (Polish) RMB (Romanian) HNB (Hungarian) SKB (Slovakian) YGI (Slovenian)	ascebd50.tbl
1250	USB (English - U.S.A. and Canada)	asceb0us.tbl
1250	AGB or AGI (German)	asceb0gr.tbl
1252	USB (English - U.S.A. and Canada) NEB (Dutch - Netherlands)	ascebdus.tbl
1252	AGB (German)	ascebdgr.tbl
1252	DMB (Danish) NWB (Norwegian)	ascebddn.tbl
1252	FNB (Finnish/Swedish) SWB (Swedish)	ascebdfs.tbl
1252	ITB (Italian)	ascebdit.tbl

Default Translation Tables - Code Page 1250 or 1252 (continued)

Code Page	Keyboard Type	Modify This Translation Table
1252	UKB (English - United Kingdom)	ascebden.tbl
1252	SPB (Spanish), SSB (Spanish Speaking)	ascebdsp.tbl
1252	FAB (French)	ascebdfr.tbl
1252	ICB (Icelandic)	ascebdic.tbl
1252	AGI (Austrian/German MNCS) BLI (Belgian MNCS) CAB (French Canadian) CAI (French Canadian MNCS) DMI (Danish MNCS) FAI (French (Azerty) MNCS) FNI (Finnish/Swedish MNCS) FQI (French (Qwerty) MNCS) FRB (Belgian French MNCS) ICI (Icelandic MNCS) ITI (Italian MNCS) NEI (Dutch MNCS - Netherlands) NLB (Belgian Dutch MNCS) NWI (Norwegian MNCS) PRI (Portuguese MNCS) SFI (French MNCS - Switzerland) SGI (German MNCS - Switzerland) SPI (Spanish MNCS) SSI (Spanish Speaking MNCS) SWI (Swedish MNCS) UKI (English MNCS - United Kingdom) USI (English MNCS - U.S.A. and Canada)	ascebdmn.tbl

Default Translation Tables for Code Page 1250

Keyboard Type: AGB, AGI

Character Mapping: IBM code page 273. For specific character mapping, refer to:
<http://publib.boulder.ibm.com/infocenter/zos/v1r12/index.jsp?topic=%2Fcom.ibm.zos.r12.euvm00%2Feuva3a00742.htm>.

Translation Table: ASCEB0GR.TBL

E 0x42 0xe2	E 0x5a 0xdc	E 0x78 0x20	E 0xaa 0x20	E 0xcb 0xf4
E 0x43 0x7b	E 0x5b 0x24	E 0x79 0x91	E 0xab 0x20	E 0xcc 0x7c
E 0x44 0x20	E 0x5c 0x2a	E 0x7a 0x3a	E 0xac 0xd0	E 0xcd 0x20
E 0x45 0xe1	E 0x5d 0x29	E 0x7b 0x23	E 0xad 0xdd	E 0xce 0xf3
E 0x46 0x20	E 0x5e 0x3b	E 0x7c 0xa7	E 0xae 0x20	E 0xcf 0x20
E 0x47 0x20	E 0x5f 0x5e	E 0x7d 0x27	E 0xaf 0xae	E 0xd0 0xfc
E 0x48 0xe7	E 0x60 0x2dE	E 0x7e 0x3d	E 0xb0 0x20	E 0xda 0x20
E 0x49 0x20	0x67 0x20	E 0x7f 0x22	E 0xb1 0x20	E 0xdb 0x20
E 0x4a 0xc4	E 0x68 0xc7	E 0x80 0x20	E 0xb2 0x20	E 0xdc 0x7d
E 0x4b 0x2e	E 0x69 0x20	E 0x8a 0x20	E 0xb3 0xb7	E 0xdd 0x20
E 0x4c 0x3c	E 0x6a 0xf6	E 0x8b 0x20	E 0xb4 0xa9	E 0xde 0xfa
E 0x4d 0x28	E 0x6b 0x2c	E 0x8c 0x20	E 0xb5 0x40	E 0xdf 0x20
E 0x4e 0x2b	E 0x6c 0x25	E 0x8d 0xfd	E 0xb6 0x20	E 0xe0 0xd6
E 0x4f 0x21	E 0x6d 0x5f	E 0x8e 0x20	E 0xb7 0x20	E 0xe1 0xf7
E 0x50 0x26	E 0x6e 0x3e	E 0x8f 0x20	E 0xb8 0x20	E 0xea 0x20
E 0x51 0xe9	E 0x6f 0x3f	E 0x90 0xb0	E 0xb9 0x20	E 0xeb 0xd4
E 0x52 0x20	E 0x70 0x20	E 0x9a 0x20	E 0xba 0xac	E 0xec 0x5c
E 0x53 0xeb	E 0x71 0xc9	E 0x9b 0x20	E 0xbb 0x7c	E 0xed 0x20
E 0x54 0x20	E 0x72 0x20	E 0x9c 0x20	E 0xbc 0x20	E 0xee 0xd3
E 0x55 0xed	E 0x73 0x20	E 0x9d 0x2c	E 0xbd 0x20	E 0xef 0x20
E 0x56 0xee	E 0x74 0x20	E 0x9e 0x20	E 0xbe 0x92	E 0xfa 0x20
E 0x57 0x20	E 0x75 0xe5	E 0x9f 0xa4	E 0xbf 0xd7	E 0xfb 0x20
E 0x58 0x20	E 0x76 0xce	E 0xa0 0xb5	E 0xc0 0xe4	E 0xfc 0x5d
E 0x59 0x7e	E 0x77 0x20	E 0xa1 0xdf	E 0xca 0xad	E 0xfd 0x20
				E 0xfe 0xda

Keyboard Type: CSB, NNB, PLB, RMB, SKB, YGI

Character Mapping: IBM code page 870. For specific character mapping, refer to:
http://publib.boulder.ibm.com/infocenter/pcomhelp/v5r9/index.jsp?topic=/com.ibm.pcomm.doc/reference/html/hcp_reference20.htm.

Translation Table: ASCEBD50.TBL

E 0x42 0xe2	E 0x5c 0x2a	E 0x76 0xce	E 0xaa 0x20	E 0xcd 0x20
E 0x43 0xe4	E 0x5d 0x29	E 0x77 0x20	E 0xab 0x20	E 0xce 0xf3
E 0x44 0x20	E 0x5e 0x3b	E 0x78 0x20	E 0xac 0xd0	E 0xcf 0x20
E 0x45 0xe1	E 0x5f 0xac	E 0x79 0x91	E 0xad 0xdd	E 0xd0 0x7d
E 0x46 0x20	E 0x60 0x2d	E 0x7a 0x3a	E 0xae 0x20	E 0xda 0x20
E 0x47 0x20	E 0x61 0x2f	E 0x7b 0x23	E 0xaf 0xae	E 0xdb 0x20
E 0x48 0xe7	E 0x62 0xc2	E 0x7c 0x40	E 0xb0 0x5e	E 0xdc 0xfc
E 0x49 0x20	E 0x63 0xc4	E 0x7d 0x27	E 0xb1 0x20	E 0xdd 0x20
E 0x4a 0x20	E 0x64 0x20	E 0x7e 0x3d	E 0xb2 0x20	E 0xde 0xfa
E 0x4b 0x2e	E 0x65 0xc1	E 0x7f 0x22	E 0xb3 0xb7	E 0xdf 0x20
E 0x4c 0x3c	E 0x66 0x20	E 0x80 0x20	E 0xb4 0xa9	E 0xe0 0x5c
E 0x4d 0x28	E 0x67 0x20	E 0x8a 0x20	E 0xb5 0xa7	E 0xe1 0xf7
E 0x4e 0x2b	E 0x68 0xc7	E 0x8b 0x20	E 0xb6 0x20	E 0xea 0x20
E 0x4f 0x7c	E 0x69 0x20	E 0x8c 0x20	E 0xb7 0x20	E 0xeb 0xd4
E 0x50 0x26	E 0x6a 0x7c	E 0x8d 0xfd	E 0xb8 0x20	E 0xec 0xd6
E 0x51 0xe9	E 0x6b 0x2c	E 0x8e 0x20	E 0xb9 0x20	E 0xed 0x20
E 0x52 0x20	E 0x6c 0x25	E 0x8f 0x20	E 0xba 0x5b	E 0xee 0xd3
E 0x53 0xeb	E 0x6d 0x5f	E 0x90 0xb0	E 0xbb 0x5d	E 0xef 0x20
E 0x54 0x20	E 0x6e 0x3e	E 0x9a 0x20	E 0xbc 0x20	E 0xfa 0x20
E 0x55 0xed	E 0x6f 0x3f	E 0x9b 0x20	E 0xbd 0x20	E 0xfb 0x20
E 0x56 0xee	E 0x70 0x20	E 0x9c 0x20	E 0xbe 0x92	E 0xfc 0xdc
E 0x57 0x20	E 0x71 0xc9	E 0x9d 0x2c	E 0xbf 0xd7	E 0xfd 0x20
E 0x58 0x20	E 0x72 0x20	E 0x9e 0x20	E 0xc0 0x7b	E 0xfe 0xda
E 0x59 0xdf	E 0x73 0x20	E 0x9f 0xa4	E 0xca 0xad	
E 0x5a 0x21	E 0x74 0x20	E 0xa0 0xb5	E 0xcb 0xf4	
E 0x5b 0x24	E 0x75 0xe5	E 0xa1 0x7e	E 0xcc 0xf6	

Keyboard Type: USB

Character Mapping: IBM code page 37. For specific character mapping, refer to:
<http://publib.boulder.ibm.com/infocenter/zos/v1r12/index.jsp?topic=%2Fcom.ibm.zos.r12.euvm00%2Feuva3a00741.htm>

Translation Table: ASCEB0US.TBL

E 0x42 0xe2	E 0x5c 0x2a	E 0x76 0xce	E 0xaa 0x20	E 0xcd 0x20
E 0x43 0xe4	E 0x5d 0x29	E 0x77 0x20	E 0xab 0x20	E 0xce 0xf3
E 0x44 0x20	E 0x5e 0x3b	E 0x78 0x20	E 0xac 0xd0	E 0xcf 0x20
E 0x45 0xe1	E 0x5f 0xac	E 0x79 0x91	E 0xad 0xdd	E 0xd0 0x7d
E 0x46 0x20	E 0x60 0x2d	E 0x7a 0x3a	E 0xae 0x20	E 0xda 0x20
E 0x47 0x20	E 0x61 0x2f	E 0x7b 0x23	E 0xaf 0xae	E 0xdb 0x20
E 0x48 0xe7	E 0x62 0xc2	E 0x7c 0x40	E 0xb0 0x5e	E 0xdc 0xfc
E 0x49 0x20	E 0x63 0xc4	E 0x7d 0x27	E 0xb1 0x20	E 0xdd 0x20
E 0x4a 0x20	E 0x64 0x20	E 0x7e 0x3d	E 0xb2 0x20	E 0xde 0xfa
E 0x4b 0x2e	E 0x65 0xc1	E 0x7f 0x22	E 0xb3 0xb7	E 0xdf 0x20
E 0x4c 0x3c	E 0x66 0x20	E 0x80 0x20	E 0xb4 0xa9	E 0xe0 0x5c
E 0x4d 0x28	E 0x67 0x20	E 0x8a 0x20	E 0xb5 0xa7	E 0xe1 0xf7
E 0x4e 0x2b	E 0x68 0xc7	E 0x8b 0x20	E 0xb6 0x20	E 0xea 0x20
E 0x4f 0x7c	E 0x69 0x20	E 0x8c 0x20	E 0xb7 0x20	E 0xeb 0xd4
E 0x50 0x26	E 0x6a 0x7c	E 0x8d 0xfd	E 0xb8 0x20	E 0xec 0xd6
E 0x51 0xe9	E 0x6b 0x2c	E 0x8e 0x20	E 0xb9 0x20	E 0xed 0x20
E 0x52 0x20	E 0x6c 0x25	E 0x8f 0x20	E 0xba 0x5b	E 0xee 0xd3
E 0x53 0xeb	E 0x6d 0x5f	E 0x90 0xb0	E 0xbb 0x5d	E 0xef 0x20
E 0x54 0x20	E 0x6e 0x3e	E 0x9a 0x20	E 0xbc 0x20	E 0xfa 0x20
E 0x55 0xed	E 0x6f 0x3f	E 0x9b 0x20	E 0xbd 0x20	E 0xfb 0x20
E 0x56 0xee	E 0x70 0x20	E 0x9c 0x20	E 0xbe 0x92	E 0xfc 0xdc
E 0x57 0x20	E 0x71 0xc9	E 0x9d 0x2c	E 0xbf 0xd7	E 0xfd 0x20
E 0x58 0x20	E 0x72 0x20	E 0x9e 0x20	E 0xc0 0x7b	E 0xfe 0xda
E 0x59 0xdf	E 0x73 0x20	E 0x9f 0xa4	E 0xca 0xad	
E 0x5a 0x21	E 0x74 0x20	E 0xa0 0xb5	E 0xcb 0xf4	
E 0x5b 0x24	E 0x75 0xe5	E 0xa1 0x7e	E 0xcc 0xf6	

Default Translation Tables for Code Page 1252

Keyboard Type: AGB

Character Mapping: IBM code page 273. For specific character mapping, refer to:
<http://publib.boulder.ibm.com/infocenter/zos/v1r12/index.jsp?topic=%2Fcom.ibm.zos.r12.euvm00%2Feuva3a00742.htm>.

