Honeywell

WindowsTE

Windows Terminal Emulation

User Guide

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Customer Support

Technical Assistance

To search our knowledge base for a solution or to log in to the Technical Support portal and report a problem, go to www.hsmcontactsupport.com.

For our latest contact information, see www.honeywellaidc.com/locations.

Product Service and Repair

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Limited Warranty

For warranty information, go to www.honeywellaidc.com and click **Resources** > **Product Warranty**.

CHAPTER

1 GET STARTED

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

- About Windows Terminal Emulator
- Set Up the Computer and the Network
- Install WindowsTE on Your Computer
- Launch WindowsTE
- Close WindowsTE
- Communicate Through Your WWAN Connection
- Enable the Phone on the CN50 Mobile Computers
- About WindowsTE Applications

About Windows Terminal Emulator

The Windows Terminal Emulator (TE) application emulates 3270, 5250, and VT/ANSI terminals on your Honeywell computer. For all supported Intermec branded and Honeywell-branded computers, the WindowsTE program name is “IntermTE”.

Note: I*ntermec Terminal Emulation, Enterprise TE, and WindowsTE are the same application. Depending on your computer, you may see Intermec Terminal Emulation or Enterprise TE.*

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

If you are using a device that supports Applock, and you are using Applock to control Windows Terminal Emulator, you must:

- Run WindowsTE in no-lockdown mode.
- Disable auto-relaunch for WindowsTE within AppLock.
- Exit WindowsTE before entering Applock administrator mode.

Supported Computers

These computers support WindowsTE:

- 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
- CN50 Mobile Computer with Windows Mobile 6.1 or Windows Mobile 6.5
- CN51 Mobile Computer with Windows Embedded Handheld 6.5
- CN70 Mobile Computer with Windows Embedded Handheld 6.5.3
- CX75 Mobile Computer with Windows Embedded Handheld 6.5
- CV31 Vehicle-Mount Computer with Windows Embedded Compact 7
- CV41 Vehicle Mount Computer with Windows CE 6.0 or Windows Embedded Standard
- CV61 Vehicle-Mount Computer with Windows XP or Windows 7
- VM3 Vehicle Mount Computer with Windows 7, Windows Embedded Standard 7, Windows Embedded Compact 7 or Windows 10
- RT10W Tablet with Windows 10 operating system

About WindowsTE Licensing

Using WindowsTE requires a license. If WindowsTE was pre-installed on your Honeywell computer, you do not need to purchase a license until you upgrade WindowsTE. If WindowsTE was not pre-installed on the computer, you need to purchase an application license to use WindowsTE.

After you install or upgrade WindowsTE, 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 WindowsTE. After 60 days, the message box appears after every 100 keystrokes. Press Enter to close the message.

- If you installed WindowsTE 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 Honeywell representative.

Check Licenses Out with SmartSystems

When you use SmartSystems Foundation to manage your Honeywell computers, by default WindowsTE 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 "Enable License Check-Out" on page 72.

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 WindowsTE if the number of computers that can run WindowsTE exceeds the number of available licenses.

About Honeywell License Manager

You can use the Honeywell License Manager to download and distribute your WindowsTE licenses.

To download License Manager

1. Click on the Technical Support Downloads Portal link, https://hsmftp.honeywell.com.
2. Create an account if you have not already created one. You must login to download the software.
3. Install the Honeywell Download Manager tool on your PC prior to trying to download any files. The link for the Honeywell Download Manager is located in the Note above the software tree.
4. Locate **License Manager** in the Software directory: **Software > Software and Tools > Emulators Browsers and Tools > License Manager > Current.**

5. Select **Download**. Follow the prompts to download the application.
6. Refer to the License Manager online help for information on working with licenses.

Set Up the Computer and the Network

WindowsTE can be ordered pre-installed on selected Honeywell computers. For more information, contact your Honeywell sales representative.

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

Note: *Intermec Settings and Enterprise Settings are the same application. Depending on your computer, you may see Intermec Settings or Enterprise Settings.*

To set up your computer and network for WindowsTE

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 36.

   (Optional) For TCP/IP connections, you can configure a TGAP for session persistence. For more information, see "About the Telnet Gateway Appliance (TGAP)" on page 36.

   For more information, see the next section, see "About WindowsTE and Network Protocols" on page 5.
2. Configure the access point for your network.
3. On your computer, use the Enterprise Settings application or EZConfig suite to configure the computer to communicate with your RF network.
   - For basic information on using Enterprise Settings, see the computer user manual.
   - For specific information on Enterprise Settings parameters, see the Intermec Settings Command Reference Manual.
4. Verify that your computer is communicating correctly with the access point and Intermec application server (such as the SPS) or the host. For more information, see the computer user manual.

About WindowsTE and Network Protocols

WindowsTE 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 WindowsTE communicates through access points directly connected to the host computer.
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 as 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 36.
UDP Plus	The computer running WindowsTE 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.

Install WindowsTE on Your Computer

If you use SmartSystems to manage your computer, you only need to drag-and-drop the bundle as usual to install WindowsTE. 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 computer.

To install WindowsTE without using SmartSystems (except computers running Windows XP, Windows 7, Windows 10, or WES).

1. Go to https://hsmftp.honeywell.com/.
2. For Hand Held device, select **Software > Computer Devices> Hand Held** to download TE file.

For This Computer:	Use This WindowsTE File:
CK70, CK71, CN51, CN70, CX75	ITE_WM_VGA_WVGA.cab
All other compatible computers: CK3, CK3X, CK3R, CN50	ITE_OTHER_WM_ARMV4I.cab
RT10W (Windows 10)	DeviceClientPack.exe

3. For a Vehicle Mounted device, select **Software > Computer Devices> Vehicle Mounted.**
   a. Select the folder for the device. Select the OS version, then select **Current > Applications**.

b. In the Applications list, select the WindowsTE .cab file for your computer, and follow the prompts to download it to your PC. Here are the WindowsTE install files listed by computer:

For This Computer:	Use This WindowsTE File:
CV31	EnterpriseTE_CV31_CE7.cab
CV41(Windows CE)	ITE_CV41_CE60_x86.cab
CV41 WES and CV61	ITE_XP_Win7.exe
VM3 (Windows 10)	VM3MasterInstall.exe
VM3 (Windows 7)	VM3MasterInstall.exe
VM3 (Windows Embedded Standard 7)	VM3WES7MasterInstall.exe
VM3 (Windows Embedded Compact 7)	VM3_WEC7.CAB

Note: *For VM3 and RT10W, the WindowsTE application will be installed by the above mentioned installers.*

4. Use a synchronization software tool to 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
   - For VM3 WEC7, copy the .cab file to the \System\EPCUpdates directory.

   Or copy the files to a storage card (4 MB space required) and install the card in the computer.
5. Restart the computer. Windows Terminal Emulation (WindowsTE) is installed automatically.

   You can also browse to the .cab file and double-click the file. Follow the prompts to install the WindowsTE components.

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

1. Go to https://hsmftp.honeywell.com/ and select **Software > Computer Devices> Vehicle Mounted.**
2. Select **CV41 or CV61 > WES > Current > Applications**.
3. In the Applications list, select the WindowsTE .exe file for the CV41 (WES only), CV61, and follow the prompts to download it to your PC.
4. Copy ITEXP7Setup.exe to the computer. You can copy the .exe to a USB drive or connect to the computer through your network.
5. On the computer, run the .exe to install WindowsTE.
6. Restart the computer to complete the installation.

Launch WindowsTE

If your computer supports Enterprise Settings or EZConfig suite, you can choose to auto start WindowsTE. You can also start WindowsTE manually. Use one of these procedures to launch WindowsTE.

Intermec Settings and Enterprise Settings are the same application. Depending on your computer, you may see Intermec Settings or Enterprise Settings.

To auto-start WindowsTE with Enterprise Settings

1. On the computer, start Enterprise Settings and tap **Applications > Auto Start**.
2. Select Enterprise Terminal Emulation and then tap **OK**.

To auto-start WindowsTE with EZConfig

1. On the computer, start EZConfig and tap **Client Apps Config**.
2. Tap **Auto Start.** A Key, Value, and Description will appear in the table on the bottom half of the screen.
3. Double-tap **Options,** and the Edit Key window appears.
4. From the Value drop-down list, select **Enterprise TE** and then tap **OK**.

To start WindowsTE manually

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

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

WindowsTE Main Screen Without SIP

WindowsTE Main Screen With SIP

The WindowsTE version is shown just below the program name. You may need to know the WindowsTE 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 WindowsTE. 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 "Configure the WindowsTE Toolbar" on page 73.

WindowsTE Toolbar

By default, WindowsTE screens show white text on a black background. The content and options on each screen depend on the installed hardware options on your computer.

Close WindowsTE

When WindowsTE is running, you can tap the Exit button in the toolbar to close the application. By default, the Exit button is included on the toolbar. If the Exit button has been removed from the toolbar, see "Configure the WindowsTE Toolbar" on page 73 for more information on adding it.

Note: *By default, WindowsTE uses the same password for exiting the application as it does for access to the configuration menus. To change the exit password, see "Enable the WindowsTE Exit Password" on page 81.*

Communicate Through Your WWAN Connection

If your Honeywell computer includes a cell phone, WindowsTE 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 WindowsTE is connected via the WWAN connection, the Signal Indicator in the Toolbar shows phone signal strength instead of radio signal strength.

If WindowsTE 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.

Enable the Phone on the CN50 Mobile Computers

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

- On the computer, open Enterprise Settings and check the **Allow Phone Operations** check box. The phone becomes available the next time you restart the computer.
- Change the “allow_phone_operation” parameter with EZConfig. Open the te_settings.exm file and go to the General folder. The phone becomes available the next time you restart the computer.
- Use the SmartSystems Foundation console to open Intermec Settings remotely, and check the **Allow Phone Operations** check box. If WindowsTE is running, a message appears on the computer prompting you to restart before you can use the phone. If you disable the phone through the console, no message appears and you do not need to restart the computer. For more information, see "Start Intermec Settings Remotely with SmartSystems Foundation" on page 23.

For more information, see the computer user manual.

About WindowsTE Applications

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

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

For the WindowsTE 5250 application, WindowsTE emulates the following:

- IBM-5291-1 computer
- IBM-5555-B01 and IBM-5555-C01 computers (If your device is provisioned for double-byte)
- 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 WindowsTE VT/ANSI application, WindowsTE 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 WindowsTE screen covers computer operating system icons such as battery charge status, you can customize the WindowsTE Toolbar to include many of these system icons so they are visible when WindowsTE is running. For help, see* *"Configure the WindowsTE Toolbar" on page 73*.

3270 Annunciators

Icon Name	Icon	Position	Description
Session number	1, 2, 3, 4	1	Session number of the WindowsTE 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	The keyboard inserts characters instead of overwriting them.

5250 Annunciators

Icon Name	Icon	Position	Description
Message waiting	M	1	The 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 WindowsTE 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	The keyboard inserts characters instead of overwriting them.
Hebrew mode	H	3	If the start of the header is set for the 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 the right to left, then the cursor is set in a right-to-left mode.

Icon Name	Icon	Position	Description
Session number	1, 2, 3, 4	1	The session number of the WindowsTE application.

Icon Name	Icon	Position	Description
Input inhibit	X	2	The 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	The 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.
Screen mode	S	2	The computer is in Screen mode. When you press a terminating key, the computer sends the whole screen 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

WindowsTE 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 Honeywell 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).

Change Alert Sounds and Volume

You can change these tones by replacing the.wav file on the Honeywell 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 the Volume Up and Volume Down buttons to the Toolbar. For more information, see "Configure the WindowsTE Toolbar" on page 73.

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; it 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.
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 the 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. WindowsTE 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.

AID-Generating Keys

Key	Description
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 WindowsTE 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 Intermec application server or controller requires some action. WindowsTE emulates all of the AIDgenerating 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 (non-error 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. On 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 Use 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.

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)	The 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.

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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 the cursor moves to the first input position on the 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”.

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)	The controller repeats hex “1C” from the cursor position to the end of the field (appears as an overstruck asterisk).

Function	Description
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, it makes the input a positive number.
Field Mark	This is valid within an 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.

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 newline mode (LNM).
Shift	It is 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, "Use 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.

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.

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 2their 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.

Note: *If you selected Character or Block mode before starting WindowsTE, the Mode key on the SIP will toggle between Character and Block mode. If you selected Screen mode before starting WindowsTE, the Mode key on the SIP will toggle between Character and Screen 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 "Configure Protocol Options" on page 47.

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.

Print and Serial Scanning

You can print data from a VT/ANSI host. To connect your computer to a printer, refer to the computer user manual for instructions. To configure printing and serial scanning options, see "About VT/ANSI Options" on page 52.

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

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.

CHAPTER

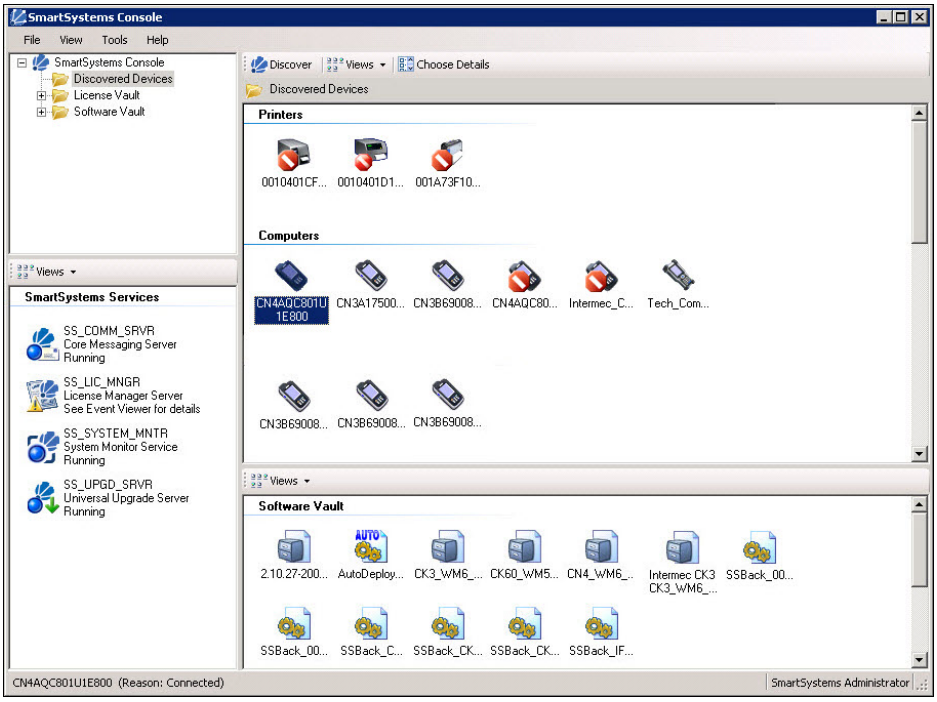
2 CONFIGURE AND MANAGE WINDOWSTE

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

- Manage WindowsTE with SmartSystems
- Configure WindowsTE with EZConfig
- Configure WindowsTE with Enterprise Settings
- Start Intermec Settings Remotely with SmartSystems Foundation
- Configure Options for Each Session
- Configure for UDP Plus
- Use the Out of Range Monitor
- Configure Scan Control Settings
- Configure Access to WindowsTE
- Use Voice over IP
- Use the Snapshot Feature
- Enable a Trusted Application
- Set the COM Port (CV31, CV41, and CV61 only)
- Connect to an RFID Reader

Manage WindowsTE 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 WindowsTE configuration bundles (as well as bundles for other applications), operating system updates, and firmware upgrades to multiple computers.
- Save WindowsTE configuration settings from a single computer to a te_settings.exm file and simultaneously deploy it to many computers.
- Remotely change WindowsTE application settings and other device settings on SmartSystems-enabled computers.
- Manage WindowsTE license check-out and check-in for all computers running WindowsTE.

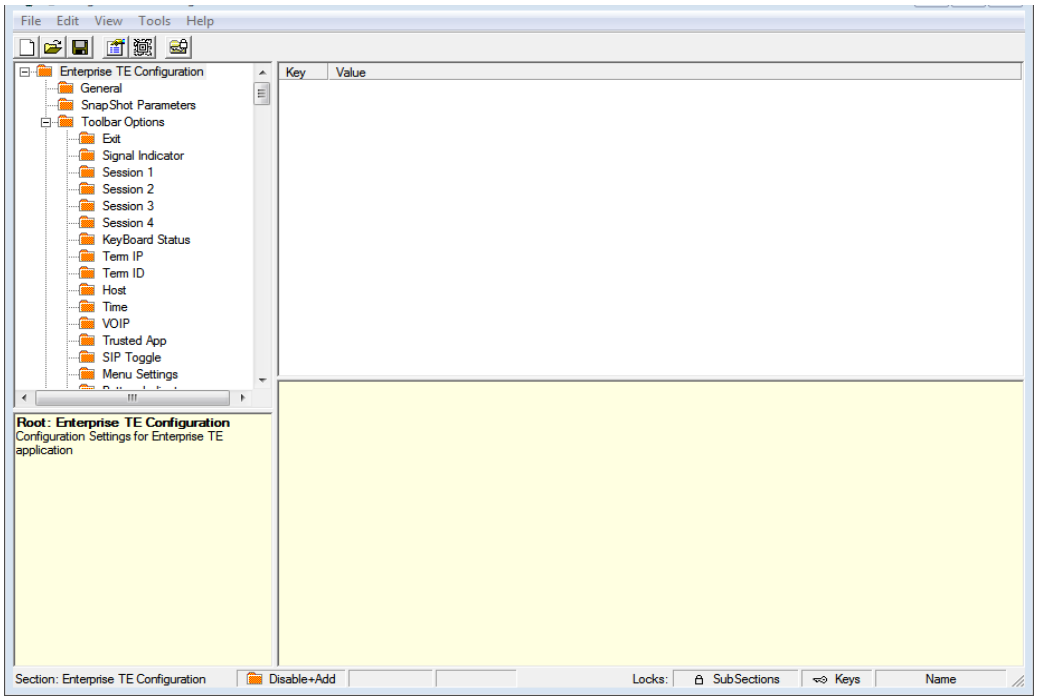
With a Management license, SmartSystems can automatically push software, configuration settings, and other files to connected computers.

