RFTerm™

User's Guide

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1

Overview

RFTerm allows users to connect to applications running on IBM® 3270, AS/400 and VT hosts from a Microsoft® Windows® equipped mobile computer over a wireless TCP/IP data network.

RFTerm can be used to directly communicate with host applications. Users can connect and log on to the host applications without the need for an intermediary device.

Assumptions

This reference guide assumes you have working knowledge of:

• Microsoft Windows user interface metaphor and terminology.
• Stylus based touch screen navigation terminology.
• Basic knowledge of concepts and terms for wireless networking.
• Basic operations and requirements of the host applications you want to access with terminal emulation clients.

Conventions Used in this Guide

This guide uses the following typographical conventions:

• All user actions and interactions with the application are in bold, as in **Session > Configure**.
• All text associated with sample or configuration files is presented in a special font:

```
# This is a sample configuration file for…
# ###############################################
[options]
recursion=true
silent=true
checkonly=false
```

Supported Devices

The following devices support RFTerm:

• Tecton (Windows CE 6.0, Windows Mobile 6.5)
• Thor VM1 (Windows CE 6.0, Windows Embedded Standard 2009)
• Thor VM2 (Windows CE 6.0, Windows Embedded Standard 2009, Windows 7, Windows Embedded Standard 7)
• Thor VM3 (Windows Embedded Compact 7, Windows 7, Windows Embedded Standard 7, Windows 10)
• Thor VX8 and Thor VX9 (Windows XP, Windows 7, Windows Embedded Standard 2009)
• Marathon (Windows XP, Windows 7, Windows Embedded Standard 2009)
• Dolphin 70e Black (Windows Embedded Handheld 6.5) as part of the Honeywell Wearable Solution

RFTerm was also supported on several obsolete devices. Keymaps for obsolete devices may be included in Key Maps (page 9-1).

About RFTerm

Information about RFTerm can be viewed by selecting **File > About**.

The About screen contains important information about RFTerm, including:

- The platform on which RFTerm is installed (Windows XP, Windows CE, etc)
- The revision level of RFTerm
- Copyrights and licensing information. Click the **PuTTY License** button, if present, to display the PuTTY License (PuTTY is used for SSH).

Click the **OK** button to dismiss the About screen.

Feature Highlights

SSH Protocol

When using Secure Shell (SSH), a connection is established to an SSH server and Telnet traffic is tunneled or port forwarded through the SSH connection. RFTerm supports SSH version 2.

For outgoing traffic from RFTerm:

- SSH client (built into RFTerm) listens on a local IP port for Telnet traffic
- SSH client encrypts the Telnet traffic and sends it to the SSH server
- The SSH server decrypts the Telnet traffic and forwards the traffic to the Telnet host.

For incoming traffic to RFTerm:

- The SSH server receives Telnet traffic from the host application, encrypts the traffic and sends it to the SSH client (built into RFTerm)
- The SSH client decrypts the traffic and passes it to the RFTerm Telnet session.

Encryption methods are auto negotiated between the client software (RFTerm) and the SSH server. Supported encryption methods include:

- AES (Rijndael) - 256, 192, or 128-bit SDCTR or CBC
- Arcfour (RC4) - 256 or 128-bit stream cipher
- Blowfish - 256-bit SDCTR or 128-bit CBC
- Triple-DES - 168-bit SDCTR or CBC
- Single-DES - 56-bit CBC

Note: Arcfour and Single DES are not very secure. A warning box is displayed if either of these encryption methods is selected.

There are two message boxes that may be displayed for SSH server host keys:

- If the key does not exist in the registry, a message box asks if you want to add the key and connect to the SSH server.

- A message box is displayed if the SSH server host key changes.

If SSH is not enabled, transmission is over an unencrypted Telnet connection.

Multiple Host Sessions

RFTerm supports up to four simultaneous pre-defined host sessions. All sessions run under a single application process. Interactive, per session configuration settings are maintained. Users may connect with any permutation of 3270, 5250 or VT host sessions. HotKeys and menu context are available to jump between these sessions.

Swapping Between Sessions

Various HotKeys are defined to allow the user to swap to a specified session or to jump to the next connected session.

A Session Menu can be enabled to display information on configured sessions.

HotSpots

A HotSpot is an invisible field on the mobile client screen where a user can tap with a stylus to execute a function. A HotSpot allows a user to interact with the host application with minimal need for the special key pads. Instead the user can directly tap on the text in the display to invoke the desired operation.

Screen Panning

Panning allows an additional row and column on the display by providing an alternative to horizontal and vertical scroll bars. Imagine the host application screen as a large sheet under the display on the hand-held device. Screen Panning allows users to "tap" and "drag" this sheet in any direction to move hidden areas of the host display into view on the hand-held device without the use of scroll bars.

Configurable KeyBar

The configurable KeyBar allows users to customize a set of soft buttons to control and invoke any host specific keys or emulator operation. Users can select from a set of pre-defined KeyBar templates. In addition they can also configure up to four custom templates of their own. Users can navigate between a selected set of templates.

SmartPads

All host applications have specific keyboard requirements. The SmartPad is a floating button pad which provides support for special emulation host keys. Depending upon the current configured host emulation type, the appropriate SmartPad for that emulation is displayed. The SmartPad supports all the popular 3270, 5250 and VT host keys.

Note: This option is not available devices with a Microsoft® Windows XP, Windows 7, Windows 10, or Windows Embedded Standard operating system.

Access Control

Access Control allows administrators to prevent users from changing the TE configuration for deployed devices. Administrators can require a password to change the session configuration and application settings.

Device Lockdown

Lockdown allows administrators to prevent users from exiting the TE client. Lockdown also prevents users from running any other application on the device.

Configurable Fonts

This option allows users to increase or decrease the font sizes of displayed text.

Color Schemes

Support for color displays. A color scheme is a collection of colors mapped to a set of screen display attributes. Users can select from pre-defined color schemes or create a custom scheme based upon their preferences. Applications dynamically detect LCD displays to self configure for a two color scheme (Black on White).

Automatic Login

Users can configure one or more host sessions to automatically launch when the TE application is started. Pre-defined login scripts can be configured to launch automatically and log into the host system.

Automatic Session Persistence

Latest values of session configuration are automatically saved for every session.

Dynamic Cursor View Modes

Multiple cursor modes are available to support automatic scrolling, so that the cursor / input field is visible. These view modes are configurable on a per client session basis. The screen display window will "track" and follow the cursor.

Text InputTool

The Text InputTool improves upon the typical Windows CE/Windows Embedded Compact soft keypad by sending complete text strings to the display window at the current cursor location. A user can cache often-used text strings in the InputTool.

Note: This option is not available devices with a Microsoft® Windows XP, Windows 7, Windows 10, or Windows Embedded Standard operating system.

Device / LU Name Support

For IBM emulations (3270 and 5250), logical unit device name resource configuration is supported. This is used during connection negotiations.

Automatic Re-connection

If for some reason the network connection to the host is lost, the user can configure the session to automatically attempt to re-connect to the host.

Full VT220 Support

This includes support for multinational character sets and NRC support.

VT Line Mode

This is a special optimization for VT host sessions. Data is buffered locally within the device prior to sending it to the host. Line mode optimizes usage of the network bandwidth and host resources.

VT Answerback String

This is a configurable text string that certain host applications require to identify the mobile client.

HotKeys

Predefined HotKeys, shortcuts, are available to interact with and invoke application operations.

Block Mode

Block mode communication is a communication mode that enables the device to send an entire block of data to the host at one time. Block mode greatly reduces RF traffic by sending data in this way. Block mode minimizes RF overhead better than the other modes. Thus, block mode supports more users on an RF channel and allows faster response time.

Local echo is a process that allows each character to display locally at the device as the user presses the keys. The host does not see these characters until the user presses the **[Enter]** key.

Note: In most cases, operations using programming tools that include screen painters cannot use block mode communication. Screen painters or designers usually come with programming tools such as Oracle, Ingress, Informix, and Powerhouse, which normally use character mode communications.

Programmable Function Keys

User can configure all available function keys, and the 4 arrow keys, to perform text and control character inputs. Control characters and characters not accessible from the keyboard can be represented using Hat Encoding (page 6-7).

Printing

User can print the screen for any session using the shortcut key **[Ctrl] [Alt] [P]**, or by sending print commands to the client from the host in 5250 and ANSI sessions.

Help

User can display frequently used RFTerm shortcut keys and support contact information by pressing **[Ctrl] [H]**.

Double Byte Support

RFTerm supports Simplified Chinese, Traditional Chinese, Korean and Japanese font sets for VT emulations based upon TELNET data being received in standard DBCS format.

Installation

To verify the version of RFTerm currently installed, see the About RFTerm (page 1-2) panel.

Your device may require special installation procedures. Review the information below for details.

Installation Note

Evaluation copies of RFTerm allow the user to Connect eleven (11) times. The Software License Agreement dialog appears after each connect request and before the connection is activated. Select either Accept or Reject to continue. When the counter reaches 0, you cannot use the RFTerm Connect function until the evaluation version of RFTerm is activated.

Initial Installation (Windows CE, Windows Embedded Compact, or Windows Mobile)

For devices with a Windows CE, Windows Embedded Compact, or Windows Mobile operating system, use the procedures listed below. RFTerm may already be installed on the device.

1. Launch the RFTerm cab file.

2. Launch RFTerm to complete the installation.

Note: For RFTerm to persist after a device restart, place the RFTerm.cab file in the \System folder.

Upgrading from an Earlier Version of RFTerm

When you upgrade RFTerm to a new release version, you must begin with a clean registry. Use the procedures listed below for devices equipped with Windows CE, Windows Embedded Compact, or Windows Mobile.

1. Exit RFTerm if it is currently running.

2. Open the registry editor.

3. Delete the entire registry key HKEY_LOCAL_MACHINE\SOFTWARE\LXE\RFTerm.

4. Do not delete the LXE key or any other items under it except RFTerm.

5. Launch the RFTerm cab file.

6. Launch RFTerm to complete the installation.

Installation (All Other Windows Operating Systems)

For devices with a Windows XP, Windows 7, *Windows 10,* or Windows Embedded Standard operating system, the following steps must be taken to ensure RFTerm can read and write to the registry before initial installation or upgrading to a newer revision:

1. Log on as the Administrator.

2. Open the registry editor.

3. Delete the entire registry key `HKEY_LOCAL_MACHINE\SOFTWARE\HSM\RFTerm` or `HKEY_LOCAL_MACHINE\SOFTWARE\LXE\RFTerm` (key name/location depends on equipment type and RFTerm revision level).

4. Do not delete the HSM or LXE key or any other items under it except RFTerm.

5. Browse to the location of the RFTermSetupWN.msi file, double-click on the file and follow the setup wizard prompts.

6. Launch RFTerm for the initial time as the administrator. For devices with Windows 7, Windows Embedded Standard 7, or Windows 10 right click on the RFTerm icon and select Run as administrator.

7. This will create the RFTerm registry with guest privileges.

Quick Start

This section is for advanced users who can comfortably navigate within Windows and Windows CE and are familiar with host terminal emulation details. Follow these steps to connect to your host application with minimal configuration setup. For details on various configuration parameters, it is recommended that you read through the following sections.
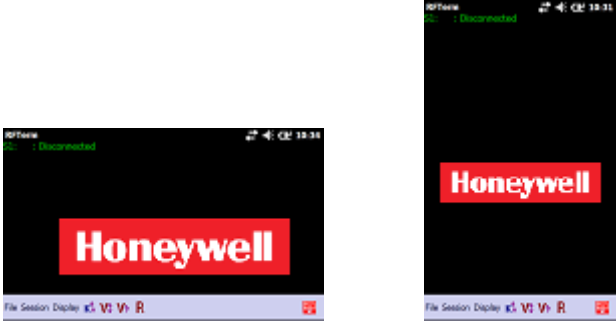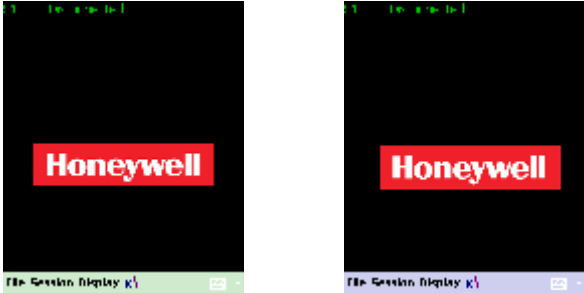
1. Make sure the mobile network settings are configured. If you are connecting over wireless LAN, make sure your device is communicating with the Access Point. If you are connecting via WWAN, make sure your device has an active connection. Details on configuring the mobile network settings can be found in the reference guide for the mobile device.

2. If the RFTerm splash screen does not automatically appear after startup or rebooting, go to **Start > Programs**, and select **Honeywell RFTerm** or double-click the RFTerm icon on the Windows desktop.

3. Select **Session > Configure** from the application menu and select the Host Type that you require. This will depend on the type of host system that you are trying to connect to; i.e. 3270 mainframe, AS/400 5250 server or VT host.

4. Enter the Host Address of the host system to which you wish to connect. This may either be a DNS name or an IP address of the host system.

5. Update the Telnet Port number, if your host application is configured to listen on a specific port. If not, just use the default Telnet port.

6. Select **OK**.

7. Select **Session > Connect** from the application menu or tap the Connect button on the Command Bar. Upon a successful connection, you should see the host application screen displayed.

8. During the connection process, the following popup dialog appears:
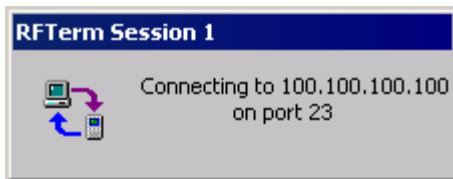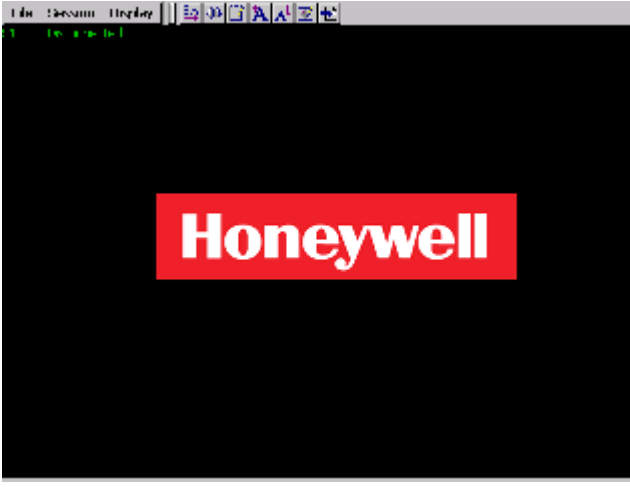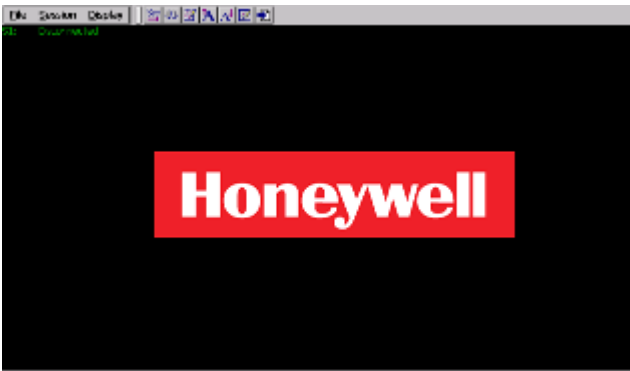
RFTerm Screen Sizes

The RFTerm screen displays are designed to function on most Windows-based computers, regardless of the physical screen size.

RFTerm menus and editing parameters, save and exit options are available on-screen, where needed, regardless of the size of the screen. On-screen they may look or be named differently from one device to the other yet they will perform the same function when activated.

	RFTerm uses a one-quarter screen, switchable between horizontal or vertical orientation on the Windows Embedded Handheld equipped Dolphin 70e Black.
	RFTerm uses a one-quarter screen, horizontally oriented on the HX2.
	RFTerm uses a one-quarter screen, vertically oriented on the Windows CE equipped MX7 Tecton, MX8 and MX9.
	RFTerm uses a one-quarter screen, vertically oriented on the Windows Mobile equipped MX7 Tecton, MX8 and MX9.

	RFTerm uses a one-half screen, horizontally oriented on the MX3Plus, MX3X, VX3Plus, VX3X and VX6.
	RFTerm uses a full screen on the Thor VM2, Thor VM3, VX7, Thor VX8 and Thor VX9.
	RFTerm uses a WVGA full screen on the Thor VM1 and Marathon.

This guide makes the assumption that the user or systems administrator is familiar with Microsoft Windows standard navigation/performance for each of their devices running RFTerm.

Therefore, the sections that follow describe only those Windows capabilities that are unique to RFTerm.

Important Notes

For Devices with a Windows Mobile or Windows Embedded Handheld operating system:

- The MenuBar is displayed at the bottom of the Windows Mobile screen and cannot be led to the top of the screen.
- By default, the KeyBar is hidden but can be accessed from the MenuBar using the KeyBar icon.
- When accessed, the KeyBar is displayed above the MenuBar. Clicking the KeyBar icon again hides the KeyBar.
- The ToolBar is not available on devices with a Windows Mobile operating system.

For Devices with a Windows XP, Windows 7, Windos 10, or Windows Embedded Standard operating system:

- SmartPads, Text InputTool, and Hide/Display All Bars are not available on devices with a Windows XP, Windows 7 or Windows Embedded Standard operating system.
- The MenuBar is displayed at the top of the screen for these devices and cannot be led to the bottom of the screen.

Quick Tips

Screen Panning

- For all connected sessions (3270, 5250 and VT), you can "tap-and-drag" the display screen in any direction with your stylus. Just make sure that HotSpots are enabled in Options1 (page 2-6).

HotSpots

- For all connected sessions (3270, 5250 and VT), you can "double tap" anywhere on the screen to invoke an Enter (or Send) operation.
- To use HotSpots, you can directly tap the function key text string on the display rather than use a SmartPad. Refer to HotSpots (page 4-10) for details.

Predefined HotKeys (Shortcuts)

- Almost every application operation has a HotKey associated with it. HotKeys provide an efficient alternative to invoke an operation or action. Refer to HotKey Shortcuts (page 4-12).

Readability

- For more screen real estate, you can minimize the application menu. You can also move open windows to anywhere on the screen (unless the windows are locked to prevent edit).
- You can select different background, foreground and attribute colors for enhanced visual readability. For mobile clients with LCD display screens, the default color scheme is automatically detected and configured to "Bright White" for optimal readability.

Data Input

- If you have the same data strings that you input all the time, you can cache it in the data input tool. You can then "send" the text string to the emulator with a single stylus tap. Refer to Text InputTool (page 4-8).

Note: This option is not available on devices with a Windows XP, Windows 7, Windows 10, or Windows Embedded Standard operating system.

Configurable KeyBar

- The soft KeyBar can be configured to perform most emulator and host operations with a single stylus tap. Refer to Configurable KeyBar (page 4-4).

Access Control

- You can prevent a user from changing the TE configuration by specifying an access password. Refer to Access Control / Device Lockdown (page 4-11).

Application ToolBar

- An integrated ToolBar is provided for touch screen navigation.
- Refer to RFTerm ToolBar (page 9-1) to identify the function for the icons that are included in the different application touch KeyBars.

Miscellaneous

- The RFTerm emulator will automatically save configuration settings for the four most recent sessions, S1 - S4 as displayed in the menu. The configuration settings are saved in the mobile client registry. Refer to the mobile client reference guide for instruction.
- To launch RFTerm automatically, refer to the reference guide for the device.
- Support tools and procedures are available to provide deployment configurations to self-install and restore application and mobile client configurations during a cold boot.

RFTerm Settings

This section describes application wide settings. All these parameters may be set using the application settings dialogs accessed from the **File > Settings** application menu. Parameters configured through the **File > Settings** dialog apply to all terminal emulation sessions.

⚠️ *For Microsoft Windows 7, Windows Embedded 7, and Windows 10:*

It is necessary to run to run RFTerm as an administrator when modifying these settings because RFTerm must be able to access and make changes to the Windows registry.

Rather than selecting to run as administrator each time, right click on the RFTerm icon and select **Properties**. *Tap the* **Compatibility** *tab and check* **Run this program as an administrator**. *This modification affects the current user only unless* **Change settings for all users is tapped** *before changing the privilege level.*

Display

The client screen display may be configured to optimize screen available area and readability. These options may be configured for connected or non-connected host sessions. HotKeys are available to le the options on and off.
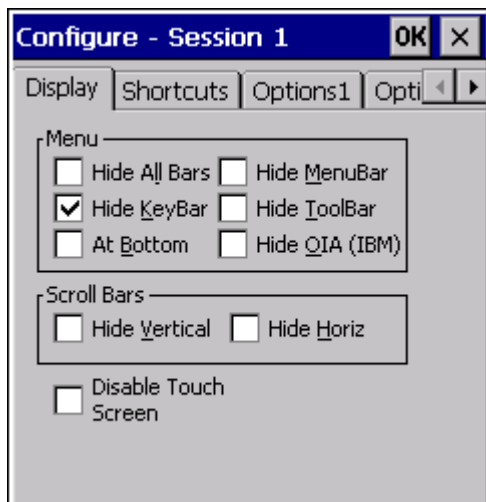
- From the application menu, select **File > Settings**.
- A Settings dialog box is displayed.
- Choose the **Display** tab.