Translation Table: ASCEBDGR.TBL

E 0x42 0xe2	E 0x5c 0x2a	E 0x76 0xce	E 0xaa 0x20	E 0xcd 0x20
E 0x43 0x7b	E 0x5d 0x29	E 0x77 0x20	E 0xab 0x20	E 0xce 0xf3
E 0x44 0x20	E 0x5e 0x3b	E 0x78 0x20	E 0xac 0xd0	E 0xcf 0x20
E 0x45 0xe1	E 0x5f 0x5e	E 0x79 0x91	E 0xad 0xdd	E 0xd0 0xfc
E 0x46 0x20	E 0x60 0x2d	E 0x7a 0x3a	E 0xae 0x20	E 0xda 0x20
E 0x47 0x20	E 0x61 0x2f	E 0x7b 0x23	E 0xaf 0xae	E 0xdb 0x20
E 0x48 0xe7	E 0x62 0xc2	E 0x7c 0xa7	E 0xb0 0x20	E 0xdc 0x7d
E 0x49 0x20	E 0x63 0x5b	E 0x7d 0x27	E 0xb1 0x20	E 0xdd 0x20
E 0x4a 0xc4	E 0x64 0x20	E 0x7e 0x3d	E 0xb2 0x20	E 0xde 0xfa
E 0x4b 0x2e	E 0x65 0xc1	E 0x7f 0x22	E 0xb3 0xb7	E 0xdf 0x20
E 0x4c 0x3c	E 0x66 0x20	E 0x80 0x20	E 0xb4 0xa9	E 0xe0 0xd6
E 0x4d 0x28	E 0x67 0x20	E 0x8a 0x20	E 0xb5 0x40	E 0xe1 0xf7
E 0x4e 0x2b	E 0x68 0xc7	E 0x8b 0x20	E 0xb6 0x20	E 0xea 0x20
E 0x4f 0x21	E 0x69 0x20	E 0x8c 0x20	E 0xb7 0x20	E 0xeb 0xd4
E 0x50 0x26	E 0x6a 0xf6	E 0x8d 0xfd	E 0xb8 0x20	E 0xec 0x5c
E 0x51 0xe9	E 0x6b 0x2c	E 0x8e 0x20	E 0xb9 0x20	E 0xed 0x20
E 0x52 0x20	E 0x6c 0x25	E 0x8f 0x20	E 0xba 0xac	E 0xee 0xd3
E 0x53 0xeb	E 0x6d 0x5f	E 0x90 0xb0	E 0xbb 0x7c	E 0xef 0x20
E 0x54 0x20	E 0x6e 0x3e	E 0x9a 0x20	E 0xbc 0x20	E 0xfa 0x20
E 0x55 0xed	E 0x6f 0x3f	E 0x9b 0x20	E 0xbd 0x20	E 0xfb 0x20
E 0x56 0xee	E 0x70 0x20	E 0x9c 0x20	E 0xbe 0x92	E 0xfc 0x5d
E 0x57 0x20	E 0x71 0xc9	E 0x9d 0x2c	E 0xbf 0xd7	E 0xfd 0x20
E 0x58 0x20	E 0x72 0x20	E 0x9e 0x20	E 0xc0 0xe4	E 0xfe 0xda
E 0x59 0x7e	E 0x73 0x20	E 0x9f 0xa4	E 0xca 0xad	
E 0x5a 0xdc	E 0x74 0x20	E 0xa0 0xb5	E 0xcb 0xf4	
E 0x5b 0x24	E 0x75 0xe5	E 0xa1 0xdf	E 0xcc 0x7c	

Keyboard Type: DMB, NWB

Character Mapping: IBM code page 277. For specific character mapping, refer to:
<http://publib.boulder.ibm.com/infocenter/zos/v1r12/index.jsp?topic=%2Fcom.ibm.zos.r12.euvm00%2Feuva3a00743.htm>.

Translation Table: ASCEBDDN.TBL

E 0x42 0xe2	E 0x55 0xed	E 0x68 0xc7	E 0x7c 0xd8	E 0x9f 0x5d
E 0x43 0xe4	E 0x56 0xee	E 0x69 0xd1	E 0x80 0x40	E 0xa0 0xb5
E 0x44 0xe0	E 0x57 0xef	E 0x6a 0xf8	E 0x8a 0xab	E 0xa1 0xfc
E 0x45 0xe1	E 0x58 0xec	E 0x70 0x7c	E 0x8b 0xbb	E 0xaa 0xa1
E 0x46 0xe3	E 0x59 0xdf	E 0x71 0xc9	E 0x8c 0xf5	E 0xab 0xbf
E 0x47 0x20	E 0x5a 0x20	E 0x72 0xca	E 0x8d 0xfd	E 0xac 0xd0
E 0x48 0xe7	E 0x5b 0xc5	E 0x73 0xcb	E 0x8e 0xde	E 0xad 0xdd
E 0x49 0xf1	E 0x5f 0x5e	E 0x74 0xc8	E 0x8f 0xb1	E 0xae 0xfe
E 0x4a 0x23	E 0x62 0xc2	E 0x75 0xcd	E 0x90 0xba	E 0xaf 0xae
E 0x4f 0x21	E 0x63 0xc4	E 0x76 0xce	E 0x9a 0xaa	E 0xb0 0xa2
E 0x51 0xe9	E 0x64 0xc0	E 0x77 0xcf	E 0x9b 0xba	E 0xb1 0xa3
E 0x52 0xea	E 0x65 0xc1	E 0x78 0xcc	E 0x9c 0x20	E 0xb2 0xa5
E 0x53 0xeb	E 0x66 0xc3	E 0x79 0x91	E 0x9d 0x2c	E 0xb3 0xb7
E 0x54 0xe8	E 0x67 0x24	E 0x7b 0xc6	E 0x9e 0x5b	E 0xb4 0xa9

Keyboard Type: FAB

Character Mapping: IBM code page 297. For specific character mapping, refer to:
<http://publib.boulder.ibm.com/infocenter/zos/v1r12/index.jsp?topic=%2Fcom.ibm.zos.r12.euvm00%2Feuva3a00748.htm>.

Translation Table: ASCEBDFR.TBL

E 0x42 0xe2	E 0x62 0xc2	E 0x80 0xd8	E 0xb0 0xa2	E 0xce 0xf3
E 0x43 0xe4	E 0x63 0xc4	E 0x8a 0xab	E 0xb1 0x23	E 0xcf 0xf5
E 0x44 0x40	E 0x64 0xc0	E 0x8b 0xbb	E 0xb2 0xa5	E 0xd0 0xe8
E 0x45 0xe1	E 0x65 0xc1	E 0x8c 0xf5	E 0xb3 0xb7	E 0xda 0xb9
E 0x46 0xe3	E 0x66 0xc3	E 0x8d 0xfd	E 0xb4 0xa9	E 0xdb 0xfb
E 0x47 0xe5	E 0x67 0xc5	E 0x8e 0xde	E 0xb5 0x5d	E 0xdc 0xfc
E 0x48 0x5c	E 0x68 0xc7	E 0x8f 0xb1	E 0xb6 0xb6	E 0xdd 0x7c
E 0x49 0xf1	E 0x69 0xd1	E 0x90 0x5b	E 0xb7 0xbc	E 0xde 0xfa
E 0x4a 0xba	E 0x6a 0xf9	E 0x9a 0xaa	E 0xb8 0xbd	E 0xdf 0xff
E 0x4f 0x21	E 0x70 0xf8	E 0x9b 0xba	E 0xb9 0xbe	E 0xe0 0xe8
E 0x51 0x20	E 0x71 0xc9	E 0x9c 0xe6	E 0xba 0xac	E 0xea 0xb2
E 0x52 0xea	E 0x72 0xca	E 0x9d 0x2c	E 0xbb 0x7c	E 0xeb 0xd4
E 0x53 0xeb	E 0x73 0xcb	E 0x9e 0xc6	E 0xbc 0xaf	E 0xec 0xd6
E 0x54 0x20	E 0x74 0xc8	E 0xa0 0x91	E 0xbd 0x7e	E 0xed 0xd2
E 0x55 0xed	E 0x75 0xcd	E 0xa1 0xa8	E 0xbe 0xb4	E 0xee 0xd3
E 0x56 0xee	E 0x76 0xce	E 0xaa 0xa1	E 0xbf 0xd7	E 0xef 0xd5
E 0x57 0xef	E 0x77 0xcf	E 0xab 0xbf	E 0xc0 0xe9	E 0xfb 0xdb
E 0x58 0xec	E 0x78 0xcc	E 0xac 0xd0	E 0xca 0x96	E 0xfc 0xdc
E 0x59 0xdf	E 0x79 0xb5	E 0xad 0xdd	E 0xcb 0xf4	E 0xfd 0xd9
E 0x5a 0xa7	E 0x7b 0xa3	E 0xae 0xfe	E 0xcc 0xf6	E 0xfe 0xda
E 0x5f 0x5e	E 0x7c 0xe0	E 0xaf 0xae	E 0xcd 0xf2	

Keyboard Type: FNB, SWB

Character Mapping: IBM code page 278. For specific character mapping, refer to:
<http://publib.boulder.ibm.com/infocenter/zos/v1r12/index.jsp?topic=%2Fcom.ibm.zos.r12.euvm00%2Feuva3a00744.htm>.

Translation Table: ASCEBDFS.TBL

E 0x42 0xe2	E 0x5f 0x5e	E 0x7c 0xd6	E 0xae 0xfe	E 0xcc 0x7c
E 0x43 0x20	E 0x62 0xc2	E 0x80 0xd8	E 0xaf 0xae	E 0xcd 0xf2
E 0x44 0xe0	E 0x63 0x23	E 0x8a 0xab	E 0xb0 0xa2	E 0xce 0xf3
E 0x45 0xe1	E 0x64 0xc0	E 0x8b 0xbb	E 0xb1 0xa3	E 0xcf 0xf5
E 0x46 0xe3	E 0x65 0xc1	E 0x8c 0xf5	E 0xb2 0xa5	E 0xd0 0xe5
E 0x47 0x20	E 0x66 0xc3	E 0x8d 0xfd	E 0xb3 0xb7	E 0xda 0xb9
E 0x48 0xe7	E 0x67 0x24	E 0x8e 0xde	E 0xb4 0xa9	E 0xdb 0xfb
E 0x49 0xf1	E 0x68 0xc7	E 0x8f 0xb1	E 0xb5 0x5b	E 0xdc 0x7e
E 0x4a 0xa7	E 0x69 0xd1	E 0x90 0xba	E 0xb6 0xb6	E 0xdd 0xf9
E 0x4f 0x21	E 0x6a 0xf6	E 0x9a 0xaa	E 0xb7 0xbc	E 0xde 0xfa
E 0x51 0x91	E 0x70 0xf8	E 0x9b 0xba	E 0xb8 0xbd	E 0xdf 0xff
E 0x52 0xea	E 0x71 0x5c	E 0x9c 0xe6	E 0xb9 0xbe	E 0xe0 0xc9
E 0x53 0xeb	E 0x72 0xca	E 0x9d 0x2c	E 0xba 0xac	E 0xe1 0x20
E 0x54 0xe8	E 0x73 0xcb	E 0x9e 0xc6	E 0xbb 0x7c	E 0xea 0xb2
E 0x55 0xed	E 0x74 0xc8	E 0x9f 0x5d	E 0xbc 0xaf	E 0xeb 0xd4
E 0x56 0xee	E 0x75 0xcd	E 0xa0 0xb5	E 0xbd 0xa8	E 0xec 0x40
E 0x57 0xef	E 0x76 0xce	E 0xa1 0xfc	E 0xbe 0xb4	E 0xed 0xd2
E 0x58 0xec	E 0x77 0xcf	E 0xaa 0xa1	E 0xbf 0xd7	E 0xee 0xd3
E 0x59 0xdf	E 0x78 0xcc	E 0xab 0xbf	E 0xc0 0xe4	
E 0x5a 0x20	E 0x79 0xe9	E 0xac 0xd0	E 0xca 0x96	
E 0x5b 0xc5	E 0x7b 0xc4	E 0xad 0xdd	E 0xcb 0xf4	

Keyboard Type: ICB

Character Mapping: IBM code page 871. For specific character mapping, refer to:
<http://publib.boulder.ibm.com/infocenter/zos/v1r12/index.jsp?topic=%2Fcom.ibm.zos.r12.euvm00%2Feuva3a00750.htm>.

Translation Table: ASCEBDIC.TBL

E 0x42 0xe2	E 0x62 0xc2	E 0x8b 0xbb	E 0xb2 0xa5	E 0xd0 0xe6
E 0x43 0xe4	E 0x63 0xc4	E 0x8c 0x91	E 0xb3 0xb7	E 0xda 0xb9
E 0x44 0xe0	E 0x64 0xc0	E 0x8d 0xfd	E 0xb4 0xa9	E 0xdb 0xfb
E 0x45 0xe1	E 0x65 0xc1	E 0x8e 0x20	E 0xb5 0xa7	E 0xdc 0xfc
E 0x46 0xe3	E 0x66 0xc3	E 0x8f 0xb1	E 0xb6 0xb6	E 0xdd 0xf9
E 0x47 0xe5	E 0x67 0xc5	E 0x90 0xba	E 0xb7 0xbc	E 0xde 0xfa
E 0x48 0xe7	E 0x68 0xc7	E 0x9a 0xaa	E 0xb8 0xbd	E 0xdf 0xff
E 0x49 0xf1	E 0x69 0xd1	E 0x9b 0xba	E 0xb9 0xbe	E 0xe0 0x92
E 0x4a 0xde	E 0x70 0xf8	E 0x9c 0x20	E 0xba 0xac	E 0xe1 0x20
E 0x4f 0x21	E 0x71 0xc9	E 0x9d 0x2c	E 0xbb 0x7c	E 0xea 0xb2
E 0x51 0xe9	E 0x72 0xca	E 0x9e 0x5d	E 0xbc 0xaf	E 0xeb 0xd4
E 0x52 0xea	E 0x73 0xcb	E 0xa0 0xb5	E 0xbd 0xa8	E 0xec 0x5e
E 0x53 0xeb	E 0x74 0xc8	E 0xa1 0xf6	E 0xbe 0x5c	E 0xed 0xd2
E 0x54 0xe8	E 0x75 0xcd	E 0xaa 0xa1	E 0xbf 0xd7	E 0xee 0xd3
E 0x55 0xed	E 0x76 0xce	E 0xab 0xbf	E 0xc0 0xfe	E 0xef 0xd5
E 0x56 0xee	E 0x77 0xcf	E 0xac 0x40	E 0xca 0x96	E 0xfb 0xdb
E 0x57 0xef	E 0x78 0xcc	E 0xad 0xdd	E 0xcb 0xf4	E 0xfc 0xdc
E 0x58 0xec	E 0x79 0xf0	E 0xae 0x5b	E 0xcc 0x7e	E 0xfd 0xd9
E 0x59 0xdf	E 0x7c 0xd0	E 0xaf 0xae	E 0xcd 0xf2	E 0xfe 0xda
E 0x5a 0xc6	E 0x80 0xd8	E 0xb0 0xa2	E 0xce 0xf3	
E 0x5f 0xd6	E 0x8a 0xab	E 0xb1 0xa3	E 0xcf 0xf5	

Keyboard Type: ITB

Character Mapping: IBM code page 280. For specific character mapping, refer to:
<http://publib.boulder.ibm.com/infocenter/zos/v1r12/index.jsp?topic=%2Fcom.ibm.zos.r12.euvm00%2Feuva3a00745.htm>.