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

Configure WindowsTE with EZConfig

You can use EZConfig to configure WindowsTE for your computer either remotely with ActiveSync or by copying the .exm file to a desktop computer, modifying it, and sending it back to the device using any file transfer method. For Windows XP and Windows 7 computers, the .exm file is in the D:\Honeywell folder.

For CV41 WES, and VM3 WEC7 computers, the .exm file isin the System\Honeywell folder. For other computers, the .exm file is in the \Honeywell folder.



The te_settings.exm File in EZConfig

Configure WindowsTE with Enterprise Settings

You can configure WindowsTE 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 WindowsTE operating parameters by using the Windows Settings application on the computer.

Note: *You can also customize parameters in the TE_Settings.ini setup file. For more information, see Chapter 3, Customize Your Configuration.*

Note: *Intermec Settings and Enterprise Settings are the same application. Depending on your computer, you may see Intermec Settings or Enterprise Settings.*

There are two ways to access Enterprise Settings:

- Directly on the computer through the WindowsTE Toolbar or from the computer Start menu. Using Enterprise Settings on the computer changes only the settings on that computer.
- Remotely via Intermec SmartSystems Foundation. When you use SmartSystems, you can remotely configure WindowsTE settings on all your SmartSystems-enabled computers. For more information, see "Start Intermec Settings Remotely with SmartSystems Foundation" on page 23.

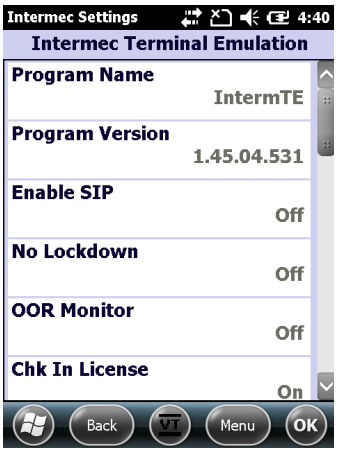
To configure WindowsTE directly on the computer

1. In WindowsTE:
   a. Tap  and select **Enterprise Settings**.
   b. In the Input Password dialog box, enter cr52401 and press **Enter**.

Note: *It is recommended to change the default password of* Windows *Terminal Emulator.*

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

2. In the Enterprise Settings main menu, tap **Applications > Enterprise Terminal Emulation**. The Windows Terminal Emulation main menu appears. This example shows the Windows Terminal Emulation 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 Enterprise Settings on the computer, see the computer user manual.

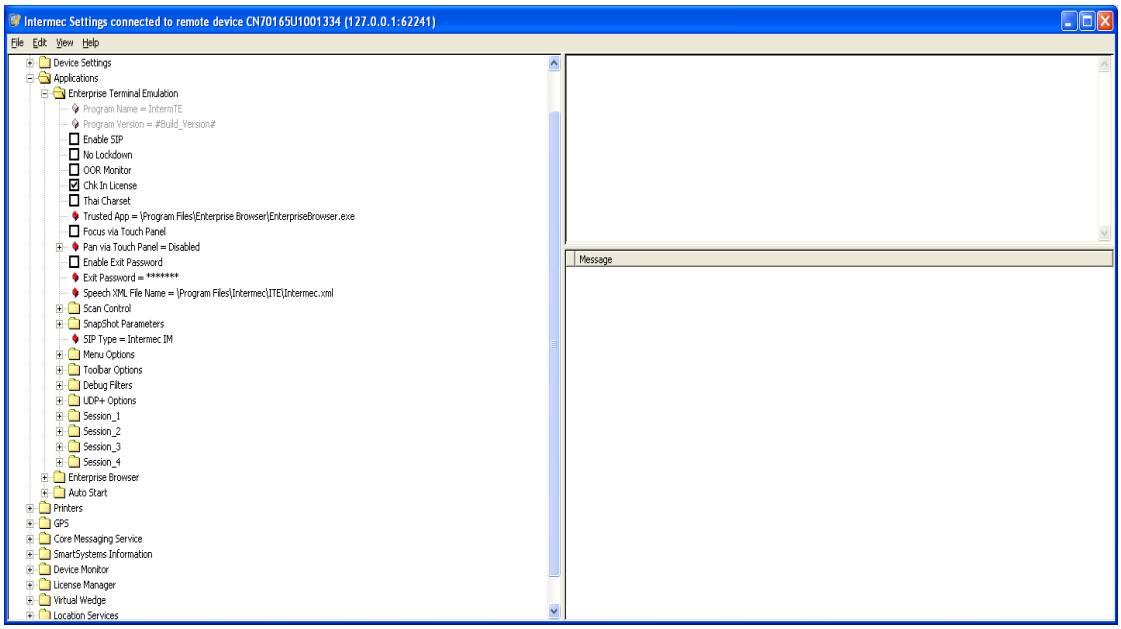
Note: *Certain parameters depend on the options available on your computer or the global values set in Enterprise Settings.*

Start Intermec Settings Remotely with SmartSystems Foundation

For more information on SmartSystems, see "Manage WindowsTE with SmartSystems" on page 20.

To open Intermec Settings from the SmartSystems console

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



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

For information on all parameters in Intermec Settings, see the Intermec Settings Command Reference Manual.

Configure 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 hostname or friendly name or designate a “hotkey” to switch between sessions quickly.

To configure options for each session

1. Open the Windows Terminal Emulation main menu in Enterprise Settings. For help, see "To configure WindowsTE directly on the computer" on page 22.
2. Tap **Session 1**, **Session 2**, **Session 3**, or **Session 4.** The list of configuration items for that session appears.

3. 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.
Password	The entry field to input password.	cr52401
Print Device	Sets a printer to use for the session. For more information, see "Select a Printer" on page 65.	RS232 IRDA Bluetooth Prt Network Prt Default: RS232 for CV31, CV41, CV61; Bluetooth for CK3, CK71 CN50, CN70
Set Hot Key	Sets the “hotkey” for this session. Press the “hotkey” at any time to switch to this session from another session.	F1 through F24. Default is None.

Session Options

Option	Description	Values
Type-Ahead	When WindowsTE cannot immediately send data to the host, this feature enables WindowsTE 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 Parms	Sets bar code scanning options. For more information, see "Configure Scan Control Settings" on page 70.	
Display Opts	Sets WindowsTE screen fonts and screen behaviors, such as URL hot spots. For more information, see "Select WindowsTE Fonts and Screen Behaviors" on page 56.	
LCD Parms	Sets WindowsTE screen sizes and colors. For more information, see "Configure WindowsTE Screen Sizes and Colors" on page 59.	
RFID	Sets Windows TERFID options. For more information, see "Connect to an RFID Reader" on page 88.	
TCP/IP Options	Sets network options for TCP/IP connections. For more information, see "Configure a TCP/IP Connection" on page 25.	
UDP + Options	Sets options for UDP Plus connections to a server. For more information, see "Configure for UDP Plus" on page 66.	
Protocol Opts	Sets options for 3270, 5250, or VT/ANSI protocols. For more information, see "Configure Protocol Options" on page 47.	

Configure a TCP/IP Connection

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

1. Open the Windows Terminal Emulation main menu in Enterprise Settings. For help, see see "To configure WindowsTE directly on the computer" on page 22.
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.

Note: *The default protocol value in WindowsTE is Telnet. It is recommend to use SSH protocol for better security.*

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. The 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 "Configure WindowsTE for SSL" on page 30.
SSH Options	Secure Shell (SSH) options for this host.	For more information, see "Configure WindowsTE for SSH" on page 33.

TCP/IP Configuration Item Descriptions

Item	Description	Values
Use WWAN	Determines whether WindowsTE should try to connect to the network through the WWAN radio if it cannot connect through the 802.11 network.	Disabled - WindowsTE will not use WWAN. Exclusive - WindowsTE only uses WWAN. Primary - WindowsTE uses WWAN first, then tries 802.11. Secondary - WindowsTE 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 36.	0 to 120. The 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 36.	F1 through F24 Attention Help Clear Enter Field Exit Home Reset Roll Down Roll Up Print SysRequest Default is Disabled.
Unit #	A unique value for this computer. Set this value when the host expects a powerup message containing the unit number.	1 to 127. The default is 127.
Keyboard type	Sets the language type for the keyboard. For more information and valid values, see "About the Keyboard Type, Charset, and Code Page Options" on page 28.	The default is USB.
Charset	Sets the graphic character set. For more information and valid values, see "About the Keyboard Type, Charset, and Code Page Options" on page 28.	697
Code Page	Selects a display language for the code page. For more information and valid values, see "About the Keyboard Type, Charset, and Code Page Options" on page 28.	037
Printer Address	IP address of the network printer. You must select Network Print in the Print Device parameter.	None.
Printer Port	Port number WindowsTE uses to communicate with the printer. You must select Network Print in the Print Device parameter.	0 to 65535. The default is 23.

About the Keyboard Type, Charset, and Code Page Options

Note: *This section only applies to 3270 or 5250 emulations.*

The Keyboard Type, Charset, and Code Page options determine the keyboards's language, the displayed character set, and page encoding for WindowsTE. For best results, use the following combinations of these options:

Keyboard Type, Charset, and Code Page Options by Language

Language or Country	Keyboard Type	Full CHRID Charset	Full CHRID Code Page	Limited CHRID Charset	Limited CHRID 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	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

Language or Country	Keyboard Type	Full CHRID Charset	Full CHRID Code Page	Limited CHRID Charset	Limited CHRID 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		

Keyboard Type, Charset, and Code Page Options by Language

Language or Country	Keyboard Type	Full CHRID Charset Code Page		Limited CHRID Charset Code Page	
Sweden	SWB	697	278	285	278
Sweden Multinational	SWI	697	500		
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		

Configure WindowsTE for SSL

You can configure WindowsTE 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.

WindowsTE 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 Windows Terminal Emulation main menu in Enterprise Settings. For help, see "To configure WindowsTE directly on the computer" on page 22.
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 the 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

SSL Option Descriptions

Option	Description	Values
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.

Install 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 private client key, as WindowsTE 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.

Configure WindowsTE for SSH

1. Open the Windows Terminal Emulation main menu in Enterprise Settings. For help, see "To configure WindowsTE directly on the computer" on page 22.
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	The 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. The default is a null string.
SSH PassWord	The 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. The 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. The default is a null string.
SSH Key Passphrase	A Passphrase is required to access the SSH Private Key file. If blank, WindowsTE assumes no passphrase was configured.	0 to 80 characters. The default is a null string.

SSH Option Descriptions

Option	Description	Values
Receive LF as CRLF	When enabled, when WindowsTE 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 the correct display of some Windows-based server screens.	Enabled or Disabled. Default is Enabled.

Use a Configuration File for SSH Settings

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

- \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 WindowsTE (such as the port number and hostname) 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: *WindowsTE supports public key authentication for Open SSH. This feature is configured from within WindowsTE and not through the configuration file.*

Lock 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

Honeywell SSH Client is compatible with most open-source SSH servers. Because host implementations of SSH differ from installation to installation, WindowsTE is not guaranteed compatible with all implementations. The following servers support WindowsTE 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

WindowsTE supports the SSH connection settings described in this table.

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 WindowsTE SSH support and your host, contact Honeywell Product Support and your 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 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.
- UDP+ supports any number of hosts.
- Client session persistence. If a WindowsTE 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 WindowsTE 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 "Manage WindowsTE 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 data frames delivery 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 WindowsTE, set the following parameters for TGAP:

- Host Name: SPS server IP address where the TGAP Service is installed.
- Port Number: 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 connected to an IBM host can be kept alive when the host is not receiving user data. Enabling the KeyAlive feature sends a keypress (usually a function key) to the host every so often as if the user pressed it. The KeyAlive function is disabled by default.

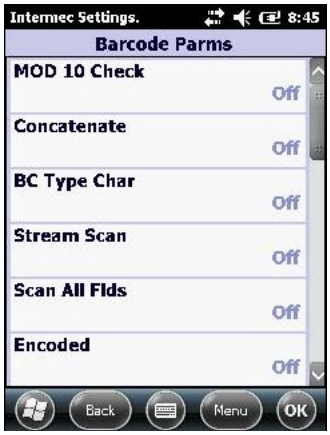
Valid Timer values are between 0 and 120 minutes. A value of 0 disables both the Timer and the KeyAlive feature. The Timer value is saved in the te_settings.exm file. When the timer's value is changed, connected sessions are disconnected and then reconnected as soon as the menus are exited.

Configure Bar Code Scanning Options

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

To configure bar code scanning options

1. Open the Windows Terminal Emulation main menu in Enterprise Settings. For help, see "To configure WindowsTE directly on the computer" on page 22.
2. Tap **Session 1**, **Session 2**, **Session 3**, or **Session 4**. The list of configuration items for that session appears.
3. Tap **Bar Code Parms.**



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 Parms 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 reader to the end of the previous bar code read until the computer meets a condition forcing the 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.
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 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 precharacters are not sent.	The range is 00 to FF. The default is \x20.

Bar Code Parms Configuration Item Descriptions

Item	Description	Values
Scan Postchar	Sets a character to send after scanned data. A value of 20h means that post-characters are not sent.	The range is 00 to FF. The default is \x20.
Scan LengthErr	When enabled, scanned data that will not fit into a 5250 field causes an error message to appear at the top left of the WindowsTE display, and the computer emits three beeps. 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. 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. This is only for scanner API data. Keyboard data and/or scan data that is wedged does not cause this error. If Encoded is enabled, it 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.	
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.	

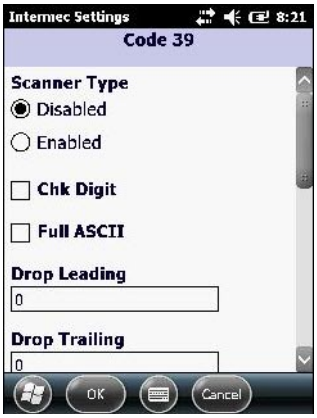
Configure Bar Code Symbology Settings

Note: *For RT10W tablet, see "Configure Bar Code Symbology Settings for Internal Scanner on RT10W" on page 46.*

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

To configure bar code symbology settings

1. Open the Windows Terminal Emulation main menu in Enterprise Settings. For help, see "To configure WindowsTE directly on the computer" on page 22.
2. Tap **Session 1, Session 2, Session 3**, or **Session 4**. The list of configuration items for that session appears.
3. Tap **Barcode Parms**.
4. Tap the name of the symbology in the **Barcode Parms** 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	The 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 44.	0 to 15. The 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. The default is 0.

Bar Code Symbology Decode Settings

Setting	Description	Value
Min Length, Max Length	Set the value for minimum or maximum length of the bar code symbology. For more information, see "Set Bar Code Lengths" on page 43.	0 to 99. The 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 **Barcode Parms** list, or tap **Cancel** to return to the **Barcode Parms** 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.

Additional Decode Settings

Symbology	Setting	Description	Value
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 addon for EAN 13 often used for the price of books together with the ISBN code.	Enabled or Disabled. Default is Disabled.
	Expand 8 to 13	Decompresses an EAN 8 symbol and transmits it as an EAN 13 symbol.	Enabled or Disabled. Default is Disabled.
Int 2 of 5	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.
	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: *WindowsTE 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 Enterprise 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.