Parameters

Menu

ToolBars, KeyBars, Shortcut Keys and Windows Mobile

By default, the ToolBar button function is configured as part of the KeyBar on devices with a Windows Mobile operating system so the checkbox for the ToolBar does not exist on the **Settings > Display** tab.

ToolBar buttons can be removed from the KeyBar on devices with a Windows Mobile operating system.

ToolBar buttons can be hidden by using **[Ctrl][Shift][K]** which makes the entire KeyBar hidden on devices with a Windows Mobile operating system.

The Hide ToolBar shortcut key **[Ctrl][Shift][T]** is not available on devices with a Windows Mobile operating system.

Hide All Bars

Checking this box will hide the file menu, the KeyBar and the ToolBar. Pressing **[Ctrl][Shift][L]** alternates between the hidden and visible states. This will override each individual item listed below.

Not available on devices with a Windows Mobile operating system.

Disable/Hide MenuBar

Checking this box will hide the MenuBar on devices with a Windows CE or Windows Embedded Compact operating system. Pressing **[Ctrl][Shift][M]** alternates between the hidden and visible states.

When the MenuBar is hidden, the KeyBar is displayed on the bottom row, where the MenuBar is normally shown. When MenuBar is led on, the KeyBar is displayed on the row above the MenuBar.

Checking this box disables the MenuBar on devices with a Microsoft Windows XP, Windows 7, Windows 10, or Windows Embedded Standard operating system.

Note: This parameter is titled Disable MenuBar on devices with a Microsoft Windows XP, Windows 7, Windows 10, or Windows Embedded Standard operating system and Hide MenuBar on devices with a Windows CE, Windows Embedded Compact, or Windows Mobile operating system.

Hide KeyBar

Checking this box will hide the KeyBar. The default is checked (hide KeyBar). Click the K icon on the MenuBar to launch the KeyBar. Pressing **[Ctrl][Shift][K]** will alternate between the hidden and visible states.

When the MenuBar is hidden, the KeyBar is displayed on the bottom row, where the MenuBar is normally shown. When MenuBar is led on, the KeyBar is displayed on the row above the MenuBar.

On devices equipped with Windows Mobile, the ToolBar buttons can be hidden by using **[Ctrl][Shift][K]** and the entire KeyBar is hidden on these devices.

Hide ToolBar

Checking this box will hide the ToolBar. Pressing **[Ctrl][Shift][T]** alternates between the hidden and visible states.

Not available on devices with a Windows Mobile operating system.

(Menu) at Bottom

Checking this box will move the menu to the bottom of the screen. Pressing **[Ctrl][Shift][B]** alternates the location between the top and bottom of the screen.

Note: This option is not available on devices with a Microsoft Windows XP, Windows 7, Window 10, or Windows Embedded Standard operating system.

Hide OIA (IBM only)

Checking this box will le hiding of the OIA or the Operator Information Area. This option applies only to IBM 3270 and 5250 emulations.

Pressing **[Ctrl][Shift][O]** or **[Alt] [T]** alternates between the hidden and visible states.

Scroll Bars

Hide Vertical Scroll Bars

Checking this box will hide the vertical scroll bar. Pressing **[Ctrl][Shift][V]** alternates between the hide and visible states.

Hide Horizontal Scroll Bars

Checking this box will hide the horizontal scroll bar. Pressing **[Ctrl][Shift][H]** alternates between the hide and visible states.

Disable Touch Screen

When checked, this option prevents the user from inadvertently moving the cursor via the touch screen. The touch screen within the RFTerm display portion of the screen is disabled while still allowing RFTerm HotSpots to function using touch. Items such as scroll bars and menu items still are accessible via the touch screen.

The default value for Disable Touch Screen is "Not Disabled" (blank).

Shortcuts

Keypress shortcuts can be enabled or disabled from the **Shortcuts** tab.

• All shortcut keys can be enabled or disabled at once. Shortcut keys can be disabled or enabled individually as well.
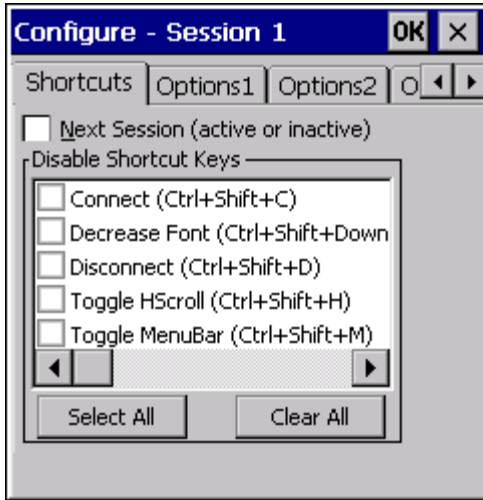
• From the application menu, select **File > Settings**.
• A Settings dialog box is displayed.
• Choose the **Shortcuts** tab

Parameters

Jump to Inactive Sessions

When the Jump to Inactive Sessions item is selected, the user can use the shortcut key sequence **[Ctrl] [Shift] [J]** to jump to an inactive session that has a host name specified. The inactive session remains dormant when disconnected, but when it becomes the active session again, it automatically attempts to reconnect and run the Autologin script.

Disable Shortcut Keys

When the Disable Shortcut Keys item is checked, RFTerm prevents the user from accessing all shortcut keys with the exception of Session, Configure and Application Exit shortcut keys. This also activates the "Allow Session Shortcuts" check box. F1, F2, F3, and F4 function keys remain active. Refer to RFTerm ToolBar (page 9-1) for a complete list of RFTerm shortcut keys.

Buttons

Select All

Click this button to disable all shortcut keys, in the list, at once. Click a shortcut key checkbox to enable the individual shortcut while the rest remain disabled (checked). The Select All button has no effect on the Jump to Inactive Sessions checkbox.

Clear All

Click this button to enable all shortcut keys, in the list, at once. Click a shortcut key checkbox to disable (check) the individual shortcut while the rest remain enabled. The Clear All button has no effect on the Jump to Inactive Sessions checkbox.

Shortcuts Active Until Disabled

The shortcut is disabled when the checkbox has a check mark. Refer to HotKey Shortcuts (page 4-12) for a complete list of default HotKeys.

Note: Depending on mobile client screen size constraints, the parameter name may be abbreviated based on the parameter names shown in the list that follows.

Parameter	Shortcut Key	Description
Configure	[Ctrl][Shift][N]	Configure a host connection
Settings	[Ctrl][Shift][E]	Configure application settings.
Connect	[Ctrl][Shift][C]	Connect to the host (Manual Reconnect shortcut)
Status	[Ctrl][Shift][2]	Display or hide Status Window. *(Not supported on Windows Mobile)*
Decrease Font	[Ctrl][Shift][Down Arrow]	Decrease font size
Disconnect	[Ctrl][Shift][D]	Disconnect a connected host session (Manual Disconnect shortcut)
le HScroll	[Ctrl][Shift][H]	Display or hide horizontal scroll bar
le SmartPad	[Ctrl][Shift][P]	Display or hide SmartPad *(Not supported on Windows XP, Windows 7, Windows 10, or Windows Embedded Standard)*
le InputPad	[Ctrl][Shift][I]	Display or hide Text InputTool *(Not supported on Windows XP, Windows 7, Windows 10, or Windows Embedded Standard)*
le MenuBar	[Ctrl][Shift][M]	Display or hide MenuBar *(Not supported on Windows XP, Windows 7, Windows 10, or Windows Embedded Standard)*
Move All Bars	[Ctrl][Shift][B]	Display all bars at the bottom *(Not supported on Windows XP, Windows 7, Windows 10, or Windows Embedded Standard)*
le All Bars	[Ctrl][Shift][L]	Display or Hide all bars (Menu, Tool, Key)
le ToolBar	[Ctrl][Shift][T]	Display or Hide ToolBar
le KeyBar	[Ctrl][Shift][K]	Display or Hide KeyBar
le VScroll	[Ctrl][Shift][V]	Display or Hide vertical scroll bar
Increase Font	[Ctrl][Shift][Up Arrow]	Increase font size
Next Session	[Ctrl][Shift][J]	Jump to next connected host (Session Control shortcut)
Scroll Down	[Shift][Down Arrow]	Scroll down one row
Scroll Left	[Shift][Left Arrow]	Scroll left one column
Scroll Right	[Shift][Right Arrow]	Scroll right one column
Scroll Up	[Shift][Up Arrow]	Scroll up one row
le Bold	[Ctrl][Shift][1]	le between bold and normal font
Print Screen	[Ctrl][Alt][P]	Print the screen of the active session
Program Help	[Ctrl][H]	Display frequently used shortcuts
Jump to Session 1	[Ctrl][Alt][1]	Jump to Session 1
Jump to Session 2	[Ctrl][Alt][2]	Jump to Session 2
Jump to Session 3	[Ctrl][Alt][3]	Jump to Session 3
Jump to Session 4	[Ctrl][Alt][4]	Jump to Session 4

Parameter	Shortcut Key	Description
Show Session Menu	[Ctrl][Alt][0]	Display Session Host Menu (if enabled) over top of a connected session
Session Save	[Ctrl][Shift][S]	Invoke the session save dialog
Exit RFTerm	[Ctrl][Shift][X]	Exit the emulator
le OIA Bar	[Ctrl][Shift][O] or [Alt][T]	Hide and unhide status bar (OIA)
Advance Down	[Ctrl][Down Arrow]	Scroll down one row segment (see Note below)
Advance Left	[Ctrl][Left Arrow]	Scroll left one column segment (see Note below)
Advance Right	[Ctrl][Right Arrow]	Scroll right one column segment (see Note below)
Advance Up	[Ctrl][Up Arrow]	Scroll up one row segment (see Note below)
le Status	[Ctrl][Shift][2]	Display or hide status icons (must be enabled on the **Settings > Status** tab first) *(Not supported on Windows Mobile, Windows XP, Windows 7, Windows 10, or Windows Embedded Standard)*

Note: Depending on the mobile device screen and font size constraints, the segment area used by an Advance Down, Advance Left, Advance Right or Advance Up key sequence is approximately one-quarter of the total area available.

Options1

General options may be configured and updated from the **Options1** tab.

Note: This tab was previously labeled **Options**.
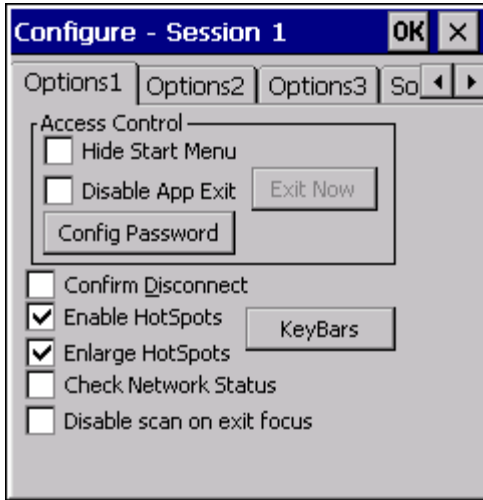
- From the application menu, select **File > Settings**.
- A Settings dialog box is displayed.
- Choose the **Options1** tab

Parameters

Access Control

Hide Start Menu

When the Hide Start Menu item is selected, RFTerm prevents the user from accessing functionalities within the task bar.

With Windows XP, Windows 7, Windows 10, or Windows Embedded Standard

This feature makes the application full-screen and also disables window resizing.

While this option hides the Start Menu, it cannot prevent the user from accessing the Start Menu via the Windows key.

With Windows Mobile

When the Hide Start Menu / Disable Start Menu item is selected, neither the Start Menu nor the OK button responds to a stylus tap. Use an Enter keypress to close the Settings and Configure window.

Disable App Exit

When enabled, this option disables the application exit button and the **[Alt][X]** shortcut key. This prevents the user from exiting the application.

Exit Now

This button is enabled only when the Disable App Exit option is checked. It allows the administrator to save the configuration and exit when Disable App Exit is checked. Typical use would be for an administrator to set all configuration settings including a config password and exit the application using this button. Subsequently, users will not be able to exit the application and the config password will be required to change the configuration.

Config Password

The Config Password button prompts the user for a dialog access password. When a password is set, users must enter this password prior to viewing and modifying the session and settings configuration. This capability enables administrators to prevent users from changing the application configuration settings in controlled environments.

Confirm Disconnect

When enabled, the user is prompted before every attempt to disconnect an active session.

Enable HotSpots

Checking this box will enable HotSpots and Screen Panning on mobile clients with touch screens. A HotSpot is a field on the screen where a user can tap with a stylus to execute a function. This allows a user to interact with a host application with minimal need for special keys. Checking this box is a requirement for the Enlarge HotSpots parameter.

For example

A simple example might be the use of F Keys. An operation associated with an F key might be displayed on the screen as "F1 = Help". RFTerm automatically detects this as a HotSpot and will simulate an F1 key being pressed on the keyboard when you tap on the F1 text on the screen display. Refer to HotSpots (page 4-10) for further details.

Note: Reprogramming the function keys using the Fn Keys tab under the Configure dialog alters the operation of a function key HotSpot.

Enlarge HotSpots

Prerequisite:

Enable HotSpots must be enabled (checked).

Checking this box increases the size of the HotSpot area, slightly, radiating from the center of the HotSpot. If a screen does not have a HotSpot area, this parameter setting is ignored until a screen is presented that has a HotSpot area. For example, enlarging the HotSpot area may assist clicking the correct HotSpot even if the mobile client is being jostled by outside influences.

When Enable HotSpots is disabled, the Enlarge HotSpots parameter is dimmed and cannot be activated.

Check Network Status

This setting determines if RFTerm continuously monitors the network connection.

Note: This option is not available on devices equipped with a Windows Mobile or Windows Embedded Handheld operating system.

If the checkbox is checked (enabled) RFTerm polls the network adapter every two seconds to verify the network status. If the network adapter is not connected, a dialog box is displayed.

Two conditions must be present for network polling to occur:

1. The Check Network Status checkbox must be checked.

2. There must be at least one active session.
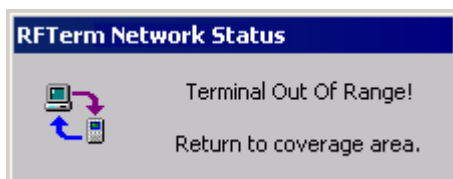
There is no user input on the popup notification. The popup box is displayed until the network connection is re-established and the user is restricted from entering any data into or exiting from RFTerm while the notification is present. Once network connection is reestablished, the notification automatically is dismissed.

If the checkbox is unchecked (disabled) RFTerm does not monitor the network connection. The Out of Range notification is not displayed until a data transmission fails. This is the default selection.
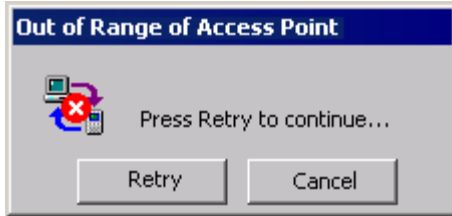
The user is present with a popup dialog. The Retry button attempts to reconnect to the network. The Cancel button exits RFTerm.

Note: There is no Cancel button if the application is locked down by disabling application exit and/or by hiding the start menu. You must either re-establish the connection to the host or have the administrator intervene.

Disable Scan On Exit Focus

When checked, this option turns off the scanner when RFTerm is no longer the application in focus. When RFTerm returns to focus, the scanner is turned back on.

When disabled, the scanner remains active at all times.

The default is disabled.

KeyBars

This button is used to configure the KeyBar. KeyBar configuration consists of both the KeyBar Cycle and any Custom KeyBars. The KeyBar function keys can be reprogrammed using the Fn Keys tab under the Configure dialog.

Note: The KeyBars button was previously labeled Config Keys.

KeyBar Cycle

A KeyBar is the set of keys visible at one time. The KeyBar Cycle is a collection of KeyBars that can be visible. The user "cycles" through the collection of KeyBars by tapping the arrow buttons on either end of the current Key-Bar. Each key on the KeyBar is associated with a host or emulator operation. Users are allowed a maximum of eighteen KeyBars, four of which can be customized. The same KeyBar may be added multiple times to the Key-Bar Cycle.

Custom Bar

A Custom KeyBar (**Custom Keys 1** through **Custom Keys 4**) can also be included in the KeyBar Cycle. Tapping the **Custom Bar** tab allows the user to configure a custom KeyBar. There are over 180 buttons to choose from, refer to RFTerm ToolBar (page 9-1) for available choices.

KeyBar Configuration `OK` `×`

KeyBar Cycle | Custom Bar

Custom Keys 1 ▼

Previous KeyBar
Next KeyBar

Add to Above | Delete

Previous KeyBar ▲
Next KeyBar
--Separator-- ▼

To edit a Custom KeyBar

- In the **KeyBar Cycle** tab, add a Custom Bar to the KeyBar Cycle
- In the **Custom Bar** tab, select the Custom Bar that you want to configure
- Select the Key or operation that you want to appear on this custom bar
- Tap **Add to Above**. The selected key / operation will appear in the list.
- Delete unwanted keys by selecting them and tapping **Delete**.

You can add up to a maximum of 8 key buttons on each Custom Bar (fewer on some devices). The entry for **Previous KeyBar** cannot be removed and must exist in each KeyBar to allow for "cycling" between KeyBars. Typically, the last key should be **Next KeyBar** for cycling to the next KeyBar.

One powerful capability of the KeyBar is the ability to associate keys with the Text InputTool. Key entries **Input 1** through **Input 20** are tied to the corresponding twenty entries in the Text InputTool. Thus if you have a text string configured in the data input tool, this string can be submitted to the host application by tapping on the **Input X** key in a Custom KeyBar. Tapping this key will send the complete text string to the current cursor location. For VT client sessions, escape sequences can be added to the Text InputTool text. This allows users to configure custom escape sequences as required by their host applications.

Escape sequences can be entered into the Text InputTool in the following format:

```
\e = Escape
\n = Newline
\r = Enter or Return
\t = Tab
\xDD = Hexadecimal value
```

Note: The list of keys that are available for a Custom KeyBar includes "Escape". The Escape icon is identical for VT Escape and 3270 Escape, both listed in RFTerm ToolBar (page 9-1) icon listing. When setting up a Custom KeyBar for VT or IBM, and VT Escape or 3270 Escape is required, select the "Escape" icon.

Options2

Determines the behavior of RFTerm in certain circumstances.
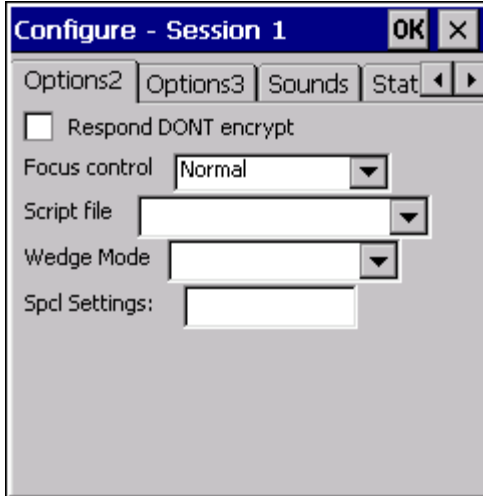
- From the application menu, select **File > Settings**.
- A Settings dialog box is displayed.
- Choose the **Options2** tab

Parameters

Respond DONT encryption

Determines the behavior of RFTerm response to WILL encryption.

- When checked, RFTerm responds DONT.
- When unchecked, RFTerm responds WONT.

The default is unchecked (WONT).

Focus Control

Determines if RFTerm remains the focus window when another dialog attempts to grab focus.

- **Normal** - RFTerm does not override. (default)
- **Foreground** - RFTerm forces the focus back to RFTerm if a "Backup Battery Low" dialog grabs focus.

Script File

Note: This option pertains to the Marathon computer with all available operating systems. This parameter has no effect on other devices.

If Freefloat Link One is not active (or not installed) an error message may be displayed when trying to set this option.

- Specify the script file used to determine the Freefloat Link One wedge mode.
- **Using Default script.txt** - The script file provided with Freefloat Link One is used. Only Keyboard mode may be selected for the wedge when this script file is used. (default)
- **Using RFTerm script.txt** - The RFTerm script file is used. Either Keyboard or Subscriber/Block mode may be selected for the wedge when this script file is used.
- **Copy RFTerm script.txt** - Selecting this option copies the RFTerm supplied script.txt over the currently used script.txt file. If the copy fails, an error message is displayed.

To use the RFTerm script file:

1. Select the **Copy RFTerm script.txt** option.

2. Confirm that you wish to copy the file and select Start > Shutdown > Restart when propmted to reboot the RFTerm.

3. After the RFTerm has restarted, return to this screen and verify Using RFTerm script.txt is selected. If not, select it.

4. The Wedge Mode (see below) can now be changed as desired.

Wedge Mode

Note: Freefloat Link One Wedge is used on the Thor VM1 and Thor VM2 equipped with a Windows Embedded Standard Operating System and all Marathon operating systems. This parameter has no effect on other devices.

Determines the mode for the Freefloat Link One wedge.