Translation Table: ASCEBDIT.TBL

E 0x42 0xe2	E 0x62 0xc2	E 0x80 0xd8	E 0xb0 0xa2	E 0xce 0xf3
E 0x43 0xe4	E 0x63 0xc4	E 0x8a 0xab	E 0xb1 0x23	E 0xcf 0xf5
E 0x44 0x20	E 0x64 0xc0	E 0x8b 0xbb	E 0xb2 0xa5	E 0xd0 0xe8
E 0x45 0xe1	E 0x65 0xc1	E 0x8c 0xf5	E 0xb3 0xb7	E 0xda 0xb9
E 0x46 0xe3	E 0x66 0xc3	E 0x8d 0xfd	E 0xb4 0xa9	E 0xdb 0xfb
E 0x47 0xe5	E 0x67 0xc5	E 0x8e 0xde	E 0xb5 0x40	E 0xdc 0xfc
E 0x48 0x5c	E 0x68 0xc7	E 0x8f 0xb1	E 0xb6 0xb6	E 0xdd 0x91
E 0x49 0xf1	E 0x69 0xd1	E 0x90 0x5b	E 0xb7 0xbc	E 0xde 0xfa
E 0x4a 0xba	E 0x6a 0xf2	E 0x9a 0xaa	E 0xb8 0xbd	E 0xdf 0xff
E 0x4f 0x21	E 0x70 0xf8	E 0x9b 0xba	E 0xb9 0xbe	E 0xe0 0xe7
E 0x51 0x5d	E 0x71 0xc9	E 0x9c 0xe6	E 0xba 0xac	E 0xea 0xb2
E 0x52 0xea	E 0x72 0xca	E 0x9d 0x2c	E 0xbb 0x7c	E 0xeb 0xd4
E 0x53 0xeb	E 0x73 0xcb	E 0x9e 0xc6	E 0xbc 0xaf	E 0xec 0xd6
E 0x54 0x20	E 0x74 0xc8	E 0xa0 0xb5	E 0xbd 0xa8	E 0xed 0xd2
E 0x55 0xed	E 0x75 0xcd	E 0xa1 0xec	E 0xbe 0xb4	E 0xee 0xd3
E 0x56 0xee	E 0x76 0xce	E 0xaa 0xa1	E 0xbf 0xd7	E 0xef 0xd5
E 0x57 0xef	E 0x77 0xcf	E 0xab 0xbf	E 0xc0 0xe0	E 0xfb 0xdb
E 0x58 0x7e	E 0x78 0xcc	E 0xac 0xd0	E 0xca 0x96	E 0xfc 0xdc
E 0x59 0xdf	E 0x79 0xf9	E 0xad 0xdd	E 0xcb 0xf4	E 0xfd 0xd9
E 0x5a 0xe9	E 0x7b 0xa3	E 0xae 0xfe	E 0xcc 0xf6	E 0xfe 0xda
E 0x5f 0x5e	E 0x7c 0xa7	E 0xaf 0xae	E 0xcd 0x7c	

Keyboard Type: NEB, USB

Character Mapping: IBM code page 37. For specific character mapping, refer to:
<http://publib.boulder.ibm.com/infocenter/zos/v1r12/index.jsp?topic=%2Fcom.ibm.zos.r12.euvm00%2Feuva3a00741.htm>

Translation Table: ASCEBDUS.TBL

E 0x42 0xe2	E 0x62 0xc2	E 0x8b 0xbb	E 0xb2 0xa5	E 0xda 0xb9
E 0x43 0xe4	E 0x63 0xc4	E 0x8c 0xf0	E 0xb3 0xb7	E 0xdb 0xfb
E 0x44 0xe0	E 0x64 0xc0	E 0x8d 0xfd	E 0xb4 0xa9	E 0xdc 0xfc
E 0x45 0xe1	E 0x65 0xc1	E 0x8e 0xde	E 0xb5 0xa7	E 0xdd 0xf9
E 0x46 0xe3	E 0x66 0xc3	E 0x8f 0xb1	E 0xb6 0xb6	E 0xde 0xfa
E 0x47 0xe5	E 0x67 0xc5	E 0x90 0xba	E 0xb7 0xbc	E 0xdf 0xff
E 0x48 0xe7	E 0x68 0xc7	E 0x9a 0xaa	E 0xb8 0xbd	E 0xea 0xb2
E 0x49 0xf1	E 0x69 0xd1	E 0x9b 0xba	E 0xb9 0xbe	E 0xeb 0xd4
E 0x4a 0xa2	E 0x70 0xf8	E 0x9c 0xe6	E 0xba 0x5b	E 0xec 0xd6
E 0x4f 0x7c	E 0x71 0xc9	E 0x9d 0x2c	E 0xbb 0x5d	E 0xed 0xd2
E 0x51 0xe9	E 0x72 0xca	E 0x9e 0xc6	E 0xbc 0xaf	E 0xee 0xd3
E 0x52 0xea	E 0x73 0xcb	E 0xa0 0xb5	E 0xbd 0xa8	E 0xef 0xd5
E 0x53 0xeb	E 0x74 0xc8	E 0xaa 0xa1	E 0xbe 0xb4	E 0xfb 0xdb
E 0x54 0xe8	E 0x75 0xcd	E 0xab 0xbf	E 0xbf 0xd7	E 0xfc 0xdc
E 0x55 0xed	E 0x76 0xce	E 0xac 0xd0	E 0xca 0x96	E 0xfd 0xd9
E 0x56 0xee	E 0x77 0xcf	E 0xad 0xdd	E 0xcb 0xf4	E 0xfe 0xda
E 0x57 0xef	E 0x78 0xcc	E 0xae 0xfe	E 0xcc 0xf6	
E 0x58 0xec	E 0x79 0x91	E 0xaf 0xae	E 0xcd 0xf2	
E 0x59 0xdf	E 0x80 0xd8	E 0xb0 0x88	E 0xce 0xf3	
E 0x5f 0xac	E 0x8a 0xab	E 0xb1 0xa3	E 0xcf 0xf5	

Keyboard Type: SPB, SSB

Character Mapping: IBM code page 284. For specific character mapping, refer to:
<http://publib.boulder.ibm.com/infocenter/zos/v1r12/index.jsp?topic=%2Fcom.ibm.zos.r12.euvmo00%2Feuva3a00746.htm>.

Translation Table: ASCEBDSP.TBL

E 0x42 0xe2	E 0x5f 0xac	E 0x80 0xd8	E 0xb0 0xa2	E 0xcf 0xf5
E 0x43 0xe4	E 0x62 0xc2	E 0x8a 0xab	E 0xb1 0xa3	E 0xda 0xb9
E 0x44 0xe0	E 0x63 0xc4	E 0x8b 0xbb	E 0xb2 0xa5	E 0xdb 0xfb
E 0x45 0xe1	E 0x64 0xc0	E 0x8c 0xf5	E 0xb3 0xb7	E 0xdc 0xfc
E 0x46 0xe3	E 0x65 0xc1	E 0x8d 0xfd	E 0xb4 0xa9	E 0xdd 0xf9
E 0x47 0xe5	E 0x66 0xc3	E 0x8e 0xde	E 0xb5 0xa7	E 0xde 0xfa
E 0x48 0xe7	E 0x67 0xc5	E 0x8f 0xb1	E 0xb6 0xb6	E 0xdf 0xff
E 0x49 0x7c	E 0x68 0xc7	E 0x90 0xba	E 0xb7 0xbc	E 0xea 0xb2
E 0x4a 0x5b	E 0x69 0x23	E 0x9a 0xaa	E 0xb8 0xbd	E 0xeb 0xd4
E 0x4f 0x7c	E 0x6a 0xf1	E 0x9b 0xba	E 0xb9 0xbe	E 0xec 0xd6
E 0x51 0xe9	E 0x70 0xf8	E 0x9c 0xe6	E 0xba 0x5e	E 0xed 0xd2
E 0x52 0xea	E 0x71 0xc9	E 0x9d 0x2c	E 0xbb 0x21	E 0xee 0xd3
E 0x53 0xeb	E 0x72 0xca	E 0x9e 0xc6	E 0xbc 0xaf	E 0xef 0xd5
E 0x54 0xe8	E 0x73 0xcb	E 0xa0 0xb5	E 0xbd 0x7e	E 0xfb 0xdb
E 0x55 0xed	E 0x74 0xc8	E 0xa1 0xa8	E 0xbe 0xb4	E 0xfc 0xdc
E 0x56 0xee	E 0x75 0xcd	E 0xaa 0xa1	E 0xbf 0xd7	E 0xfd 0xd9
E 0x57 0xef	E 0x76 0xce	E 0xab 0xbf	E 0xca 0x96	E 0xfe 0xda
E 0x58 0xec	E 0x77 0xcf	E 0xac 0xd0	E 0xcb 0xf4	
E 0x59 0xdf	E 0x78 0xcc	E 0xad 0xdd	E 0xcc 0xf6	
E 0x5a 0x5d	E 0x79 0x91	E 0xae 0xfe	E 0xcd 0xf2	
E 0x5b 0x24	E 0x7b 0xd1	E 0xaf 0xae	E 0xce 0xf3	

Keyboard Type: UKB

Character Mapping: IBM code page 285. For specific character mapping, refer to:
<http://publib.boulder.ibm.com/infocenter/zos/v1r12/index.jsp?topic=%2Fcom.ibm.zos.r12.euvmo00%2Feuva3a00747.htm>.

Translation Table: ASCEBDEN.TBL

E 0x42 0xe2	E 0x5f 0xac	E 0x8a 0xab	E 0xb0 0xa2	E 0xce 0xf3
E 0x43 0xe4	E 0x62 0xc2	E 0x8b 0xbb	E 0xb1 0x5b	E 0xcf 0xf5
E 0x44 0xe0	E 0x63 0xc4	E 0x8c 0xf0	E 0xb2 0xa5	E 0xda 0xb9
E 0x45 0xe1	E 0x64 0xc0	E 0x8d 0xfd	E 0xb3 0xb7	E 0xdb 0xfb
E 0x46 0xe3	E 0x65 0xc1	E 0x8e 0xde	E 0xb4 0xa9	E 0xdc 0xfc
E 0x47 0xe5	E 0x66 0xc3	E 0x8f 0xb1	E 0xb5 0xa7	E 0xdd 0xf9
E 0x48 0xe7	E 0x67 0xc5	E 0x90 0xba	E 0xb6 0xb6	E 0xde 0xfa
E 0x49 0xf1	E 0x68 0xc7	E 0x9a 0xaa	E 0xb7 0xbc	E 0xdf 0xff
E 0x4a 0x25	E 0x69 0xd1	E 0x9b 0xba	E 0xb8 0xbd	E 0xea 0xb2
E 0x4f 0x7c	E 0x70 0xf8	E 0x9c 0xe6	E 0xb9 0xbe	E 0xeb 0xd4
E 0x51 0xe9	E 0x71 0xc9	E 0x9d 0x2c	E 0xba 0x5e	E 0xec 0xd6
E 0x52 0xea	E 0x72 0xca	E 0x9e 0xc6	E 0xbb 0x5d	E 0xed 0xd2
E 0x53 0xeb	E 0x73 0xcb	E 0xa0 0xb5	E 0xbc 0x7e	E 0xee 0xd3
E 0x54 0xe8	E 0x74 0xc8	E 0xa1 0xaf	E 0xbd 0xa8	E 0xef 0xd5
E 0x55 0xed	E 0x75 0xcd	E 0xaa 0xa1	E 0xbe 0xb4	E 0xfb 0xdb
E 0x56 0xee	E 0x76 0xce	E 0xab 0xbf	E 0xbf 0xd7	E 0xfc 0xdc
E 0x57 0xef	E 0x77 0xcf	E 0xac 0xd0	E 0xca 0x96	E 0xfd 0xd9
E 0x58 0xec	E 0x78 0xcc	E 0xad 0xdd	E 0xcb 0xf4	E 0xfe 0xda
E 0x59 0xdf	E 0x79 0x91	E 0xae 0xfe	E 0xcc 0xf6	
E 0x5b 0xa3	E 0x80 0xd8	E 0xaf 0xae	E 0xcd 0xf2	

Keyboard Type: AGI, BLI, CAB, CAI, DMI, FAI, FNI, FQI, FRB, ICI, ITI, NEI, NLB, NWI, PRI, SFI, SGI, SPI, SWI, SSI, UKI, USI

Character Mapping: IBM code page 500. For specific character mapping, refer to:
http://publib.boulder.ibm.com/infocenter/pcomhelp/v5r9/index.jsp?topic=/com.ibm.pcomm.doc/reference/html/hcp_reference16.htm

Translation Table: ASCEBDMN.TBL

E 0x42 0xe2	E 0x5a 0x5d	E 0x8a 0xab	E 0xb0 0xa2	E 0xce 0xf3
E 0x43 0xe4	E 0x62 0xc2	E 0x8b 0xbb	E 0xb1 0xa3	E 0xcf 0xf5
E 0x44 0xe0	E 0x63 0xc4	E 0x8c 0xf0	E 0xb2 0xa5	E 0xda 0xb9
E 0x45 0xe1	E 0x64 0xc0	E 0x8d 0xfd	E 0xb3 0xb7	E 0xdb 0xfb
E 0x46 0xe3	E 0x65 0xc1	E 0x8e 0xfe	E 0xb4 0xa9	E 0xdc 0xfc
E 0x47 0xe5	E 0x66 0xc3	E 0x8f 0xb1	E 0xb5 0xa7	E 0xdd 0xf9
E 0x48 0xe7	E 0x67 0xc5	E 0x90 0xba	E 0xb6 0xb6	E 0xde 0xfa
E 0x49 0xf1	E 0x68 0xc7	E 0x9a 0xaa	E 0xb7 0xbc	E 0xdf 0xff
E 0x4a 0x5b	E 0x69 0xd1	E 0x9b 0xba	E 0xb8 0xbd	E 0xe1 0xf7
E 0x4f 0x21	E 0x70 0xf8	E 0x9c 0xe6	E 0xb9 0xbe	E 0xea 0xb2
E 0x51 0xe9	E 0x71 0xc9	E 0x9d 0xb8	E 0xba 0xac	E 0xeb 0xd4
E 0x52 0xea	E 0x72 0xca	E 0x9e 0xc6	E 0xbb 0x7c	E 0xec 0xd6
E 0x53 0xeb	E 0x73 0xcb	E 0x9f 0xa4	E 0xbc 0xaf	E 0xed 0xd2
E 0x54 0xe8	E 0x74 0xc8	E 0xa0 0xb5	E 0xbd 0xa8	E 0xee 0xd3
E 0x55 0xed	E 0x75 0xcd	E 0xaa 0xa1	E 0xbe 0xb4	E 0xef 0xd5
E 0x56 0xee	E 0x76 0xce	E 0xab 0xbf	E 0xbf 0xd7	E 0xfa 0xb3
E 0x57 0xef	E 0x77 0xcf	E 0xac 0xd0	E 0xca 0x96	E 0xfb 0xdb
E 0x58 0xec	E 0x78 0xcc	E 0xad 0xdd	E 0xcb 0xf4	E 0xfc 0xdc
E 0x59 0xdf	E 0x79 0x60	E 0xae 0xde	E 0xcc 0xf6	E 0xfd 0xd9
E 0x5f 0x5e	E 0x80 0xd8	E 0xaf 0xae	E 0xcd 0xf2	E 0xfe 0xda