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

Set 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 WindowsTE 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

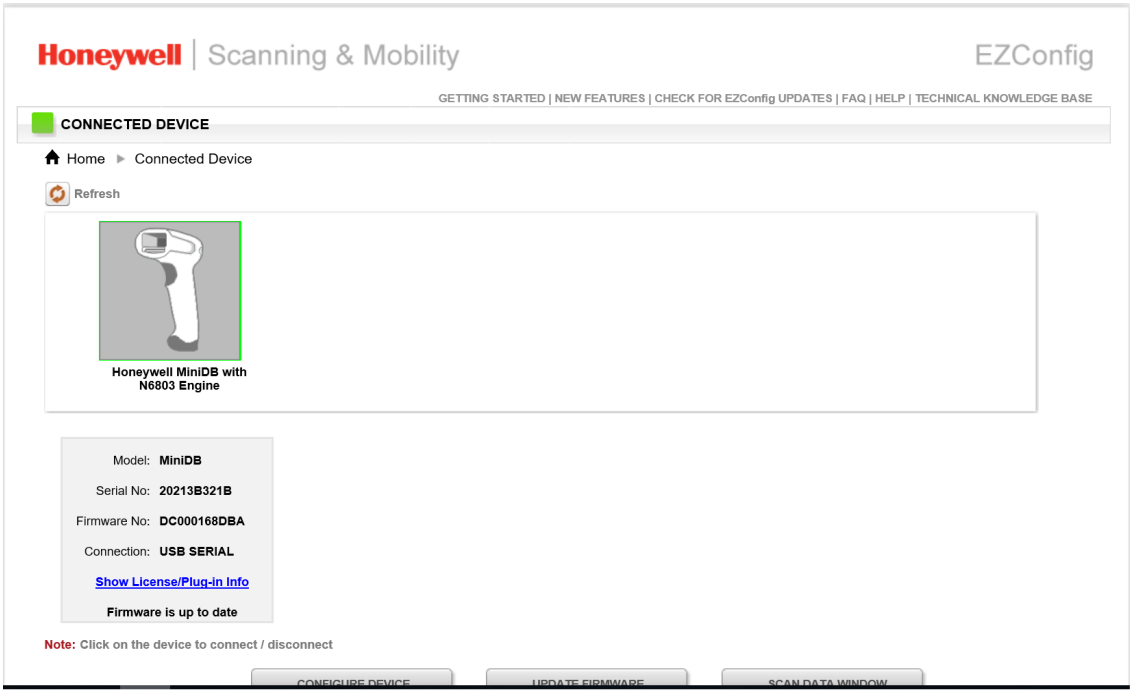
Raw Bar Code Type Values

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)

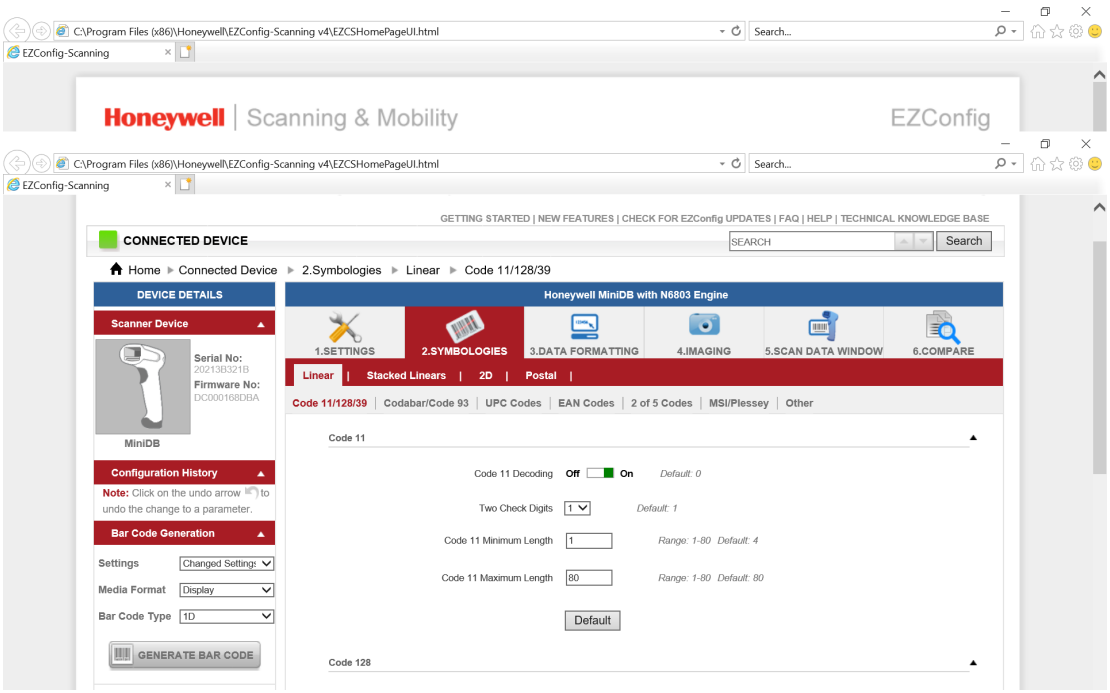
Configure Bar Code Symbology Settings for Internal Scanner on RT10W

1. From the RT10W desktop, launch the "EZConfig-Scanning v4_IE" utility using the desktop icon.
2. Click the CONNECTED DEVICE button.

3. Click on Honeywell MiniDB with N6803 Engine.



4. Select symbologies and configure the barcode settings.



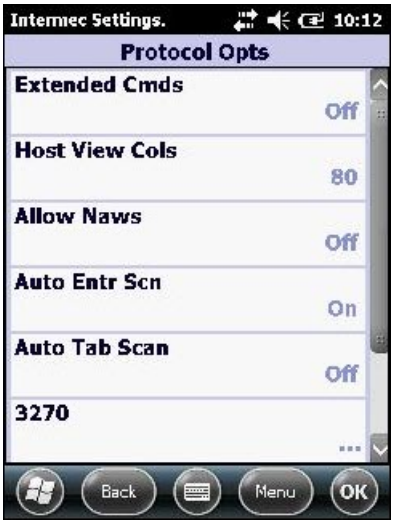
Configure Protocol Options

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 Windows Terminal Emulation main menu in Enterprise Settings. For help, see "To configure WindowsTE directly on the computer" on page 22.
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 Cmds	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 Intermec Terminal Emulation Programmer's Reference Manual.	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 WindowsTE.	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	It 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 the 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.
3270, 5250, VT-ANSI	Settings for each emulation type. For more information, see: • About 3270 Options on page 51. • About 5250 Options on page 49. • About VT/ANSI Options on page 52.	

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 "$" (dollar sign) to the end of its device name to initiate a session with the host. When disabled, the device name is resent to the host, which then sends a FIN packet to the computer, causing the computer to restart. This continues until the device's name is no longer in use.	Enabled or Disabled. Default is Enabled.
Beep on Error	Determines if the beeper beeps when there is an error.	Enabled or Disabled. Default is Disabled.
Destructive BS	Enables or disables the destructive backspace key. When enabled, the backspace key removes (deletes) any previously keyed data characters. When disabled, the backspace key goes back to one character, but does not delete that character.	Enabled or Disabled. Default is Disabled.
Device Name	Physical name for a device. Allowable values include all uppercase and lowercase alphanumeric characters, wildcards, pound symbols (#), dollar signs ($), 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: • %I1, %I2, %I3, %I4 return the 1st through 4th octets of the IP address. %1x returns the entire IP address. • %M1, %M2, %M3, %M4, %M5, %M6 return the 1st through 6th parts of the MAC address. %Mx returns the entire MAC address. • %S0, %S1, %S2, %S3, %S4, %S5, %S6, %S7, %S8, %S9, %SA return the 1st through 11th digits of the computer serial number. %Sx returns the entire serial number.	The range is 1 to 30 characters. The default is none.
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

5250 Protocol Options

Option	Description	Value
Hide SISO Chars	Enabling this option prevents WindowsTE from showing a blank space when the application receives a Shift-In (SI) or Shift-Out (SO) character. When this is enabled, WindowsTE 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 scree, 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, WindowsTE 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, WindowsTE 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, WindowsTE 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	When enabled, if your current device name returns an error, then the computer appends a "$" (dollar sign) to the end of its device name to initiate a session with the host. When disabled, the device name is resent to the host, which then sends a FIN packet to the computer, causing the computer to restart. This continues until the device's name is no longer in use.	Enabled or Disabled. Default is Enabled.
Any Auto Enter	When enabled, an automatic Enter occurs when a reverse video attribute field is filled by keying or scanning data. Any extra scanned data is discarded. When disabled, the screen waits for the user to press the AID key before sending data back to the host.	Enabled or Disabled. Default is Disabled.
BRT Auto Enter	When enabled, if the last field on a screen has the reverse video attribute set, then when that field is exactly filled, WindowsTE automatically sends the data for this screen back to the host with an "Enter AID" code. When disabled, the screen waits for the user to press the AID key before sending data back to the host.	Enabled or Disabled. Default is Disabled.
3270 Device Name	Physical name for a device. Allowable values include all uppercase and lowercase alphanumeric characters, wildcards, pound symbols (#), dollar signs ($), 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: • %I1, %I2, %I3, %I4 return the 1st through 4th octets of the IP address. %1x returns the entire IP address. • %M1, %M2, %M3, %M4, %M5, %M6 return the 1st through 6th parts of the MAC address. %Mx returns the entire MAC address. • %S0, %S1, %S2, %S3, %S4, %S5, %S6, %S7, %S8, %S9, %SA return the 1st through 11th digits of the computer serial number. %Sx returns the entire serial number.	The range is 1 to 30 characters. The 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

Option	Description	Value
Enable TN3270E	When enabled, WindowsTE emulates an IBM 3278-2-E terminal. If 3270 Use Color is also enabled, WindowsTE emulates an IBM-3279-3-E terminal. When disabled, WindowsTE 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, WindowsTE emulates an IBM-3279-3 terminal and accepts Start Field Extended and Set Buffer commands, which contain color data. When disabled, WindowsTE 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 55.	The range is 0 to 50 characters. The 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

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 56.	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 key's face are generated.	**Numeric** or **Application**. The 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**. The default is **VT340**.
Terminal Mode	Sets the terminal mode to 7-bit or 8-bit.	**7-Bit** or **8-Bit**. The 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 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. If you selected Screen mode before starting WindowsTE, the Mode key will toggle between Character and Screen mode.	On or Off. Default is Off.
Send XON	When enabled, when a 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

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. The 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. The **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 a **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 56.	

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. The 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> <EM> <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.
%Ix	entire IP address.
%M1, %M2, %M3, %M4, %M5, %M6	1st through 6th part of MAC address.
%Mx	entire MAC address.
%S0, %S1, %S2, %S3, %S4, %S5, %S6, %S7, %S8, %S9, %SA	1st through 11th position of computer serial number.
%Sx	entire computer serial number.
%@xxxxx	Where xxxxx is the field to be read from the pdb.ini file. The pdb.ini file is located in the Flash File Store on all devices and in the system folder for CV41.

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, nothing changes.
- If the character is between 0xc0 and 0xfd, 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, 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), 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

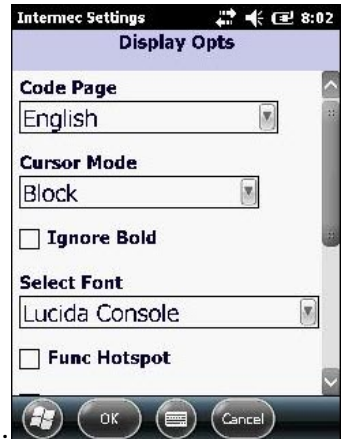
Select WindowsTE Fonts and Screen Behaviors

You can select the WindowsTE 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 Windows Terminal Emulation main menu in Enterprise Settings. For help, see "To configure WindowsTE directly on the computer" on page 22.
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 59.	English (Default) Cyrillic Central Europe Hebrew Greek Latin 2 Turkish Cyrillic Win Arabic K018_R_Russian
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.
Select Font	Sets the font for the WindowsTE screens.	Lucida Console (Default) Courier New Courier New Bold Courier New Bold Italic

Display Options

Option	Description	Value
Func Hotspot	When enabled, WindowsTE 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. If this is enabled but is not recognized on a double-click, 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. If this is enabled but is not recognized on a double-click, then the computer emits an error beep.	Enabled or Disabled. Default is Disabled.
Prompt on Reconnect	When enabled, a screen will appear prompting the user to press a key before WindowsTE reconnects to the host. This action reduces network traffic when the host is down and allows other sessions to function while this session is disconnected.	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 WindowsTE 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: • 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	
K018_R_Russian	878	
Latin 2	8859-2	Displays text in Latin.
Turkish	1254	
Vietnamese	1258	For all of the Vietnamese characters to display, you need to change the default font from Lucinda Console to Courier New.
Western Europe	1252	

If you are running the 3270 or 5250 emulations that display characters in EBCDIC, additional requirements may be necessary to display the fonts in your selected language correctly. For more information, see "Customize 5250 EBCDIC to ASCII Translation" on page 115.

Configure WindowsTE Screen Sizes and Colors

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

To configure screen size and colors

1. Open the Windows Terminal Emulation main menu in Enterprise Settings. For help, see "To configure WindowsTE directly on the computer" on page 22.
2. Tap **Session 1**, **Session 2**, **Session 3**, or **Session 4**. The list of configuration items for that session appears.

3. Tap **LCD Parms**.

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

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

LCD Parms Settings

Setting	Description	Values
Screen Rows	Number of rows that display onscreen.	8 to 21: CK3, CN50, 8 to 24: CK70, CK71, CN70 8 to 27: CV31, CV41, CV61, VM3, RT10W
Screen Cols	Number of columns that display onscreen.	10 to 32: CK3, CN50, 10 to 80: CK70, CK71, CN70 10 to 132: CV31, CV41, CV61, VM3, RT10W

LCD Parms Settings

Setting	Description	Values
Alt Screen Sizes	Defines alternate screen sizes that allow you to quickly change from one size of the 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: • 14 for CK3, CN50, • 16 for CK70, CK71, CN70, CV31, CV41, CV61, VM3, RT10W Alt1 Screen Cols: • 24 for CK3, CN50 • 25 for CK70, CK71, CN70, CV31, CV41, CV61, VM3, RT10W Alt2 Screen Rows: • 16 for CK3, CN50 • 18 for CV31, CV41, CV61, VM3, RT10W Alt2 Screen Cols: • 28 for CK3, CN50 • 30 for CK70, CK71, CN70, CV31, CV41, CV61, VM3, RT10W Alt3, Alt4, and Alt5 Screen Rows: 0 Alt3, Alt4, and Alt5 Screen Cols: 0
Screen Mode	Configures how the cursor positions itself on display. For more information, see "About Screen Mode" on page 63.	Center Cursor Corner Mode (Default) Page Mode Lazy Mode Locked Mode
X Origin	Sets the X origin of the computer display.	0 to 79. The default is 0.
Y Origin	Sets the Y origin of the computer display.	0 to 23. The 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, CN50, CN70 only) or Stealth (CV31, CV41, CV61, VM3, RT10W only).

LCD Parms Settings

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. The default is 8.
Define Width	Width of the scroll window.	1 to 80. The default is 8.
Foreground RGB	Configures the text color in RGB values.	Red: 0 to 255. Green: 0 to 255. Blue: 0 to 255. The 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	The 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 CRT screen boundary, an error tone sounds, and the cursor does not wrap to the next line in the display.
Corner Mode (default)	The 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. The cursor remains there as data advances in the scrolled direction (up, down, right, or left). On reaching a full CRT screen boundary, the display and cursor move in the scrolled direction. The 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.
Page Mode	Divides the full CRT screen into predefined “pages” and starts the computer display on page 1. The 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. 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.
Lazy Mode	The 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.
Locked Mode	The 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.

Move the WindowsTE 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 Windows Terminal Emulation main menu in Enterprise Settings. For help, see "To configure WindowsTE directly on the computer" on page 22.
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.*

Move 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 Windows Terminal Emulation main menu in Enterprise Settings. For help, see "To configure WindowsTE directly on the computer" on page 22.
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.

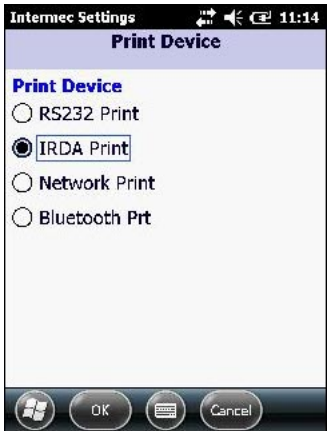
Note: *Focus via Touch Panel is ignored if Copy/Paste is enabled.*

Select 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 Windows Terminal Emulation main menu in Enterprise Settings. For help, see "To configure WindowsTE directly on the computer" on page 22.
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 Honeywell computer.*

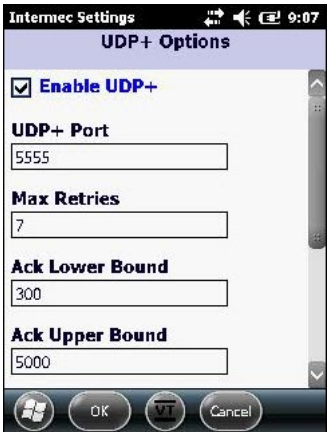
4. Select one of the options:
   - Tap **RS232 Print** for the RS-232 print driver. This setting is the default for the CV31, CV41, and CV61.
   - (CK70, CK71, CN70 only) Tap **IRDA Print** or press **2** to select an IrDA printer connection.
   - Tap **Network Print** to select a network printer.
   - Tap **Bluetooth Prt** to select the current Bluetooth printer. This setting is the default for the CK3, CK70, CK71, CN50, and CN70 computers.
5. Tap **OK** to save your changes and return to the **LCD Parms** 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, WindowsTE 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 "Configure a TCP/IP Connection" on page 25.