- **Keyboard** - Data from the integrated scanner is passed through the keyboard buffer. This is the only option available if the default script.txt is selected. (default)
- **Subscriber/Block** - Data from the scanner is transmitted in subscriber/block mode. This method can be much faster than keyboard mode. **Using RFTerm script.txt** must be selected first or an error is displayed and the remains in Keyboard mode.

Spcl Settings

This feature is designed for Honeywell support debugging use only.

Options3

Allows the size and position of the RFTerm window to be specified. By default, RFTerm is displayed in a full window.

Note: This tab was previously labeled **Win Size***.*

Note: There are no configurable options on this screen for devices equipped with a Windows Mobile, Windows XP, Windows 7, Windows 10, or Windows Embedded Standard operating system. Window Size cannot be adjusted for these devices.
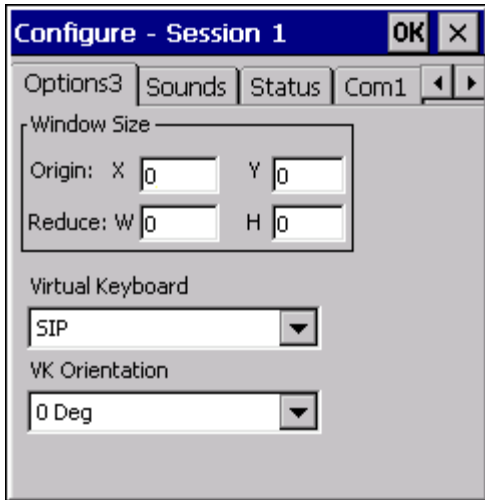
- From the application menu, select **File > Settings**.
- A Settings dialog box is displayed.
- Choose the **Options3** tab

By default, RFTerm is displayed in a full window (all four settings are 0). There is no error checking for the specified ranges except:

- Valid entries for each parameter are 0 through 999
- The smallest window size is 60x60 pixels regardless of the specified values.
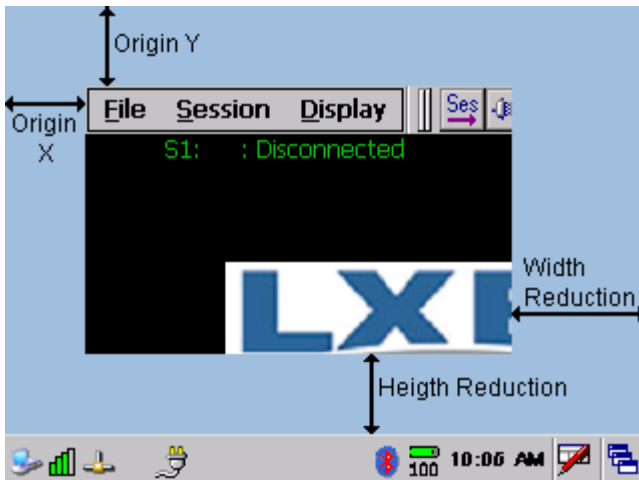
Parameters

Origin X

Specifies the number of pixels to the right of the left origin point to place the left edge of the RFTerm window. Valid entries are 0 through 999. Default is 0.

Origin Y

Specifies the number of pixels below the top origin point to place the top edge of the RFTerm window. Valid entries are 0 through 999. Default is 0.

Width Reduction

Specifies the number of pixels to the left of the right side screen limit to place the right edge of the RFTerm window. Valid entries are 0 through 999. Default is 0.

Height Reduction

Specifies the number of pixels above the bottom screen limit to place the bottom edge of the RFTerm window. Valid entries are 0 through 999. Default is 0.

Virtual Keyboard

Dolphin 70e Black only.

Determines the format of the virtual keyboard to be displayed. In addition to the traditional Windows SIP, the Dolphin 70e Black supports several custom virtual keyboards:

• **None** - Do not display a virtual keyboard
• **Num Left** - Display a numeric only virtual keyboard on the left side of the screen
• **Num Right** - Display a numeric only virtual keyboard on the left side of the screen
• **Qwerty** - Display a QWERTY virtual keyboard
• **Emulator** - Display an HX2-style virtual keyboard
• **SIP** - Default. Display the standard Windows SIP.

Note: The host can also send commands to switch the virtual keyboard. See Virtual Keyboards (page 9-12).

VK Orientation

Dolphin 70e Black only.

Determines the orientation of the display:

• **0 Deg** - Display is not rotated (portrait mode).
• **90 Deg** - Display is rotated 90º (landscape mode).
• **180 Deg** - Display is rotated 180º (portrait mode).
• **270 Deg** - Display is rotated 270º (landscape mode).

Note: Display orientation can also be set outside of RFTerm using the Dolphin Power Tools.

Sounds

Sounds may be configured for various events.

The Alarm on Match Text only sounds when a form is sent to RFTerm from the host. Entering data or moving the cursor around on the screen does not cause extra beeps when the alarm text remains unchanged. When the user exits and then returns to the Alarm on Match Text menu, another beep will occur.

Note: Before selecting a user-installed sound or WAV file to be played on a mobile client, the appropriate WAV file or sound file must be available in the mobile device operating system persistent folder on the storage card. This will ensure the WAV file is saved instead of discarded when the device is rebooted.

If there is no WAV file in the folder, the text boxes are blank. When there is a WAV file in the folder, the Good Beep/Bad Beep and Alarm Sound drop down boxes are preset with the default value <DEFAULT> until changed.
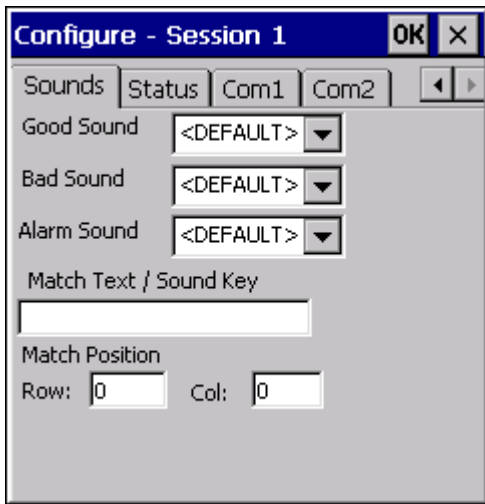
- From the application menu, select **File > Settings**.
- A Settings dialog box will be displayed.
- Choose the **Sounds** tab.

Note: The Good Sound pulldown list was previously labeled Good Beep. The Bad Sound pulldown list was previously labeled Bad Beep. The Match Text / Sound Key textbox was previous labeled Alarm on Match Text. The Alarm on Match Text textbox only accepts Match Text. It does not accept Sound Keys.

Parameters

Good Sound

Select the sound from the drop-down box to play when an event such as a good scan occurs. Valid entries are determined by the available WAV files, plus <NONE> (no sound) and <DEFAULT> (default Windows event sound). The default is <DEFAULT>.

Note: Before enabling the Good Sound, verify that "Good Scan" sounds are disabled on the mobile client using the device's control panel applet (e.g., Volume and Sounds Properties and/or Scanner Properties). When Good Scan sounds are enabled in RFTerm and on the mobile client, there may be double sounds emitted by the mobile client during a "Good Beep" function.

Bad Sound

Select the sound from the drop-down box to play when an error such as a bad scan occurs. Valid entries are determined by the available WAV files, plus <NONE> (no sound) and <DEFAULT> (default Windows event sound). The default is <DEFAULT>.

Note: Before enabling the Bad Sound verify that "Bad Scan" sounds are disabled on the mobile client using the client's Control Panel applet (e.g., Volume and Sounds Properties and/or Scanner Properties). When Bad Scan sounds are enabled in RFTerm and on the mobile client, there may be double sounds emitted by the mobile client during a "Bad Beep" function.

Beep on Error

When the Windows System Sound (Exclamation Point) is desired as the Bad Beep sound, the user must change the WAV file associated with the Operating System on the mobile client (e.g. "Volume and Sounds"). See the mobile client specific Reference Guide.

Alarm Sound

Select the sound from the drop-down box to play when a when text shown in "Match Text" is displayed. Valid entries are determined by the available WAV files, plus <NONE> (no sound) and <DEFAULT> (default Windows event sound). The default is <DEFAULT>.

Note: Before enabling the Alarm Sound Wav, verify that all sounds are disabled on the mobile client using the client's Control Panel applet (e.g., Volume and Sounds Properties). When Alarm Sounds are enabled in RFTerm and on the mobile client, there may be double sounds emitted by the mobile client during an RFTerm Alarm function.

Match Text / Sound Key

Specify the Match Text or Sound Keys. Both may be specified in this textbox; however the Match Text must be specified first. See below for examples.

Match Text

Enter the text to be displayed on the user's screen (for example, "Login") when a response from the user is desired. The default is blank.

After playing the Alarm Sound WAV and displaying the Match Text, RFTerm then waits for a user response.

Sound Key

Use Sound Key to map various sound causes to the three available sounds.

The Sound Key string is three characters:

The first character is $.

The second character is the cause of the sound:

M for Match

H for Host

U for User

S for Good Scan

L for Laser Error or Bad Scan.

The third character is the sound played:

G for Good Sound

B for Bad Sound

A for Alarm Sound.

Examples

$HA means to assign **H**ost initiated sounds to the **A**larm sound

$MA means to assign the **M**atch string sound to the **A**larm sound

$LB means to assign the **L**aser error (scan error) to the **B**ad sound

$SG means to assign the good **S**can sound to **G**ood sound

$UA means to assign **U**ser initiated sounds to the **A**larm sound.

HALB$SG - Multiple sounds can be assigned by entering Sound Keys consecutively.

LoginHAMA$UA - Match Text can be used with Sound Keys as long as the Match Text comes before the Sound Keys in the string.

Alarm Position

Enter the row and column starting position for the Alarm on Match Text to be displayed on the user's screen. The default is Row=0 Column=0.

The alarm sounds when it discovers the Alarm on Match Text at the specified row and column. The alarm does not sound when the Alarm on Match Text is located at any other position.

Sound Events

Host initiated sounds can be triggered by:

- a TN5250/TN3270 message with the Alarm bit set
- a VT220 "bell" command
- a *B string

User initiated sounds are triggered by:

- the user moving the cursor outside a field and trying to enter data
- the user trying to enter a letter into a numeric only field
- the user trying to enter data during input inhibit.

Status

Status information is split into two categories.

Status icons that show connection information, the battery level and the state of the keyboard modifier keys may be displayed.

Status icons are not available on devices equipped with a Windows Mobile operating system.

A session menu can be displayed that shows all configured sessions.
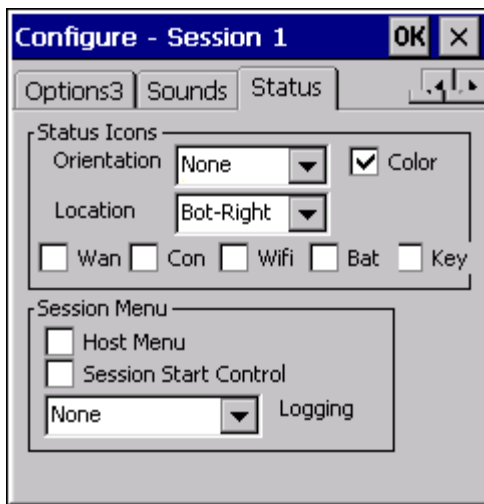
Parameters

Status Icons

Orientation

Determines if the status icons are active and, if active, the orientation of the status display.

Valid options are:

- **None** - Do not display the status icons
- **Horizontal** - Display the status icons with a horizontal orientation
- **Vertical** - Display the status icons with a vertical orientation
- **Large Horizontal** - Display larger status icons with a horizontal orientation
- **Large Vertical** - Display larger status icons with a vertical orientation.

The default is None (status icons not displayed).

Location

If enabled, determines the location of the status icons on the RFTerm screen. Valid options are:

- Top-Left
- Top-Right
- Bottom-Left
- Bottom-Right

The default is Bottom-Right.

Color

Determines if the status icons are displayed in color (default) or monotone. The examples below are the color icons.

WAN

WWAN signal strength is indicated by a four bar icon with a W.

Excellent signal strength

Good signal strength

Fair signal strength

Poor signal strength

No signal

Con

Displays the status of the connection to the host.

No currently connected session

Session connected

WiFi

Signal strength for 802.11 radio is indicated by a four bar icon.

Excellent signal strength

Good signal strength

Fair signal strength

Poor signal strength

No signal

Bat

Battery power is indicated by a battery icon or a plug icon.

Excellent battery strength

Good battery strength

Fair battery strength

Poor battery strength

External power source connected

Key

The status of certain keypress states are indicated.

None of the states below are active.

The Alt   keypress state is active

The Ctl keypress state is active

The Shift keypress state is active

The CapsLock (or CAPS) keypress state is active

Session Menu

The Session Menu parameters provide options for displaying and swapping between sessions.

Host Menu

When enabled, the Host Menu displays information on sessions on the RFTerm "idle" screen. The Host Menu can also be displayed in front of an actively connected session by pressing **[Ctrl][Alt][0]**. When the Session Menu is displayed, pressing keys 1 through 4 switches to that session:

- If the selected session is not connected, selecting the session starts that session. If the connection fails, the Host Menu is displayed again.
- If the selected session is already connected, selecting returns the user back to that session.

When a session is selected, the Host Menu is dismissed. When a session is ended by a regular sign off, the Session Menu is automatically displayed, if enabled.

Information displayed, from left to right is:

- Active session indicator:

    >> for active

    __ for inactive

- Session ID, i.e. S1
- Connection status:

    C for connected

    _ for not connected

- Host Name, as entered on **Session > Configure** screen (optional)
- Host IP Address, as entered on **Session > Configure** screen

Session Start Control

Session Start Control is provided so the user has control over whether or not an auto login session starts.

When enabled, Session Start Control displays a confirmation box before starting the session selected from the Host Menu. When the popup is displayed:

- Clicking **OK** or pressing Enter starts the session.
- Clicking the **X** or pressing ESC cancels the session start and returns the user to the Host Menu.

Since auto login sessions may start as soon as the session is selected. By providing the option to start or cancel the session, the user is provided a rest-point where it is safe to switch off the device without having any open

When disabled, the auto login sessions start without the user having any input.

Logging

The logging feature is designed for Honeywell field service use only.

Com1 and Com2

*Note: **Com1** and **Com2** tabs replace the previous **Serial Data** tab. With the **Com1** and **Com2** tabs, each COM port can be independently configured,*

The options for Com1 and Com2 are the same.
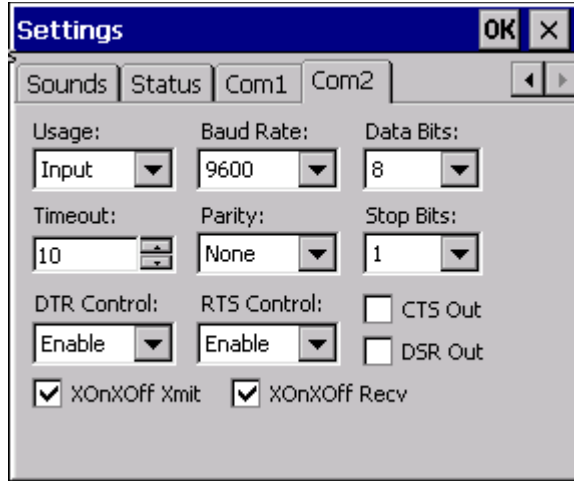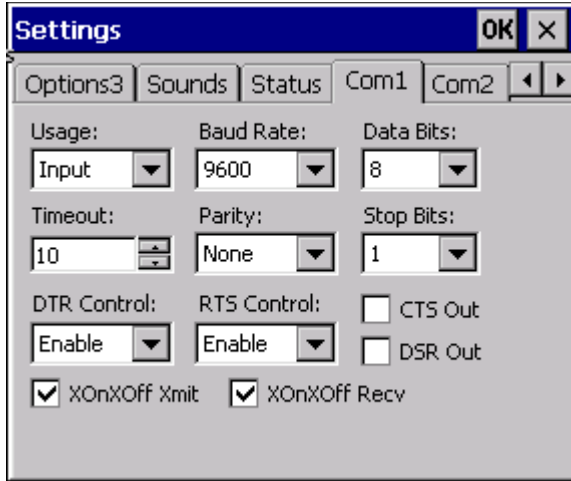
- From the application menu, select **File > Settings**.
- A Settings dialog box will be displayed.

- Choose the **Com1** or **Com2** tab.

Should RFTerm be unable to apply any of the COM Port settings, a popup dialog will appear., such as the one below:

COM ports available are dependent on the configuration of the mobile device.

Parameters

Usage

Select the desired communication configuration for the selected COM port:

- Input - The COM port is configured for input only (default).
- I/O - The COM port is configured for bi-directional communications
- In/Print - The COM port is configured for input and the print settings are controlled from the dialog box displayed by selecting File > Print Setup > Direct Serial (page 4-6).
- Off - The COM port is disabled.

Baud Rate

Specifies the baud rate at which the COM port operates. The default is 9600.

Data Bits

Specifies the number of data bits to be used. It is one of the following values: 7, or 8 (default).

Timeout

Specifies port timeout in seconds. The default is 10.

Parity

Specifies the parity scheme to be used. It is one of the following values: even, mark, none (default), odd and space.

Stop Bits

Specifies the number of stop bits to be used. It is one of the following values: 1 (default), or 2.

DTR Control

Specifies the data-terminal-ready flow control. The options are enable (default), disable and handshake.

RTS Control

Specifies the request-to-send flow control. The options are enable (default), disable, handshake and toggle.

CTS Out

Specifies if the CTS (clear-to-send) signal is monitored for output flow control. The default is disabled (unchecked).

DSR Out

Specifies if the DSR (data-set-ready) signal is monitored for output flow control. The default is disabled (unchecked).

XonXoff Xmit

Specifies if XON/XOFF flow control is used during transmission. The default is enabled (checked).

XonXoff Recv

Specifies if XON/XOFF flow control is used during reception. The default is enabled (checked).

Stored Forms

A stored form is a combination of valid ANSI/DEC/LXE commands and text that, when executed by RFTerm and displayed on the screen, appears as a fill-in form.

For all devices with a Windows CE, Windows Embedded Compact, or Windows Mobile operating system

RFTerm places the commands and text that comprise the form in the System/LXE/RFTerm/Stored Forms folder.

For all devices with a Windows XP, Windows 7, Windows 10, or Windows Embedded Standard operating system

RFTerm places the commands and text that comprise the form in the Windows/LXE/Stored Forms folder.

Creating Stored Forms

Stored forms are written by the host application programmer and sent from the host to the mobile client. You cannot create a form from the mobile client.

The maximum number of stored forms supported by RFTerm is 100 and the maximum size of each stored form is 2K. The /Stored Forms folder is not automatically cleared upon a mobile client cold boot.

See also: Forms (page 6-3) for command codes for stored forms.

3

Session Configuration

This section describes various configuration parameters for setting host connections. All these parameters may be set using the application configuration dialogs accessed from the **Session > Configure** application menu. Except for "Connection" parameters, you can change or update any other parameters at any time, whether the host session is connected or disconnected.

All configuration attributes are associated with the currently active session. Every session can have a different set of configuration attributes.

⚠ *For Microsoft Windows 7, Windows 10, and Windows Embedded 7:*

It is necessary to run to run RFTerm as an administrator when modifying these settings because RFTerm must be able to access and make changes to the Windows registry.

Rather than selecting to run as administrator each time, right click on the RFTerm icon and select **Properties***. Tap the* **Compatibility** *tab and check* **Run this program as an administrator***. This modification affects the current user only unless* **Change settings for all users is tapped** *before changing the privilege level.*

Connection

The following figures show the Connection tab of the host session configuration dialog.
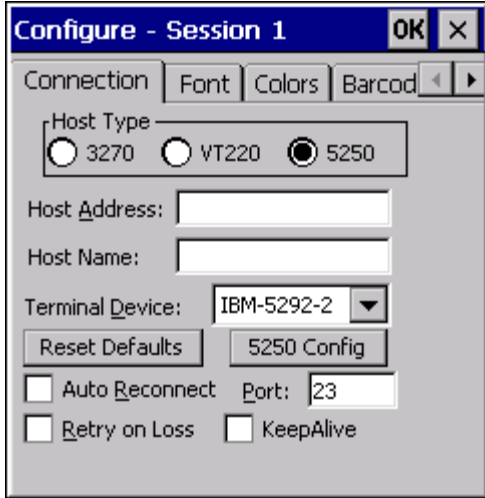
Note: The dialogs dynamically change depending upon the current selection of "Host Type".

1. From the application menu, Select **Session > Configure** or tap the Configure button on the ToolBar.

2. A Configure dialog box is displayed.

3. Choose the **Connection** tab.

Prerequisites for Connection

Before you make a host connection, you will, at a minimum, need to know:

* the alias name or IP address and
* the port number of the host system

to properly set up your host session.

*Note: There are several new tabs available on the **Sessions > Configure** screen.*

Parameters

Host Type

This is the terminal emulation type required by the host. Your choices are 3270, or VT220. You may select only one emulation type for the session. Other connection options may change depending upon the host emulation type selected.