ASCII to EBCDIC

0x00							
0x00	0x01	0x02	0x03	0x37	0x2d	0x2e	0x2f
0x16	0x05	0x25	0x0b	0x0c	0x0d	0x4f	0x0f
0x10	0x11	0x12	0x13	0x3c	0x00	0x32	0x1c
0x18	0x19	0x3f	0x27	0x22	0x00	0x35	0x00
0x20							
0x40	0x5a	0x7f	0x7b	0x5b	0x6c	0x50	0x7d
0x4d	0x5d	0x5c	0x4e	0x6b	0x60	0x4b	0x61
0xf0	0xf1	0xf2	0xf3	0xf4	0xf5	0xf6	0xf7
0xf8	0xf9	0x7a	0x5e	0x4c	0x7e	0x6e	0x6f
0x40							
0x7c	0xc1	0xc2	0xc3	0xc4	0xc5	0xc6	0xc7
0xc8	0xc9	0xd1	0xd2	0xd3	0xd4	0xd5	0xd6
0xd7	0xd8	0xd9	0xe2	0xe3	0xe4	0xe5	0xe6
0xe7	0xe8	0xe9	0xad	0xe0	0xbd	0x6a	0x6d
0x60							
0x79	0x81	0x82	0x83	0x84	0x85	0x86	0x87
0x88	0x89	0x91	0x92	0x93	0x94	0x95	0x96
0x97	0x98	0x99	0xa2	0xa3	0xa4	0xa5	0xa6
0xa7	0xa8	0xa9	0xc0	0x6a	0xd0	0xa1	0x07
0x80							
0x00	0x00	0x00	0x00	0x00	0x00	0x00	0x00
0x00	0x00	0x00	0x00	0x00	0x00	0x00	0x00
0x00	0x00	0x00	0x00	0x00	0x00	0x00	0x00
0x00	0x00	0x00	0x4a	0x00	0x00	0x00	0x00
0xa0							
0x00	0x00	0x00	0x00	0x00	0x00	0x00	0x00
0x00	0x00	0x5f	0x00	0x00	0x00	0x00	0x00
0x00	0x00	0x00	0xad	0x9d	0x00	0x00	0x00
0x00	0x00	0x00	0x00	0x00	0x00	0x00	0xbc
0xc0							
0xab	0x8c	0x8b	0x8d	0xbf	0x8e	0x00	0x00
0x00	0x00	0x00	0x00	0x00	0x00	0x00	0x00
0x00	0x00	0x00	0x00	0x00	0x00	0x00	0x00
0x00	0xbb	0xac	0x00	0x00	0x00	0x00	0x00
0xe0							
0x00	0x00	0x00	0x00	0x00	0x00	0x00	0x00
0x00	0x00	0x00	0x00	0x00	0x00	0x00	0x00
0x00	0x00	0x00	0x00	0x00	0x00	0x00	0x00
0x00	0x00	0x00	0x00	0x00	0x00	0x00	0x00

EBCDIC to ASCII

0x00	0x00	0x01	0x02	0x03	0x00	0x09	0x00	0x7F
	0x00	0x00	0x00	0x0B	0x0C	0x0D	0x0E	0x0F
	0x10	0x11	0x12	0x13	0x00	0x0a	0x08	0x00
	0x18	0x19	0x00	0x00	0x17	0x00	0x00	0x00
0x20	0x00	0x00	0x1C	0x00	0x00	0x0A	0x17	0x1B
	0x00	0x00	0x00	0x00	0x00	0x05	0x06	0x07
	0x00	0x00	0x16	0x00	0x00	0x1E	0x00	0x04
	0x00	0x00	0x00	0x00	0x14	0x16	0x00	0x1A
0x40	0x20	0x00	0x00	0x00	0x00	0x00	0x00	0x00
	0x00	0x00	0x9b	0x2E	0x3C	0x28	0x2B	0x0e
	0x26	0x00	0x00	0x00	0x00	0x00	0x00	0x00
	0x00	0x00	0x21	0x24	0x2A	0x29	0x3B	0xaa
0x60	0x2D	0x2F	0x00	0x00	0x00	0x00	0x00	0x00
	0x00	0x00	0x7C	0x2C	0x25	0x5F	0x3E	0x3F
	0x00	0x00	0x00	0x00	0x00	0x00	0x00	0x00
	0x00	0x60	0x3A	0x23	0x40	0x27	0x3D	0x22
0x80	0x00	0x61	0x62	0x63	0x64	0x65	0x66	0x67
	0x68	0x69	0x00	0xc2	0xc1	0xc3	0xc5	0x00
	0x00	0x6A	0x6B	0x6C	0x6D	0x6E	0x6F	0x70
	0x71	0x72	0x00	0x00	0x00	0xb4	0x00	0x00
0xa0	0x00	0x7E	0x73	0x74	0x75	0x76	0x77	0x78
	0x79	0x7A	0x00	0xc0	0xda	0xb3	0x00	0x00
	0x00	0x00	0x00	0x00	0x00	0x00	0x00	0x00
	0x00	0x00	0x00	0xd9	0xbf	0x00	0x00	0xc4
0xc0	0x7B	0x41	0x42	0x43	0x44	0x45	0x46	0x47
	0x48	0x49	0x00	0x00	0x00	0x00	0x00	0x00
	0x7D	0x4A	0x4B	0x4C	0x4D	0x4E	0x4F	0x50
	0x51	0x52	0x00	0x00	0x00	0x00	0x00	0x00
0xe0	0x5c	0x00	0x53	0x54	0x55	0x56	0x57	0x58
	0x59	0x5A	0x00	0x00	0x00	0x00	0x00	0x00
	0x30	0x31	0x32	0x33	0x34	0x35	0x36	0x37
	0x38	0x39	0x00	0x00	x00	0x00	0x00	0x00

A

Bar Code Scanning

This appendix includes bar codes you can scan while using the Intermecc Terminal Emulator, keypress information for configuring preambles and postambles, and information on using Encoded Code 39. This appendix includes these sections:

- **Scanning Bar Codes While Using ITE**
- **Preamble and Postamble**
- **Encoded Code 39**

Scanning Bar Codes While Using ITE

To scan these bar codes, configure the computer to use Code 39 in Full ASCII mode using one of these methods:

- Use the Intermec Settings application on the computer to enable Code 39 in Full ASCII mode. For help with Intermec Settings, see the computer user manual.
- Configure ITE symbology settings to enable Code 39 in Full ASCII mode. For help, see [“Configuring Access to ITE” on page 65](#).

Paging Keys

Page up



%PGUP

Page down



%PGDN

Page right



%PGRT

Page left



%PGLT

Cursor Keys

Window/Viewport up (up one line)



%UP

Window/Viewport down (down one line)



%DN

Window/Viewport right (right one character)



%RT

Window/Viewport left (left one character)



%LF

Tab Keys

Back Tab



%BTAB

Forward Tab



\$I

Auto-Login Restart

Auto-Login Restart



%ALRS

3278 SNA Keys

Cursor Home (Home)



%Hm

Delete (Del)



%DEL

EOF



%EOF

Erase Input (Clr)



%EINP

Insert



%INS

New Line (Return)



%NL

Reset



%RST

AID-Generating or Top-Row Function Keys

Clear - 3270, 5250



%CLR

Enter - 3270, 5250



%CR

F1 - 3270, 5250, VT/ANSI



%F1

F2 - 3270, 5250, VT/ANSI



%F2

F3 - 3270, 5250, VT/ANSI



%F3

F4 - 3270, 5250, VT/ANSI



%F4

F5 - 3270, 5250, VT/ANSI



%F5

F6 - 3270, 5250, VT/ANSI



%F6

F7 - 3270, 5250, VT/ANSI



%F7

F8 - 3270, 5250, VT/ANSI



%F8

F9 - 3270, 5250, VT/ANSI



%F9

F10 - 3270, 5250, VT/ANSI



%F10

F11 - 3270, 5250, VT100, VT/ANSI



%F11

F12 - 3270, 5250, VT100, VT/ANSI



%F12

F13 - 3270, 5250, VT100, VT/ANSI



%F13

F14 - 3270, 5250, VT/ANSI



%F14

F15 - 3270, 5250, VT/ANSI



%F15

F16 - 3270, 5250, VT/ANSI



%F16

F17 - 3270, 5250, VT/ANSI



%F17

F18 - 3270, 5250, VT/ANSI



%F18

Appendix A – Bar Code Scanning

F19 - 3270, 5250, VT/ANSI



%F19

F20 - 3270, 5250, VT/ANSI



%F20



Note: For VT/ANSI, scan the following F21 bar code label to toggle between Line Edit (block) mode and Character mode:

F21 - 3270, 5250, VT/ANSI



%F21

F22 - 3270, 5250



%F22

F23 - 3270, 5250



%F23

F24 - 3270, 5250



%F24

PA1 - 3270



%PA1

PA2 - 3270



%PA2

PA3 - 3270



%PA3

Help (nonerror state) - 5250



%HELP

Print - 5250



%PRINT

Record Backspace (Home) - 5250



%Hm

Roll Down - 5250



%RODN

Roll Up - 5250



%ROUP

Symbols - 3270, 5250

Cent (¢)



%CENT

Not (¬)



%NOT

Field Exit Key - 5250

Field Exit



%FLDX

Signal Keys - 5250

Attn



%ATTN

Help (from error state)



%HELP

Special Control Keys - 5250

Delete (Del)



%DEL

Erase Input



%EINP

Error Reset



%ERR

Hex



%HEX

Insert



%INS

Special Host Key - 5250

Sys Req



%SYSR

5250 Additional Functions

Dup (duplicate enabled fields only)



%DUP

Field-



%FLD-

Field+



%FLD+

Field Mark



%FM

New Line



%NL

Special Function Keys - VT/ANSI

Backspace



%BKSP

Delete (Del)



%DEL

Editing Keys - VT/220/320

Find



%FIND

Insert



%INS

Next Screen



%NEXT

Previous Screen



%PREV

Remove



%REM

Select



%SEL

Preamble and Postamble

When you set the preamble or postamble for a bar code symbology, there are special values that ITE interprets to generate the expected key stroke.

Preamble and Postamble

Key	Wedge Amble	Wedge Amble (Windows Mobile 5.0)	API Amble
F1	0x70	0xa0 0x70	N/A
F2	0x71	0xa0 0x71	N/A
F3	0x72	0xa0 0x72	N/A
F4	0x73	0xa0 0x73	N/A
F5	0x74	0xa0 0x74	N/A
F6	0x75	0xa0 0x75	N/A
F7	0x76	0xa0 0x76	N/A
F8	0x77	0xa0 0x77	N/A
F9	0x78	0xa0 0x78	N/A
F10	0x79	0xa0 0x79	0xea
F11	0x7a	0xe8	N/A
F12	0x7b	0xa0 0x7b	N/A
F13	0x7c	0xa0 0x7c	N/A
F14	0x7d	0xa0 0x7d	N/A
F15	0x7e	0xa0 0x7e	N/A
F16	0x7f	0xa0 0x7f	N/A
F17	0x80	0xa0 0x80	N/A
F18	0x81	0xa0 0x81	N/A
F19	0x82	0xa0 0x82	N/A
F20	0x83	0xa0 0x83	N/A
F21	0x84	0xa0 0x84	N/A
F22	0x85	0xa0 0x85	N/A
F23	0x86	0xa0 0x86	N/A
F24	0x87	0xa0 0x87	N/A
Enter	0x0d	0x0d	0x0d
BackTab	0x0a	0x0a	0xdc
Bell	0x07	0x07	0x07
Field Exit	0xfa	0xfa [‡]	0x9a
Field+	0x93	0x93	N/A
Field-	0x94	0x94	N/A

[‡]**Note:** For the CN3 and CV61 only, the wedge amble is 0x95

Encoded Code 39

The following table lists escape characters and key press sequences for Encoded Code 39. The “(t)” in the table indicates a terminating key. Any bar code data following this key code is ignored. The “t” sequences, therefore, should be located only at the end of the bar code. If you attempt to use an invalid sequence (termed “reserved” in the table) the computer beeps and the data stream is flushed.



Note: For 5250 emulation, when Encoded Code 39 is enabled, a Field Exit is generated when the last scanned character is a data character (0 >= char <= 255).

Key Press Sequences for Encoded Code 39

Sequence	Key	Sequence	Key
\$space (VT/ANSI)	Find (t)	+space (VT/ANSI)	09 hexadecimal (t)
\$- (VT/ANSI)	Insert here (t)	+ - (VT/ANSI)	0A hexadecimal (t)
\$. (VT/ANSI)	Remove (t)	+ . (VT/ANSI)	0B hexadecimal (t)
\$0 (VT/ANSI)	Keypad 0 (t)	+0 (VT/ANSI)	0C hexadecimal (t)
\$1 (VT/ANSI)	Keypad 1 (t)	+1 (VT/ANSI)	0D hexadecimal (t)
\$2 (VT/ANSI)	Keypad 2 (t)	+2 (VT/ANSI)	0E hexadecimal (t)
\$3 (VT/ANSI)	Keypad 3 (t)	+3 (VT/ANSI)	0F hexadecimal (t)
\$4 (VT/ANSI)	Keypad 4 (t)	+4 (VT/ANSI)	10 hexadecimal (t)
\$5 (VT/ANSI)	Keypad 5 (t)	+5 (VT/ANSI)	11 hexadecimal (t)
\$6 (VT/ANSI)	Keypad 6 (t)	+6 (VT/ANSI)	12 hexadecimal (t)
\$7 (VT/ANSI)	Keypad 7 (t)	+7 (VT/ANSI)	13 hexadecimal (t)
\$8 (VT/ANSI)	Keypad 8 (t)	+8 (VT/ANSI)	14 hexadecimal (t)
\$9 (VT/ANSI)	Keypad 9 (t)	+9 (VT/ANSI)	15 hexadecimal (t)
\$A	New Line (3270, 5250, VT/ANSI)	+A	a
\$B	Delete (t)	+B	b
\$C	Forward Tab (t)	+C	c
\$D	Forward Tab (t)	+D	d
\$E	Back Tab (3270, 5250)	+E	e
\$F	Roll Up/Page Down (5250)	+F	f
\$G	Roll Down/Page Up (5250)	+G	g
\$H	Backspace (t)	+H	h
\$I	Field + (5250)	+I	i
\$J	Field - (5250)	+J	j
\$K	Insert (3270, 5250)	+K	k
\$L	Home (3270, 5250)	+L	l
\$M	Enter (t) (3270, VT/ANSI) or Enter/Rec Adv (t) (5250)	+M	m
\$N	Erase (3270) or Field Exit (5250)	+N	n
\$O	Clear (3270) or Erase Input (5250)	+O	o
\$P	Attn (5250)	+P	p

Key Press Sequences for Encoded Code 39 (continued)

Sequence	Key	Sequence	Key
\$Q	PF1 (t) (3270, VT/ANSI) or F1 (t) (5250)	+Q	q
\$R	PF2 (t) (3270, VT/ANSI) or F2 (t) (5250)	+R	r
\$S	PF3 (t) (3270, VT/ANSI) or F3 (t) (5250)	+S	s
\$T	PF4 (t) (3270, VT/ANSI) or F4 (t) (5250)	+T	t
\$U	F5 (t) (5250, VT/ANSI) or PF5 (3270)	+U	u
\$V	F6 (t) (5250, VT/ANSI) or PF6 (3270)	+V	v
\$W	F7 (t) (5250, VT/ANSI) or PF7 (3270)	+W	w
\$X	F8 (t) (5250, VT/ANSI) or PF8 (3270)	+X	x
\$Y	F9 (t) (5250, VT/ANSI) or PF9 (3270)	+Y	y
\$Z	F10 (t) (5250, VT/ANSI) or PF10 (3270)	+Z	z
%space (VT/ANSI)	Select (t)	/space (VT/ANSI)	16 hexadecimal (t)
%- (VT/ANSI)	Previous screen (t)	/- (VT/ANSI)	17 hexadecimal (t)
%. (VT/ANSI)	Next screen (t)	/. (VT/ANSI)	18 hexadecimal (t)
%0 (VT/ANSI)	Enter (t)	/0 (VT/ANSI)	19 hexadecimal (t)
%1 (VT/ANSI)	00 hexadecimal (t)	/1 (VT/ANSI)	1A hexadecimal (t)
%2 (VT/ANSI)	01 hexadecimal (t)	/2 (VT/ANSI)	1B hexadecimal (t)
%3 (VT/ANSI)	02 hexadecimal (t)	/3 (VT/ANSI)	1C hexadecimal (t)
%4 (VT/ANSI)	03 hexadecimal (t)	/4 (VT/ANSI)	1D hexadecimal (t)
%5 (VT/ANSI)	04 hexadecimal (t)	/5 (VT/ANSI)	1E hexadecimal (t)
%6 (VT/ANSI)	05 hexadecimal (t)	/6 (VT/ANSI)	1F hexadecimal (t)
%7 (VT/ANSI)	06 hexadecimal (t)	/7 (VT/ANSI)	Reserved
%8 (VT/ANSI)	07 hexadecimal (t)	/8 (VT/ANSI)	Reserved
%9 (VT/ANSI)	08 hexadecimal (t)	/9 (VT/ANSI)	Reserved
%A	Clear AID (t) (3270) or Clear (5250)	/A	! (exclamation mark)
%B	F11 (t) (5250, VT/ANSI) or PF11 (3270)	/B	" (double quote)
%C	F12 (t) (5250, VT/ANSI) or PF12 (3270)	/C	# (pound)
%D	PA1 (3270) or Error Reset (5250)	/D	\$ (dollar)
%E	PA2 (3270) or Help (5250)	/E	% (percent)
(None)	PA3 (3270)		
%F	; (semicolon)	/F	& (ampersand)
%G	< (less than)	/G	' (single quote)
%H	= (equal)	/H	((left parenthesis)
%I	> (greater than)	/I	) (right parenthesis)
%J	? (question mark)	/J	* (asterisk)
%K	[(left brace) (3270, VT/ANSI) or $\overline{\hspace{1cm}}$ (not symbol) (5250)	/K	+ (plus)
%L	\ (backslash)	/L	, (comma)
%M	] (right brace) (3270, VT/ANSI) or ¢ (cent) (5250)	/M	- (hyphen)
%N	^ (circumflex) (3270, VT/ANSI) or | (piping symbol) (5250)	/N	F14 (t)
%O	_ (underscore)	/O	/ (forward slash)
%P	{ (left brace)	/P	F15 (t)