Configure for UDP Plus

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

1. Open the Windows Terminal Emulation main menu in Enterprise Settings. For help, see "To configure WindowsTE directly on the computer" on page 22.
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.	The range is 0 to 65535. The default is 5555.
Max Retries	The maximum number of times to retry the connection before starting the watchdog timer.	The range is 1 to 99. The default is 7.
WD Rcv Timeout	After the maximum number of retries is reached, this is the amount of time that WindowsTE waits before closing the connection when receiving.	The range is 1 to 3600 ms. The default is 45.
WD Send Timeout	After the maximum number of retries is reached, this is the amount of time that WindowsTE waits before closing the connection when sending.	The range is 1 to 3600 ms. The default is 20.
Ack Lower Bound	Amount of time that WindowsTE waits before expecting an acknowledgment.	The range is 200 to 2000 ms. The default is 300.
Ack Upper Bound	Amount of time that WindowsTE waits when expecting an acknowledgment.	The range is 2000 to 60000 ms. The default is 5000.

Note: *UDP Plus settings must be identical to those set in the SPS. Honeywell 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 Windows Terminal Emulation main menu in Enterprise Settings appears.
6. In the Windows Terminal Emulation 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**, **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 WindowsTE is unable to connect to Server A before the disconnect timer expires, WindowsTE 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 "Configure WindowsTE for SSL" on page 30.	
Disconnect Val	When the WindowsTE client is disconnected from its initial controller, this value sets the number of 10-second intervals that the WindowsTE client waits before it attempts to connect to a secondary controller (if one is defined).	0 to 255. The 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 28.	The default is USB.
Charset	Sets the graphic character set. or more information, see "About the Keyboard Type, Charset, and Code Page Options" on page 28.	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 28.	037

UDP Plus - Server Configuration Item Descriptions

Item	Description	Values
Printer Address	IP address of the network printer. You must select Network Print in the Print Device parameter.	None.
Printer Port	Port number the WindowsTE uses to communicate with the printer. You must select Network Print in the Print Device parameter.	0 to 65535. The 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.

Use 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 WindowsTE 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 WindowsTE screen appears, and WindowsTE sends the data to the host.

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

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 Windows Terminal Emulation main menu in Enterprise Settings. For help, see "To configure WindowsTE directly on the computer" on page 22.
2. Tap **OOR Monitor**.
3. Select the OOR Monitor check box and then tap **OK**.

Configure Scan Control Settings

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

1. Open the Windows Terminal Emulation main menu in Enterprise Settings. For help, see "To configure WindowsTE directly on the computer" on page 22.
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, WindowsTE uses the Barcode Parms section's symbology parameters on a per-session basis. When disabled, symbology parameters configured in the Barcode Parms section of Enterprise Settings are ignored, and instead WindowsTE uses the settings from the Data Collection section of Enterprise Settings.	On or Off.
Use Wedge Mode	When enabled, all scanned data comes into WindowsTE from the system Virtual Wedge per the Virtual Wedge settings, as if the scanned bar code data was typed into the keyboard. The following WindowsTE specific scanning options are disabled: • 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 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 Enterprise Settings on the computer.	On or Off.
No ScanAhead	When enabled, No ScanAhead prevents Bluetooth scanners from scanning ahead until the host sends a scanner to 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 WindowsTE main menu in Enterprise Settings without making any changes.

Configure Access to WindowsTE

You can choose the ways to access WindowsTE and how it operates, including control of password input, configuration menus in Enterprise 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 CV31, CV41, and VM3 WEC7, where this feature is enabled by default), and WindowsTE 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, WindowsTE switches to a normal Windows display with an accessible system taskbar. This option applies to all sessions.

Note: *Depending on the Menu Settings list's items, you may still be able to access the Windows Start menu even though WindowsTE is running in lockdown mode. For more information, see "Select Items for the Menu Button" on page 80.*

Enable the Configuration Menu Password

By default, you do not need to enter a password to access the WindowsTE 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 "Configure Options for Each Session" on page 24.

Enable License Check-Out

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

Note: *License check-out is not supported on the RT10W or VM3 computers.*

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

You can disable license check-in if:

- You want to assign one license to each computer running WindowsTE, 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 WindowsTE license check-out

1. Open the Windows Terminal Emulation main menu in Enterprise Settings. For help, see "To configure WindowsTE directly on the computer" on page 22.
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 WindowsTE main menu without enabling license check-in.

For general information on WindowsTE licensing, see "About WindowsTE Licensing" on page 3.

Configure the WindowsTE Toolbar

When WindowsTE 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.

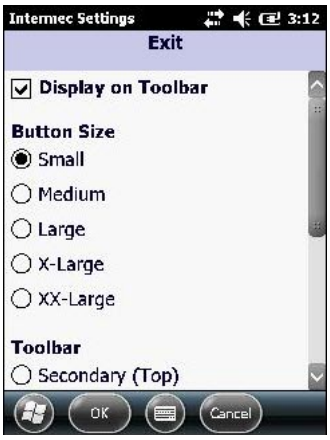
To configure the toolbar

1. Open the Windows Terminal Emulation main menu in Enterprise Settings. For help, see "To configure WindowsTE directly on the computer" on page 22.

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	Sets the size of the button or icon (some cannot be resized): • 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	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. 1 blank space = width of a small button.
Session Name	Sets the name of the session.

Note: *Because there is a limit to the number of buttons and icons you can view in the toolbar, 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)
	 The battery is charging.
	 The battery is charged and computer is on external power.
	 The battery is fully charged (approximately 66% to 100%).
	 The battery is about half charged (33% to 66%).
	 The 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 WindowsTE. The size of this button is adjustable.
Hebrew Mode 	Indicates that WindowsTE 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 	The keyboard inserts characters instead of overwriting them. When this icon is enabled, it appears in the Toolbar when WindowsTE is in Insert mode.
Enterprise Browser 	Tap to run the Enterprise Browser application. The size of this button is adjustable.

Toolbar Button and Icon Descriptions

Name	Description
Keyboard Status 	Indicates Shift key, CTRL key, ALT key, and Caps Lock status. • 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 WindowsTE is in Keypad mode.
Mail Waiting 	This indicates that the email addressed to this computer is available.
Menu Settings 	Tap to access the configuration menus. For more information, see "Select Items for the Menu Button" on page 80. The size of this button is adjustable.
Reader State	Shows the status of an associated RFID reader. The size of this button is adjustable.
	 CK3, with IP30, or CV31, CV41, or CV61 with IF4 or IV7: Valid socket connection to the data collection engine exists.
	 CK3 with IP30: The reader trigger state is set to scan.
	 CK3 with IP30, or CV31, CV41, or CV61 with IF4 or IV7: No socket connection or there is a communication error between the computer and the 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.
	 The session is connected to the host and active.
	 The session is connected to the host but not active.
	 The session is configured but not connected to the host.
	 The session is not configured and not connected.

Toolbar Button and Icon Descriptions

Name	Description
Session 1 Name, Session 2 Name, Session 3 Name, Session 4 Name	Configure the parameters for the session name button on the WindowsTE toolbar. When you press the Session name button, you will go to that session on the mobile computer. • The Small button allows you to display a session name of 4 characters. • The Medium button allows you to display a session name of 8 characters. • The Large button allows you to display a session name of 16 characters. • The XLarge button is double high and allows a session name of 8 characters. • The XXLarge button is double high and allows a session name of 16 characters. If the session name is longer then the size that will fit on the button, the middle characters of the session name will appear on the toolbar.
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 computer has an EAxx imager, this feature lets you use the imager to capture high-quality greyscale images. If the computer has a camera, this feature lets you take high-quality color pictures. For more information, see "Use the Snapshot Feature" on page 83. The size of this button is adjustable. For information on using the imager or camera, see the computer user manual.
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.

Toolbar Button and Icon Descriptions

Name	Description
Transmission Mode	Shows the current transmission mode. For more information, see "Transmission Mode" on page 18.
	 Character Edit mode  Line Edit mode  Local Edit mode
Trusted App 	Tap to run your trusted application. For more information, see "Enable a Trusted Application" on page 87. The size of this button is adjustable.
VOIP 	Tap to launch an installed voice application. For more information, see "Use Voice over IP" on page 81.
Volume	Tap to turn the computer audio volume up or down as needed for your work environment. When you tap a Volume button, WindowsTE plays the default error sound at the new volume. You can set the volume to one of six levels.
	 Volume down  Volume up

Select 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 Windows Terminal Emulation main menu in Enterprise Settings. For help, see "To configure WindowsTE directly on the computer" on page 22.
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
Enterprise Settings	Launches the Enterprise Settings application. Requires password input if selected. The default password is cr52401.
Peripherals Test	Determines whether Peripherals Test appears in the list of options when you press the menu button on the WindowsTE toolbar. When you add Peripherals Test, pressing the option opens the peripherals test screen where you can run either key tests or scan tests. The default setting is Enabled.
About	Determines whether About appears in the list of options when you press the menu button on the WindowsTE toolbar. When you add About, pressing the options opens the version info screen. The default setting is Enabled.
Reset Session	Determine whether Reset Session appears in the list of options when you press the WindowsTE toolbar's menu button. When you select Reset Session, your current host connection is reset. The default setting is Disabled.

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.
SIP Toggle	Displays or hides the on-screen keyboard.
Session Menu	Opens the Switch Session menu.
Session 1, 2, 3, 4	Launches the selected session.

About Lockdown Mode and Accessing the Windows Start Menu

Although WindowsTE is locked down by default, users can still access the Windows Start menu through Enterprise 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, we recommend that you not add these items to the Menu Button options.

Enable the WindowsTE Exit Password

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

To enable and set the WindowsTE exit password

1. Open the Windows Terminal Emulation main menu in Enterprise Settings. For help, see "To configure WindowsTE directly on the computer" on page 22.
2. Tap Exit Password.
3. Enter a string of up to 10 characters for the exit password. The default is cr52401 (identical to the configuration password).
4. Tap **OK**.

Use Voice over IP

WindowsTE 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 WindowsTE Toolbar. For more information, see "Configure the WindowsTE Toolbar" on page 73.

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

Use WindowsTE 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, WindowsTE 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 WindowsTE is running, HipVoice momentarily comes to the foreground, and then control is returned to WindowsTE.*

To return control back to Enterprise TE, tap **Start > Enterprise TE**.

Use WindowsTE with iTalkie

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

You can also select the silent interface to keep iTalkie running in the background as you use WindowsTE. 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, WindowsTE 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 WindowsTE while you are on 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.

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 filename 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 Message Text	Description
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.

Use the Snapshot Feature

Note: *This section is not applicable to RT10W and VM3.*

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 WindowsTE toolbar. For help, see "Configure the WindowsTE Toolbar" on page 73.

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

To capture images with SnapShot

1. In the WindowsTE 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.

2. Center the subject in the streaming video frame, and tap or press **Enter** to capture the image. The captured image appears on the screen

.

3. Tap or press Enter to accept the image or tap or **Backspace** to reject the image. By default, images are saved to the \My Documents\My Pictures directory on the computer.

4. To exit Snapshot and return to WindowsTE, tap or press **Esc**. Or, to send images to the host, continue with the next procedure.

To send images to the host

1. Tap the Menu button and then tap **Send Photos**.
2. In the image list, select the check box for each image you want to send to the host. You can also tap **Select All**. By default, none of the images are selected.
3. Tap  or press **Enter**. The files are sent to the host.

To delete files from the image directory

1. Tap the Menu button and then tap **Send Photos**.
2. In the image list, check the check box for each file you want to delete. You can also tap **Select All**.
3. Tap  to delete the images.
4. Tap Yes when asked to confirm that you want to delete the files.
5. Tap  to return to the Snapshot streaming video.

Configure SnapShot Image Settings

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

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

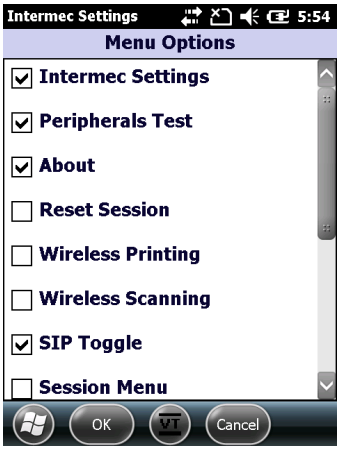
Configure SnapShot Settings

You can configure these SnapShot settings:

- The folder in which captured images are saved
- Host IP or DNS where image files are sent
- Username and password
- Port
- Image resolution and image type
- Enable filename prefix
- Filename delimiter
- Remove filename extension
- Snapshot key launch and file name

To configure SnapShot settings

1. Open the Windows Terminal Emulation main menu in Enterprise Settings. For help, see "To configure WindowsTE directly on the computer" on page 22.
2. Tap **SnapShot Parameters**.



3. 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. The default is null.
Snap Username	User name required for access to the host. Value is a text string from 1 to 21 characters. The default is null.
Snap Password	Password required for access to the host. Value is a text string from 1 to 21 characters. The default is null.
Port	Port number for the host. The range is 0 to 65535. The 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.
Enable File Name Prefix	Enables or disables an option for allowing a custom filename for images taken by SnapShot. When enabled, you will be prompted to enter a custom name. When disabled, the default filename will be used. Default is Disabled.
Filename Delimiter	Configures the character to use as a delimiter for filenames you create while using SnapShot. The default is null.
Remove File Name Extension	Enables or disables the ability to see the filename extension. The default is Disabled.

SnapShot Parameter Descriptions

Setting	Description
Snapshot Key Launch	Sets the key that launches the Snapshot application. You can set the launch key to Disabled, Escape, or F1 through F24. When set to Disabled, you can only launch the Snapshot application from the WindowsTE toolbar. The default is Disabled.
Snapshot File Name	Creates a filename for SnapShot pictures. Values for the filename can be a string from 0 to 200 characters. The default is NULL. When the value is left in the default state, the Snapshot pictures are stored with the filename of P_Serial Number_IP adress_Timestamp If you type a filename, WindowsTE will use that name to store the file. To allow unique filenames, WindowsTE supports wildcards of:
	%S substitutes the first through 11th digits of the computer serial number. Use %Sx, to substitute the entire serial number. %I substitute the 1st through 4 octets of the IP address. Use %Ix to substitute the entire IP address where the period (.) is changed to an underscore (_). %M substitutes the 1st through 6th parts of the MAC address. Use %Mx to substitute the entire MAC address. %C for a counter. %T for a timestamp.
	For example, abc%Sxdef_%C will change the name to be abcSerial#def_counter.

Enable a Trusted Application

When WindowsTE is running, it functions as a locked-down application, which means 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.

Note: *If you want to run both WindowsTE and Launcher for Windows on your computer, you need to configure ITCShell.exe or ITCShell_FF.exe as the Trusted App and set Launcher to Auto Start.*

To enable a trusted application

1. Open the Windows Terminal Emulation main menu in Enterprise Settings. For help, see "To configure WindowsTE directly on the computer" on page 22.
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 WindowsTE main menu, or tap **Cancel** to return to the WindowsTE main menu without saving any changes.

Set the COM Port (CV31, CV41, and CV61 only)

If you are running WindowsTE on the CV31, CV41, CV61, or VM3 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

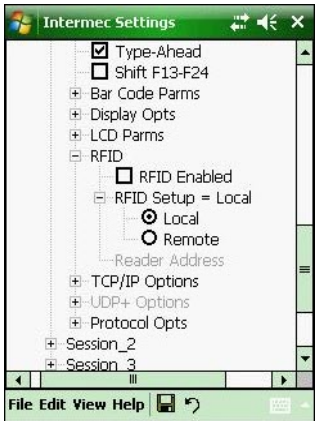
1. Open the Windows Terminal Emulation main menu in Enterprise Settings. For help, see "To configure WindowsTE directly on the computer" on page 22.
2. Tap **Session 1**, **Session 2**, **Session 3**, or **Session 4**. The list of configuration items for that session appears.
3. Tap **Com Select**.
4. 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 WindowsTE main menu without saving any changes.

Connect 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 Windows Terminal Emulation main menu in Enterprise Settings. For help, see "To configure WindowsTE directly on the computer" on page 22.
2. Tap RFID.



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

3. 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, WindowsTE searches for an RFID reader. The default is disabled.
RFID Setup	Determines the connection type your computer uses to connect to the RFID reader. For the CK3, the default is **Local**. For the CV41, the default is **Remote**.
Reader Address	IP address for the RFID reader. The default is a null string.

CHAPTER

3 CUSTOMIZE YOUR CONFIGURATION

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

- Customize Windows Terminal Emulator
- Use the Auto-Login Feature
- Create a Custom Parameter File
- Preinitialize the WindowsTE Program
- Remap the Computer Keypad
- Implement ITCColor.dat Attribute Colors
- Customize 5250 EBCDIC to ASCII Translation

Customize Windows Terminal Emulator

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

Note: *Config.dat files are no longer supported. If you have a te_settings.ini file on your computer, it will be renamed to te_settings.old and then converted to a te_settings.exm file.*

Use 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 WindowsTE, the computer checks for an autologin script file. If a script file exists, the computer runs the login commands from the auto-login script file before WindowsTE 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.

Develop 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 97.

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 WindowsTE 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.