Host Address

This is the address of a host system or an intermediate gateway managing connections to the host system. Enter either the numeric IP address or the alias name, using up to 64 characters. This option is case-sensitive.

Host Name

Host name is a field used to identify the session in the Session Menu. Host name is comprised of alphanumeric characters. No host name resolving is performed.

Terminal Device

This is the client type string that determines the specific client to emulate. For 3270 emulations only model 2 screen geometry is supported. VT220 supports VT52, VT100 and VT220 terminal types. Each host emulation type has its own default terminal type.

Telnet Port

This is the TCP socket port number to be used to connect to the host system. The default is 23. The range is between 0 and 65535.

Reset Defaults

Tap this button to reset all parameters for the selected session to their default values.

3270, 5250, VT Config

| 3270 Config | 5250 Config | VT Config |

This button, which changes with the Host Type selection, opens a configuration dialog for 3270, 5250 or VT emulation settings.

KeepAlive

Checking the KeepAlive box will send a message to the host every 2 hours (approximately). If the host responds, RFTerm knows the host is still present and will keep the socket open. If the host does not respond to repeated Keep-Alive messages, RFTerm will close the connection to the host. The KeepAlive Interval default value is approximately 2 hours.

By default, KeepAlive is enabled.

Auto Reconnect

Checking this box will cause RFTerm to automatically attempt to reconnect to the host should the connection be terminated by the user or the host, other than signal loss.

Retry on Signal Loss

This option enables an automatic reconnection attempt for this session should the signal be lost. This option is valid for both RF (802.11) and WWAN connections to the host

VT Configuration

Keys
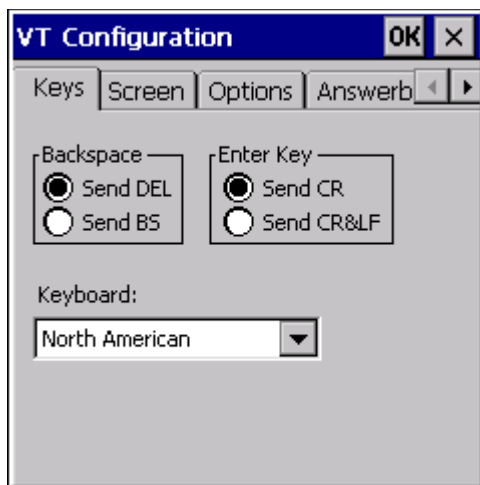
- From the application menu, select **Session > Configure** or tap the **Configure** button on the ToolBar.
- A Configure dialog box will be displayed.
- Choose the **Connection** tab.
- Select VT220 as the Host Type, press the **VT Config** button.
- Choose the **Keys** tab.

Parameters

Backspace

When in character mode, this option configures the backspace key to send either the Delete character or the Backspace character. The default is Send Delete character.

Enter Key

This option configures the Enter key to send either a carriage return or a carriage return and line feed. The default is Send Carriage Return.

Keyboard

Specifies the international ASCII character set for use with the VT220 emulation. The default is North American.

Screen
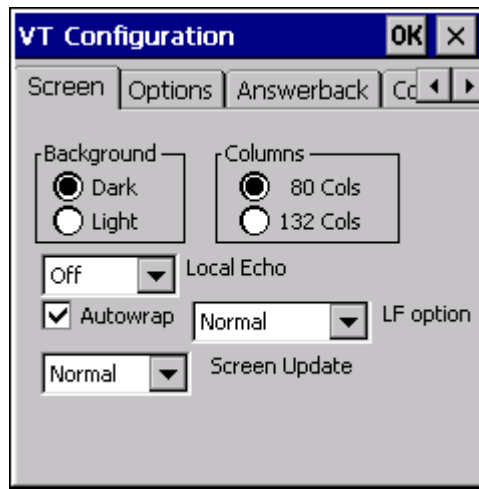
- From the application menu, select **Session > Configure** or tap the **Configure** button on the ToolBar.
- A Configure dialog box will be displayed.
- Choose the **Connection** tab.
- Select VT220 as the Host Type, press the **VT Config** button.
- Choose the **Screen** tab.

Parameters

Background

This option controls the background shade for VT host sessions. The default is Dark.

Columns

This option specifies the number of columns to be set for the VT host session to be 80 or 132. The default column value is 80 columns. See also: Answerback Columns (page 3-9).

Local Echo

Use this option to select the local echo mode (when in character mode). The default is Off.

- **Off** - Local echo is off
- **On** - Local echo is on. Typed text is echoed locally on the mobile client.
- **On CR** - Local echo is on. Typed text is echoed locally on the mobile client. CR is added to incoming LF.

Note: previous versions had a Local Echo checkbox which enabled local echo when checked.

Autowrap

Check this option to enable automatic wrapping of text once it reaches the maximum column width. The default is Enabled (checked).

LF Option

Use this option to control the handling line feed (LF) handling. The default is Normal.

- **Normal** - No special handling is performed.
- **LFisCRLF** - LF is converted to CRLF is the LF is not already paired with a CR.

Screen Update

Controls the fast screen update enhancement.

- **Normal** - rapid (fast) update enhancements are used. This is the default.
- **Rapid 1** - Half second timer for last update, packet count of 3 to begin fast update
- **Rapid 2** - Half second timer for last update, packet count of 5 to begin fast update
- **Rapid 3** - One second timer for last update, packet count of 3 to begin fast update
- **Rapid 4** - One second timer for last update, packet count of 5 to begin fast update

Options
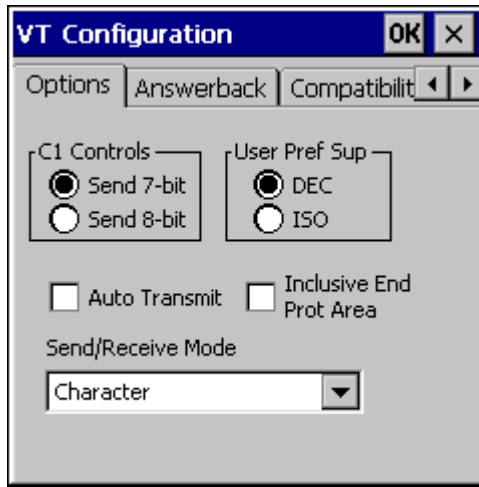
- From the application menu, select **Session > Configure** or tap the **Configure** button on the ToolBar.
- A Configure dialog box will be displayed.
- Choose the **Connection** tab.
- Select VT220 as the Host Type, press the **VT Config** button.
- Choose the **Options** tab.

Parameters

C1 Controls

The C1 Controls option allows the user to select 7 bit or 8 bit ASCII control sequences for the host session. The default is Send 7-bit.

User Preference Supplemental

This is the user preferred supplemental character set. The default is DEC.

Auto Transmit

Checking this box will cause the entire screen to be sent to the host after the user exits the last field on the screen. Before sending the data, the Auto Transmit function evaluates the final cursor movement. If the final cursor movement was caused by a backspace or backtab, the screen is not sent to the host. Note that arrow keys have no effect on Auto Transmit. The default is blank.

Inclusive End Prot Area

When checked, the End Of Protected Area command is inclusive when a second field exists on the screen, so that the last location does not become unprotected. The default is unchecked.

Send/Receive Mode

The default is Character.

- **Always Block** - RFTerm will remain in Block mode during and after logon. The host can override the current mode.
- **Always Character** - RFTerm will remain in Character mode during and after logon. The host can override the current mode.
- **Always Line** - RFTerm will remain in Line mode during and after logon. The host can override the current mode.
- **Block** - RFTerm starts in Character mode until a logon connection occurs, and then it remains in Block mode. The host can override the current mode. A function key press performs an Autosend.
- **Character** - RFTerm starts in Character mode until a logon connection occurs, and then it remains in Character mode. The host can override the current mode.
- **Key Buf Char** - Character mode with a buffer. The buffer captures incoming messages and forwards them for processing. If a character fails to be processed, the buffer reattempts processing the buffer contents.
- **Line** - RFTerm starts in Character mode until a logon connection occurs, and then it remains in Line mode. The host can override the current mode. A function key press performs an Autosend.

Answerback
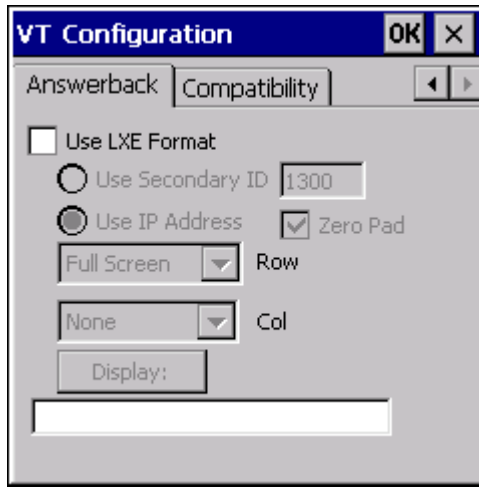
- From the application menu, select **Session > Configure** or tap the **Configure** button on the ToolBar.
- A Configure dialog box will be displayed.
- Choose the **Connection** tab.
- Select **VT220** as the Host Type, press the **VT Config** button.
- Choose the **Answerback** tab.

Parameters

Use LXE Format

When this parameter is enabled (checked), the following options to modify the Honeywell formatted string are available and the Answerback string cannot be directly edited.

When this parameter is disabled (blank), the user can edit the Answerback string as described in Answerback Message (page 3-9). Other parameters on this dialog box cannot be edited (dimmed). Use IP Address and Zero Pad are Enabled by default.

Use Secondary ID

Secondary ID and IP Address are mutually exclusive. Checking one disables the controls for the other. The default Secondary ID is 4 zeros "0000" in alphanumeric format. This is an alternate method to identify the client with a 4-digit number. It is automatically padded with zeros if it contains fewer than 4 characters.

Honeywell Session Management

To use RFTerm with any of the Honeywell Session Management products, the Answerback string must be formatted to include a Secondary ID.

Special Formatting

Special formatting characters are available to insert device specific ID components into the Secondary ID portion of the answerback string. Refer to Special Formatting for Answerback String (page 3-9) for details.

Use IP Address

Instructs RFTerm to use the IP Address of the device in the Answerback string. This parameter is disabled when Use Honeywell Format and Use Secondary ID are enabled. This is the default.

Zero Pad

When Zero Pad is enabled (checked), any of the four numbers in the IP address less than 100 will be padded with leading zeros. For example, with Zero Pad disabled (blank), an IP address is generated as 1.16.253.42. With Zero Pad enabled, the IP address is generated as 001.016.253.042.

Row

The default is Full Screen.

- **None** - When selected, sends nothing for the row field in the Answerback string.
- **Full Screen** - When selected, sends 24 for rows in the Answerback string.
- **Specify** - Allows the row information to be set according to the customer's needs. Two characters maximum.

Columns

The default is None.

- **None** - When selected, sends nothing for the column field in the Answerback string.
- **Full Screen** - The setting established in the Columns parameter (80 or 132) on the **VT Configuration > Screen** tab sets the column size for the Answerback string.
- **Specify** - Refer to VT **Configuration > Screen > Columns** parameter. Allows the column size, based on the setting in the Columns parameter, to be adjusted according to the customer's needs. Three characters maximum.

See also: Screen > Columns (page 3-5).

Display

The user may press this button at any time to view the answerback string with the selected options.

Note: The string cannot be edited by the user when Use LXE Format is enabled (checked).

Answerback Message

Host applications may query the VT client for a text message answerback response. This response may be used to identify the client. The answerback string is automatically generated when requested by the host using the ENQ command, or by pressing the Display button. The default format contains the following items after LXE/q/:

- The number of rows currently visible on the screen.
- The current release number of RFTerm, same as in the About Box.
- The IP address of the device, or an optional secondary ID. The default uses the IP address.
- Optionally, the number of columns currently visible on the screen.

If Use LXE Format is unchecked, the Answerback Message is an entry field.

Special formatting characters are available to insert device specific ID components into the answerback string. See below for details.

Special Formatting for Answerback String

The user can enter the **%** character in either the Secondary ID textbox (when the LXE format is enabled) or directly in the Answerback Message textbox (when the LXE formatting is disabled) to indicate how to retrieve and format the portion of the data source to be included in the Answerback string.

The **%** is followed by a string of special characters in the format **%vwwyyz**

Where:

v must be one of the following values:

v value	Result
0	The string is zero padded.
<space>	The string is space padded.
:	The next character is not to be formatted and is copied without processing into the string. Special formatting resumes if another % symbol is encountered in the string.
;	Formatting is stopped for the remainder of the string. In this case, the initial "%" and the ";" characters are deleted from the string and all other characters are shifted to the left.

ww is the two digit minimum display width.

yy is the two digit precision, the number of digits to display.

- If the minimum display width (**ww**) is greater than the precision (**yy**) then the string is padded with either zeros or spaces (depending on the value for **v**).
- When counting digits of precision (**yy**), only the actual hexadecimal digits are counted. Delimiters such as the period (in an IP or MAC address) or the dash (GUID) are not counted as digits of precision and are not displayed in the result.
- If the selected precision (**yy**) is greater than the minimum display width (**ww**) and the selected precision is less than the available digits in the ID selected, the number of digits returned is the digits of precision.
- If the selected precision (**yy**) is greater than the minimum display width (**ww**) and the selected precision is greater than the available digits in the ID selected, the number of digits returned is the greater of the available digits or the minimum display width.
- The maximum value is 31 for display width (**ww**) and digits of precision (**yy**).

z must be one of the following values:

z value	Result
I	Indicates the device's IP address is used to identify the device. If the IP address is not available, a string of padding characters results.
G	Indicates the GUID is used to identify the device. The conversion beings with the rightmost character of the GUID and counts to the left. If a GUID is not available from the operating system, RFTerm generates and stores the GUID in a non-volatile location eliminating the need to generate the GUID more than once.
M	Indicates the MAC address is used to identify the device. The conversion begins with the rightmost character of the MAC address and moves to the left. Colons are ignored during the conversion. If the MAC address is not available, a string of padding characters results.
T	Indicates the Wavelink Avalanche TID is used to identify the device. If the TID is not available, a string of padding characters results.

*Note: If the above rules are broken (***ww*** or ***yy*** are not two digits, ***y*** is an invalid value, etc.) the special formatting is abandoned and the string is filled with* ***ERROR****.*

Examples

Refer to the following examples for a device with IP address: **10.10.1.23**, GUID: **415B1AF5-561F-373D-A244-80250E3CA123**, MAC address: **00:0F:F8:01:23:45** and no Wavelink TID assigned to the device:

String Entered	Resolves to
ABC%00808I	ABC01010123
ABC% 0808I	ABC 1010123
ABC%00804I	ABC00000123
ABC%00408I	ABC1010123
ABC%00301I	ABC003
ABC%01012I	ABC0001010123
ABC%00404G	ABCA123
ABC%00303M	ABC345
ABC%00404T	ABC0000
ABC%0404T	*ERROR*
ABC%;XYZ	ABCXYZ
ABC%;%X%Y%Z	ABC%X%Y%Z
%:%ABC%00303I	%ABC123
ABC%:%% 0303I	ABC% 23

Compatibility

- From the application menu, select **Session > Configure** or tap the **Configure** button on the ToolBar.
- A Configure dialog box will be displayed.
- Choose the **Connection** tab.
- Select VT220 as the Host Type, press the **VT Config** button.
- Choose the **Compatibility** tab.

Parameters

SEM (Select Editing Extent Mode for VT220)

The session will use the default SEM assignment unless it is overridden by the host. The default is 0 (display).

Valid values are: 0 = display, 1 = row, 2 = field, 3 = area.

Select DEC Special Graphics into G1

The default is Disabled (unchecked). This option, when enabled, forces the mobile device to be in graphics mode at all times.

Unlock Keyboard Before End of Data Stream

When unchecked (disabled), the keyboard is locked until the end of the data stream is processed. This is the default behavior.

When checked (enabled), the keyboard is not locked while the data stream is processed.

Clear Tabs on Clear Screen

Determines if tabs will be cleared when the clear screen command "ESC[2J" is used. The default is None.

Valid values are:

- **None** - Does not clear any preset tabs.
- **Cursor Only** - Clears only the preset cursor tabs.
- **Column Only** - Clears only the preset column tabs.
- **Cursor and Col** - Clears both cursor and column preset tabs.

5250 Configuration
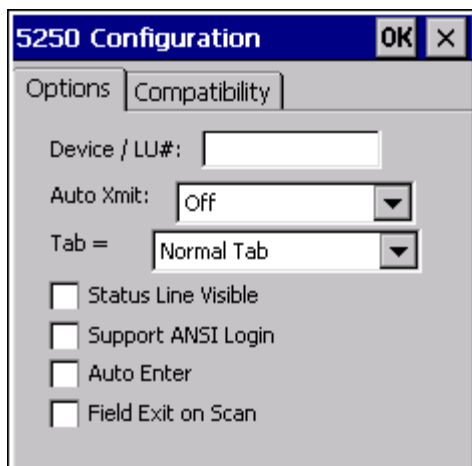
Options

- From the application menu, select **Session > Configure** or tap the **Configure** button on the ToolBar.
- A Configure dialog box will be displayed.
- Choose the **Connection** tab.
- Select 5250 as the Host Type, press the **5250 Config** button.
- Choose the **Options** tab.

Parameters

Device / LU#

This is an optional IBM parameter. It represents a dedicated LU number or name on the server that you might want to connect through. Default is blank.

Special Formatting

Special formatting characters are available to insert device specific ID components into the Device / LU# string. Refer to Special Formatting for Device / LU# String (page 3-13).

Auto Transmit

This selection determines the auto transmit behavior of RFTerm.

- **Off** - Auto transmit is disabled. This is the default.
- **Last field & pos** - This option causes the entire screen to be sent to the host based on data being entered into the last field and the last position of the field, thereby causing a field exit. The Auto Transmit function evaluates the final cursor movement. If the final cursor movement was caused by a backspace or backtab, the screen is not sent to the host. Note that arrow keys have no effect on Auto Transmit.
- **Last field & exit** - This option causes the entire screen to be sent to the host based on the occurrence of a field exit data in the last field.
- **Scan last field** - This option causes the entire screen to be sent to the host when data is scanned into the last field. The data does not have to fill the field to trigger the transmit.

Note: This parameter was previously a check box. Auto transmit was either disabled (unchecked) or enabled for transmit on last field and position (checked).

Tab = Field Exit

Determines the behavior of the Tab key:

- **None** - Tab does not behave as Field Exit.
- **Field Exit** - Tab behaves has field exit except when in a signed numeric field.
- **Field Exit Signed Only** - Tab behaves has field exit when in a signed numeric field
- **Field Plus Signed Only** - Tab behaves has field plus when in a signed numeric field

Status Line Visible

When Status Line Visible is checked, the status line is displayed on the last viewable row of the mobile client's screen. Default is blank.

Support ANSI Login

Checking this box will enable the 5250 session to perform as a limited VT emulation until an IBM terminal type is negotiated with the host. Default is blank.

Auto Enter

When Auto Enter is checked, an Enter command is sent to the host after a print. Default is blank.

Field Exit on Scan

When Field Exit on Scan is checked, RFTerm performs a Field Exit automatically if a field is being exited due to a bar code scan. Default is blank.

Special Formatting for Device / LU# String

The user can enter the **%** character in the Device / LU# textbox to indicate how to retrieve and format the portion of the data source to be included in the Device / LU# string.

The **%** is followed by a string of special characters in the format **%vwwyyz**

Where:

v must be one of the following values:

v value	Result
0	The string is zero padded.
\<space\>	The string is space padded.
:	The next character is not to be formatted and is copied without processing into the string. Special formatting resumes if another % symbol is encountered in the string.
;	Formatting is stopped for the remainder of the string. In this case, the initial "%" and the ";" characters are deleted from the string and all other characters are shifted to the left.

ww is the two digit minimum display width.

yy is the two digit precision, the number of digits to display.

- If the minimum display width (**ww**) is greater than the precision (**yy**) then the string is padded with either zeros or spaces (depending on the value for **v**).
- When counting digits of precision (**yy**), only the actual hexadecimal digits are counted. Delimiters such as the period (in an IP or MAC address) or the dash (GUID) are not counted as digits of precision and are not displayed in the result.
- If the selected precision (**yy**) is greater than the minimum display width (**ww**) and the selected precision is less than the available digits in the ID selected, the number of digits returned is the digits of precision.
- If the selected precision (**yy**) is greater than the minimum display width (**ww**) and the selected precision is greater than the available digits in the ID selected, the number of digits returned is the greater of the available digits or the minimum display width.
- The maximum value is 31 for display width (**ww**) and digits of precision (**yy**).

z must be one of the following values:

z value	Result
I	Indicates the device's IP address is used to identify the device. If the IP address is not available, a string of padding characters results.
G	Indicates the GUID is used to identify the device. The conversion beings with the rightmost character of the GUID and counts to the left. If a GUID is not available from the operating system, RFTerm generates and stores the GUID in a non-volatile location eliminating the need to generate the GUID more than once.

z value	Result
M	Indicates the MAC address is used to identify the device. The conversion begins with the rightmost character of the MAC address and moves to the left. Colons are ignored during the conversion. If the MAC address is not available, a string of padding characters results.
T	Indicates the Wavelink Avalanche TID is used to identify the device. If the TID is not available, a string of padding characters results.