Key Press Sequences for Encoded Code 39 (continued)

Sequence	Key	Sequence	Key
%Q	| (vertical bar or pipe)	/Q	F16 (t)
%R	} (right brace)	/R	F17 (t)
%S	~ (tilde)	/S	F18 (t)
%T	Keyboard delete (t)	/T	F19 (t)
%U	Dup (5250)	/U	F20 (t)
%V	@ (at)	/V	F21 (3270, 5250)
%W	ı (grave accent)	/W	F22 (3270, 5250)
%X	Sys Req (5250)	/X	F23 (3270, 5250)
%Y	Print (5250)	/Y	F24 (3270, 5250)
%Z	F13 (t) (5250, VT/ANSI) or PF13 (3270)	/Z	:(colon)

Terminating Keys

Terminating keys are the nonprintable ASCII sequences and action keys. When the computer finds them in a bar code, an action is taken, and the computer sends the data in the buffer to the host computer. Terminating keys should appear only at the end of the bar code. If they are located in the middle of a bar code, they are executed normally, but the data following them in the bar code is ignored. Terminating keys cause a computer-to-base station transmission. The computer ignores data in the bar code buffer following these keys once a transmission takes place.

For example, the computer interprets the following sequence:

```
123$V456
```

as

```
123F6
```

The computer will not send 456 to the host computer because it follows the terminating key **F6**.

ASCII sequences can be used any time before a terminating key. For example, the computer interprets:

```
+H+E+L+L+O$M
```

as

```
hello<Enter>
```

Escape Characters

The four escape characters in the previous table yield a VT220 data stream key press equivalent when followed by another character. The escape characters are:

- \$ (dollar sign)
- % (percent)
- + (plus)
- / (forward slash)

For example:

- If a bar code contains the sequence %U somewhere within it, the computer treats this as an **Enter** keypress and processes the sequence as soon as it is encountered in the scanning buffer.
- +B is converted to the lower case b.
- %B is converted to an F11 key press.

If you want the Encoded Code 39 option but the bar codes to be scanned already contain the \$, %, +, or /, character, then each place where these characters occur must be expanded to a special / sequence:

- Every bar code where the \$ is maintained must be expanded to a /D sequence.
- Percent signs % must be expanded to /E.
- Forward slashes / must be expanded to the letter /O.
- Plus signs + must be expanded to /K.

Overriding Auto Tab Scan and Auto Enter Scan (3270)

When the computer is in **Auto Entr Scan** or **Auto Tab Scan** mode, eight Encoded Code 39 functions override these modes when they are scanned.

- Forward Tab and Back Tab
- End of Field and Home
- Backspace and Insert
- Clear and Delete

These codes are all of the screen-editing type, where an automatic **Enter** keypress is not desired. The listed encoded operations never allow an Auto Entr Scan to occur. For example, if Auto Entr Scan was enabled and a \$C (forward tab) was scanned, the computer forward tabs to the next field, but does not perform an **Enter** keypress, even though the Auto Entr Scan feature is enabled. In this case, the encoded forward tab overrides the Auto Entr Scan mode. However, if a +D is scanned, the computer places the letter d at the current cursor location and the Auto Entr Scan mode then executes an **Enter** keypress.

B

Using the Computer Keypad

This appendix lists keypresses for ITE functionality for computers that support ITE, and includes these topics:

- **About ITE and Computer Keypads**
- **About the Soft Input Panels**
- **Using the CK3 Keypads**
- **Using the CK70 Keypads**
- **Using the CK71 Keypads**
- **Using the CN3, CN3e, CN4, and CN4e Keypads**
- **Using the CN50 and CS40 Keypads**
- **Using the CN70 and CN70e Keypads**
- **Using the CV41 Keypad**
- **Using SIPs on the CV41 (Windows Embedded Standard) and CV61**

About ITE and Computer Keypads

Intermec computers include keypad overlays specific to using Intermec Terminal Emulator. This section lists keypresses for ITE functionality.

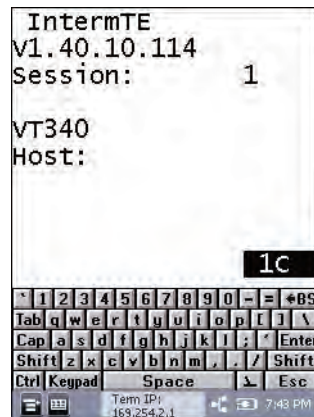
For more information on using the keypad on your Intermec computer, see the computer user manual.


About the Soft Input Panels



Note: This section applies to all computers except the CV41 (running WES) and CV61. For more information, see [“Using the CK3 Keypads” on page 170](#).

While ITE is running, tap  in the Toolbar. The SIP appears:



Tap  to toggle between showing and hiding the SIP.



Note: For computers using Windows Mobile, if the SIP is onscreen and you press a key on the physical keypad, the SIP closes and the ITE application goes to full screen.

When the SIP is displayed, you can use it for entering characters or accessing options as follows:

- Tap **G** on the Shifted keypad to get to the ITE configuration menus.
- Tap **S** to toggle between the Default and Shifted keypads.
- Tap **}** to toggle between the Function Toggled and Default keypads.
- Tap **_** to use uppercase keys with numbers.
- Tap **_**, then **S** to use lowercase keys with shifted characters.
- Tap **}** **@** to enter Auto-Login Restart.
- Tap **}** **=** to toggle between Line Edit (block) mode and Character mode.

Changing the SIP Key Color



Note: This feature is not supported by the CV41 (running WES) and CV61.

Up to ten SIP keys can be changed to red, green, or blue. You can also change them back to the default gray.

To change the color of a SIP key

- 1 Press and hold the left **Shift** key. The key color reverses. When the key color reverts to normal, release the key.
- 2 Press and hold the right **Shift** key. The key color reverses. When the key color reverts to normal, release the key.
- 3 Tap the key you want to change. The Select Key Color screen appears.



- 4 Tap the desired color. The SIP key changes to the selected color.

Creating Custom SIPs



Note: This feature is not supported by the CV41 (running WES) and CV61.

You can create a custom SIP with the Intermec SIP Designer application. See its online help for instructions on installing the custom SIP to your computer. Contact your Intermec representative for more information.

To switch SIPs

- Follow the procedure described in [“Configuring Options for Each Session” on page 23.](#)

3270 Keypads

Default Keypad

`	1	2	3	4	5	6	7	8	9	0	-	=	*BS
Tab	q	w	e	r	t	y	u	i	o	p	[]	\
Cap	a	s	d	f	g	h	j	k	l	;	'	Enter	
Shift	z	x	c	v	b	n	m	,	.	/	Shift		
Reset									Space		↵	NewLn	

Shifted Keypad

~	!	@	#	\$	%	^	&	*	(	)	_	+	Del
B.T.	Q	W	E	R	T	Y	U	I	O	P	{	}	|
Cap	A	S	D	F	G	H	J	K	L	:	"	Enter	
Shift	Z	X	C	V	B	N	M	<	>	?	Shift		
Reset									Space		Mn	NewLn	

Function Toggled Keypad

Clear	F1	F2	F3	F4	F5	F6	PA1	PA2	PA3
Clr	F7	F8	F9	F10	F11	F12	↵	+	⏏
EOF	F13	F14	F15	F16	F17	F18	←	Hm	→
Autolog	F19	F20	F21	F22	F23	F24	↵	+	⏏
							↵	Ins	Del

Caps Locked Keypad

`	1	2	3	4	5	6	7	8	9	0	-	=	*BS
Tab	Q	W	E	R	T	Y	U	I	O	P	[]	\
Cap	A	S	D	F	G	H	J	K	L	;	'	Enter	
Shift	Z	X	C	V	B	N	M	,	.	/	Shift		
Reset									Space		↵	NewLn	

Caps Locked + Shifted Keypad

~	!	@	#	\$	%	^	&	*	(	)	_	+	Del
B.T.	q	w	e	r	t	y	u	i	o	p	{	}	|
Cap	a	s	d	f	g	h	j	k	l	:	"	Enter	
Shift	z	x	c	v	b	n	m	<	>	?	Shift		
Reset									Space		Mn	NewLn	

5250 Keypads

Default Keypad

^	1	2	3	4	5	6	7	8	9	0	- =	*BS
Tab	q	w	e	r	t	y	u	i	o	p	[] \	
Cap	a	s	d	f	g	h	j	k	l	;	^	Enter
Shift	z	x	c	v	b	n	m	,	.	/		Shift
Res	Hex	NL						Space			↵	F→

Shifted Keypad

~	!	@	#	\$	%	-	&	*	(	)	_	+ Del
B.T.	Q	W	E	R	T	Y	U	I	O	P	{	}	|
Cap	A	S	D	F	G	H	J	K	L	:	"	Enter	
Shift	Z	X	C	V	B	N	M	<	>	?		Shift	
Res	Hex	NL						Space			Mn	F→	

Function Toggled Keypad

Att	Clr	F1	F2	F3	F4	F5	F6	Ins	R↑	R↓
SR	ErI	F7	F8	F9	F10	F11	F12	↵	↑	⏏
Prt	Hlp	F13	F14	F15	F16	F17	F18	+	Hm	→
F-	F+							☐	↓	☐
Autolog		F19	F20	F21	F22	F23	F24	↵	⏏	F→

Caps Locked Keypad

^	1	2	3	4	5	6	7	8	9	0	- =	*BS
Tab	Q	W	E	R	T	Y	U	I	O	P	[] \	
Cap	A	S	D	F	G	H	J	K	L	;	^	Enter
Shift	Z	X	C	V	B	N	M	,	.	/		Shift
Res	Hex	NL						Space			↵	F→

Caps Locked + Shifted Keypad

~	!	@	#	\$	%	^	&	*	(	)	_	+ Del
B.T.	q	w	e	r	t	y	u	i	o	p	{	}	|
Cap	a	s	d	f	g	h	j	k	l	:	"	Enter	
Shift	z	x	c	v	b	n	m	<	>	?		Shift	
Res	Hex	NL						Space			Mn	F→	

VT/ANSI Keypads

Default Keypad

`	1	2	3	4	5	6	7	8	9	0	-	=	←BS
Tab	q	w	e	r	t	y	u	i	o	p	[]	\
Cap	a	s	d	f	g	h	j	k	l	;	'	Enter	
Shift	z	x	c	v	b	n	m	,	.	/		Shift	
Ctrl	Keypad									Space		↵	Esc

Shifted Keypad

~	!	@	#	\$	%	^	&	*	(	)	_	+	Del
B.T.	Q	W	E	R	T	Y	U	I	O	P	{	}	|
Cap	A	S	D	F	G	H	J	K	L	:	"	Enter	
Shift	Z	X	C	V	B	N	M	<	>	?		Shift	
Ctrl	Keypad									Space		Mn	Esc

Function Toggled Keypad

Select	F1	F2	F3	F4	F5	F6	Find	Insert					
PrevSc							↶	↑	↷				
NextSc							↷	Del	↶				
Mode							↵	↓	↵				
Autolog	F19	F20	↶	↷	↵	↵	↵	↵	↵	↵	↵	↵	Remove

Caps Locked Keypad

`	1	2	3	4	5	6	7	8	9	0	-	=	←BS
Tab	Q	W	E	R	T	Y	U	I	O	P	[]	\
Cap	A	S	D	F	G	H	J	K	L	;	'	Enter	
Shift	Z	X	C	V	B	N	M	,	.	/		Shift	
Ctrl	Keypad									Space		↵	Esc

Caps Locked + Shifted Keypad

~	!	@	#	\$	%	^	&	*	(	)	_	+	Del
B.T.	q	w	e	r	t	y	u	i	o	p	{	}	|
Cap	a	s	d	f	g	h	j	k	l	:	"	Enter	
Shift	z	x	c	v	b	n	m	<	>	?		Shift	
Ctrl	Keypad									Space		Mn	Esc

About the SIP Keys

This section describes how to use the SIPs when running ITE. The SIPs function the same way for all computers.



Note: The key sequences described here begin with the Default keypad.

Cursor and Paging Keys

	3270/5250	VT/ANSI
To Move	Tap the SIP Keys	Tap the SIP Keys
Window/viewport up	} g	} O
Window/viewport down	} k	} P
Window/viewport right	} i	} N
Window/viewport left	} m	} M
Page up	} h	} h
Page down	} l	} l
Page right	} j	} j
Page left	} f	} f
Host cursor up	N/A	} g
Host cursor down	N/A	} k
Host cursor right	N/A	} i
Host cursor left	N/A	} m

Alphanumeric and Symbol Keys

To Enter	Tap the SIP Key
a through z	a through z
A through Z	Shift-A through Shift-Z
0 through 9	0 through 9
Symbols	Symbol key, or Shift plus corresponding key.