Use 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>"
```

Use 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
<DEL>	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
<DEL>	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 or Character mode/ Screen 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
<DC2>	Device Control 2	<NUL>	Null, or all zeros
<DC3>	Device Control 3 (XOFF)	<RS>	Record Separator
<DC4>	Device Control	<RTAB>	Right Tab
<DEL>	Delete	<SI>	Shift In
<DLE>	Data Link Escape	<SO>	Shift Out
<EM>	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

Load 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.exm, or cfglit.dat) are executed, you need to copy the files to the directory where the WindowsTE 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.

Disable 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.

Restart 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, "Use the Computer Keypad." If Code 39 Full ASCII is enabled on the computer, you can also scan the following bar code:

Auto-Login Restart

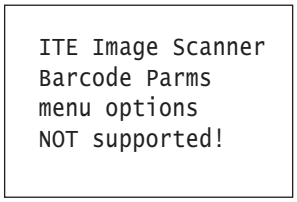
%ALRS

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

Create a Custom Parameter File

At startup, WindowsTE uses parameter settings found in the te_settings.exm 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 WindowsTE configuration menus.

Note: *Currently, we do not support the imager through 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 WindowsTE on your Honeywell computer, tap* ***OK*** *to close the message.*



TE_Settings.exm Configuration

`"enable_sip" = 0 or 1`

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

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

This is a GUID (globally unique identifier) identifying the SIP that the WindowsTE 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 WindowsTE created the te_settings.exm file. For example, these values could be:

- program_name = IntermTE
- program_version = 1.0

TE_Settings.exm 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;
  ```

Preinitialize the WindowsTE Program

To preinitialize the WindowsTE 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.

Preinitialize 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:

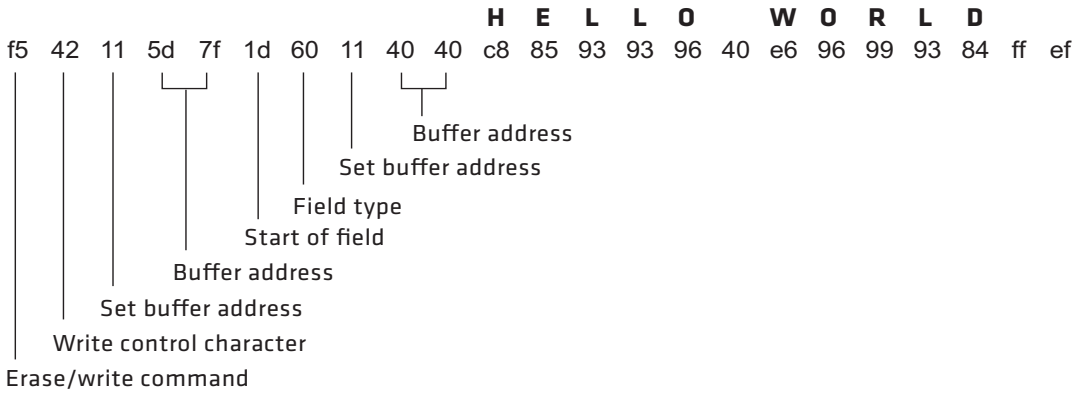
Supported 3270 Commands

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

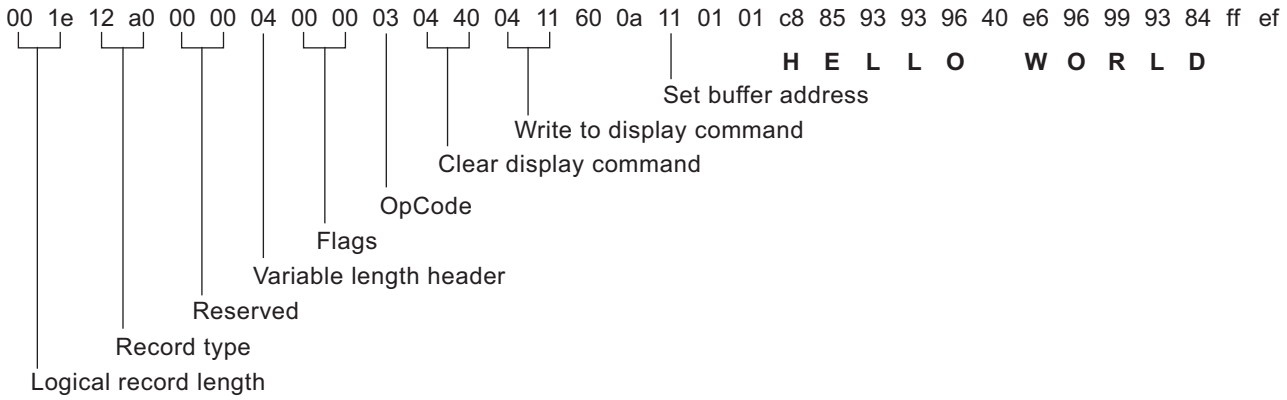
Value	Command	Value	Command
0x07	Beep (Intermec extension)	0x14	Repeat to address
0x09	Program tab	0x1d	Start of field
0x11	Set buffer address	0x1f	Scanner (Intermec extension)
0x12	Erase unsupported to address	0x28	Set attribute
0x13	Insert cursor	0x29	Start field extended

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.



Preinitialize the 5250 Program

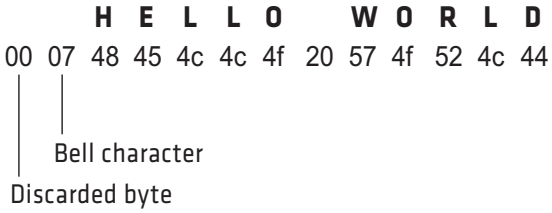
The following example shows how to display “HELLO WORLD” and beep the beeper from within a data stream initialization file. The line of hexadecimal digits represent the binary values that must be stored in the initialization files.



Preinitialize 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.



Remap 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 WindowsTE 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 106“. 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	

Remap 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 106.
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 WindowsTE 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
```

Create 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 WindowsTE 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.

Remap 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 "String Code Table" on page 110.

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)*/
```

Remap Displayed Characters

You can use display character translation files to remap characters as they are written to the display. The translation file name for WindowsTE 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	~	ß
C0	{	â
D0	}	ü
E0	\	Ö