*Note: If the above rules are broken (**ww** or **yy** are not two digits, **y** is an invalid value, etc.) the special formatting is abandoned and the string is filled with ***ERROR***.*

Examples

Refer to the following examples for a device with IP address: **10.10.1.23**, GUID: **415B1AF5-561F-373D-A244-80250E3CA123**, MAC address: **00:0F:F8:01:23:45** and no Wavelink TID assigned to the device:

String Entered	Resolves to
ABC%00808I	ABC01010123
ABC% 0808I	ABC 1010123
ABC%00804I	ABC00000123
ABC%00408I	ABC1010123
ABC%00301I	ABC003
ABC%01012I	ABC0001010123
ABC%00404G	ABCA123
ABC%00303M	ABC345
ABC%00404T	ABC0000
ABC%0404T	*ERROR*
ABC%;XYZ	ABCXYZ
ABC%;%X%Y%Z	ABC%X%Y%Z
%:%ABC%00303I	%ABC123
ABC%:%% 0303I	ABC% 23

Compatibility

Note: Previous versions had a **Scanner Always On** *option. This function has been replaced by the* **Scan Control** *option on the* [Barcode](#) *(page 3-24) tab.*

Note: Previous versions had a **Auto Clear Field** *checkbox. This has been replaced by a pulldown list.*

```
┌─────────────────────────────────────────┐
│ 5250 Configuration            OK │ × │
│ ┌────────┐┌──────────────┐              │
│ │Options ││ Compatibility │             │
│ └────────┘└──────────────┘              │
│   ┌─┐  Block PF key inhibit             │
│   │ │  (allow all 5250 PF keys)         │
│   └─┘                                   │
│   ┌─┐  Block Negative Response          │
│   │ │  for message buffer in use        │
│   └─┘                                   │
│   ┌──────────────┬──┐                   │
│   │Yes           │▼ │ Auto Clear Field  │
│   └──────────────┴──┘                   │
│   ┌─┐                                   │
│   │ │  Block Send Data Aid Invite       │
│   └─┘                                   │
│   ┌─┐                                   │
│   │ │  Reject on Restore Screen         │
│   └─┘                                   │
│   ┌──────────────┬──┐                   │
│   │Default       │▼ │ Cursor Home       │
│   └──────────────┴──┘                   │
│                                         │
└─────────────────────────────────────────┘
```

- From the application menu, select **Session > Configure** or tap the **Configure** button on the ToolBar.
- A Configure dialog box will be displayed.
- Choose the **Connection** tab.
- Select 5250 as the Host Type, press the **5250 Config** button.
- Choose the **Compatibility** tab.

Parameters

Block PF key Inhibit

Enable (check) this checkbox to allow all 5250 PF keys to send. Disable (blank) to block PF key inhibit and data will not be sent when a PF key is pressed.

The default is disabled.

Block Negative Response for Message Buffer in Use

Enable (check) this checkbox to block a negative response from being sent to the host when the mobile client message buffer is in use at the same time the host sends a command. The default is disabled (blank).

For example, a write to display command is received from the host but the mobile client buffer is being used for a message, so RFTerm sends back a negative response. The host interprets the response as user data.

Auto Clear Field

Select the desired option for auto clearing of the input field when the user moves the cursor to a field.

- **No** - The field is not cleared.
- **Yes** - The field is cleared when the user enters data (default).
- **Yes except arrow** - The field is cleared when the user enters data, however if the previous keypress was an arrow key, the field is not cleared.

Block Send Data Aid Invite

If not checked (default), the invite and pending read are set for the Send Data Aid.

If checked (blocked) then the invite and pending read are not set for Send Data Aid.

The default is disabled (not checked).

Reject On Restore Screen

When checked, RFTerm executes a CmdClearUnit command to clear the screen when a CmdRestoreScreen is received.

The default is unchecked, the CmdClearUnit is not executed on CmdRestoreScreen.

Cursor Home

Determines the behavior for cursor home. The default is Default.

Valid options are

- **Default** - Cursor is not repositioned.
- **Next** - Locates the cursor to the next field location.
- **Current** - Locates the cursor at the current field position.
- **Home** - Locates the cursor at the origin position (upper left corner).

3270 Configuration

Options

- From the application menu, select **Session > Configure** or tap the **Configure** button on the ToolBar.
- A Configure dialog box will be displayed.
- Choose the **Connection** tab.
- Select 3270 as the Host Type, press the **3270 Config** button.
- Choose the **Options** tab.

Parameters

Device / LU#

This is an optional IBM parameter. It represents a dedicated LU number or name on the server that you might want to connect through. Default is blank.

Special Formatting

Special formatting characters are available to insert device specific ID components into the Device / LU# string. Refer tp Special Formatting for Device / LU# String (page 3-18).

EAB

This is an optional 3270 terminal emulation parameter. If checked, this will allocate an Enhanced Attribute Buffer. EAB support allows for advanced display features such as color and highlighting. Default is Enabled.

Auto Transmit

Checking this box will cause the entire screen to be sent to the host after the user exits the last field on the screen. Before sending the data, the Auto Transmit function evaluates the final cursor movement. If the final cursor movement was caused by a backspace or backtab, the screen is not sent to the host. Note that arrow keys have no effect on Auto Transmit. Default is blank.

Status Line Visible

When Status Line Visible is checked, the status line is displayed on the last viewable row of the mobile client's screen. Default is blank.

Auto Enter

When Auto Enter is checked, all data will be sent to the host when all fields are completed. Valid for Block and Line mode. Default is blank.

Support TN3270E

When Support TN3270E is enabled, only Basic TN3270E (as defined in Section 9 of RFC 2355) host requests are supported. The default value is "checked" or enabled. Note that Full 3270E is not supported by RFTerm. Default is Enabled.

Special Formatting for Device / LU# String

The user can enter the **%** character in the Device / LU# textbox to indicate how to retrieve and format the portion of the data source to be included in the Device / LU# string.

The **%** is followed by a string of special characters in the format **%vwwyyz**

Where:

v must be one of the following values:

v value	Result
0	The string is zero padded.
<space>	The string is space padded.
:	The next character is not to be formatted and is copied without processing into the string. Special formatting resumes if another % symbol is encountered in the string.
;	Formatting is stopped for the remainder of the string. In this case, the initial "%" and the ";" characters are deleted from the string and all other characters are shifted to the left.

ww is the two digit minimum display width.

yy is the two digit precision, the number of digits to display.

- If the minimum display width (**ww**) is greater than the precision (**yy**) then the string is padded with either zeros or spaces (depending on the value for **v**).
- When counting digits of precision (**yy**), only the actual hexadecimal digits are counted. Delimiters such as the period (in an IP or MAC address) or the dash (GUID) are not counted as digits of precision and are not displayed in the result.
- If the selected precision (**yy**) is greater than the minimum display width (**ww**) and the selected precision is less than the available digits in the ID selected, the number of digits returned is the digits of precision.
- If the selected precision (**yy**) is greater than the minimum display width (**ww**) and the selected precision is greater than the available digits in the ID selected, the number of digits returned is the greater of the available digits or the minimum display width.
- The maximum value is 31 for display width (**ww**) and digits of precision (**yy**).

z must be one of the following values:

z value	Result
I	Indicates the device's IP address is used to identify the device. If the IP address is not available, a string of padding characters results.
G	Indicates the GUID is used to identify the device. The conversion beings with the rightmost character of the GUID and counts to the left. If a GUID is not available from the operating system, RFTerm generates and stores the GUID in a non-volatile location eliminating the need to generate the GUID more than once.
M	Indicates the MAC address is used to identify the device. The conversion begins with the rightmost character of the MAC address and moves to the left. Colons are ignored during the conversion. If the MAC address is not available, a string of padding characters results.
T	Indicates the Wavelink Avalanche TID is used to identify the device. If the TID is not available, a string of padding characters results.

*Note: If the above rules are broken (**ww** or **yy** are not two digits, **y** is an invalid value, etc.) the special formatting is abandoned and the string is filled with ***ERROR***.*

Examples

Refer to the following examples for a device with IP address: **10.10.1.23**, GUID: **415B1AF5-561F-373D-A244-80250E3CA123**, MAC address: **00:0F:F8:01:23:45** and no Wavelink TID assigned to the device:

String Entered	Resolves to
ABC%00808I	ABC01010123
ABC% 0808I	ABC 1010123
ABC%00804I	ABC00000123
ABC%00408I	ABC1010123
ABC%00301I	ABC003
ABC%01012I	ABC0001010123
ABC%00404G	ABCA123
ABC%00303M	ABC345
ABC%00404T	ABC0000
ABC%0404T	*ERROR*
ABC%;XYZ	ABCXYZ
ABC%;%X%Y%Z	ABC%X%Y%Z
%:%ABC%00303I	%ABC123
ABC%:%% 0303I	ABC% 23

Compatibility

*Note: Previous versions had a **Scanner Always On** option. This function has been replaced by the **Scan Control** option on the Barcode (page 3-24) tab.*

*Note: Previous versions had a **Auto Clear Field** checkbox. This has been replaced by a pulldown list.*

- From the application menu, select **Session > Configure** or tap the **Configure** button on the ToolBar.
- A Configure dialog box will be displayed.
- Choose the **Connection** tab.
- Select 3270 as the Host Type, press the **3270 Config** button.
- Choose the **Compatibility** tab.

Parameters

Clear to EOL

The default value is Disabled (unchecked). Enable (check) this parameter to force the RFTerm 3270 TE to clear displayable text to the end of line or to the end of field attribute when writing displayable text from the host. Hidden attributes are removed.

Auto Clear Field

Select the desired option for auto clearing of the input field when the user moves the cursor to a field.

- **No** - The field is not cleared.
- **Yes** - The field is cleared when the user enters data (default).
- **Yes except arrow** - The field is cleared when the user enters data, however if the previous keypress was an arrow key, the field is not cleared.

Order Prog Tab Erase

Determines if the 3270 screen is erased upon an error notification from the host:

- **Normal** - The erase does not occur for the Order Program Tab command (default).
- **Erase** - The erase does occur for the Order Program Tab command.

Null Format Control Order

This option determines how to handle a Null Format Control Order:

- **Process** - The beginning character in a field is erased after entering data and pressing send (default).
- **Ignore** - Prevents the erasing of the initial character in the field.

Font
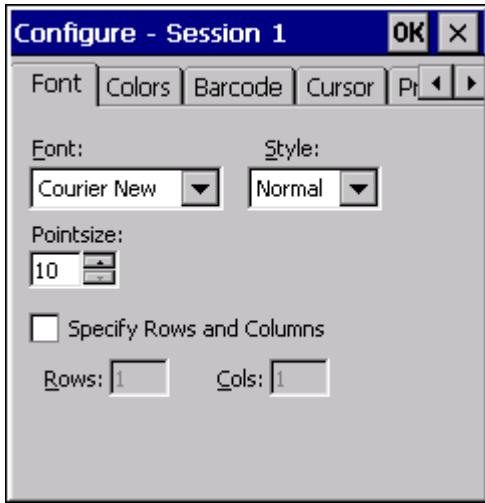
Configure - Session 1 [OK] [×]

Font | Colors | Barcode | Cursor | Pr ◄ ►

Font:
Courier New ▼

Style:
Normal ▼

Pointsize:
10 ▲▼

☐ Specify Rows and Columns

Rows: 1   Cols: 1

- From the application menu, select **Session > Configure** or tap the **Configure** button on the ToolBar.
- A Configure dialog box will be displayed.
- Choose the **Font** tab.

The default font is "Courier New" and the default style is "Normal". The default font may change based on the operating system and installed fonts on the mobile client.

Parameters

Font

The drop down box contains the name of a fixed-width True Type font that is used to display the text on the screen. The fonts listed are pre-installed in the mobile client or installed by the end-user. RFTerm supports double byte fonts.

For more information on installed fonts, see the equipment specific reference guide.

Style

This is the weight setting of the selected font. Available weights are: Default, Thin, Light, Normal, Medium, Bold, XBold, Heavy. The default is Normal.

Pointsize

Allows the pointsize of the selected font to be specified. The default is 10, valid values are from 6 to 72. If the Specify Rows and Columns checkbox is checked, Pointsize is calculated by RFTerm and this control is disabled (grayed out).

Specify Rows and Columns

The default is disabled (unchecked). Select this option to specify the rows and columns to fit the display using the Rows: and Cols: boxes. Using the specified rows and columns, RFTerm calculates the pointsize for the fonts. When this option is selected, the Pointsize control is disabled.

Colors

Traditional Windows color scheme is the default. Predefined color schemes are available to enhance visual readability of the display text on the mobile client. Further, mobile clients may be used in different lighting environments.
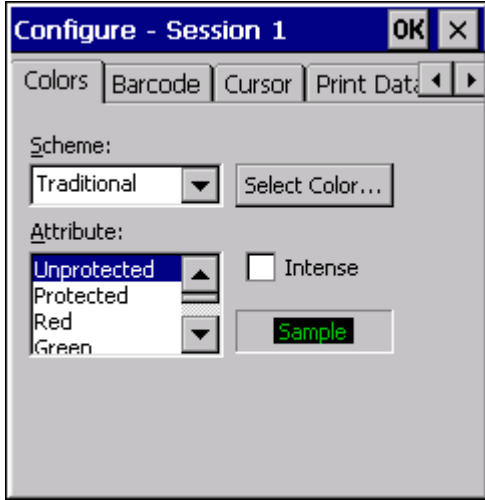
- From the application menu, select **Session > Configure** or tap the **Configure** button on the ToolBar.
- A Configure dialog box is displayed.
- Choose the **Colors** tab

In addition to predefined color schemes, a "Custom" color scheme may be used to configure various display attributes to suit the user's personal preferences.

Parameters

Scheme

To select a predefined color scheme, choose one from the Scheme drop down box. The sample box will change to reflect the current selected attribute foreground and background colors. The following pre-defined color schemes are available.

- **Traditional** - This is the traditional IBM terminal "green screen" color scheme.
- **Black on White** - Used primarily on devices with monochrome LCD displays.
- **White on Black** - Inverse of black on white.
- **Factory** - This color scheme is optimized for factory lighting and color displays.
- **Custom** - This scheme allows the user to alter various attributes.

Attribute

This is a list of mobile client display attributes, including Bold, for which colors may be changed as part of creating a Custom color scheme.

Sample Attribute

This is a sample box that shows the foreground and background color of the currently selected attribute.

Intense

This check box, when selected, applies the custom color to the Intense version of the selected attribute. This option applies to 3270 emulations.

Select Color

This button invokes the Color dialog to select a color for an attribute.

Custom Color Scheme

To create a custom color scheme, select the attribute from the attribute list box.

- Choose the attribute, whose color is to be changed.
- Tap the Select Color... button.
- The Color dialog appears.
- Select the desired color for the attribute. Click OK.
- The Sample box will change to reflect the newly selected color.
- For updating colors associated with the Intense mode of an attribute, check the Intense box then select the desired color.

Barcode

Bar code scanner options are provided for easy manipulation of data streams input through the serial port.
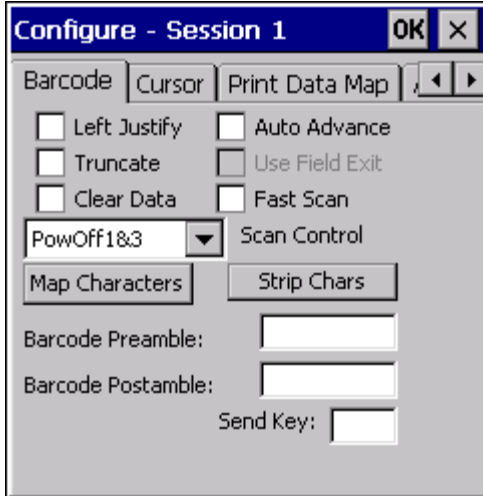
- From the application menu, select **Session > Configure** or tap the **Configure** button on the ToolBar.
- A Configure dialog box will be displayed.
- Choose the **Barcode** tab.

For devices with a Windows CE or Windows Mobile operating system

Additional bar code manipulation features are available using the Honeywell Scanner Wedge or DC Wedge for Windows CE and Windows Mobile based devices. Refer to your device reference guide for additional details. If bar code manipulation is defined in both the Scanner or DC Wedge and in RFTerm, the actions defined in the Scanner or DC Wedge are executed first, followed by actions defined in RFTerm. Honeywell recommends using the Scanner/DC Wedge for bar code manipulation unless emulation-specific actions are required.

Thor VM1 and Thor VM2 with Windows Embedded Standard Operating System

- RFTerm cannot perform the advanced bar code processing on this tab. Instead use Freefloat Link*One to process the bar code data. Information on using Link*One can be found at www.freefloat.com.
- Configure Link*One for the serial or Bluetooth bar code scanner.
- RFTerm must be configured to NOT use the same COM port as specified in Link*One.

Thor VX8 and Thor VX9

- RFTerm cannot perform the advanced bar code processing on this tab. Instead use WLinq to process the bar code data. Information on using WLInq is included in the Thor VX8 and Thor VX9 reference guides.
- RFTerm must be configured to NOT use the same Usage (page 2-20) as specified in WLinq.
- Configure WLinq for the serial or Bluetooth bar code scanner.

Thor VM3

Use Enterprise Settings to configure bar code processing. See the Thor VM3 User's Guide for details.

Parameters

Left Justify

When checked, the Left Justify option shifts the cursor to the leftmost position of the current input field before any serial input data is displayed on the screen.

Truncate

The Truncate option instructs RFTerm to discard any serial input data that would be beyond the end of the current field.

Clear Data

The Clear Data option automatically erases all data from the current cursor location to the end of the current field before any serial input data is displayed.

Auto Advance

When checked, the Auto Advance option automatically moves the cursor to the beginning of the next input field after displaying all data input through the serial port.

Fast Scan

When unchecked, there is a 200 millisecond delay to allow the scanner to interpret and forward data and for the scanner wedge to place the data into the buffer and notify RFTerm the data is available. This is the default.

If a user performs multiple rapid scans, and subsequent scans are performed before the 200 millisecond delay has expired, some scans may be dropped. Check this option to reduce the delay to 10 milliseconds.

Use Field Exit

The Use Field Exit feature is only available for 5250 emulations and only when the Auto Advance box is checked. Checking both boxes will cause RFTerm to append Field Exit to the scanned bar code.

Scan Control

This option allows the behavior of the scanner to be configured during Input Inhibit or keyboard lock.

The valid options are:

- **PowOff1&3** - Power is shut off to COM ports 1 and 3 during Input Inhibit or keyboard lock. This option is the default.
- **PowOn1&3** - Power is not shut off to COM ports 1 and 3 during Input Inhibit or keyboard lock.
- **Disable1** - Power is shut off to COM ports 1 and 3 during Input Inhibit or keyboard lock and the LS3408 scanner attached to COM1 is disabled (see note below).
- **Disable3** - Power is shut off to COM ports 1 and 3 during Input Inhibit or keyboard lock and the LS3408 scanner attached to COM1 is disabled (see note below.

Note: Disable1 and Disable3 may require an upgrade to your computer's software load and a firmware update for the LS3408 scanner.

Barcode Preamble

This option will automatically insert the requested data at the head of the incoming data stream before it is displayed. Control characters and characters not accessible from the keyboard can be represented using Hat Encoding (page 6-7).

Barcode Postamble

This option will automatically insert the requested data at the tail of the incoming data stream before it is displayed. Control characters and characters not accessible from the keyboard can be represented using Hat Encoding (page 6-7).

Send Key

When checked, the Send Key option allows for a designated character in a bar code scan to automatically send an [Enter] command, provided it is the last printable character in the bar code.

Character Mapping

The Character Mapping option is used to setup a non-printable character to be incorporated into a bar code and interpreted by RFTerm as one of 16 predefined actions.

Character mappings are unique to each session, persistent when RFTerm is closed and reset if a client session setting is reset to its Default values. The default value for all programmable key codes is Accept.

For example, to map NULL to a Tab, click the down arrow in the Character text box. Select NULL. Click the down arrow in the Action text box. Select Tab. Click the Add button. The mapping list changes to show NULL mapped to Tab.
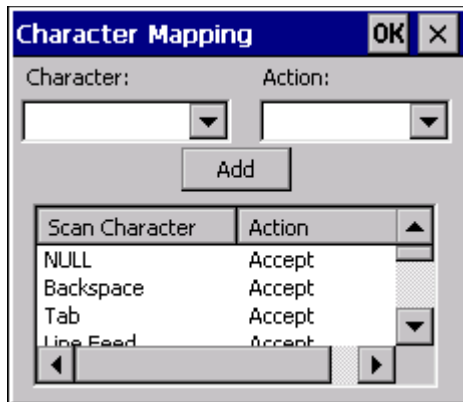
Options available from the Action drop down menu are:

- Accept
- NULL
- Backspace
- Tab
- Line Feed
- Vertical Tab
- Form Feed
- Carriage Return
- Data Link Escape
- File Separator
- Group Separator
- Record Separator
- Unit Separator
- Enter (Send)
- Space
- Ignore (Drop)

Character Stripping

Default values are Code ID = *, Pre-Strip = 0 and Post-Strip = 0. The asterisk (*) is a wildcard character. Click the OK button to save any changes/additions. Click the Cancel button or the X button to ignore any changes made.