Function and Auxiliary Keys

To Enter	Tap the SIP Key
Back Tab	Shift - B.T.
Ctrl	Ctrl (VT/ANSI only)
Forward Tab	Tab
Caps Lock	Cap
Return	Enter

Function and Auxiliary Keys (continued)

To Enter	Tap the SIP Key
Shift	Shift
Space bar	Space
Clear	} - Clear (3270) } - Clr (5250 only)
PA1	} - PA1 (3270 only)
PA2	} - PA2 (3270 only)
PA3	} - PA3 (3270 only)
F1 through F20	} - F1 through } - F20
F21	} - F21 (3270, 5250 only)
F22	} - F22 (3270, 5250 only)
F23	} - F23 (3270, 5250 only)
F24	} - F24 (3270, 5250 only)



Editing Keys

To Enter	3270	5250	VT/ANSI
Erase Input	} - Clr	} - ErI	N/A
Del	Shift - Del	Shift - Del	Shift - Del
Enter	Enter	Enter	Enter
EOF	} - EOF	N/A	N/A
Home	} - Hm	} - Hm	N/A
Insert	} - Ins	} - Ins	} - Insert
New Line (Return)	NewLine	N.L.	N/A
Reset	Reset	Res	N/A
Find	N/A	N/A	} - Find
Insert here	}	}	} - Insert
Next screen	N/A	N/A	} - NextSc
Prev screen	N/A	N/A	} - PrevSc
Remove	N/A	N/A	} - Remove
Select	N/A	N/A	} - Select

5250 Keys and Functions

To Enter	Tap the SIP Keys
Attn	} - Att
Help (from error state)	} - Hlp
Field Exit	*

5250 Keys and Functions (continued)

To Enter	Tap the SIP Keys
Sys Req	} - SR
¬ (Not symbol)	Shift - 
Dup (duplicate enabled fields only)	} - Dup
Field-	} ,
Field+	} -
Field Mark	Not supported
Hex	

VT/ANSI Control Keys

To Enter	Tap the SIP Keys	To Enter	Tap the SIP Keys
SOH	Ctrl - A	DC1, X-ON	Ctrl - Q
STX	Ctrl - B	DC2	Ctrl - R
ETX	Ctrl - C	DC3, X-OFF	Ctrl - S
EOT	Ctrl - D	DC4	Ctrl - T
ENQ	Ctrl - E	NAK	Ctrl - U
ACK	Ctrl - F	SYN	Ctrl - V
BEL	Ctrl - G	ETB	Ctrl - W
BS	Ctrl - H	CAN	Ctrl - X
HT	Ctrl - I	EM	Ctrl - Y
LF	Ctrl - J	SUB	Ctrl - Z
VT	Ctrl - K	ESC	Esc
FF	Ctrl - L	FS	Ctrl - 1
CR	Ctrl - M	GS	Ctrl - 2
SO	Ctrl - N	RS	Ctrl - 3
SI	Ctrl - O	US	Ctrl - 4
DLE	Ctrl - P	NUL	Ctrl - 5
		DEL	Shift - BS

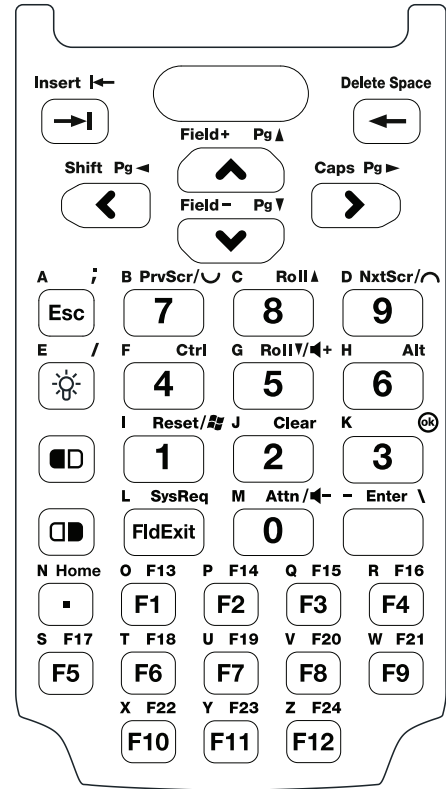
Additional Functions

To Enter	Tap the SIP Keys
Access TE configuration menus	Shift - Mn
VT/ANSI Transmission Mode: Toggle between Line Edit (block) and Character mode	} - Mode

Using the CK3 Keypads



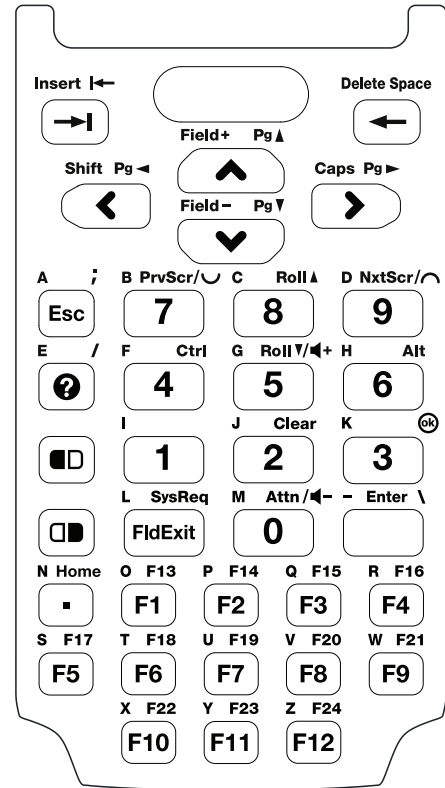
CK3 Alphabetic Keypad



CK3 Numeric Keypad



CK3R and CK3X Alphabetic Keypad



CK3R and CK3X Numeric Keypad

Special characters and functions printed above the keys are color-coded to correspond with the matching shift keys.































































































CK3 Shift Keys

Shift Key	Function
[Orange]	Press plus a key to type a character or do an operation printed in orange on the overlay.
[Green]	Press plus a key to type a character or do an operation printed in green on the overlay.

For more information on basic keypresses for the CK3, see:

- the *CK3 Mobile Computer User’s Manual*.
- the *CK3R and CK3X Mobile Computer User Manual*.

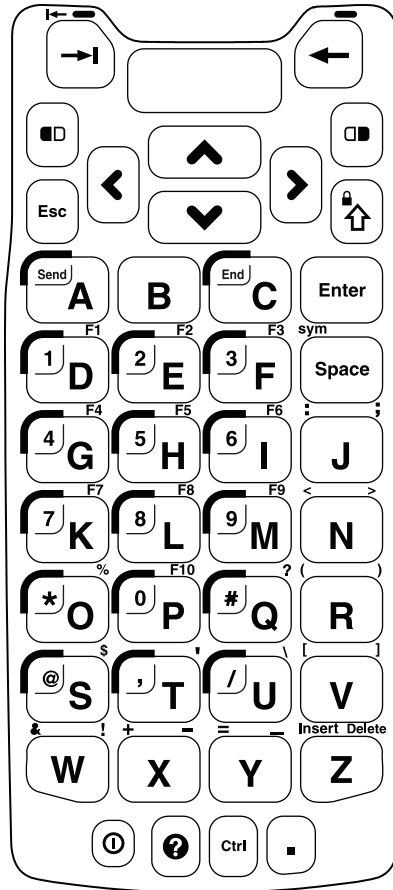
CK3 Function Keys

Function	Alphanumeric Keypad	Numeric Keypad
Back Tab	 	 
Backspace		
Caps Lock	 	 
Forward Tab		 
Return	NA	NA
Shift	 	 
Space	 	 
F1 through F5	 through 	 through 
F6	 	
F7	 	
F8	 	
F9	 	
F10	 	
F11	 	
F12	 	
F13	 	 
F14	 	 
F15	 	 
F16	 	 
F17	 	 
F18	 	 
F19	 	 
F20	 	 
F21	 	 
F22	 	 
F23	 	 
F24	 	 

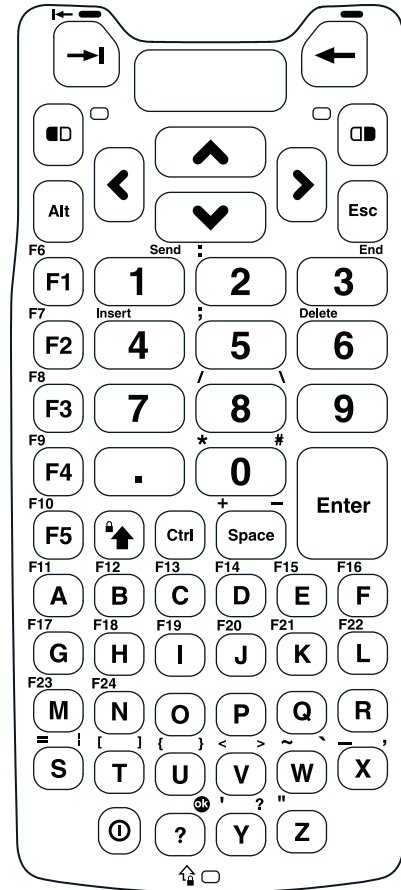
CK3 ITE Functions

Function	Alphanumeric Keypad	Numeric Keypad
Field Exit		
System Request		
Home		
Attention		
Reset		
Clear		
Roll Down		
Previous Screen		
Roll Up		
Next Screen		
Page Left		
Page Up		
Page Down		
Page Right		
Field +		
Field -		

Using the CK70 Keypads







CK70 Large Alpha Keypad



CK70 Alphanumeric Keypad

Special characters and functions printed above the keys are color-coded to correspond with the matching shift keys.

CK70 Shift Keys

























Shift Key	Function
[Orange] 	Press  plus a key to type a character or do an operation printed in orange on the overlay.
[Green] 	Press  plus a key to type a character or do an operation printed in green on the overlay.

For more information on basic keypresses, see the *70 Series Mobile Computer User Manual*.

CK70 Characters and Functions

To Enter	Large Alpha Keypad	Alphanumeric Keypad
@ (at symbol)		N/A
& (ampersand)		
* (asterisk)		
: (colon)		
; (semicolon)		
, (comma)		
\$ (dollar)		N/A
! (exclamation)		N/A
- (hyphen or minus)		
% (percent)		N/A
. (period)		
+ (plus)		
# (pound)		
? (question mark)		
' (apostrophe)		
= (equals)		
_ (underscore)		
> (greater than)		
< (less than)		
[(left square bracket)		
] (right square bracket)		
{ (left curly brace)	N/A	
} (right curly brace)	N/A	
~ (tilde)	N/A	
\ (backslash)		
/ (forward slash)		
“ (quotes)	N/A	
((left parenthesis)		N/A
) (right parenthesis)		N/A
Insert		
Delete		
Sym		N/A
| (broken vertical bar)	N/A	
` (grave)	N/A	
Forward Tab		

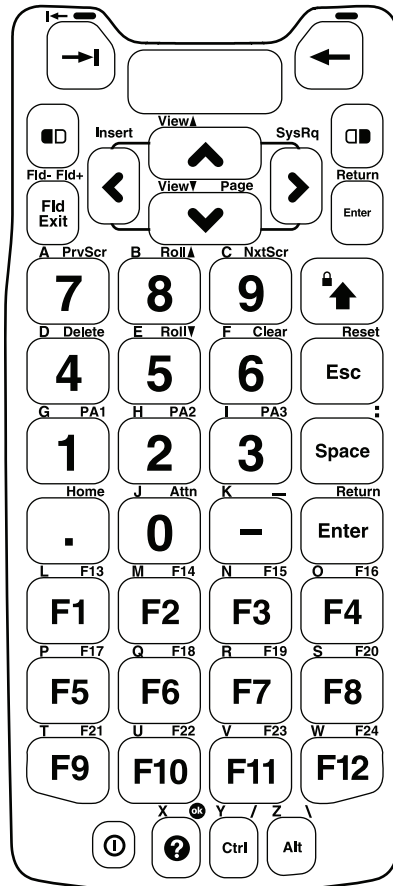
CK70 Characters and Functions (continued)

To Enter	Large Alpha Keypad	Alphanumeric Keypad
Backspace		
Up Arrow		
Down Arrow		
Left Arrow		
Right Arrow		
CapsLock		
Enter		
ok		
Shift		
Space		
Esc		
Alt	N/A	Alt
Ctrl	Ctrl	Ctrl
Send Call		
End Call		

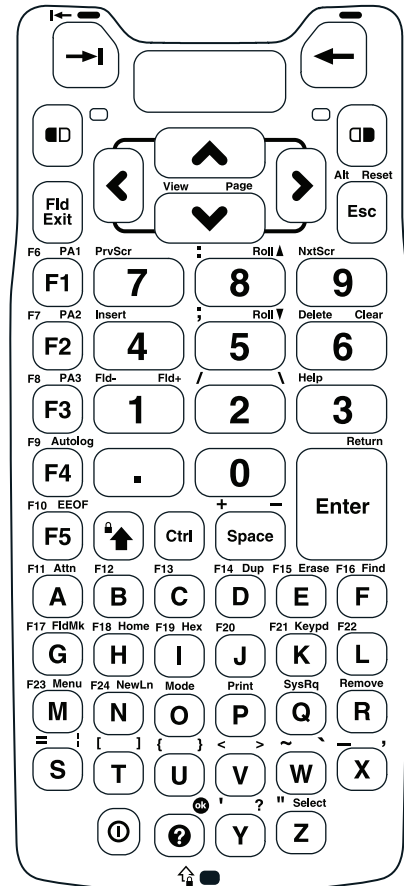
Using the CK71 Keypads



Note: Although you can use ITE on both the CK70 and the CK71 computers, only the CK71 is available with an ITE keypad overlay.



CK71 ITE Numeric with Function Keys Keypad



CK71 ITE Alphanumeric Keypad

Special characters and functions printed above the keys are color-coded to correspond with the matching shift keys.

CK71 Shift Keys







Shift Key	Function
[Orange]	Press plus a key to type a character or do an operation printed in orange on the overlay.
[Green]	Press plus a key to type a character or do an operation printed in green on the overlay.