Implement ITCColor.dat Attribute Colors

You must name the file ITCColor.dat and you may place this where the other WindowsTE configuration files are placed for discovery by the WindowsTE 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 (0x00bbggrr). 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
12345678901234567890123456789012345678901234567890123456789012345678901234567890
=================================================================================
  ; 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 0x007ffff7   ;Back   Bold    Blink   Underline
```

Customize 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.

Create 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.
-vVerbose * 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

/* ASCIIIndexValueAnything after 'Value' is a comment
```

```
/* A0x300xF0ASCII '0' returns EBCDIC '0'
/* E0xF00x30EBCDIC '0' returns ASCII '0'
/* E0xC90x3FUnknown 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 "Display EBCDIC Non-English Code Pages" on page 116**.*

Display 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 Create the Custom EBCDIC_ASCII Translation Table on page 115.

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	º		¢	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	V	5
-6	ã	î	Ã	Î	f	o	w	¶	F	O	W	6
-7	å	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	¡	¬	-	1	2	3
-B	.	Í	,	Ö	»	ö	¿	|	ô	û	Ô	Û
-C	<	*	%		}	æ	]	-	~	\	#	¨
-D	(	)	_	·	`	,	$	¨	ò	ù	Ò	Ù
-E	+	;	>	=	|	Æ	@	'	ó	ú	Ó	Ú
-F	!	^	?	Ü	±	¤	®	×	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)	º	À		à	
-1			!	1	A	Q	a	q			¡	±	Á	Ñ	á	ñ
-2			¨	2	B	R	b	r	,	'	¢	2	Â	Ò	â	ô
-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		1	|			¬	¼	Ì	Û	ì	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
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

Default Translation Tables – Code Page 1250 or 1252

Code Page	Keyboard Type	Modify This Translation Table
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
1258	VNB (Vietnamese)	ascebvtn.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.euvmo00%2Feuva3a00742.htm.

Translation Table

ASCEB0GR.TBL

E 0x42 0xe2
E 0x43 0x7b
E 0x44 0x20
E 0x45 0xe1
E 0x46 0x20
E 0x47 0x20
E 0x48 0xe7
E 0x49 0x20
E 0x4a 0xc4
E 0x4b 0x2e
E 0x4c 0x3c
E 0x4d 0x28
E 0x4e 0x2b
E 0x4f 0x21
E 0x50 0x26
E 0x51 0xe9
E 0x52 0x20
E 0x53 0xeb
E 0x54 0x20
E 0x55 0xed
E 0x56 0xee
E 0x57 0x20
E 0x58 0x20
E 0x59 0x7e
E 0x5a 0xdc
E 0x5b 0x24
E 0x5c 0x2a
E 0x5d 0x29
E 0x5e 0x3b
E 0x5f 0x5e
E 0x60 0x2dE
0x67 0x20
E 0x68 0xc7
E 0x69 0x20
E 0x6a 0xf6
E 0x6b 0x2c
E 0x6c 0x25
E 0x6d 0x5f
E 0x6e 0x3e
E 0x6f 0x3f
E 0x70 0x20
E 0x71 0xc9
E 0x72 0x20
E 0x73 0x20
E 0x74 0x20
E 0x75 0xe5
E 0x76 0xce
E 0x77 0x20
E 0x78 0x20
E 0x79 0x91
E 0x7a 0x3a
E 0x7b 0x23
E 0x7c 0xa7
E 0x7d 0x27
E 0x7e 0x3d
E 0x7f 0x22
E 0x80 0x20
E 0x8a 0x20
E 0x8b 0x20
E 0x8c 0x20
E 0x8d 0xfd
E 0x8e 0x20
E 0x8f 0x20
E 0x90 0xb0
E 0x9a 0x20
E 0x9b 0x20
E 0x9c 0x20
E 0x9d 0x2c
E 0x9e 0x20
E 0x9f 0xa4
E 0xa0 0xb5
E 0xa1 0xdf
E 0xaa 0x20
E 0xab 0x20
E 0xac 0xd0
E 0xad 0xdd
E 0xae 0x20
E 0xaf 0xae
E 0xb0 0x20
E 0xb1 0x20
E 0xb2 0x20
E 0xb3 0xb7
E 0xb4 0xa9
E 0xb5 0x40
E 0xb6 0x20
E 0xb7 0x20
E 0xb8 0x20
E 0xb9 0x20
E 0xba 0xac
E 0xbb 0x7c
E 0xbc 0x20
E 0xbd 0x20
E 0xbe 0x92
E 0xbf 0xd7
E 0xc0 0xe4
E 0xca 0xad
E 0xcb 0xf4
E 0xcc 0x7c
E 0xcd 0x20
E 0xce 0xf3
E 0xcf 0x20
E 0xd0 0xfc
E 0xda 0x20
E 0xdb 0x20
E 0xdc 0x7d
E 0xdd 0x20
E 0xde 0xfa
E 0xdf 0x20
E 0xe0 0xd6
E 0xe1 0xf7
E 0xea 0x20
E 0xeb 0xd4
E 0xec 0x5c
E 0xed 0x20
E 0xee 0xd3
E 0xef 0x20
E 0xfa 0x20
E 0xfb 0x20
E 0xfc 0x5d
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 0x43 0xe4
E 0x44 0x20
E 0x45 0xe1
E 0x46 0x20
E 0x47 0x20
E 0x48 0xe7
E 0x49 0x20
E 0x4a 0x20
E 0x4b 0x2e
E 0x4c 0x3c
E 0x4d 0x28
E 0x4e 0x2b
E 0x4f 0x7c
E 0x50 0x26
E 0x51 0xe9
E 0x52 0x20
E 0x53 0xeb
E 0x54 0x20
E 0x55 0xed
E 0x56 0xee
E 0x57 0x20
E 0x58 0x20
E 0x59 0xdf
E 0x5a 0x21
E 0x5b 0x24
E 0x5c 0x2a
E 0x5d 0x29
E 0x5e 0x3b
E 0x5f 0xac
E 0x60 0x2d
E 0x61 0x2f
E 0x62 0xc2
E 0x63 0xc4
E 0x64 0x20
E 0x65 0xc1
E 0x66 0x20
E 0x67 0x20
E 0x68 0xc7
E 0x69 0x20
E 0x6a 0x7c
E 0x6b 0x2c
E 0x6c 0x25
E 0x6d 0x5f
E 0x6e 0x3e
E 0x6f 0x3f
E 0x70 0x20
E 0x71 0xc9
E 0x72 0x20
E 0x73 0x20
E 0x74 0x20
E 0x75 0xe5
E 0x76 0xce
E 0x77 0x20
E 0x78 0x20
E 0x79 0x91
E 0x7a 0x3a
E 0x7b 0x23
E 0x7c 0x40
E 0x7d 0x27
E 0x7e 0x3d
E 0x7f 0x22
E 0x80 0x20
E 0x8a 0x20
E 0x8b 0x20
E 0x8c 0x20
E 0x8d 0xfd
E 0x8e 0x20
E 0x8f 0x20
E 0x90 0xb0
E 0x9a 0x20
E 0x9b 0x20
E 0x9c 0x20
E 0x9d 0x2c
E 0x9e 0x20
E 0x9f 0xa4
E 0xa0 0xb5
E 0xa1 0x7e
E 0xaa 0x20
E 0xab 0x20
E 0xac 0xd0
E 0xad 0xdd
E 0xae 0x20
E 0xaf 0xae
E 0xb0 0x5e
E 0xb1 0x20
E 0xb2 0x20
E 0xb3 0xb7
E 0xb4 0xa9
E 0xb5 0xa7
E 0xb6 0x20
E 0xb7 0x20
E 0xb8 0x20
E 0xb9 0x20
E 0xba 0x5b
E 0xbb 0x5d
E 0xbc 0x20
E 0xbd 0x20
E 0xbe 0x92
E 0xbf 0xd7
E 0xc0 0x7b
E 0xca 0xad
E 0xcb 0xf4
E 0xcc 0xf6
E 0xcd 0x20
E 0xce 0xf3
E 0xcf 0x20
E 0xd0 0x7d
E 0xda 0x20
E 0xdb 0x20
E 0xdc 0xfc
E 0xdd 0x20
E 0xde 0xfa
E 0xdf 0x20
E 0xe0 0x5c
E 0xe1 0xf7
E 0xea 0x20
E 0xeb 0xd4
E 0xec 0xd6
E 0xed 0x20
E 0xee 0xd3
E 0xef 0x20
E 0xfa 0x20
E 0xfb 0x20
E 0xfc 0xdc
E 0xfd 0x20
E 0xfe 0xda

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.euvmo00%2Feuva3a00741.htm.

Translation Table

ASCEB0US.TBL

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

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.euvmo00%2Feuva3a00742.htm.

Translation Table

ASCEBDGR.TBL

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

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.euvmo00%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.euvmo00%2Feuva3a00748.htm.

Translation Table

ASCEBDFR.TBL

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

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.euvmo00%2Feuva3a00744.htm.

Translation Table

ASCEBDFS.TBL

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

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.euvmo00%2Feuva3a00750.htm.

Translation Table

ASCEBDIC.TBL

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

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.euvmo00%2Feuva3a00745.htm.

Translation Table

ASCEBDIT.TBL

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

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.euvmo00%2Feuva3a00741.htm.

Translation Table

ASCEBDUS.TBL

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

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

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

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

Default Translation Tables for Code Page 1258

Keyboard Type

VNB

Character Mapping

IBM code page 1130. For specific character mapping, refer to: http://www-01.ibm.com/support/knowledgecenter/SSEQ5Y_5.9.0/com.ibm.pcomm.doc/reference/html/hcp_reference31.htm.

Translation Table

ASCEBVTN.TBL

E 0x42 0xe2	E 0x5f 0x5e	E 0x7c 0x40	E 0xae 0x20	E 0xcc 0xf6
E 0x43 0xe4	E 0x62 0xc2	E 0x80 0xd8	E 0xaf 0xae	E 0xcd 0xfd
E 0x44 0xe0	E 0x63 0xc4	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 0xf0	E 0xb2 0xa5	E 0xd0 0x7d
E 0x47 0xe5	E 0x66 0xc3	E 0x8d 0x20	E 0xb3 0xb7	E 0xda 0xb9
E 0x48 0xe7	E 0x67 0xc5	E 0x8e 0x20	E 0xb4 0xa9	E 0xdb 0xfb
E 0x49 0xf1	E 0x68 0xc7	E 0x8f 0x87	E 0xb5 0xa7	E 0xdc 0xfc
E 0x4a 0x5b	E 0x69 0xd1	E 0x90 0xba	E 0xb6 0xb6	E 0xdd 0xf9
E 0x4f 0x21	E 0x6a 0xa6	E 0x9a 0xaa	E 0xb7 0xbc	E 0xde 0xfa
E 0x51 0xe9	E 0x70 0xf8	E 0x9b 0xba	E 0xb8 0xbd	E 0xdf 0xff
E 0x52 0xea	E 0x71 0xc9	E 0x9c 0xe6	E 0xb9 0xbe	E 0xea 0xb2
E 0x53 0xeb	E 0x72 0xca	E 0x9d 0x8c	E 0xba 0xac	E 0xeb 0xd4
E 0x54 0xe8	E 0x73 0xcb	E 0x9e 0xc6	E 0xbb 0x7c	E 0xec 0xd6
E 0x55 0xed	E 0x74 0xc8	E 0x9f 0xa4	E 0xbc 0xaf	E 0xed 0xdd
E 0x56 0xee	E 0x75 0xcd	E 0xa0 0xb5	E 0xbd 0x9c	E 0xee 0xd3
E 0x57 0xef	E 0x76 0xce	E 0xa1 0x7e	E 0xbe 0x9f	E 0xef 0xd5
E 0x58 0x20	E 0x77 0xcf	E 0xaa 0xa1	E 0xbf 0xd7	E 0xfb 0xdb
E 0x59 0xdf	E 0x78 0xfe	E 0xab 0xbf	E 0xc0 0x7b	E 0xfc 0xdc
E 0x5a 0x5d	E 0x79 0x91	E 0xac 0xd0	E 0xca 0x96	E 0xfd 0xd9
E 0x5b 0x24	E 0x7b 0x23	E 0xad 0x20	E 0xcb 0xf4	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

APPENDIX

A BAR CODE SCANNING

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

- Scan Bar Codes While Using WindowsTE
- Preamble and Postamble
- Encoded Code 39

Scan Bar Codes While Using WindowsTE

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

- Use the Enterprise Settings application on the computer to enable Code 39 in Full ASCII mode. For help with Enterprise Settings, see the computer user manual.
- Configure WindowsTE symbology settings to enable Code 39 in Full ASCII mode. For help, see "Configure Access to WindowsTE" on page 72“.

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

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/Character mode or Character mode/Screen 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 WindowsTE 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 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

Key Press Sequences for Encoded Code 39

Sequence	Key	Sequence	Key
$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
$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

Key Press Sequences for Encoded Code 39

Sequence	Key	Sequence	Key
%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 . (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)
%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	ì (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.

Override 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.

APPENDIX

B USE THE COMPUTER KEYPAD

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

- About WindowsTE and Computer Keypads
- About the Soft Input Panels
- Use the CK3 Keypads
- Use the CK70 Keypads
- Use the CK71 Keypads
- Use the CN50 Keypads
- Use the CN70 and CN70e Keypads
- Use the CV41 Keypad
- Use VM3 Keyboards
- Use SIPs on the CV41 (Windows Embedded Standard) and CV61

About WindowsTE and Computer Keypads

Honeywell computers include keypad overlays specific to using Windows Terminal Emulator. This section lists keypresses for WindowsTE functionality.

For more information on using the keypad on your Honeywell 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 "Use the CK3 Keypads" on page 164".*

While WindowsTE 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 WindowsTE application goes to full screen.*

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

- Tap Mn on the Shifted keypad to get to the WindowsTE configuration menus.
- Tap Shift to toggle between the Default and Shifted keypads.
- Tap ↘ to toggle between the Function Toggled and Default keypads.
- Tap Cap to use uppercase keys with numbers.
- Tap Cap, then Shift to use lowercase keys with shifted characters.
- Tap ↘ Autolog to enter Auto-Login Restart.

- Tap Mode to toggle between Line Edit (block) mode/Character mode or Character mode/Screen mode.

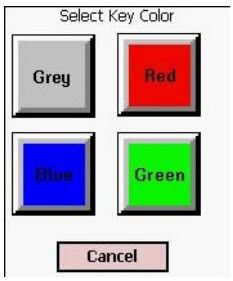
Change the SIP Key Color

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.

Create Custom SIPs

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

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

To switch SIPs

- Follow the procedure described in Configure Options for Each Session on page 24.

3270 Keypads

Default Keypad

Shifted Keypad

Function Toggled Keypad

Caps Locked Keypad

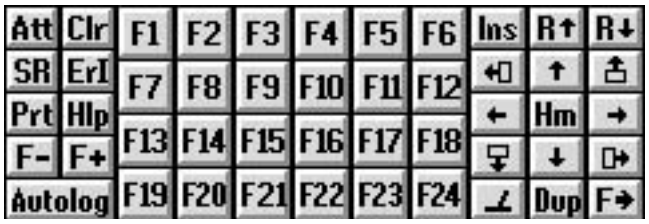
Caps Locked + Shifted Keypad

5250 Keypads

Default Keypad

Shifted Keypad

Function Toggled Keypad



Caps Locked Keypad

Caps Locked + Shifted Keypad

VT/ANSI Keypads

Default Keypad

Shifted Keypad

Function Toggled Keypad

Caps Locked Keypad

Caps Locked + Shifted Keypad

About the SIP Keys

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

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

Cursor and Paging Keys

To Move	3270/5250 Tap the SIP Keys	VT/ANSI Tap the SIP Keys
Window/viewport up		
Window/viewport down		
Window/viewport right		
Window/viewport left		
Page up		
Page down		
Page right		
Page left		
Host cursor up	N/A	
Host cursor down	N/A	
Host cursor right	N/A	
Host cursor left	N/A	

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**

Function and Auxiliary Keys

To Enter	Tap the SIP Key
Caps Lock	**Cap**
Return	**Enter**
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**	- **Erl**	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	F→
Sys Req	- **SR**
¬ (Not symbol)	**Shift** - ¬
Dup (duplicate enabled fields only)	- **Dup**
Field-	F-
Field+	F+
Field Mark	Not supported
Hex	Hex

VT/ANSI Control Keys

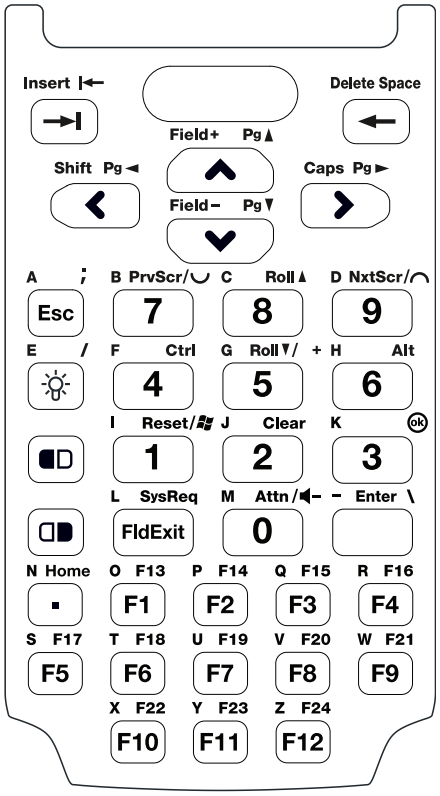
To Enter	Tap the SIP Keys	To Enter	Tap the SIP Keys
SOH	**Ctrl - A**	DC1, X-ON	**Ctrl - Q**
STX	**Ctrl - B**	DC2	**Ctrl - R**
ETX	**Ctrl - C**	DC3, X-OFF	**Ctrl - S**
EOT	**Ctrl - D**	DC4	**Ctrl - T**
ENQ	**Ctrl - E**	NAK	**Ctrl - U**
ACK	**Ctrl - F**	SYN	**Ctrl - V**
BEL	**Ctrl - G**	ETB	**Ctrl - W**
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

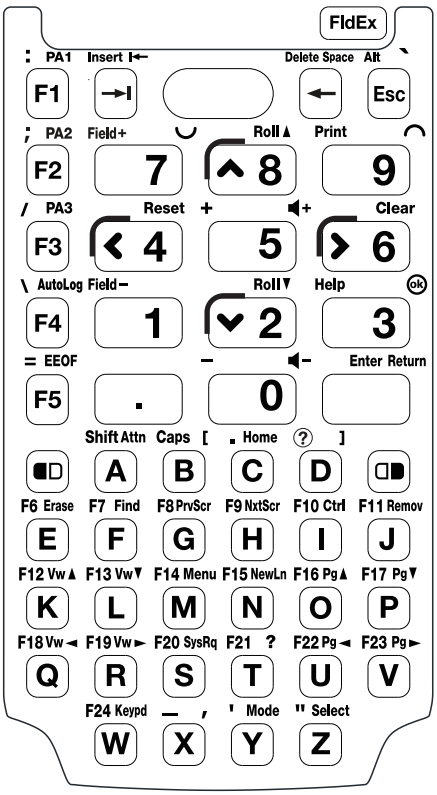
To Enter	Tap the SIP Keys
Access TE configuration menus	**Shift - Mn**
VT/ANSI Transmission Mode: Toggle between Line Edit (block)mode\Character mode and Character mode\Screen mode	**- Mode**

Use the CK3 Keypads

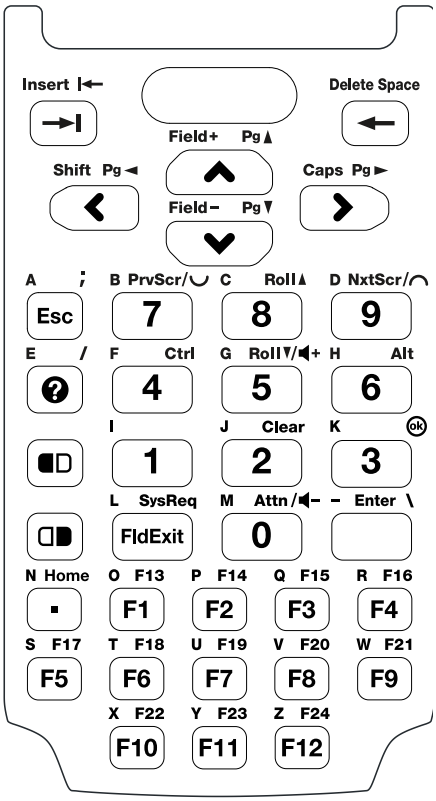
CK3 Alphabetic Keypad



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:

To learn more, refer to the user guide for your device model. User Guides are available from the device product page at www.honeywellaidc.com.

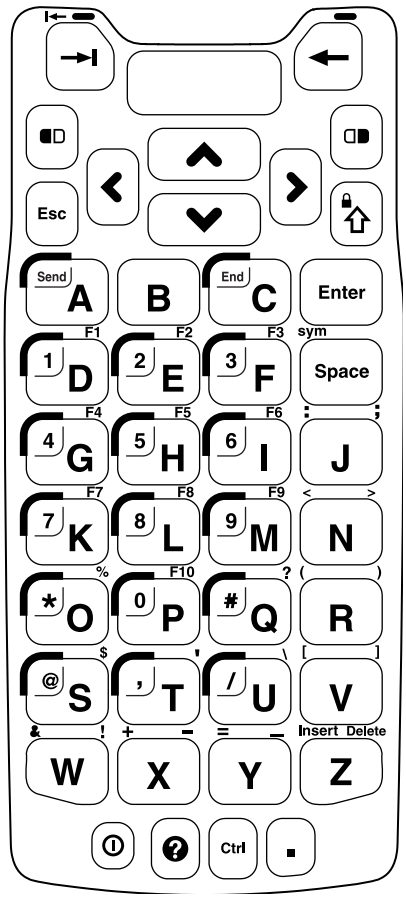
CK3 Function Keys

Function	Alphanumeric Keypad	Numeric Keypad
Back Tab	Blue Tab	Blue Tab
Backspace	Backspace	Backspace
Caps Lock	Blue B	Blue >
Forward Tab	Tab	Tab
Return	N/A	N/A
Shift	Blue A	Blue <
Space	Blue Backspace	Blue Backspace
F1 through F5	F1 through F5	F1 through F5
F6	Blue E	F6
F7	Blue F	F7
F8	Blue G	F8
F9	Blue H	F9
F10	Blue I	F10
F11	Blue J	F11
F12	Blue K	F12
F13	Blue L	Blue F1
F14	Blue M	Blue F2
F15	Blue N	Blue F3
F16	Blue O	Blue F4
F17	Blue P	Blue F5
F18	Blue Q	Blue F6
F19	Blue R	Blue F7
F20	Blue S	Blue F8
F21	Blue T	Blue F9
F22	Blue U	Blue F10
F23	Blue V	Blue F11
F24	Blue W	Blue F12

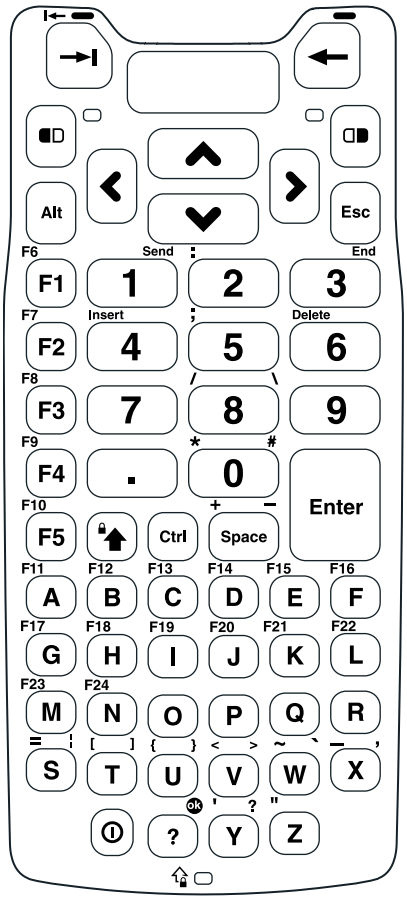
CK3 WindowsTE Functions

Function	Alphanumeric Keypad	Numeric Keypad
Field Exit	FldExit	FldExit
System Request	S	FldExit
Home	C	.
Attention	A	0
Reset	4	1
Clear	6	2
Roll Down	2	5
Previous Screen	G	7
Roll Up	8	8
Next Screen	H	9
Page Left	U	<
Page Up	O	^
Page Down	P	v
Page Right	V	>
Field +	7	^
Field -	1	v

Use 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 and to learn more, refer to the user guide for your device model. User Guides are available from the device product page at www.honeywellaidc.com.

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CK70 Characters and Functions

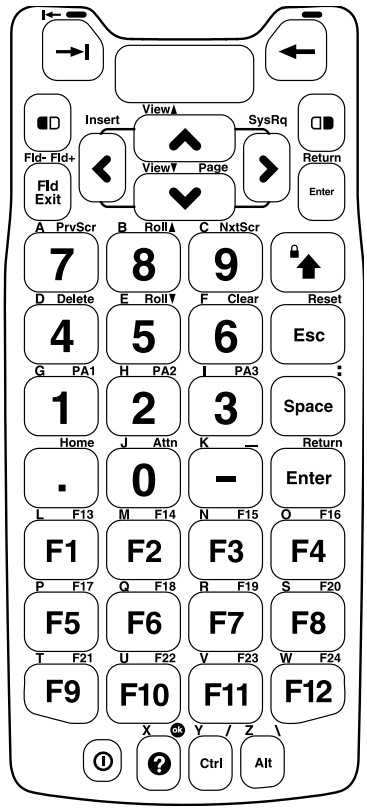
To Enter	Large Alpha Keypad	Alphanumeric Keypad
@ (at symbol)	Blue S	N/A
& (ampersand)	Blue W	Blue U
* (asterisk)	Blue O	Blue 0
: (colon)	Blue J	Blue 2
; (semicolon)	Orange J	Blue 5
, (comma)	Blue T	Orange X
$ (dollar)	Orange S	N/A
! (exclamation)	Orange W	N/A
- (hyphen or minus)	Orange X	Orange Space
% (percent)	Orange O	N/A
. (period)	.	.
+ (plus)	Blue X	Blue Space
# (pound)	Blue Q	Orange 0
? (question mark)	Orange Q	Orange Y
‘ (apostrophe)	Orange T	Blue Y
= (equals)	Blue Y	Blue S
_ (underscore)	Orange Y	Orange X
> (greater than)	Orange N	Orange V
< (less than)	Blue N	Blue V
[(left square bracket)	Blue V	Blue T
] (right square bracket)	Orange V	Orange T
{ (left curly brace)	N/A	Blue U
} (right curly brace)	N/A	Orange U
~ (tilde)	N/A	Blue W
\ (backslash)	Orange U	Orange 8
/ (forward slash)	Blue U	Blue 8
“ (quotes)	N/A	Blue Z
((left parenthesis)	Blue R	N/A
) (right parenthesis)	Orange R	N/A
Insert	Blue Z	Blue 4
Delete	Orange Z	Blue 6

CK70 Characters and Functions

To Enter	Large Alpha Keypad	Alphanumeric Keypad
Sym	Blue Space	N/A
¦ (broken vertical bar)	N/A	Orange S
` (grave)	N/A	Orange W
Forward Tab	→	→
Backspace	←	←
Up Arrow	↑	↑
Down Arrow	↓	↓
Left Arrow	←	←
Right Arrow	→	→
CapsLock	Shift Shift	Shift Shift
Enter	Enter	Enter
ok	Orange ?	Orange ?
Shift	Shift	Shift
Space	Space	Space
Esc	Esc	Esc
Alt	N/A	**Alt**
Ctrl	**Ctrl**	**Ctrl**
Send Call	Blue A	Orange 1
End Call	Blue C	Orange 3

Use the CK71 Keypads

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



CK71 WindowsTE Numeric with Function Keys Keypad

CK71 WindowsTE 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 and to learn more, refer to the user guide for your device model. User Guides are available from the device product page at www.honeywellaidc.com.

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CK71 Characters and Functions

To Enter	Numeric With Function Keys Keypad	Alphanumeric Keypad
: (colon)	Fn Space	Alt 8
; (semicolon)	N/A	Alt 5
, (comma)	N/A	Fn X
$ (dollar)	Fn S	N/A
! (exclamation)	Fn W	N/A
- (hyphen or minus)-	-	Fn Space
. (period)	.	.
+ (plus)	N/A	Alt Space
‘ (apostrophe)	N/A	Alt Y
= (equals)	N/A	Alt S
_ (underscore)	Fn -	Fn X
> (greater than)	N/A	Fn V
< (less than)	N/A	Alt V
[(left square bracket)	N/A	Alt T
] (right square bracket)	N/A	Fn T
{ (left curly brace)	N/A	Alt U
} (right curly brace)	N/A	Fn U
~ (tilde)	N/A	Alt W
\ (backslash)	Fn Alt	Fn 2
/ (forward slash)	Fn Ctrl	Alt 2
“ (quotes)	N/A	Alt Z
Insert	Alt <	Alt 4
Delete	Fn 4	Alt 6
¦ (broken vertical bar)	N/A	Fn S
` (grave)	N/A	Fn W
Forward Tab	→	→
Backspace	←	←
Up Arrow	↑	↑
Down Arrow	↓	↓
Left Arrow	<	<
Right Arrow	>	>

CK71 Characters and Functions

To Enter	Numeric With Function Keys Keypad	Alphanumeric Keypad
CapsLock	⇧ ⇧	⇧ ⇧
Enter	Enter	Enter
ok	◨ ?	◨ ?
Shift	⇧	⇧
Space	Space	Space
Esc	Esc	Esc
Alt	**Alt**	◧ Esc
Ctrl	**Ctrl**	**Ctrl**

CK71 Function Keys

To Enter	Numeric With Function Keys Keypad	Alphanumeric Keypad
F1	F1	F1
F2	F2	F2
F3	F3	F3
F4	F4	F4
F5	F5	F5
F6	F6	◧ F1
F7	F7	◧ F2
F8	F8	◧ F3
F9	F9	◧ F4
F10	F10	◧ F5
F11	F11	◧ A
F12	F12	◧ B
F13	◨ F1	◧ C
F14	◨ F2	◧ D
F15	◨ F3	◧ E
F16	◨ F4	◧ F
F17	◨ F5	◧ G
F18	◨ F6	◧ H
F19	◨ F7	◧ I
F20	◨ F8	◧ J
F21	◨ F9	◧ K

CK71 Function Keys

To Enter	Numeric With Function Keys Keypad	Alphanumeric Keypad
F22	Fn F10	Alt L
F23	Fn F11	Alt M
F24	Fn F12	Alt N

CK71 WindowsTE Keys

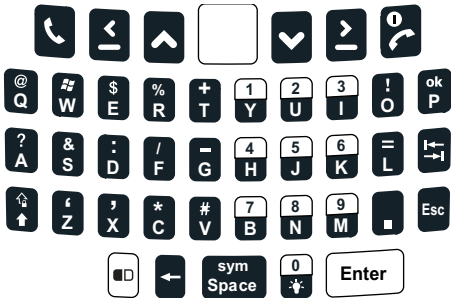
To Enter	Numeric With Function Keys Keypad	Alphanumeric Keypad
Attention	Fn 0	Fn A
Autolog	N/A	Fn F4
Clear	Alt 6	Fn 6
Duplicate	N/A	Fn D
EEOF	N/A	Fn F5
Erase	N/A	Fn E
Find	N/A	Fn F
Field +	Fn FldExit	Fn 1
Field -	Alt FldExit	Fn 1
Fieldmark	N/A	Fn G
Help	N/A	Alt 3
Hex	N/A	Fn I
Home	Fn .	Fn H
Keypad	N/A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

CK71 WindowsTE Keys

To Enter	Numeric With Function Keys Keypad	Alphanumeric Keypad
Reset	Esc	Esc
Return	Enter	Enter
Roll Down	5	5
Roll Up	8	8
System Request	›	Q
View	N/A	˅
View Down	˅	N/A
View Up	˄	N/A

Use the CN50 Keypads

CN50 Numeric Keypad



CN50 QWERTY Keypad

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

CN50 Shift Keys

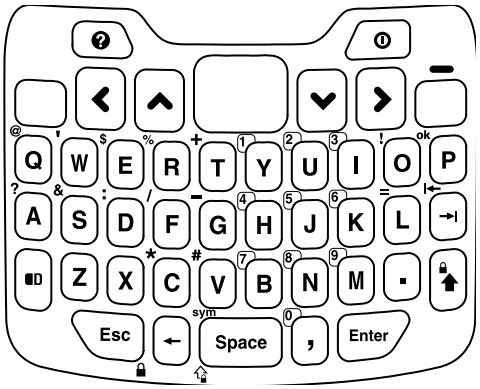
Shift Key	Function
[Orange]	Press plus a key to type a character or do an operation printed in orange on the overlay.
[Green]	(Numeric keypad only) Press plus a key to type a character or do an operation printed in green on the overlay.

For more information on basic keypresses and to learn more, refer to the user guide for your device model. User Guides are available from the device product page at www.honeywellaidc.com.

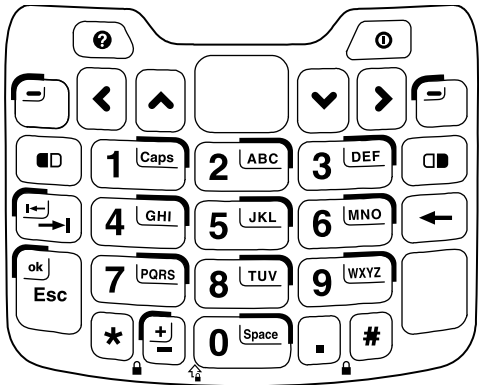
CN50 Basic Keypresses

Function	QWERTY Keypad	Numeric Keypad
Forward Tab	Tab	Tab
Back Tab	Blue Tab	Blue Tab
Space	Space	Orange 0
Backspace	←	←
Shift	↑	Blue or Orange
Caps Lock	Blue ↑	Orange 1
Up Arrow	↑	↑
Down Arrow	↓	↓
Left Arrow	Blue ←	Blue ←
Right Arrow	Blue →	Blue →
!	Blue O	N/A
@	Blue Q	N/A
#	Blue V	#
$	Blue E	N/A
%	Blue R	N/A
&	Blue S	N/A
*	Blue C	*
+	Blue T	Blue #
ok	Blue P	Orange #
-	Blue G	Blue *
Start (Windows)	Blue W	Orange *
?	Blue A	N/A
:	Blue D	N/A
/	Blue F	N/A
=	Blue L	N/A
‘ (apostrophe)	Blue Z	N/A
, (comma)	Blue X	N/A
. (period)	.	.
Esc	Esc	Esc
Backlight	☀	Blue .

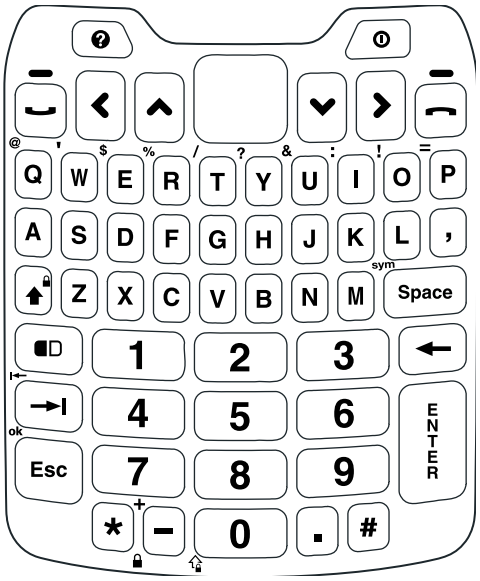
Use the CN70 and CN70e Keypads



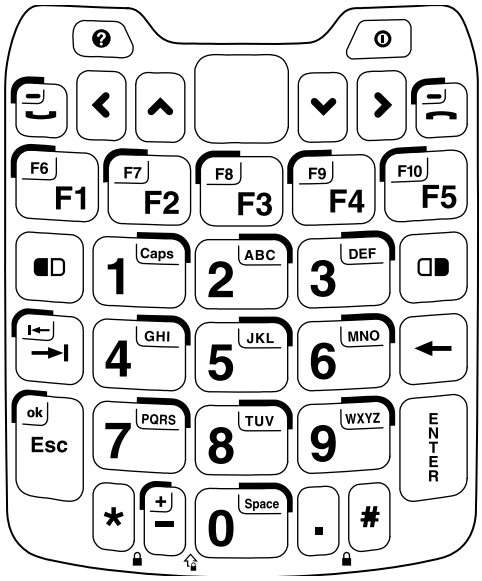
CN70 QWERTY Keypad



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

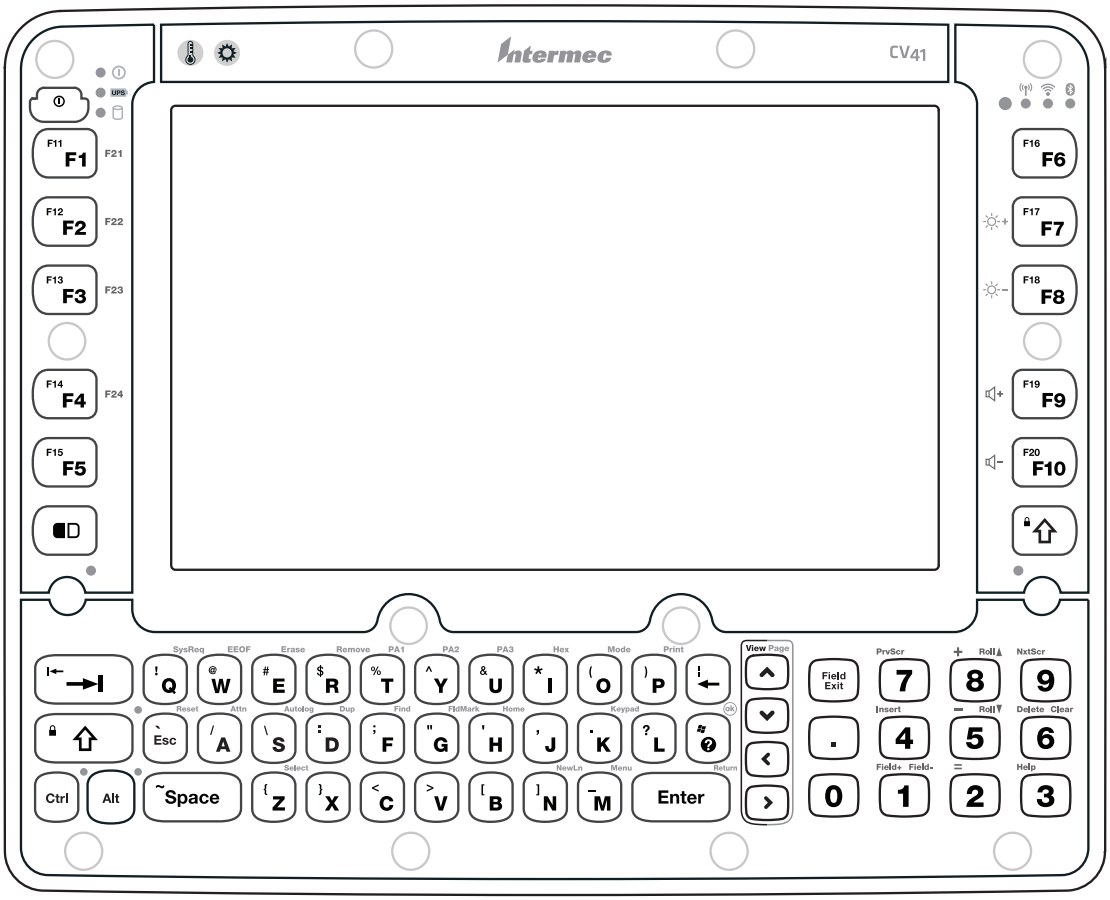
Shift Key	Function
[Orange]	Press plus a key to type a character or do an operation printed in orange on the overlay.
[Green]	Press plus a key to type a character or do an operation printed in green on the overlay.

For more information on basic keypresses and to learn more, refer to the user guide for your device model. User Guides are available from the device product page at www.honeywellaidc.com.

CN70 Characters and Functions

To Enter	CN70 and CN70e Numeric Keypad	CN70 QWERTY Keypad	CN70e QWERTY Keypad
@ (at symbol)	N/A	Blue Q	Blue Q
& (ampersand)	N/A	Blue S	Blue U
* (asterisk)	*	Blue C	*
: (colon)	N/A	Blue D	Blue I
, (comma)	N/A	Blue X	,
$ (dollar)	N/A	Blue E	Blue E
! (exclamation)	N/A	Blue O	Blue O
- (hyphen)	-	Blue G	-
% (percent)	N/A	Blue R	Blue R
. (period)	.	.	.
+ (plus)	Blue -	Blue T	Blue T
# (pound)	#	Blue V	Blue V
? (question mark)	N/A	Blue A	Blue Y
‘ (apostrophe)	N/A	Blue Z	Blue W
Forward Tab	→	→	→
Backspace	←	←	←
Up Arrow	↑	↑	↑
Down Arrow	↓	↓	↓
Left Arrow	←	←	←
Right Arrow	→	→	→
CapsLock	Blue 1	⇧ ⇧	⇧ ⇧
Enter	Enter	Enter	Enter
ok	Blue Esc	Blue P	Blue P
Shift	Blue or Blue	Blue ok → ⇧	Blue ok → ⇧
Space	Blue 0	Space	Space
Esc	Esc	Esc	Esc
Talk	✆	✆	✆

Use the CV41 Keypad



For information on basic keypresses and to learn more, refer to the user guide for your device model. User Guides are available from the device product page at www.honeywellaidc.com.

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

To Enter	Keypad
‘ (apostrophe)	Fn H
= (equals)	Fn 2
_ (underscore)	Fn M
> (greater than)	Fn V
< (less than)	Fn C
[(left square bracket)	Fn B
] (right square bracket)	Fn N
{ (left curly brace)	Fn Z
} (right curly brace)	Fn X
~ (tilde)	Fn Space
\ (backslash)	Fn S
/ (forward slash)	Fn A
“ (quotes)	Fn G
Insert	Fn 4
Delete	Fn 6
¦ (broken vertical bar)	Fn ←
? (grave)	Fn Esc
Forward Tab	→ |
Backspace	←
Up Arrow	↑
Down Arrow	↓
Left Arrow	←
Right Arrow	→
CapsLock	Fn ⇧
Enter	Enter
ok	**Alt** - **?**
Shift	⇧
Space	Space
Esc	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	◧D F1
F12	◧D F2
F13	◧D F3
F14	◧D F4
F15	◧D F5
F16	◧D F6
F17	◧D F7
F18	◧D F8
F19	◧D F9
F20	◧D F10
F21	**Alt-**F1
F22	**Alt-**F2
F23	**Alt-**F3
F24	**Alt-**F4

CV41 WindowsTE Keys

To Enter	Keypad
Attention	**Alt-**A
Autolog	**Alt-**S
Clear	**Alt-** 6
Duplicate	**Alt-**D

CV41 WindowsTE Keys

To Enter	Keypad
EEOF	Alt-W
Erase	Alt-E
Find	Alt-F
Field +	1
Field -	Alt-1
Fieldmark	Alt-G
Help	3
Hex	Alt-I
Home	Alt-H
Keypad	Alt-K
Menu	Alt-M
Mode	Alt-O
New Line	Alt-N
Next Screen	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	7
Remove	Alt-R
Reset	Alt-Esc
Return	Alt-Enter
Roll Down	Alt-5
Roll Up	Alt-8
System Request	Alt-Q
View Down	↓
View Up	↑

Use VM3 Keyboards

The VM3 supports any standard USB keyboard. WEC7 and Win7 versions of the VM3 support the same keyboards and key combinations.

ANSI Keyboard Functions

ANSI Function	Keypad
Answerback	Not supported
Backspace	Backspace
Delete	Delete
Exit Program	Alt X Ctrl Shft X
Help	Ctrl H
F1-F5	F1-F5
F6-F10	F6-F10
F11-F15	Alt F1-F5
F16-F20	Alt F6-F10
F21-F24	Shift F1-F4
F25-F40	Not supported
Function Key Editor	Not supported
Send	Enter
Window Down	Ctrl Down Arrow
Window Left	Ctrl Left Arrow
Window Right	Ctrl Right Arrow
Window Up	Ctrl Up Arrow
Print Screen	Ctrl Alt P

3270 Keyboard Functions

3270 Function	Keypad
Attn	Ctrl A
Backtab	Shift Tab
Clear	Ctrl C
Delete	Delete
Erase	Backspace
Erase Input	Ctrl Backspace
Error Reset or Reset	Ctrl R
Function Key Editor	Not Supported
Help	Ctrl H
Homekey	Not Supported
Insert	Ctrl I
New Line Key	Ctrl N

3270 Keyboard Functions

3270 Function	Keypad
Next or Tab	Tab
SW Rev	Not Supported
SYS_REQ	Ctrl S
PA1-PA3	F1-F3
F1-F5	F1-F5
F6-F10	F6-F10
F11-F15	Alt F1-F5
F16-F20	Alt F6-F10
F21-F24	Shift F1-F4
Function Key Editor	Not supported
Send	Enter
Window Down	Ctrl Down Arrow
Window Left	Ctrl Left Arrow
Window Right	Ctrl Right Arrow
Window Up	Ctrl Up Arrow
Print Screen	Ctrl Alt P

5250 Keyboard Functions

5250 Function	Keypad
Attn	Ctl A
Backtab	Shift Tab
Char Backspace	Backspace
Clear	Ctrl C
Delete	Ctrl D
Dup	Ctrl U
Erase Input	Ctrl Backspace
Error Reset or Reset	Ctrl R
Field Exit	Ctrl Enter End
Field Minus	Ctrl M
Field Plus	Ctrl L
Help	Ctrl H
Insert	Ctrl I
New Line Key	Ctrl N
Next or Tab	Tab
SYS_REQ	Ctrl S
F1-F5	F1-F5
F6-F10	F6-F10

5250 Keyboard Functions

5250 Function	Keypad
F11-F15	Alt F1-F5
F16-F20	Alt F6-F10
F21-F24	Shift F1-F4
Send or Entercatv	Enter
Window Down	Ctrl Down Arrow
Window Left	Ctrl Left Arrow
Window Right	Ctrl Right Arrow
Window Up	Ctrl Up Arrow
Print Screen	Ctrl Alt P

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

For the CV41 running Windows Embedded Standard and the CV61, you use custom SIPs with WindowsTE. SIP appearance and configuration is determined by XAML files. When WindowsTE 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.

Customize 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 "Macros for SIPs" on page 188“.

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 WindowsTE 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 WindowsTE is running in full screen mode, which sets whether WindowsTE uses screen coordinates or work area for placing the SIP onscreen.	0 = Not full screen 1 = Full screen
ExitSIP	Exits the SIP executable when WindowsTE 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 WindowsTE.	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 WindowsTE 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.

Change the Size and Alignment of the CV41 or CV61 SIP

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

To adjust the CV41 or CV61 SIP size and screen alignment

1. Open the Windows Terminal Emulation main menu in Enterprise Settings. For help, see "To configure WindowsTE directly on the computer" on page 22.
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 WindowsTE 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,
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,
```