Code ID Stripping

When Code ID Stripping is checked, the first character is stripped. When not checked, character stripping occurs based on the values in the Pre-Strip category.

Code ID

Code ID matches are based on this ID. The asterisk (*) is the default - which means match any character.

Pre-Strip

The Pre-Strip option removes the requested number of characters from the head of the incoming data stream before it is displayed.

Post-Strip

The Post-Strip option removes the requested number of characters from the tail of the incoming data stream before it is displayed.

Cursor

Cursor options are provided for easy identification of input fields. You may configure cursor type and auto-scrolling options for the session.
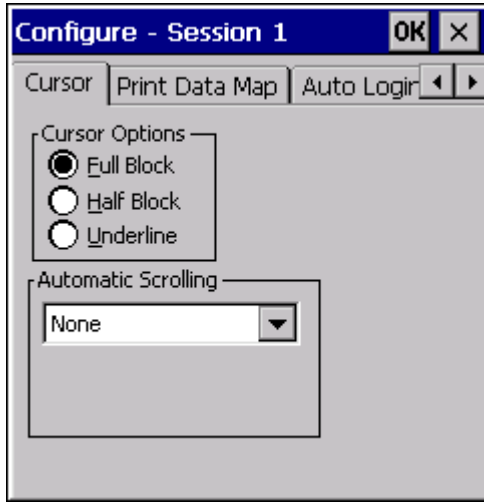
- From the application menu, select **Session > Configure**.
- A Configure dialog box is displayed.
- Choose the **Cursor** tab

Note: Automatic scrolling options have expanded. The Lock Position option has been replaced by a pull down list with additional choices. The Keep Cursor Centered and Keep Cursor Visible checkboxes have been replaced by enhanced pull down list choices.

Parameters

Cursor Options

This option allows you to change the cursor appearance. The default is Full Block. Three options are available:

- **Full Block** - The cursor appears as a full character block
- **Half Block** - The cursor appears as a bottom half block
- **Underline** - The cursor appears as an underscore line

Automatic Scrolling

This option enables automatic scrolling so the current cursor position is always visible. This option is helpful on mobile clients with small screens. The default is None. The following auto-scrolling options are available:

- **None** - No automatic scrolling is performed, except those caused by host app (commands) or the device user (via mouse or scroll bar). (default)
- **Lock Position** - The scroll bars are locked and the screen position is maintained limiting the viewing area.
- **Smart Lock** - Allows movement and viewing outside the locked region but a Send or Host update shifts the screen back to the Smart Lock position.
- **Cursor Centered** - The cursor is always as close as possible to the center of the screen. When scrolling limits are reached, the cursor will move toward the edge of the client display.
- **Cursor Centered NS** - Same as above, except the cursor is "Non Stick" (NS). The NS selection allows the user to move the screen around, without a put back to cursor centered. Pressing the escape key will cause a cursor centering screen adjustment.
- **Cursor Visible** - The cursor is always visible. The display is scrolled vertically and horizontally to prevent the cursor from moving out of view.
- **Cursor Visible NS** - Same as above, except the cursor is "Non Stick" (NS). The NS selection allows the user to move the screen around, without a put back to cursor visible. Pressing the escape key will cause a cursor visible screen adjustment.
- **Origin** - Cursor is forced to the top left corner (origin) in most cases of screen updates and screen shifting.

Note: Unless the user is connected and viewing a scrollable area, the Lock Position and Smart Lock selections are undefined and automatic scrolling is forced back to None.

Print Data Map

Send and receive data on the same serial port on a per session basis, regardless of print setup. See also Direct Serial (page 4-6).
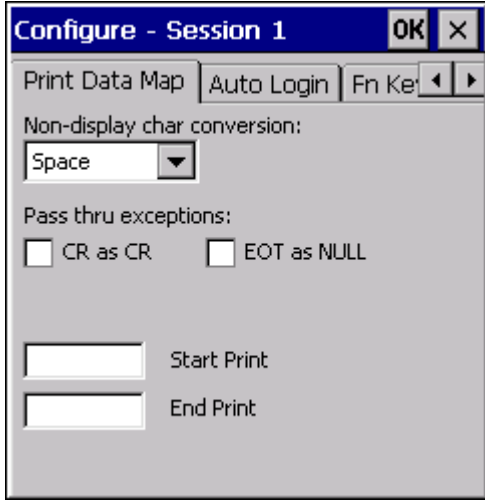
- From the application menu, select **Session > Configure**.
- A Configure dialog box is displayed.
- Choose the **Print Data Map** tab.

Note: The serial port configuration parameters are now located at Com1 and Com2 (page 2-20).

Note: Previous versions may have "Pass thru CR" and "EOT as Null" instead of the expanded "Non-display char conversions" and "Pass thru exception" options.

Parameters

Non-Display Char Conversion

Allows selected treatment of non-displayable characters (0x0 through 0x1F) when printing:

- **Space** - Non-display characters are passed through as a space (default).
- **None** - No conversion is performed on the non-display characters.
- **Null** - Non-display characters are passed through as a null.
- **Deleted** - Non-display characters are deleted.

See Pass Thru Exceptions (below) for exceptions to the conversion process.

Pass Thru Exceptions

The following exceptions are provided for the Non-Display Character Conversion rule selected above.

CR as CR

Enable (check) for pass through carriage return. This option passes through both CR and LF.

Default is disabled (blank).

EOT as NULL

Enable (check) to replace EOT (End of Text) with a Null character.

The default is disabled (blank); EOT is a Space character.

Start Print

Allows a start string to be specified to begin screen printing (output data to the com port). The string can contain a maximum of five characters. When the Start Print field contains data, the emulation searches for the specified Start Print and End Print strings in the display buffer each time data is received. If the Start Print string is found, the screen data is sent to the com port until the end of display buffer or until the End Print string (see below) is reached.

This feature is in addition to the *P command, detailed elsewhere in this manual.

The default is no entry, so Start Print is disabled.

End Print

Allows an ending string to be specified to terminate screen printing (output data to the com port). When the Start Print option is used (see above) screen printing continues until the end of the display buffer unless the End Print string is specified.

The End Print string can contain a maximum of five characters. When the Start Print field contains data, the emulation searches for the specified Start Print and End Print strings in the display buffer each time data is received. If the End Print string is found, only the data beginning with the Start Print string and ending with the End Print string is printed. If the End Print string is not found, all data from the Start Print string until the end of the display buffer is printed.

If there is no Start Print string specified, any entry in the End Print field is ignored.

The default is no entry, so End Print is disabled.

Auto Login

Use this option to create automatic login scripts.

Note: Previous versions had an **Auto Login Enabled** *checkbox which is replaced by the* **Auto** *pulldown list.*
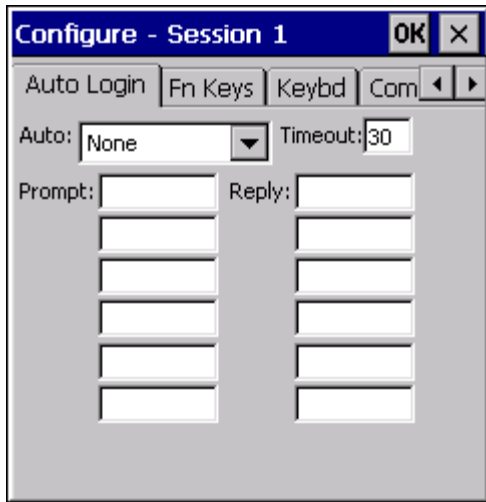
- From the application menu, select **Session > Configure** or tap the **Configure** button on the ToolBar.
- A Configure dialog box is displayed.
- Choose the **Auto Login** tab.

Parameters

Auto

Determines if the connection to the session and login are done automatically.

- **None** - RFTerm does not connect to the session or login automatically.
- **Connect Only** - RFTerm connects to the session automatically, but does not login automatically. Once connected, the user must manually login.
- **Login Only** - RFTerm does not connect to the session automatically, but does login automatically once a manual connection to a session is established. If no prompt or reply is specified, RFTerm waits at the client login screen, and proceeds to connect to the next auto login enabled session. Should a session fail to connect, the client is prompted with a popup dialog requesting a retry or cancel.
- **Conn & Log** - Both the connection to the session and login are performed automatically by RFTerm. If no prompt or reply is specified, RFTerm waits at the client login screen, and proceeds to connect to the next auto login enabled session. Should a session fail to connect, the client is prompted with a popup dialog requesting a retry or cancel.

The default is None.

Autologin Process

When an option with autologin is selected, RFTerm automatically logs in after the session is connected. The connection may either be automatic or manual, depending on the option selected. Once the session is connected, if no prompt or reply is specified, RFTerm waits at the client login screen, and proceeds to connect to the next auto login enabled session. Should a session fail to connect, the client is prompted with a popup dialog requesting a retry or cancel.

Timeout

Enter how long RFTerm will wait for the session to connect and find the prompt string. The default is the standard RFTerm 30 second connection timeout.

Prompt

Enter the string to search for after RFTerm connects to the auto login enabled session. The prompts must be contained on successive screens or the reply will not be sent. The prompts are case sensitive. Leaving the Prompt blank but filling in data for the matching Reply will cause the Reply to be performed regardless of the screen data received from the host.

You can enter up to four Prompt/Reply pairs for 3270 and 5250 sessions and six Prompt/Reply pairs for ANSI sessions.

Reply

Enter the string, or action, to place at the current cursor location when RFTerm finds the Prompt string. Control characters and non-printable characters can be represented using Hat Encoding (page 6-7). The Replies are case sensitive. This data will only be sent to the host if the Reply ends in a carriage return. Maximum of 64 characters.

Note: For 3270 mobile devices, ATTN, CLR, ESC and SYSRQ must be contained within curly brackets { }.

Fn Keys (Function Key Programming)

Allows for programming all available function keys and the 4 arrow keys.
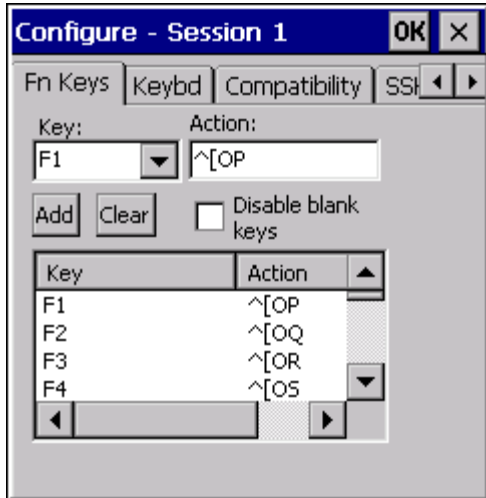
- From the application menu, select **Session > Configure** or tap the **Configure** button on the ToolBar.
- A Configure dialog box is displayed.
- Choose the **Fn Keys** tab.

Parameters

Function Key Combo Box

Select the function key you wish to program. There are currently 40 selections for ANSI emulations and 24 each for 3270 and 5250 sessions. Most ANSI function keys have default values. The 4 arrow keys are also available for programming for all emulations.

Function Key Edit Box

Enter the keystrokes for that function key to perform. Control characters and characters not accessible from the keyboard can be represented using Hat Encoding (page 6-7). Maximum number of characters is 64.

Add

Adds the entry to the function key table.

Clear

Clears the entry in the function key table for the function key highlighted in the function key combo box.

Disable Blank Keys

The default value for Disable Blank Keys is Blank or empty. This option is available for all emulations.

When the Disable Blank Keys checkbox is disabled (empty), all blank/unassigned function keys send nothing when pressed.

When the Disable Blank Keys checkbox is enabled (checked), then all blank function keys will send the default data for that function key.

Enable (check) the Disable Blank Keys checkbox to cause all blank function keys to send the default data for that function key.

Explanations:

- An unassigned key, such as F5, can send data assigned to another key, such as F18. Enable this value if you want unassigned keys to send nothing.
- In ANSI, an F5 keypress (when the F5 key is empty or unprogrammed) will send F18 data (the default value for an empty F5 key). The F18 data will be either the assigned default for an empty F18 or the user entered data for a non-empty F18.

Keybd
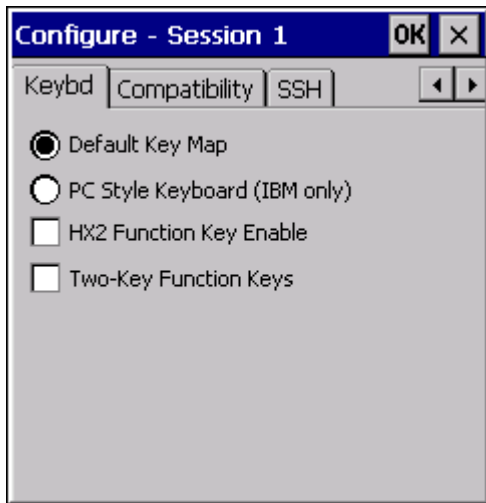
- From the application menu, select **Session > Configure** or tap the **Configure** button on the ToolBar.
- A Configure dialog box is displayed.
- Choose the **Keybd** tab.

Parameters

Default Key Map

When selected, the current operating system default keyboard/keypad function key mapping is in effect.

PC Style Keyboard (IBM only)

When selected, function keys **[Shift] [F1]** through **[Shift] [F12]** will map to **[F13]** through **[F24]**.

The default function key mapping is **[Shift] [F1]** through **[Shift] [F4]** will map to **[F21]** through **[F24]**.

HX2 Function Key Enable

Note: Applies to HX2 with Alpha Mode 3 Tap keyboard only.

When unchecked, F11 - F19 (**[Blue]** plus **[1 - 9]**) are used to implement RFTerm functions such as Connect/Disconnect, Hide Bars, etc. This behavior means a F11 - F19 keypress is not sent to the application, but instead performs a specified RFTerm function.

When checked, virtual keys F11 - F19 (**[Blue]** plus **[1 - 9]**) are no longer mapped to RFTerm functions but are mapped to F11 - F19. Other keypress combinations should be assigned by the user to the RFTerm function.

Two Key Function Keys

When unchecked, the standard Key Maps (page 9-1) for each device apply for F1 through F40. This is the default.

When checked, the following key maps replace the standard key maps for F1 through F40:

F1 and...	Produces	Ctrl or F2 and...	Produces	F3 and...	Produces	F4 and...	Produces
1	F1	1	F11	1	F21	1	F31
2	F2	2	F12	2	F22	2	F32
3	F3	3	F13	3	F23	3	F33
4	F4	4	F14	4	F24	4	F34
5	F5	5	F15	5	F25	5	F35
6	F6	6	F16	6	F26	6	F36
7	F7	7	F17	7	F27	7	F37
8	F8	8	F18	8	F28	8	F38
9	F9	9	F19	9	F29	9	F39
10	F10	10	F20	10	F30	10	F40

Compatibility
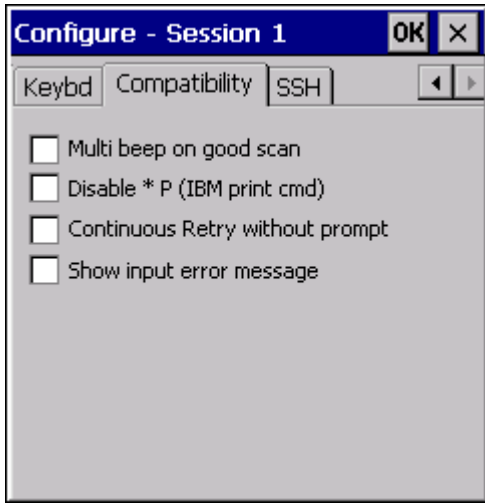
- From the application menu, select **Session > Configure** or tap the **Configure** button on the ToolBar.
- A Configure dialog box is displayed.
- Choose the **Compatibility** tab.

Parameters

Multi beep on good scan

Enables a multiple beep on a good scan. Default is disabled, a single beep on good scan.

*Disable *P*

When checked, the *P (IBM print command) is disabled. By default this option is unchecked (*P is treated as the IBM print command).

Continuous Retries Without Prompt

When checked, RFTerm performs continuous retries on the initial auto connect and any auto reconnect after losing a connection.

The default is unchecked, no continuous retries without prompting.

A message is displayed on initial connect and on reconnect. No user action is required to begin the connect or reconnect process.
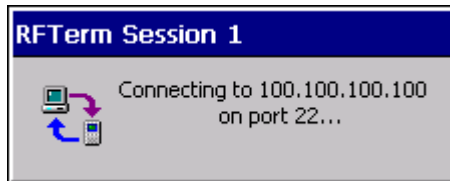
If the connection cannot be established, an error message is displayed. Again, no user input is required and RFTerm continues to retry the connection.
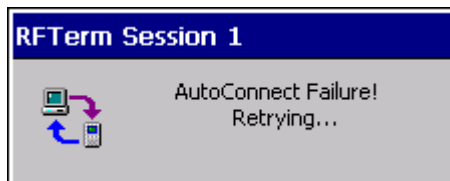
The retry process continues until:

- A connection is established.
- The user presses [**Control**] + [**D**] to end the retry process.

Show Input Error Message

When checked, RFTerm displays a message if the user attempts to input data, either by keypad or scanner, during Input Inhibit or XCLock.

The default is unchecked, no message is displayed.

SSH

*Note: SSH credentials were previously entered on the **SSH Auth** tab. They are now accessed from this tab using the **Configure** button.*
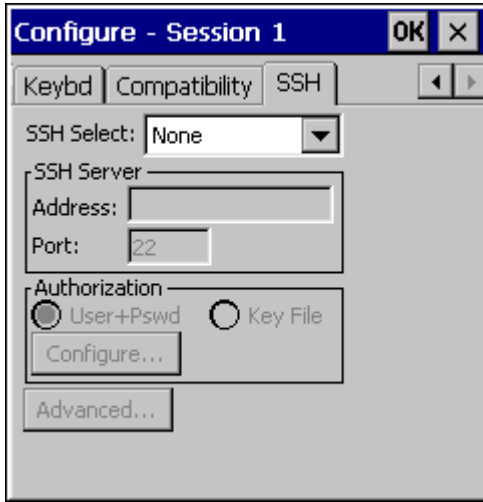
![Configure - Session 1 dialog showing the SSH tab with SSH Select set to None, SSH Server Address and Port 22 fields, and Authorization options User+Pswd and Key File with Configure and Advanced buttons.]

- From the application menu, select **Session > Configure** or tap the **Configure** button on the ToolBar.
- A Configure dialog box is displayed.
- Choose the **SSH** tab.

Parameters

SSH Select

Select the type of connection:

- **None** - Telnet is used without SSH.
- **Shell** - A direct connection is made to the SSH server. Not supported with IBM 3270 or IBM 5250 emulations.
- **Tunnel** - A connection is established to an SSH server and Telnet traffic is tunneled or port forwarded through the SSH connection.

SSH Server Address

Enter the address of the SSH server.

SSH Server Port

Enter the port for the SSH server.

Authorization

Select the type of authorization:

- **User+Pswd** - Specify a user and password.
- **Key File** - Specify a User Key File and passphrase.

Configure...

After selecting the desired type of Authorization, click the **Configure...** button to enter the appropriate credentials.

User Authorization

User authentication requires a user name and password. If the user authorization credentials are not entered on this screen, the user is prompted to enter the user name and password at the time of connection.

SSH User Authorization dialog

User:

Password:

OK

User

Enter the user name for SSH authentication.

Password

Enter the password for SSH authentication.

Private Key File

Private key file authentication requires a user name, a private user key file and an optional passphrase for the key file.

SSH Private Key File dialog

User:

Passphrase:

User Key File:

Browse...   OK

User

Enter the user name for SSH authentication.

Passphrase

An optional passphrase may be required to use the private key. If a passphrase was specified when the key file was created, but no passphrase is entered on this screen, the user is prompted for the credentials at the time of connection.

User Key File

Only one private key file is stored per session. Use the **Browse...** and **OK** buttons to locate and select the private key file.

The private key file is generated on the server side and imported into RFTerm. Once generated, copy the key file to the RFTerm device. For computers running a Windows CE or Windows Embedded Compact operating system, the key file must be stored under the \System folder to persist after a reboot.

Browse...

Clicking this button opens an explorer window to locate the key file. By default, only PuTTY private key files are displayed in the explorer window. Putty private key files are generated using the PuTTY Key Generator. The PuTTY Key Generator is installed as part of Honeywell's Telnet Manager. Refer to the Telnet Manager Reference guide for more details.

OK

After using the **Browse...** button to locate and select a key file, the file location and name are displayed in the User Key text box. Click the **OK** button to save the private key information and exit the private key screen.

Advanced...

Click the **Advanced...** button to manage server keys, keep alives, rekey intervals, etc.

Server Keys

The host key list is global, meaning a Host Key accepted for any session is displayed in all sessions.
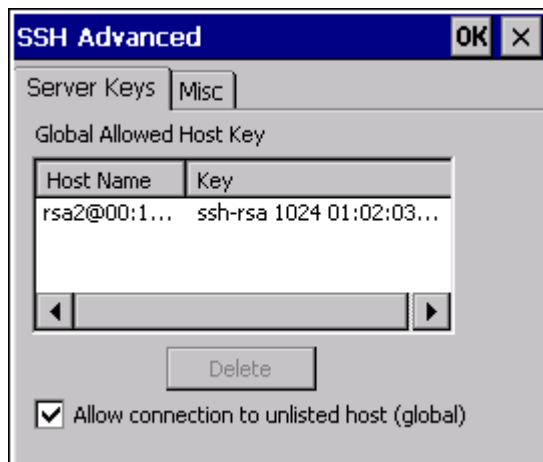
When connecting to an SSH session, if the Host is not already in the Global Allowed Host Key list, a warning is displayed.