For more information on basic keypresses, see the *70 Series Mobile Computer User Manual*.
















































































CK71 Characters and Functions

To Enter	Numeric With Function Keys Keypad	Alphanumeric Keypad
: (colon)		
; (semicolon)	N/A	
, (comma)	N/A	
\$ (dollar)		N/A
! (exclamation)		N/A
- (hyphen or minus)		
. (period)		
+ (plus)	N/A	
‘ (apostrophe)	N/A	
= (equals)	N/A	
_ (underscore)		
> (greater than)	N/A	
< (less than)	N/A	
[(left square bracket)	N/A	
] (right square bracket)	N/A	
{ (left curly brace)	N/A	
} (right curly brace)	N/A	
~ (tilde)	N/A	
\ (backslash)		
/ (forward slash)		
“ (quotes)	N/A	
Insert		
Delete		
‡ (broken vertical bar)	N/A	
` (grave)	N/A	
Forward Tab		
Backspace		
Up Arrow		
Down Arrow		
Left Arrow		
Right Arrow		
CapsLock		
Enter		
ok		
Shift		

CK71 Characters and Functions (continued)

To Enter	Numeric With Function Keys Keypad	Alphanumeric Keypad
Space		
Esc		
Alt	Alt	 
Ctrl	Ctrl	Ctrl

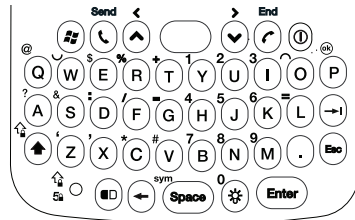
CK71 Function Keys

To Enter	Numeric With Function Keys Keypad	Alphanumeric Keypad
F1		
F2		
F3		
F4		
F5		
F6		 
F7		 
F8		 
F9		 
F10		 
F11		 
F12		 
F13	 	 
F14	 	 
F15	 	 
F16	 	 
F17	 	 
F18	 	 
F19	 	 
F20	 	 
F21	 	 
F22	 	 
F23	 	 
F24	 	 

CK71 ITE Keys

To Enter	Numeric With Function Keys Keypad	Alphanumeric Keypad
Attention	0	A
Autolog	N/A	F4
Clear	6	6
Duplicate	N/A	D
EEOF	N/A	F5
Erase	N/A	E
Find	N/A	F
Field +		1
Field -		1
Fieldmark	N/A	G
Help	N/A	3
Hex	N/A	I
Home	.	H
Keypad	N/A	K
Menu	N/A	M
Mode	N/A	O
New Line	N/A	N
Next Screen	9	9
PA1	1	F1
PA2	2	F2
PA3	3	F3
Page		
Print	N/A	P
Previous Screen	7	7
Remove	N/A	R
Reset		
Return		
Roll Down	5	5
Roll Up	8	8
System Request		Q
View	N/A	
View Down		N/A
View Up		N/A

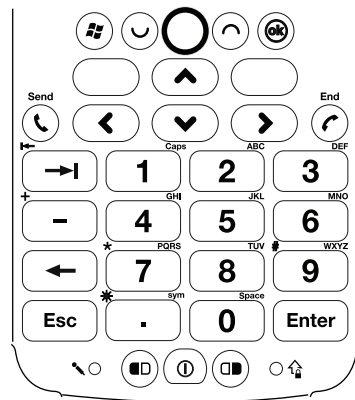
Using the CN3, CN3e, CN4, and CN4e Keypads



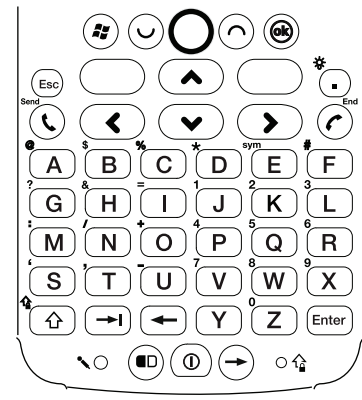
CN3 and CN4 QWERTY Keypad



CN3 and CN4 Numeric Keypad



CN3e and CN4e Numeric Phone-Style Keypad



CN3e and CN4e Alphanumeric Keypad

Special characters and functions printed above the keys are color-coded to correspond with the matching shift keys.

CN3 and CN4 Shift Keys

Shift Key	Function
[Orange]	Press plus a key to type a character or do an operation printed in orange on the overlay.
[Green]	Press plus a key to type a character or do an operation printed in green on the overlay.



Note: For 3270 and 5250 emulations, pressing on the keypad also performs the Reset function.

For more information on basic keypresses, see:

- *CN3 Mobile Computer User's Manual for Windows Mobile 5.0.*
- *CN3 Mobile Computer User's Manual for Windows Mobile 6.1.*
- *CN4 Mobile Computer User's Manual.*

CN3 and CN4 Special Keys

To Enter	Numeric Keypad	QWERTY Keypad	Alphabetic Keypad
^ (caret)	N/A	N/A	⇧ Ⓜ R
@ (ampersand)	N/A	Ⓜ Q	Ⓜ A
& (and)	N/A	Ⓜ S	Ⓜ H
* (asterisk)	N/A	Ⓜ C	Ⓜ D
: (colon)	N/A	Ⓜ D	Ⓜ M
, (comma)	N/A	Ⓜ X	Ⓜ T
\$ (dollar)	N/A	Ⓜ E	Ⓜ B
“ (double quote)	N/A	⇧ Ⓜ Z	⇧ Ⓜ S
! (exclamation)	N/A	⇧ Ⓜ 1	⇧ Ⓜ J
> (greater than)	N/A	⇧ Ⓜ .	⇧ .
- (hyphen)	Ⓜ *	Ⓜ G	⇧ U
((left parentheses)	N/A	⇧ Ⓜ 9	⇧ Ⓜ X
< (less than)	N/A	⇧ Ⓜ X	⇧ Ⓜ T
% (percent)	N/A	Ⓜ R	⇧ Ⓜ C
. (period)	Ⓜ .	Ⓜ .	Ⓜ .
+ (plus)	Ⓜ #	Ⓜ T	Ⓜ O
# (pound)	N/A	Ⓜ V	Ⓜ F
? (question mark)	N/A	Ⓜ A	Ⓜ G
) (right parentheses)	N/A	⇧ Ⓜ 0	⇧ Ⓜ Z
‘ (single quote)	N/A	Ⓜ Z	Ⓜ S
_ (underscore)	N/A	⇧ Ⓜ G	⇧ Ⓜ U
BackTab	Ⓜ ⇐	Ⓜ ⇐	Ⓜ ⇐
CapsLock	Ⓜ 1	Ⓜ ⇧	Ⓜ ⇧
Enter	Enter	Enter	Enter
Application Softkey 2	Ⓜ 3	Ⓜ O	Ⓜ ⤴
ok	Ⓜ Esc	Ⓜ P	Ⓜ ok
Shift	Ⓜ	⇧	⇧
Application Softkey 1	Ⓜ 1	Ⓜ W	Ⓜ ⤵
Space	Ⓜ 0	Space	Space

Using the CN50 and CS40 Keypads



CN50 and CS40 Numeric Keypad



CN50 and CS40 QWERTY Keypad

Special characters and functions printed above the keys are color-coded to correspond with the matching shift keys.

CN50 and CS40 Shift Keys

Shift Key	Function
[Orange]	Press plus a key to type a character or do an operation printed in orange on the overlay.
[Green]	(Numeric keypad only) Press plus a key to type a character or do an operation printed in green on the overlay.

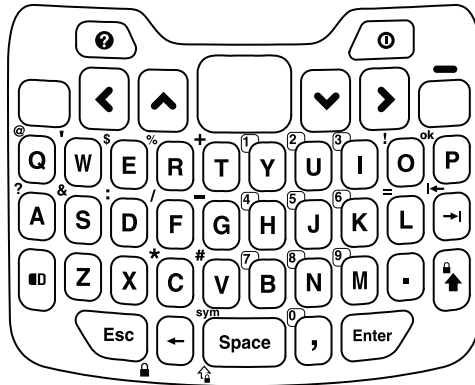
For more information on basic keypresses, see:

- *CN50 Mobile Computer User’s Manual.*
- *CS40 Mobile Computer User’s Manual.*

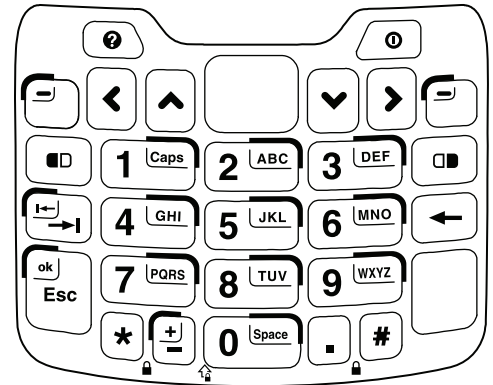
CN50 and CS40 Basic Keypresses

Function	QWERTY Keypad	Numeric Keypad
Forward Tab		
Back Tab		
Space		
Backspace		
Shift		or
Caps Lock		
Up Arrow		
Down Arrow		
Left Arrow		
Right Arrow		
!		N/A
@		N/A
#		
\$		N/A
%		N/A
&		N/A
*		
+		
ok		
-		
Start (Windows)		
?		N/A
:		N/A
/		N/A
=		N/A
' (apostrophe)		N/A
, (comma)		N/A
. (period)		
Esc		
Backlight		

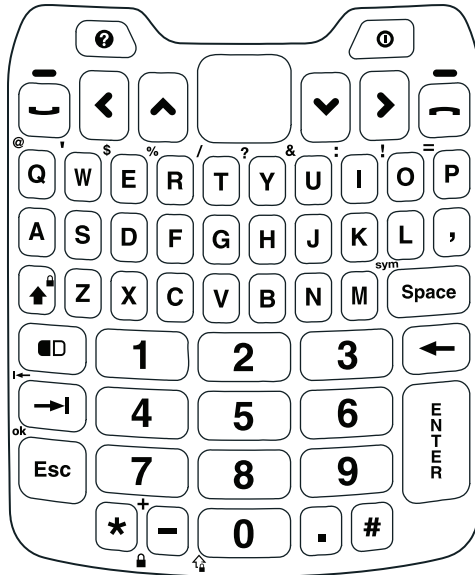
Using the CN70 and CN70e Keypads



CN70 QWERTY Keypad



CN70 Numeric Keypad



CN70e Alphanumeric Keypad



CN70e Numeric Keypad

Special characters and functions printed above the keys are color-coded to correspond with the matching shift keys.

CN70 Shift Keys

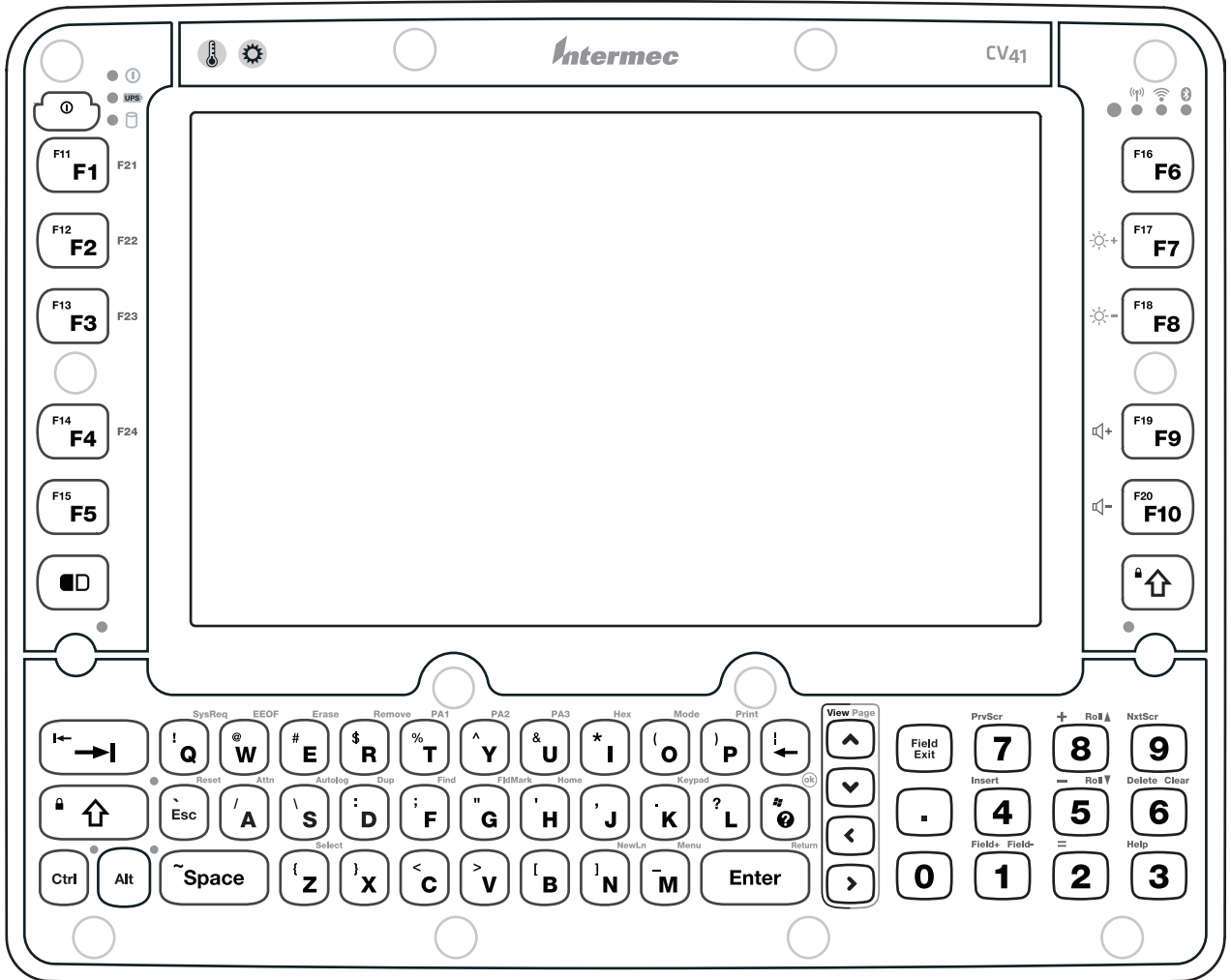
Shift Key	Function
[Orange]	Press plus a key to type a character or do an operation printed in orange on the overlay.
[Green]	Press plus a key to type a character or do an operation printed in green on the overlay.

For more information on basic keypresses, see the *70 Series Mobile Computer User's Manual*.

CN70 Characters and Functions

To Enter	CN70 and CN70e Numeric Keypad	CN70 QWERTY Keypad	CN70e QWERTY Keypad
@ (at symbol)	N/A		
& (ampersand)	N/A		
* (asterisk)			
: (colon)	N/A		
, (comma)	N/A		
\$ (dollar)	N/A		
! (exclamation)	N/A		
- (hyphen)			
% (percent)	N/A		
. (period)			
+ (plus)			
# (pound)			
? (question mark)	N/A		
' (apostrophe)	N/A		
Forward Tab			
Backspace			
Up Arrow			
Down Arrow			
Left Arrow			
Right Arrow			
CapsLock			
Enter			
ok			
Shift			
Space			
Esc			
Talk			

Using the CV41 Keypad
































For information on basic keypresses, see the *CV41 Vehicle Mount Computer User Guide*.

CV41 Special Keys

To Enter	Keypad
: (colon)	D
; (semicolon)	F
, (comma)	J
\$ (dollar)	R
! (exclamation)	Q
- (hyphen or minus)	5
. (period)	or K
+ (plus)	8

CV41 Special Keys (continued)

To Enter	Keypad
' (apostrophe)	
= (equals)	
_ (underscore)	
> (greater than)	
< (less than)	
[(left square bracket)	
] (right square bracket)	
{ (left curly brace)	
} (right curly brace)	
~ (tilde)	
\ (backslash)	
/ (forward slash)	
“ (quotes)	
Insert	
Delete	
! (broken vertical bar)	
` (grave)	
Forward Tab	
Backspace	
Up Arrow	
Down Arrow	
Left Arrow	
Right Arrow	
CapsLock	
Enter	
ok	Alt- 
Shift	
Space	
Esc	
Alt	Alt
Ctrl	Ctrl

CV41 Function Keys

To Enter	Keypad
F1	F1
F2	F2
F3	F3
F4	F4
F5	F5
F6	F6
F7	F7
F8	F8
F9	F9
F10	F10
F11	Fn F1
F12	Fn F2
F13	Fn F3
F14	Fn F4
F15	Fn F5
F16	Fn F6
F17	Fn F7
F18	Fn F8
F19	Fn F9
F20	Fn F10
F21	Alt-F1
F22	Alt-F2
F23	Alt-F3
F24	Alt-F4

CV41 ITE Keys

To Enter	Keypad
Attention	Alt-A
Autolog	Alt-S
Clear	Alt-6
Duplicate	Alt-D
EEOF	Alt-W
Erase	Alt-E
Find	Alt-F
Field +	Fn 1
Field -	Alt-1

CV41 ITE Keys (continued)

To Enter	Keypad
Fieldmark	Alt- G
Help	Fn 3
Hex	Alt- I
Home	Alt- H
Keypad	Alt- K
Menu	Alt- M
Mode	Alt- O
New Line	Alt- N
Next Screen	Fn 9
PA1	Alt- T
PA2	Alt- Y
PA3	Alt- U
Page Up	Alt- ↑
Page Down	Alt- ↓
Page Left	Alt- ←
Page Right	Alt- →
Print	Alt- P
Previous Screen	Fn 7
Remove	Alt- R
Reset	Alt- Esc
Return	Alt- Enter
Roll Down	Alt- 5
Roll Up	Alt- 8
System Request	Alt- Q
View Down	Fn ↓
View Up	Fn ↑

Using SIPs on the CV41 (Windows Embedded Standard) and CV61

For the CV41 running Windows Embedded Standard and the CV61, you use custom SIPs with ITE. SIP appearance and configuration is determined by XAML files. When ITE is installed to the default location, the files are located at C:\Program Files\Intermec\ite. Each XAML file sets the appearance of one possible SIP.