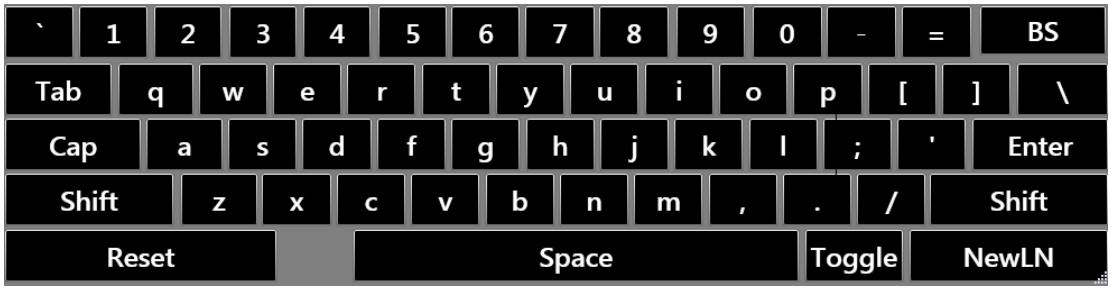
```
VK_F22 = 0x85,
VK_F23 = 0x86,
VK_F24 = 0x87,
VK_PA1 = 0xFD,
VK_OEM_INTERMEC_PA2 = 0xEC,
VK_OEM_INTERMEC_PA3 = 0xED,
VK_OEM_INTERMEC_CLR = 0xF5,
VK_OEM_INTERMEC_PAGE_LEFT = 0x88,
VK_OEM_INTERMEC_PAGE_RIGHT = 0x89,
VK_UP = 0x26,
VK_PRIOR = 0x21,
VK_LEFT = 0x25,
VK_HOME = 0x24,
VK_RIGHT = 0x27,
VK_NEXT = 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
```