The following options are available:

Yes - The key is added to the Global Allowed Host Key list and the connection continues. Use this option for a trusted host.

No - The key is not added to the Global Allowed Host Key list, however, the connection is allowed just this one time.

Cancel - The key is not added to the Global Allowed Host Key list and no connection is allowed.

Delete

Select an entry from the Global Allowed Host Key list and tap the **Delete** button to delete a host key entry.

Allow Connection to Unlisted Host (global)

When selected, only hosts included in the Global Allowed Host Key listing are available for connection.

Before removing the checkmark from this option, first connect to any desired hosts so they are in the Allowed list. Once all desired hosts are included, then uncheck this item to prevent connection to any other hosts.

Misc
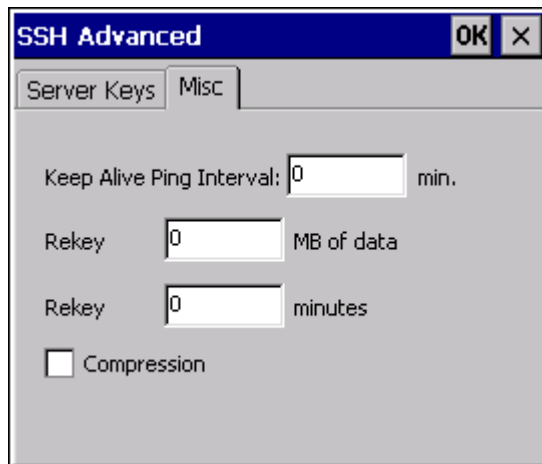
Keep Alive Ping Interval

Use this option to manage SSH Keep Alive messages. The default is 0 minutes (no SSH Keep Alive messages). Any value greater than 0 (whole numbers only) sends SSH Keep Alive messages after the specified number of minutes.

TCP level Keep Alive is enabled on the

Rekey After MB of Data

The session key is negotiated at session startup. Because the longer a key is used, the greater the chances the connection may be successfully attacked, an option is provided to force a new key exchange (from the client side) after the specified MB of data is exchanged.

The default is 0 MB, no rekey is enabled after a certain amount of data is transferred. Any value greater than 0 (whole numbers only) forces a rekey after that amount of data has been transferred. No data passes through the SSH connection while the rekeying takes place.

Note: The server may also enable rekeying, so rekeying may still happen even if this option and the one below are disabled.

Rekey After Minutes

The session key is negotiated at session startup. Because the longer a key is used, the greater the chances the connection may be successfully attacked, an option is provided to force a new key exchange (from the client side) after the specified number of minutes.

The default is 0 minutes, no rekey is enabled after a certain time period. Any value greater than 0 (whole numbers only) forces a rekey after that length of time. No data passes through the SSH connection while the rekeying takes place.

Note: The server may also enable rekeying, so rekeying may still happen even if this option and the one above are disabled.

Compression

When enabled, data compression is used. By default, compression is disabled.

Session Interaction

Honeywell RFTerm allows up to four simultaneous host client sessions. Although each of these client sessions may be discon-nected or connected, only one session is in the foreground at any time. The session in the foreground is the active session and receives all user interaction. Connected sessions in the background maintain their host session connections and update their (hidden) screen content.

Multiple Sessions

You can navigate between multiple sessions either from the ToolBar session menu or the session host menu, by using HotKeys or the ToolBar.

MenuBar Session Menu

The current active session is indicated in the application Session menu as shown below. Host addresses configured for each of the host sessions are indicated as part of the session names.

- Configured sessions are identified by the Host Address specified on the Connection tab.
- **>>** indicates the current active host session.
- A checkmark indicates a connected session.
- When this menu is displayed, pressing **1** - **4** selects the corresponding session.

In the example above:

- Current Active Host Session is S1 and it is ready to be configured or to connect.
- S2 is connected.

Session Host Menu

The Session Host Menu can be enabled on the Status (page 2-17) tab by checking the Host Menu checkbox.
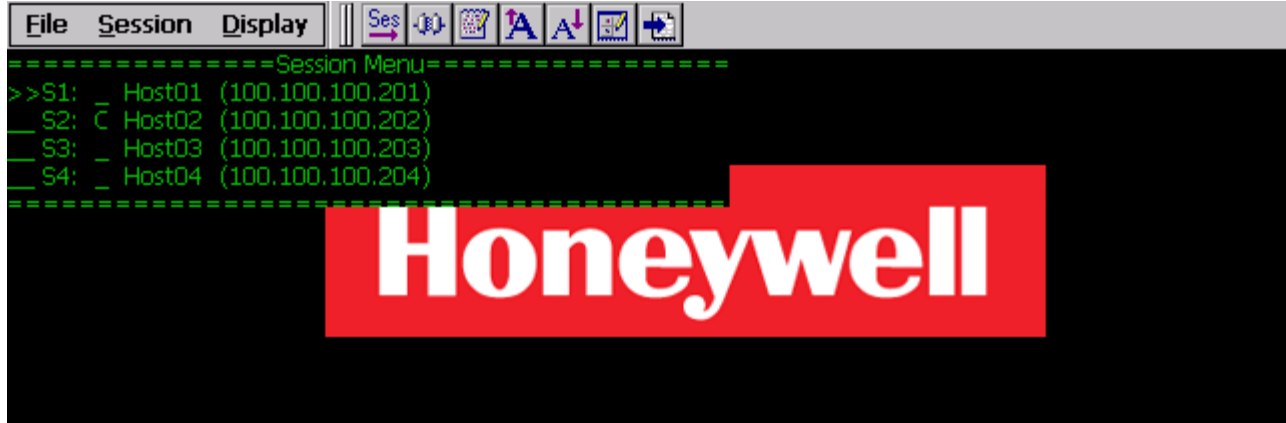
- Configured sessions are identified by the Host Address and Host Name as specified on the Connection tab.
- **>>** indicates the current active host session.
- **C** after the session ID indicates a connected session.
- Current Active Host Session is S1.
- S2 is connected.
- When this menu is displayed, pressing **1** - **4** connects to the corresponding session (if that session is not already connected) or returns control to the corresponding session (if that session is already connected).
- When enabled, the Session Host Menu is automatically displayed on the idle RFTerm screen and dismissed when the active session is connected.
- Pressing **[Ctrl] [Alt] [0]** displays the Session Host Menu over top of a connected session Repeating the keypress sequence dismisses the menu over a connected session.

HotKey Session Selection

The following ToolBar items and HotKeys are available to switch between sessions:

[Ctrl] [Shift] [J]	Jump to next connected session
[Ctrl] [Alt] [1]	Jump to Session 1
[Ctrl] [Alt] [2]	Jump to Session 2
[Ctrl] [Alt] [3]	Jump to Session 3
[Ctrl] [Alt] [4]	Jump to Session 4
[Ctrl] [Alt] [0]	Display Session Host Menu (if enabled) over top of a connected session (see above for details)

ToolBar Session Selection

The following ToolBar items can be enabled on the Custom Bar (page 2-8) and used to switch between sessions:

  Jump to next connected session

  Jump to Session 1

  Jump to Session 2

  Jump to Session 3

  Jump to Session 4

Password Protection

Access to the Session and Configure dialogs can be password protected.

*   From the application menu, select **File > Settings**.
*   A Settings dialog box is displayed.
*   Select the **Options** tab.
*   Press the **Config Password** button.
*   Enter the password and verify.

Any attempt to open either the Settings or Configure dialogs will prompt the user for the password.
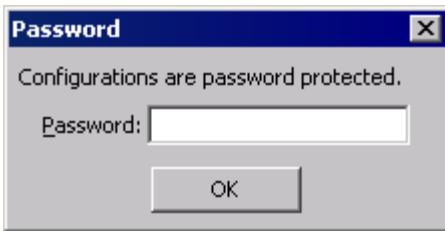
To remove password protection, first enter the password. Use the Backspace key to erase the password. Tap the OK button. Contact Technical Assistance (page 10-1) in the event of a lost or forgotten password.

Connecting / Disconnecting from Host

To connect to a host, configure the client session parameters and select "Connect" from the application menu. Only disconnected sessions may be connected. Once connected, you may disconnect the host session by selecting a "Disconnect" from the application menu.

You must configure the host session prior to attempting a connection.

From the application menu select **Session > Connect** to connect or **Session > Disconnect** to disconnect. You may also tap the **Connect / Disconnect** button on the ToolBar.

If the Host Session Menu is displayed on the desktop, pressing **1** - **4** connects to the corresponding session (if that session is not already connected) or returns control to the corresponding session (if that session is already connected).

If Session Start Control is enabled (see **File > Settings > Status**) a confirmation box is displayed before the connection is made.
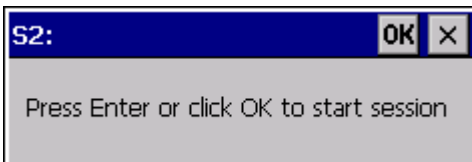
Clicking **OK** or pressing **[Enter]** starts the indicated session.

Clicking **Cancel** or the **X** (depending on operating system) or pressing **[Esc]** exits without starting the indicated session.

Device Name In Use

When RFTerm receives an incoming host message that indicates the device name is in use, a "Device Name in Use" dialog box is displayed. The user clicks the OK button or the X button to close the dialog box.

SmartPads

Depending upon the terminal emulation type, certain keys may be required to navigate within the host application. The Smart-Pad is a soft keypad that provides access to all emulation specific keys. You can invoke the SmartPad only if the session is con-nected. The correct SmartPad appears for the emulation type of the current active session.

You can invoke the SmartPad from the application menu by selecting **Display > SmartPad**. You may also tap the "SmartPad" button on the ToolBar.

You may use the SmartPad HotKey **[Ctrl][Shift][P]** to invoke this operation.

SmartPads are not configurable dynamically.

Note: This option is not available on devices with a Windows XP, Windows 7, Windows 10, or Windows Embedded Standard operating system.

Configurable KeyBar

Most hand-held devices have a limited keypad. They often rely upon their internal Soft Input Panel (SIP) to type in data. How-ever, the SIP usage is cumbersome and it does not provide any special host keys such as those needed in a terminal emulation program.

The configurable KeyBar allows users to customize a set of soft keys to invoke any host specific keys or emulator operations. Users can select from a set of pre-defined KeyBar templates. In addition, they can also configure up to four Custom KeyBars of their own. Users can navigate or "cycle" within a selected subset of KeyBars.

For CE devices, the KeyBar appears next to the application Menu and ToolBar. You can le it on or off by pressing the KeyBar icon next to the application menu. The emulator screen automatically adjusts to provide the maximum possible screen real estate.

To configure the KeyBar, refer to the Options1 (page 2-6) section under Configuration. Take some time to customize the KeyBar and become familiar with its use. It will be time well spent.

When enabled, the KeyBar appears on "top" of either the application menu, application ToolBar or SIP, depending upon their vis-ibility state. Tap the arrow button on either end to cycle backward or forward through the configured KeyBars.

There are several pre-defined KeyBars that are provided with the application. These serve as emulation specific or operation specific templates. You may use these in addition to the customized KeyBars. The following table shows these pre-defined KeyBar templates.

See Also

The bitmaps and associated action text for all the actions and operations that can be associated with the configurable keys can be found at RFTerm ToolBar (page 9-1).

KeyBar Name	KeyBar Buttons
Base Keys	
Special Keys	
Scroll Keys	
F1 - F8	
F9 - F16	
F17 - F24	

KeyBar Name	KeyBar Buttons
F25 - F32	F25 F26 F27 F28 F29 F30 F31 F32
F33 - F40	F33 F34 F35 F36 F37 F38 F39 F40
IBM 1	F33 F34 F35 F36 F37 F38 F39 F40
IBM 2	Dup NL Hm SRq Ins Del Mrk Fld EXIT
IBM 3	Fld+ Fld− Roll↑ Roll↓ Hlp Prt
VT 1	PF1 PF2 PF3 PF4 Fnd Ins Rem Sel
VT 2	Prv Nxt Hld Can Ans Del Esc Bsp
VT 3	LF Hlp Do U6 U7 U8 U9 U10
UDK11 - UDK18	U11 U12 U13 U14 U15 U16 U17 U18
Digits 0 - 4	0 1 2 3 4 + −
Digits 5 - 9	5 6 7 8 9 + −

Print Setup

You can configure a printer for RFTerm.

- From the application menu, select **File > Print Setup**.

This will bring up a popup dialog. All options may not be present, depending on device configuration.
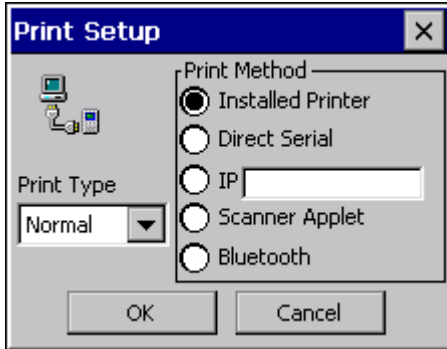
Note: Previous versions may display an alternate menu. The Serial button is similar in function to the Direct Serial button on the newer interface. The Windows button is similar in function to the Installed Printer button on the newer interface.
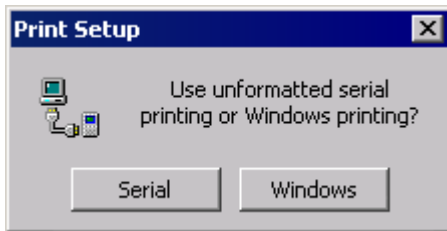
Print Method

Print Method is used to specify which print method you wish to use.

Installed Printer

If you select Installed Printer, a standard Microsoft Windows Print dialog box will appear.

Direct Serial

If you select Direct Serial, the following dialog is displayed:
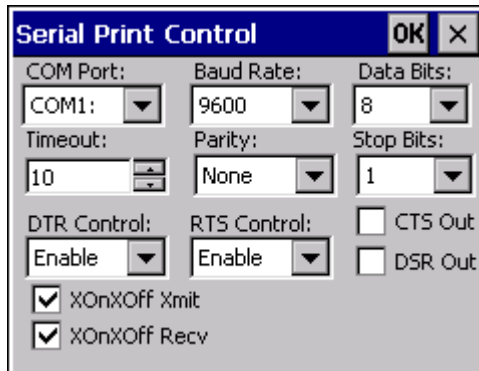
This dialog contains parameters that are identical, except for the Pass thru CR checkbox, to the Com1 and Com2 (page 2-20) dialog. Review that section for Serial Data parameter details.

Select the external COM Port for the device and click **OK**. The device must have a serial printer attached to this COM port.

All RFTerm print commands will then send unformatted data to the serial printer. A screen print can be performed by using the keyboard shortcut **[Ctrl] [Alt] [P]**.

Com Port Error Dialog

Should RFTerm be unable to apply any of the COM Port settings, the following popup dialog will appear:
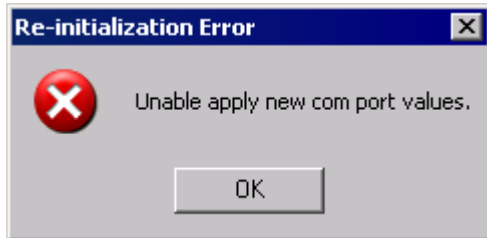
Cradle Printing via IR

When a mobile client with an IR port is docked in a cradle and COM2 is selected as the serial print port on the mobile client, RFTerm immediately takes control of the port and continues to listen for print requests from the mobile client. RFTerm releases COM2 when the connection between the mobile client's COM2 port and the cradle is disconnected. While RFTerm is polling and controlling the cradle connection, the connection cannot be used by another application.

Media Copy Command

The serial port is opened on the initial MC command, all data received is written and the serial port is closed upon receipt of the proper MC command. Before the data is written to the serial port, the data is examined for carriage returns (CR / CR LF) within 80 bytes of the previous data stream. If found, the counter is reset and line wrapping/ dropping does not occur.

IP

If you select IP, you can specify the IP address of a printer. The IP address can be specified in the textbox, for example: 100.100.100.100

The default port value is 515. By following the IP address with a colon ':' and a port number, an alternative port number can be specified, for example: 100.100.100.100:516

Using a Bar Code to Input IP Address

The IP address of the printer can also be specified by scanning a special bar code. To create the bar code, use any commercially available bar code software using the format %$.TP followed by the IP address desired.

Example

1. Create a bar code from the string %$.TP100.100.100.100 where 100.100.100.100 is the IP address of the desired printer.

2. Print the bar code using a printer with a minimum 600x600 resolution.

3. With RFTerm running on the device, scan the bar code with an internal, ring or tethered scanner attached to an Honeywell computer.

4. The IP contents of the string, 100.100.100.100 in this case, are inserted in the IP textbox.

Scanner Applet

If the mobile client running RFTerm supports Wedge Output, Scanner Applet can be selected.

Not all COM port parameters supported in RFTerm can be supported by the mobile client Wedge due to the small form factor of the client.

Note: This option is only available if the mobile client supports Scanner Wedge output. For mobile clients that do not support Wedge output, the Scanner Applet option is not available.

Bluetooth

When the mobile device supports Bluetooth, the Print Setup tab contains a selection for a Bluetooth printer.

Note: You may need to pair with a Bluetooth printer before this option is available.

Print Type

Select the desired print buffering type. The default is Normal.

- **Normal** - Printing is done synchronously, one character at a time. Input is blocked until the print is completed.
- **Buffer** - RFTerm can accept scanner or keyboard input while serial printing. This allows RFTerm to buffer the print data and perform the serial printing in a separate thread.
- **MC dly1** - RFTerm buffers print, but delays approximately 100 milliseconds between consecutive media copy commands.
- **MC dly2** - RFTerm buffers print, but delays approximately 300 milliseconds between consecutive media copy commands.
- **MC dly3** - RFTerm buffers print, but delays approximately 500 milliseconds between consecutive media copy commands.
- **MC dly4** - RFTerm buffers print, but delays approximately 1 second between consecutive media copy commands.

Note: Previous versions had a Buffer Print checkbox. When checked print is buffered. When unchecked print is normal.

Out of Range

There are configuration options for the behavior of RFTerm in case the mobile client loses contact with the host. The Out of Range options described in this section are valid for both RF (802.11) and WWAN connections to the host.

Should the mobile client lose contact with the host, RFTerm can attempt to reconnect the active session. To enable this feature, select **Session > Configure > Connection** and check the **Retry on Signal Loss** checkbox. For more details, refer to Connection (page 3-1).

RFTerm can be configured monitor the network connection and provide an indication when the network connection is lost. To enable this feature, select **File > Settings > Options** and check the **Check Network Status** checkbox. If this option is disabled, RFTerm provides notification of the lost connection only after a data transmission has timed out. The type of notification received depends on the option selected. For more details, refer to Options1 (page 2-6).

Text InputTool

Note: This option is not available on devices with a Windows XP, Windows 7, Windows 10, or Windows Embedded Standard operating system.

The Text InputTool sends complete text strings to the display window at the current cursor location. A user can cache a set of alphanumeric text strings in the input tool.

You can invoke the InputTool from the application menu by selecting **Display > InputTool**. You may also tap the **InputTool** button on the ToolBar.
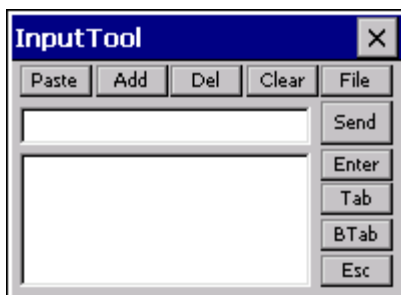
You can also invoke the Text InputTool by using the HotKey **[Ctrl][Shift][I]**.

You can build your cached list of text strings by pasting text from the clipboard (For example **[Edit][Copy]** in Microsoft WordPad) directly into the Text InputTool edit box. You can also directly type a text string into the edit box using the system soft keypad. Lastly, you can initialize this list from an ASCII text file.

Command	Description
Paste	Tapping the Paste button will copy any text from the clipboard into the edit box.

Command	Description
Add	Tapping the Add button adds any text in the edit box to the cache list. If the text string is already is in the list, it is not added again. Blank strings are not added.
Del	Tapping the Del button deletes the currently selected text string from the cache list.
Clear	Tapping the Clear button clears the edit box.

File	Tapping the File button opens a dialog to select a text file that can be read to initialize the list. Each text string to be added to the list must be on a separate line delimited by a CRLF. The following shows a sample input text file:
	`78438-8889-9494`
	`Any text string here`
	`Username`
	It is recommended that you create a file for initializing the list on the desktop and then ActiveSync it to the mobile client. Each session has its own list.

Send	The Send button sends the currently selected text string to the current cursor location on the client display.
Enter	Sends a carriage return keystroke to the TE application.
Tab	Sends a Tab keystroke to the TE application.
BTab	Sends a back tab keystroke to the TE application. This is equivalent to [Shift][Tab].
Esc	Sends an Escape keystroke to the TE application.