XAML File Descriptions

File Name	Controls This SIP
<emulation>key.xaml	Default keypad for that emulation. For example, 3270key.xaml sets the appearance of the default keypad for 3270 emulation.
<emulation>Fkey.xaml	Function toggled keypad.
<emulation>KeyCaps.xaml	Caps locked keypad.
<emulation>KeyShifted.xaml	Shifted keypad.
<emulation>KeyShiftedCaps.xaml	Caps locked and shifted keypad.

Customizing the SIPs

To customize a SIP for the CV41 or CV61, open the appropriate XAML file and make changes as needed.

For keypress macros, see the next section, “[Macros for SIPs.](#)”

For all keys, you need to specify one of two callback functions:

- `PressAndRelease`: Use this callback function when you only want a keypress.
- `PressAndHold`: Use this callback function when you want to use a “sticky” key such as **Shift** or **Ctrl**.

To customize the way your SIP interacts with other ITE functions, such as setting the toolbar height, use the DWORD registry values in the next table. All values are found at HKLM\SOFTWARE\Intermec\TE2000.

Registry Values for Custom SIPs

Registry Value	Description	Values
KeyMode	Sets the emulation type for the SIP.	1 = 3270 2 = 5250 3 = VT
ShowSIPForITE	Displays the SIP.	0 = Not visible 1 = Visible
ToolbarHeight	Height of the toolbar in pixels.	Varies depending on number of rows and button sizes.
IsFullScreen	Determines whether or not ITE is running in full screen mode, which sets whether ITE uses screen coordinates or work area for placing the SIP onscreen.	0 = Not full screen 1 = Full screen

Registry Values for Custom SIPs (continued)

Registry Value	Description	Values
ExitSIP	Exits the SIP executable when ITE is being upgraded. If you do not exit the SIP executable at upgrade time, an “EXE in use” error message appears when you try to upgrade ITE.	0 = No exit (“EXE in use” error appears.) 1 = Exit (No SIP error message appears when upgrading.)



Note: Use `ToolbarHeight` and `IsFullScreen` to adjust the SIP position based on the ITE window and toolbar size.

To replace the default SIP with your custom SIP, name your new SIP `.exe` `itesip.exe` and copy it to `C:\program files\intermec\ite` on the CV41 or CV61.

Changing the Size and Alignment of the CV41 or CV61 SIP

You can change the size and screen alignment of the SIP through Intermec Settings.

To adjust the CV41 or CV61 SIP size and screen alignment

- 1 Open the Intermec Terminal Emulation main menu in Intermec Settings. For help, see [“To configure ITE directly on the computer” on page 21](#).
- 2 Tap **SIP Height** or **SIP Width** and enter the new value:
 - For SIP height, the range is 125 to the maximum height of the work area (in pixels). Default value is 125 (CV41) or 265 (CV61).
 - For SIP width, the range is 400 to the maximum width of the work area (in pixels). Default value is 400 (CV41) or 1000 (CV61).
- 3 Tap **OK**.
- 4 Tap **SIP Alignment** and select **Center** (default), **Left**, or **Right** to change the position of the SIP along the bottom edge of the computer screen.
- 5 Tap **OK**.

Macros for SIPs

The macros you must use for ITE keypad input with these SIPs are listed next.

```

_0 = 0x30,
_1 = 0x31,
_2 = 0x32,
_3 = 0x33,
_4 = 0x34,
_5 = 0x35,
_6 = 0x36,
_7 = 0x37,
_8 = 0x38,
_9 = 0x39,

A = 0x41,
B = 0x42,
C = 0x43,
D = 0x44,
E = 0x45,
F = 0x46,
G = 0x47,
H = 0x48,
I = 0x49,
J = 0x4A,
K = 0x4B,
L = 0x4C,
M = 0x4D,
N = 0x4E,
O = 0x4F,
P = 0x50,
Q = 0x51,
R = 0x52,
S = 0x53,
T = 0x54,
U = 0x55,
V = 0x56,
W = 0x57,
X = 0x58,
Y = 0x59,
Z = 0x5A,

VK_SEMICOLON = 0xBA,
VK_EQUAL = 0xBB,
VK_COMMA = 0xBC,
VK_HYPHEN = 0xBD,
VK_PERIOD = 0xBE,
VK_SLASH = 0xBF,
VK_BACKQUOTE = 0xC0,
VK_LBRACKET = 0xDB,
VK_BACKSLASH = 0xDC,

```

Appendix B – Using the Computer Keypad

```
VK_RBRACKET = 0xDD,  
VK_APOSTROPHE = 0xDE,  
VK_BACK = 0x08,  
VK_TAB = 0x09,  
VK_CAPITAL = 0x14,  
VK_RETURN = 0x0D,  
VK_OEM_INTERMEC_RESET = 0xE9,  
VK_SPACE = 0x20,  
VK_TOGGLE = 0xFF,  
VK_ITEMENU = 0xFE,  
VK_OEM_INTERMEC_NEWLN = 0x97,  
VK_CLEAR = 0x0C,  
VK_F1 = 0x70,  
VK_F2 = 0x71,  
VK_F3 = 0x72,  
VK_F4 = 0x73,  
VK_F5 = 0x74,  
VK_F6 = 0x75,  
VK_F7 = 0x76,  
VK_F8 = 0x77,  
VK_F9 = 0x78,  
VK_F10 = 0x79,  
VK_OEM_INTERMEC_F11 = 0xE8,  
VK_F12 = 0x7B,  
VK_F13 = 0x7C,  
VK_F14 = 0x7D,  
VK_F15 = 0x7E,  
VK_F16 = 0x7F,  
VK_F17 = 0x80,  
VK_F18 = 0x81,  
VK_F19 = 0x82,  
VK_F20 = 0x83,  
VK_F21 = 0x84,  
VK_F22 = 0x85,  
VK_F23 = 0x86,  
VK_F24 = 0x87,  
VK_PA1 = 0xFD,  
VK_OEM_INTERMEC_PA2 = 0xEC,  
VK_OEM_INTERMEC_PA3 = 0xED,  
VK_OEM_INTERMEC_CLR = 0xF5,  
VK_OEM_INTERMEC_PAGE_LEFT = 0x88,  
VK_OEM_INTERMEC_PAGE_RIGHT = 0x89,  
VK_UP = 0x26,  
VK_PRIOR = 0x21,  
VK_LEFT = 0x25,  
VK_HOME = 0x24,  
VK_RIGHT = 0x27,  
VK_NEXT = 0x22,  
VK_DOWN = 0x28,  
VK_EREOF = 0xF9,
```

```
VK_OEM_INTERMEC_AUTOLOGIN = 0xF3,  
VK_INSERT = 0x2D,  
VK_DELETE = 0x2E,  
VK_OEM_INTERMEC_HEX = 0xF1,  
VK_OEM_INTERMEC_FLD_EXIT = 0x95,  
VK_ATTN = 0xF6,  
VK_OEM_INTERMEC_ROLL_UP = 0xE6,  
VK_OEM_INTERMEC_ROLL_DOWN = 0xF2,  
VK_OEM_INTERMEC_SREQ = 0x92,  
VK_OEM_INTERMEC_ERASE = 0xE1,  
VK_PRINT = 0x2A,  
VK_HELP = 0x2F,  
VK_OEM_INTERMEC_FLD_PLUS = 0x93,  
VK_OEM_INTERMEC_FLD_MINUS = 0x94,  
VK_OEM_INTERMEC_DUP = 0x96,  
VK_OEM_INTERMEC_KEYPD = 0x07,  
VK_ESCAPE = 0x1B,  
VK_SELECT = 0x29,  
VK_OEM_INTERMEC_FIND = 0xEE,  
VK_OEM_INTERMEC_PRV_SC = 0xEA,  
VK_OEM_INTERMEC_NEXT_SC = 0xEB,  
VK_OEM_INTERMEC_MODE = 0xF0,  
VK_OEM_INTERMEC_VIEW_LEFT = 0x8A,  
VK_OEM_INTERMEC_VIEW_RIGHT = 0x8B,  
VK_OEM_INTERMEC_VIEW_UP = 0x8C,  
VK_OEM_INTERMEC_VIEW_DOWN = 0x8D,  
VK_OEM_INTERMEC_REMOVE = 0xEF
```

CV41 and CV61 SIPs



Note: These illustrations show the SIPs for the CV61. SIPs for the CV41 are identical but sized differently.

3270 Default SIP

`	1	2	3	4	5	6	7	8	9	0	-	=	BS
Tab	q	w	e	r	t	y	u	i	o	p	[]	\
Cap	a	s	d	f	g	h	j	k	l	;	'	Enter	
Shift	z	x	c	v	b	n	m	,	.	/	Shift		
Reset			Space								Toggle	NewLN	

3270 Shifted SIP

~	!	@	#	\$	%	^	&	*	(	)	_	+	Del
B.T.	Q	W	E	R	T	Y	U	I	O	P	{	}	|
Cap	A	S	D	F	G	H	J	K	L	:	"	Enter	
Shift	Z	X	C	V	B	N	M	<	>	?	Shift		
Reset			Space								Mn	NewLN	

3270 Function Toggled SIP

Clear	F1	F2	F3	F4	F5	F6	PA1	PA2	PA3
Clr	F7	F8	F9	F10	F11	F12	PLeft	Up	PUp
EOF	F13	F14	F15	F16	F17	F18	Left	Hm	Right
Autolog	F19	F20	F21	F22	F23	F24	PDown	Down	PRight
							Toggle	Ins	Del

3270 Caps Locked SIP

`	1	2	3	4	5	6	7	8	9	0	-	=	BS
Tab	Q	W	E	R	T	Y	U	I	O	P	[]	\
Cap	A	S	D	F	G	H	J	K	L	;	'	Enter	
Shift	Z	X	C	V	B	N	M	,	.	/	Shift		
Reset			Space								Toggle	NewLN	

3270 Caps Locked + Shifted SIP

~	!	@	#	\$	%	^	&	*	(	)	_	+	Del
B.T.	q	w	e	r	t	y	u	i	o	p	{	}	|
Cap	a	s	d	f	g	h	j	k	l	:	"	Enter	
Shift	z	x	c	v	b	n	m	<	>	?	Shift		
Reset	Space							Mn	NewLN				

5250 Default SIP

`	1	2	3	4	5	6	7	8	9	0	-	=	BS
Tab	Q	W	E	R	T	Y	U	I	O	P	[]	\
Cap	A	S	D	F	G	H	J	K	L	;	'	Enter	
Shift	Z	X	C	V	B	N	M	,	.	/	Shift		
Res	Hex	N.L.	Space					Toggle	Field Exit				

5250 Shifted SIP

~	!	@	#	\$	%	^	&	*	(	)	_	+	Del
B.T.	Q	W	E	R	T	Y	U	I	O	P	{	}	|
Cap	A	S	D	F	G	H	J	K	L	:	"	Enter	
Shift	Z	X	C	V	B	N	M	<	>	?	Shift		
Res	Hex	N.L.	Space					Mn	Field Exit				

5250 Function Toggled SIP

Att	Clr	F1	F2	F3	F4	F5	F6	Ins	Roll Up	Roll Dn
SR	ErI	F7	F8	F9	F10	F11	F12	PLeft	Up	PUp
Prt	Hlp	F13	F14	F15	F16	F17	F18	Left	Hm	Right
F-	F+	F19	F20	F21	F22	F23	F24	PDown	Down	PRight
Autolog		F19	F20	F21	F22	F23	F24	Toggle	Dup	F Exit

5250 Caps Locked SIP

`	1	2	3	4	5	6	7	8	9	0	-	=	BS
Tab	Q	W	E	R	T	Y	U	I	O	P	[]	\
Cap	A	S	D	F	G	H	J	K	L	;	'	Enter	
Shift	Z	X	C	V	B	N	M	,	.	/	Shift		
Res	Hex	N.L.	Space					Toggle	Field Exit				

5250 Caps Locked + Shifted SIP

~	!	@	#	\$	%	^	&	*	(	)	_	+	Del
B.T.	q	w	e	r	t	y	u	i	o	p	{	}	|
Cap	a	s	d	f	g	h	j	k	l	:	"	Enter	
Shift	z	x	c	v	b	n	m	<	>	?	Shift		
Res	Hex	N.L.	Space						Mn	Field Exit			

VT/ANSI Default SIP

`	1	2	3	4	5	6	7	8	9	0	-	=	BS
Tab	q	w	e	r	t	y	u	i	o	p	[]	\
Cap	a	s	d	f	g	h	j	k	l	;	'	Enter	
Shift	z	x	c	v	b	n	m	,	.	/	Shift		
Ctrl	Keypad		Space						Toggle	Esc			

VT/ANSI Shifted SIP

~	!	@	#	\$	%	^	&	*	(	)	_	+	Del
B.T.	Q	W	E	R	T	Y	U	I	O	P	{	}	|
Cap	A	S	D	F	G	H	J	K	L	:	"	Enter	
Shift	Z	X	C	V	B	N	M	<	>	?	Shift		
Ctrl	Keypad		Space						Mn	Esc			

VT/ANSI Function Toggled SIP

Select	F1	F2	F3	F4	F5	F6	Find	Insert	
Prev Sc	F7	F8	F9	F10	F11	F12	PLeft	Up	PUp
Next Sc	F13	F14	F15	F16	F17	F18	Left	Del	Right
Mode	F19	F20	VLeft	VRight	VUp	VDown	PDown	Down	PRight
Autolog	F19	F20	VLeft	VRight	VUp	VDown	Toggle	Remove	

VT/ANSI Caps Locked SIP

`	1	2	3	4	5	6	7	8	9	0	-	=	BS
Tab	Q	W	E	R	T	Y	U	I	O	P	[]	\
Cap	A	S	D	F	G	H	J	K	L	;	'	Enter	
Shift	Z	X	C	V	B	N	M	,	.	/	Shift		
Ctrl	Keypad		Space						Toggle	Esc			

VT/ANSI Caps Locked + Shifted SIP

~	!	@	#	\$	%	^	&	*	(	)	_	+	Del
B.T.	q	w	e	r	t	y	u	i	o	p	{	}	
Cap	a	s	d	f	g	h	j	k	l	:	"	Enter	
Shift	z	x	c	v	b	n	m	<	>	?	Shift		
Ctrl	Keypad		Space						Mn	Esc			



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