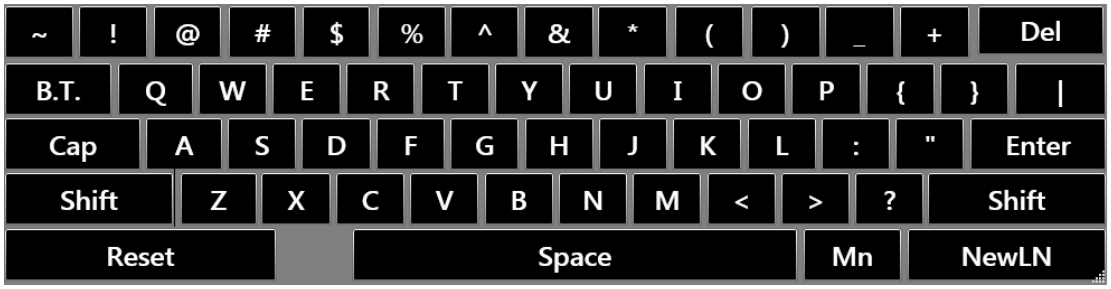
CV41 and CV61 SIPs

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

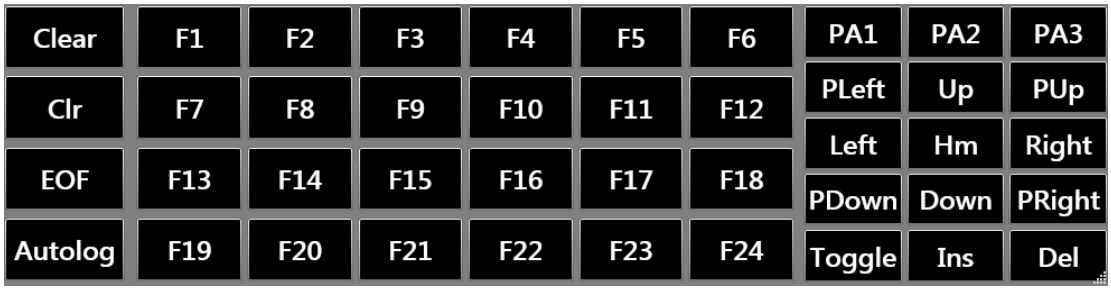
3270 Default SIP



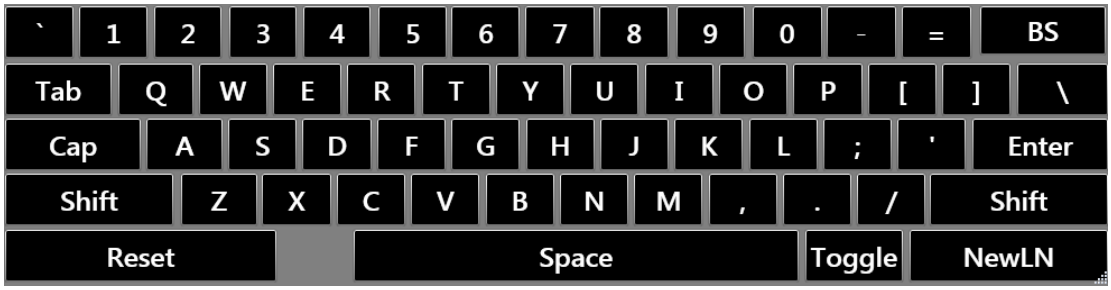
3270 Shifted SIP



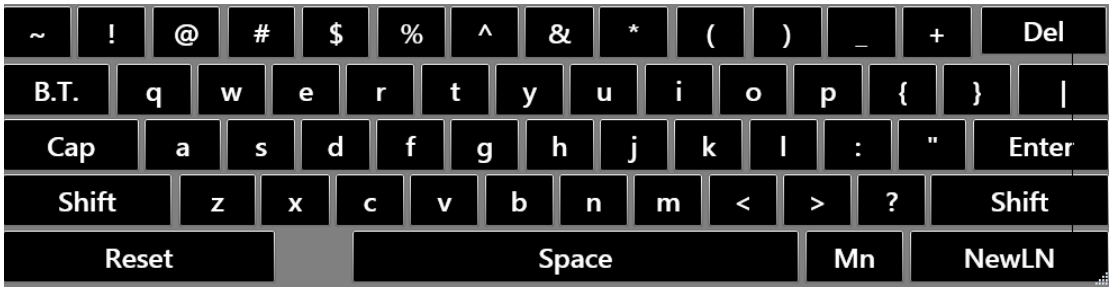
3270 Function Toggled SIP



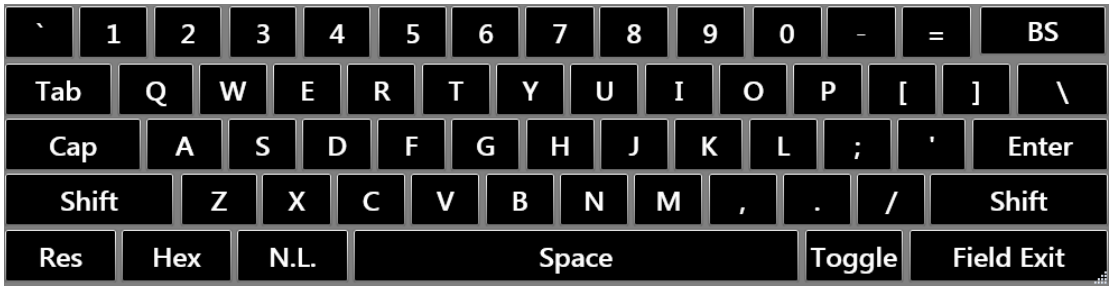
3270 Caps Locked SIP



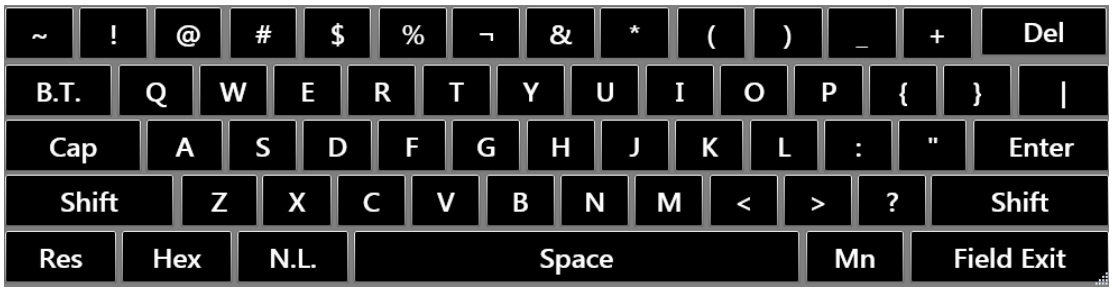
3270 Caps Locked + Shifted SIP



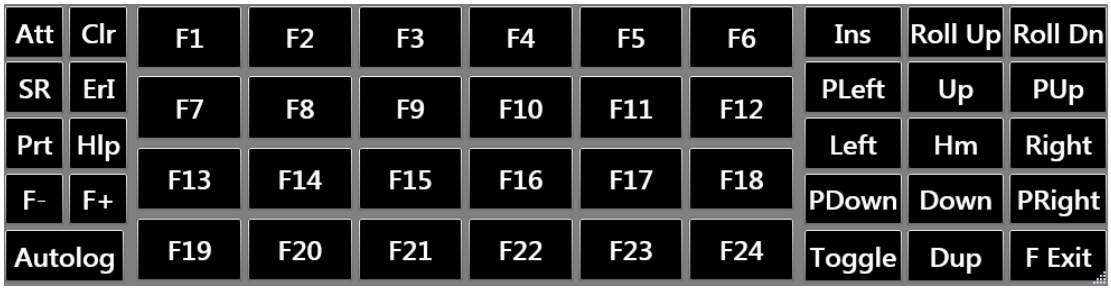
5250 Default SIP



5250 Shifted SIP

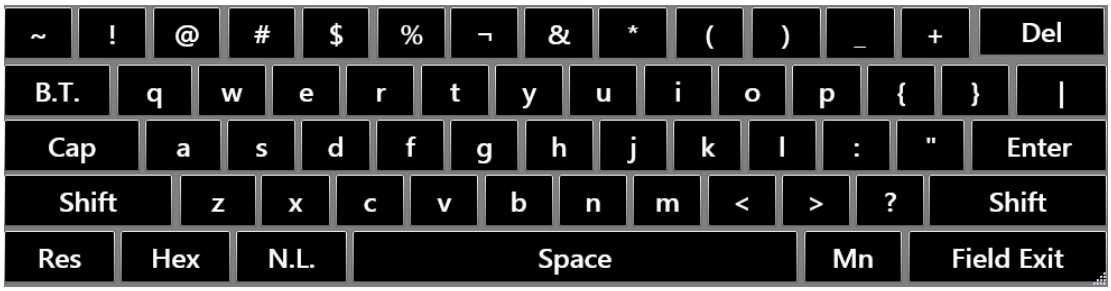


5250 Function Toggled SIP

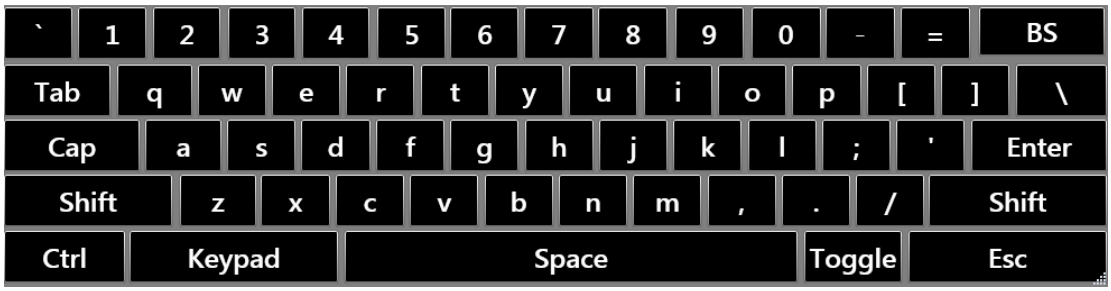


5250 Caps Locked SIP

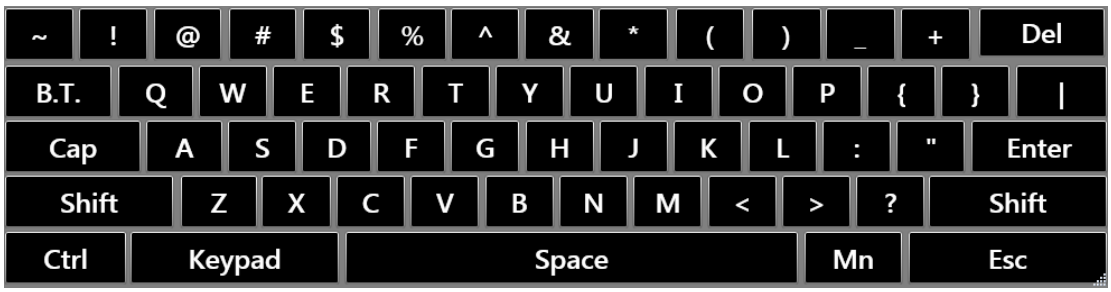
5250 Caps Locked + Shifted SIP



VT/ANSI Default SIP

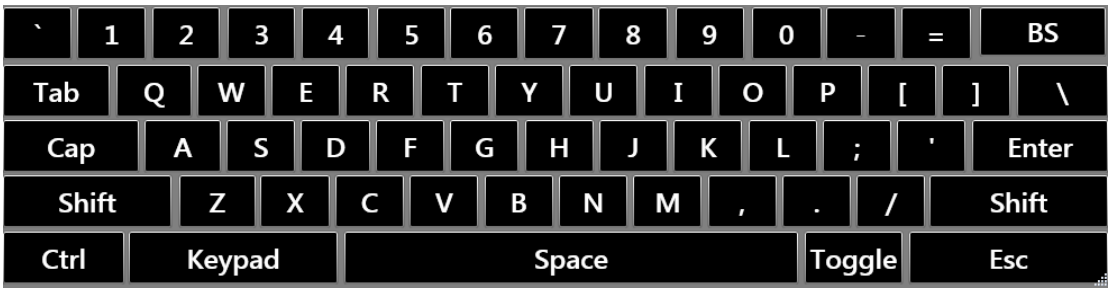


VT/ANSI Shifted SIP

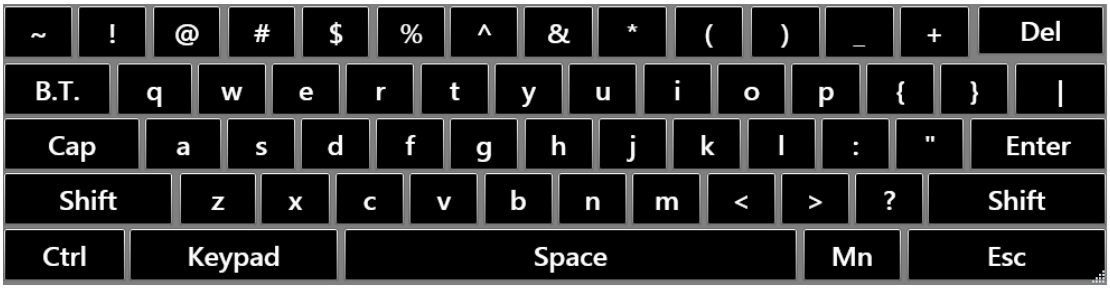


VT/ANSI Function Toggled SIP

VT/ANSI Caps Locked SIP



VT/ANSI Caps Locked + Shifted SIP



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