Each entry in the list is preceded by an index value in the form "1". This index, including the first space after the period, is stripped before sending. You can edit an existing list entry by selecting it, making your changes, then pressing Add. The saved list entry replaces the existing entry contents with the new value. If there is no leading index value, for example on a new entry, then Add will append a new list entry.

To create an entry, which begins with text similar to an index, first create a dummy entry, then edit it to include your desired text. For example, to create an entry with the contents "1. My text", first enter the text "new" and press Add. Assume that this becomes the third entry. Select the entry from the list and change "3. new" to "3. 1. My text", then press Add again.

The index values are used to identify the text sent with the "Input n" keys on the KeyBar. Be careful when deleting entries. Doing so may change the text sent via an Input key.

Special characters can also be entered in the text. This can be especially useful under VT emulation when custom escape sequences are required. The following special characters are available:

The Text InputTool also accepts characters specified by Hat Encoding (page 6-7).

Operator	Meaning
\e	ESC character/action
\n	Newline character/action
\r	Enter character/action
\t	TAB character/action
\xDD	Hexadecimal value of byte

HotSpots

A HotSpot is a field on the client screen where a user can tap with a stylus to execute a function. This allows a user to interact with a host application without using physical keys or the KeyBar. A simple example might be the use of PF Keys. An operation associated with a PF key might be displayed on the client as "PF1 = Help". RFTerm emulators automatically detect this as a HotSpot and will send a PF1 key to the host when you tap on the PF1 text on the client display. To invoke a HotSpot, tap any-where on the text of that HotSpot. HotSpots are not user configurable.

HotSpots are supported for 3270, 5250 and VT emulations. The emulations share some forms of HotSpots, such as function keys and menus, but others depend on the type of emulation.

The following table lists some text strings that are recognized as HotSpots.

HotSpot String	Sends
PFx=	Function key x. where x is between 1..9
PFxx=	For 3270, 5250 emulations: Function key x. where x is between 10..24
	For VT emulations: Function key x. where x is between 10..20
xx.	Menu option xx. where xx is any one or two digit number
Fxx=	Function key x. where x is between 1..24
<Fxx>=	Function key x. where x is between 1..24
Enter	Sends Enter key
"X. Menu choice"	Selects menu choice X
Double Tap	Sends Enter key
+	Roll Up key (5250 only)
-	Roll Down Key (5250 only)
More	Roll Down AID (5250 only)
Bottom	Roll Down AID (5250 only)

Note: Prior to using a "menu choice" HotSpot, the cursor must be in the input field where the menu choice is submitted. (Applies to IBM emulation only.)

Note: Reprogramming the functions keys using the Fn Keys tab under the Configure dialog alters the operation of a function key HotSpot.

HotSpots are sensitive to the stylus calibration on the device. To get accurate HotSpot taps, make sure your touch screen is correctly calibrated.

Screen Panning

Most host applications have been designed for the desktop screen form factor. When viewing these applications from a hand-held device, only a portion of the host screen is visible because of the smaller display of the hand-held device. Horizontal and vertical scroll bars are typically used to set the virtual screen location. As an alternative to scroll bars, the screen can be positioned by "dragging" the stylus.

Imagine the host application screen as a large sheet under the display on the hand-held device. Screen Panning allows users to "tap" and "drag" this sheet in any direction to move hidden areas of the host display into view on the hand-held device without the use of scroll bars.

Follow these steps to use panning:

• Connect to a host application
• With the stylus, "tap and hold" anywhere on the client screen. Be careful not to tap on a HotSpot, if you do not also want a HotSpot action
• Drag the stylus, without lifting, to drag hidden areas of the screen into view

There is no configuration for Screen Panning. It is enabled whenever HotSpots are enabled for touch screen devices.

Access Control / Device Lockdown

In some cases, there is a need to prevent users from being able to change the emulator configuration. Further there may be a requirement to prevent users from exiting the TE application or launching other applications on the device. The Access Control features address these needs. Refer to the Options1 (page 2-6) configuration section for details on configuring these features.

Note: Devices with a Windows XP, Windows 7, Windows 10, or Windows Embedded Standard operating system can additionally be locked down by configuring the OS.

Note: Devices with a Windows CE or Windows Mobile operating system can additionally be locked down using Honeywell's AppLock. Details on configuring and using AppLock are contained in the equipment specific reference guide.

Access control functionality allows for the following:

• Administrators can add Password Protection (page 4-3) to the RFTerm session configuration settings. This prevents users from changing the configuration:
• From within the application
• By loading another session
• Saving the current session (to then load onto another device)
• Prevent users from invoking another application by disabling the Start menu. This prevents users from invoking another application while running the Terminal Emulation program.
• Prevent users from exiting the emulator by disabling the application exit feature.

HotKey Shortcuts

RFTerm has several predefined HotKeys. These may normally be used with devices that have a keypad. The following table lists the default HotKeys.

HotKey	Description
[Ctrl][Shift][N]	Configure dialog box
[Ctrl][Shift][E]	Settings dialog box
[Ctrl][Shift][C]	Connect to the host
[Ctrl][Shift][Down Arrow]	Decrease font size
[Ctrl][Shift][D]	Disconnect a connected host session
[Ctrl][Shift][F]	Displays dialog box for WWAN signal strength and connectivity status.
[Ctrl][Shift][H]	Display or Hide horizontal scroll bar
[Ctrl][Shift][P]	Display or Hide SmartPad *(Not supported on Windows XP, Windows 7, Windows 10, or Windows Embedded Standard)*
[Ctrl][Shift][I]	Display or Hide Text InputTool *(Not supported on Windows XP, Windows 7, Windows 10, or Windows Embedded Standard)*
[Ctrl][Shift][L]	Display or Hide all bars (Menu, Tool, Key)
[Ctrl][Shift][M]	Display or Hide MenuBar (also see Reset Menu Bar Code (page 4-13) *(Not supported on Windows XP, Windows 7, Windows 10, or Windows Embedded Standard)*
[Ctrl][Shift][T]	Display or Hide ToolBar
[Ctrl][Shift][K]	Display or Hide KeyBar
[Ctrl][Shift][V]	Display or Hide vertical scroll bar
[Ctrl][Shift][B]	Display all bars at the bottom *(Not supported on Windows XP, Windows 7, Windows 10, or Windows Embedded Standard)*
[Ctrl][Shift][X]	Exit the emulator
[Ctrl][Shift][O] or [Alt][T]	Hide and unhide status bar (OIA)
[Ctrl][Shift][Up Arrow]	Increase font size
[Ctrl][Shift][S]	Invoke the session save dialog.
[Ctrl][Shift][J]	Jump to next connected host
[Ctrl][Alt][0]	Display Host Menu
[Ctrl][Alt][1]	Jump to Session 1
[Ctrl][Alt][2]	Jump to Session 2
[Ctrl][Alt][3]	Jump to Session 3
[Ctrl][Alt][4]	Jump to Session 4
[Shift][Down Arrow]	Scroll down one row
[Shift][Left Arrow]	Scroll left one column
[Shift][Right Arrow]	Scroll right one column
[Shift][Up Arrow]	Scroll up one row
[Ctrl][Down Arrow]	Scroll down one row segment (see Note below)
[Ctrl][Left Arrow]	Scroll left one column segment (see Note below)
[Ctrl][Right Arrow]	Scroll right one column segment (see Note below)
[Ctrl][Up Arrow]	Scroll up one row segment (see Note below)
[Ctrl][Shift][1]	le between bold and normal font
[Ctrl][Shift][2]	Display or Hide status icons *(Not supported on Windows Mobile)*
[Ctrl][Alt][P]	Print the screen of the active session
[Ctrl][H]	Display frequently used shortcuts.

Note: Depending on mobile client screen and font size constraints, the segment area used by a [Ctrl]+[Arrow] key sequence is approximately one-quarter of the total area available.

Shortcuts for Devices without Keypads

The Dolphin 70e Black does not have a traditional keypad. Some shortcut icons have been added to the RFTerm MenuBar for this device.

K↕	Display or Hide KeyBar (equivalent to [Ctrl][Shift][T] on a traditional keyboard)
V↕	Display or hide virtual keyboard
V→	Toggle virtual keypad layout, also see Virtual Keyboard (page 2-13)
R	Rotates the display 90º counter-clockwise, also see VK Orientation (page 2-13)

Reset Menu Bar Code

For any device, but especially the wearable version of the Dolphin 70e Black which does not have a physical keyboard, the bar code below can be scanned to restore the Windows Start Menu if hidden via the Options1 (page 2-6) tab or the RFTerm MenuBar if hidden via the Display (page 2-1) tab.
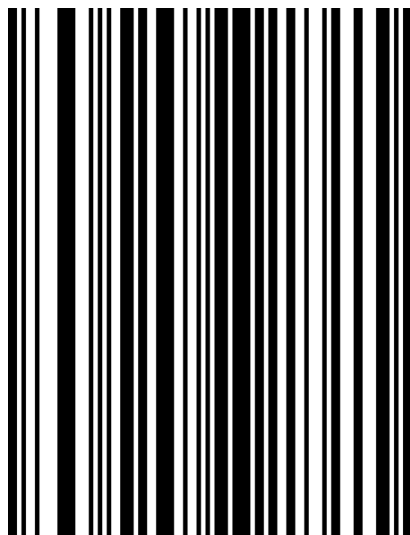
Reset Menu

Automatic Session Startup

You can automate startup of up to four host sessions when the TE application starts. To do so, enable the **Auto Login Enabled** box in the **Session > Configure > Auto Login** tab, for each of the sessions that you want to automatically start. Each of these sessions will attempt a connection to the configured host when the emulator is started. If a connection cannot be established, the following popup dialog will appear, indicating the session number:

5
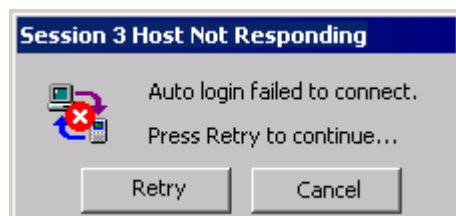
ANSI

ANSI Client Overview

Block Mode Communication

Block mode communication is a communication mode that enables the client to send an entire block of data to the host at one time. Refer to Sending the Client Screen to the Host (page 5-2) for more details. Block mode greatly reduces RF traffic by sending data in this way. Block mode minimizes RF overhead better than the other modes. Thus, block mode supports more users on an RF channel and allows faster response time.

Local echo is a process that allows each character to display locally at the client as the client user presses the keys. The host does not see these characters until the user presses the [Enter] key.

Note: In most cases, operations using programming tools that include screen painters cannot use block mode communication. Screen painters or designers usually come with programming tools such as Oracle, Ingress, Informix, and Powerhouse, which normally use character mode communications.

Block Mode Setup

Refer to the following rules for setting up block mode communication:

- The programmer must include the following commands in the command string for setting up block mode:

```
ESC[12l (turn local echo on in SRM)
ESC[=1l (turn block mode on in LXELM)
```

  Note: If local echo is off in send-receive mode (SRM), the client operates in character mode while the scroll or block mode setting in LXELM is ignored.

- The programmer must send formatted screens to the client from the host.

Scroll Mode Communication

Scroll mode communication is a communication mode where the client allows data entry only on one line. The client user can view the rest of the form, but the cursor returns to the line the host placed the cursor in whenever the user tries to enter data.

Scroll mode has the following advantages:

- Provides local protection of unformatted text.
- Protects all information on the screen except the command line, which is the line where the host positions the cursor. Character positions to the left of the cursor's current position are also protected.
- Enables the client user to move the cursor around the screen with the arrow keys. If the user moves the cursor, with the arrow keys, away from the command line and then tries to enter data, the cursor returns to the command line before accepting the data.

Note: Applications that edit individual characters do not perform well in scroll mode.

Scroll Mode Setup

Refer to the following rules for setting up scroll mode communications:

- The programmer must include the following commands in the command string for setting up scroll mode:

```
ESC[12l (turn on local echo in SRM)
ESC[=1h (turn on scroll mode in LXESM)
```

- The programmer must construct a form consisting of one unprotected field on one line.

Initialization

The ANSI TE powers up in char mode and stays that way until the host changes the TE's mode. The host must specify that scroll or block mode is to be used during the current session.

Sending the Client Screen to the Host

Character Mode

Since each keypress is sent to the host as it is pressed, there is no concept of sending the screen in character mode. Pressing the [Enter] key in this case will simply send a carriage return and/or line feed to the host. No other sections of the Scroll Mode screen are sent as a result of pressing [Enter].

Scroll Mode

Scroll mode allows user input on only one line of the display at a time until the user presses [Enter]. When this happens, the cursor will jump back to the active position if necessary. The cells between command start and command end will be sent to the host. The GATM/SATM/MATM modes are ignored in scroll mode. See Scroll Mode Communication (page 5-1) for more details.

Block Mode

Block mode allows the user to input in any unprotected area on the display until the client user presses [Enter]. When this happens, the client will look at the current settings of GATM, SATM and MATM to determine exactly which screen cells are transmitted back to the host. The settings of these three modes yields 6 different combinations of cells (see the table below, "Sending The Screen In Block Mode").

Protected cells are cells tagged with SPA (Start Protected Area) or DAQ 1 (Define Area Qualification).

Unprotected cells are cells that are neither SSA (Start Selected Area) nor SPA nor DAQ 1.

Note: DAQ 8 cells are considered unprotected.

Case #	Description of Cells Sent	Kind of Cells Sent	(x = don't care)		
			GATM	SATM	MATM
1	Entire screen	All	set 1h	set 17h	x
2	Current/next selected only	1 SSA	set 1h	reset 17l	reset 15l
3	All selected and all unprotected	SSA + !(SPA/DAQ1)	reset 1l	reset 17l	set 15h
4	Current/next selected and all unprotected	1 SSA + !(SPA/DAQ1/SSA)	reset 1l	reset 17l	reset 15l
5	All selected	SSA	set 1h	reset 17l	set 15h
6	All unprotected	!SSA + !(SPA/DAQ1)	reset 1l	set 17h	x

To use the table, first decide which of the 6 cases is desired. For example, to use case #6 set SATM and reset GATM. Since MATM is don't care in this case, it does not need to be set either way. Set up the screen so that it is marked protected or selected except where the client user will enter data. Now when the user presses [Enter], all cells that are not SSA, not SPA and not DAQ1 will be sent back to the host.

Sending the screen always operates on the virtual screen so EBM (Editing Boundary Mode) is ignored. Tab fields do not affect how the screen is sent.

When sending the screen, the "current/next" selected area means that if the cursor is currently on a selected area, that area will be sent. If not, search forward in the screen to find one and use that one. If none are found before the end of the screen, reset to the screen origin and look from there. If the client returns to the cursor position without finding one, it sends nothing.

In all cases the screen is scanned starting from the origin and each cell is transmitted in the order in which it is programmed on the display. For example, #5 means start at the origin and scan forward for all selected cells (type SSA only) sending them in the order they are found. For case #4, the current/next selected area is found first based on the current cursor position and it is remembered. However, the cells are still transmitted starting from the origin. The selected area is simply transmitted when the client comes across it in the display.

A single area separator (HT 0/9) byte is inserted into the transmit stream for each protected area on the screen (for case #3, 4, 5 and 6 only). However, if the first or last area on the screen is protected, no separator byte is inserted.

For example, assume case #3 is in effect. If the first few cells of the screen are defined as follows where p is a protected cell, s is an SSA selected cell and u is an unprotected cell:

```
p1 p1 p1 s1 s1 s1 p2 p2 p2 s2 s2 s2 p3 p3 p3 s3 s3 s3 u1 u1 u1 ...
```

yields a transmit stream of:

```
s1 s1 s1 HT s2 s2 s2 HT s3 s3 s3 u1 u1 u1...
```

Note: No separator is inserted for the first protected area on the screen. No separator appears between s3 and u1 since there are no protected cells between them.

If the last few cells on the same display are defined as follows:

```
...p4 p4 p4 p4 u2 u2 u2 u2 u2 p5 s4 s4 s4 s4 p6 p6
```

yields a transmit stream of:

```
...HT u2 u2 u2 u2 u2 HT s4 s4 s4 s4
```

Note: No separator is inserted for the last protected area on the screen.

To reduce traffic between the client and the host when sending the screen, use cases #3, #5 and #6. Tag most of the screen as protected by using SPA or DAQ1. Leave only the cells that the user will type/scan into as unprotected/selected. When the client user presses [Enter] to send the screen, only the unprotected/selected cells will be sent separated by tabs.

Tabbing

Three types of tabs are provided in the client:

• default
• area
• regular

Only one type of tab can be active at any time. Previously set tabs may be suppressed by a tab type with a higher priority. However, the suppressed tabs are still defined in the client.

Block mode must be active for the [Tab] key to work. If the [Tab] key is pressed in character mode, it will be transmitted back to the host. It is up to the host to echo it back to actually perform the tab. In scroll mode, pressing the [Tab] key is equivalent to pressing the [Spacebar] key.

The host may perform tabbing by sending the appropriate commands (i.e. HT) to the client regardless of the mode it is in.

When a tab command is received or the client user presses the [Tab] key, the cursor will move forward until the next tab stop is found. If none is found before the end of the display, the cursor will move to the origin of the virtual display and continue searching. The client will not tab to a tab that is in a protected area. Tabs are stationary and do not scroll when the screen does. EBM is ignored when the client tabs.

Default Tabs

These tabs are present when the client is first powered up. They appear on every line starting in column one and are spaced 8 columns apart (i.e. 1, 9, 17, etc.). These tabs have the lowest priority and they can be neither set nor erased by the host.

Area Tabs

These tabs can be set by the DAQ, SSA, EPA and ESA commands. They can be set by the host on any screen cell within the virtual display. These tabs have a medium priority. Setting one or more area tabs suppresses all of the default tabs. They can be erased only by the ED (Erase in Display) and EL (Erase in Line) commands when ERM (ERasure Mode) is set. If all of the area tabs are erased (and there are no regular tabs) the default tabs are restored.

Regular Tabs

These tabs can be set by the HTS, CTC and DAQ 7 commands. They can be set by the host on any screen cell within the virtual display. These tabs have high priority. Setting one or more regular tabs suppresses all default and area tabs. Regular tabs can be erased by the CTC, HTS and TBC commands. If all of the regular tabs are erased, any existing area tabs are restored. If no area tabs exist, the default tabs are restored.

ANSI Control Codes

Control codes enable a programmer to control or modify a client and attached device. ANSI control codes consist of 7-bit and 8-bit control codes. This section provides information for the programmer on formatting control codes for Honeywell equipment. All the control codes supported by Honeywell are listed in this section. If a control code is not listed, Honeywell does not support it, and it is treated as a no operation (NOP).

Using the 8-Bit Code Table

The 8-bit code table has the same number of rows as the 7-bit code table, but twice as many columns. The codes on the left half of the table (columns 0 - 7) are used in a 7-bit and 8-bit environment. The eighth bit of these codes is 0. The codes on the right half of the table (columns 8 - 15) have an eighth bit of 1. These codes are used in an 8-bit environment and indirectly in a 7-bit environment.

The mnemonics in columns 0 and 1 are C0 (control 0) codes, which can be used in 7-bit environments. The mnemonics in columns 8 and 9 are C1 (control 1) codes, which can be used in 8-bit environments and indirectly in 7-bit environments as escape sequences.

A code table is a tool used to group all the characters in a character set with their codes.

A mnemonic is an abbreviated name that can be a single control character, escape sequence, or a control sequence.

8-Bit Code Table

Refer to the 8-bit code table below that lists all the decimal, hexadecimal, and octal values for each character:

	BITS b8 b7 b6 b5	COLUMN 0 0 0 0 0		1 0 0 0 1		2 0 0 1 0		3 0 0 1 1		4 0 1 0 0		5 0 1 0 1		6 0 1 1 0		7 0 1 1 1	
ROW	b4 b3 b2 b1																
0	0 0 0 0	NUL	0 0 0	DLE	20 16 10	SP	40 32 20	0	60 48 30	@	100 64 40	P	120 80 50	`	140 96 60	p	160 112 70
1	0 0 0 1	SOH	1 1 1	DC1 (XON)	21 17 11	!	41 33 21	1	61 49 31	A	101 65 41	Q	121 81 51	a	141 97 61	q	161 113 71
2	0 0 1 0	STX	2 2 2	DC2	22 18 12	"	42 34 22	2	62 50 32	B	102 66 42	R	122 82 52	b	142 98 62	r	162 114 72
3	0 0 1 1	ETX	3 3 3	DC3 (XOFF)	23 19 13	#	43 35 23	3	63 51 33	C	103 67 43	S	123 83 53	c	143 99 63	s	163 115 73
4	0 1 0 0	EOT	4 4 4	DC4	24 20 14	$	44 36 24	4	64 52 34	D	104 68 44	T	124 84 54	d	144 100 64	t	164 116 74
5	0 1 0 1	ENQ	5 5 5	NAK	25 21 15	%	45 37 25	5	65 53 35	E	105 69 45	U	125 85 55	e	145 101 65	u	165 117 75
6	0 1 1 0	ACK	6 6 6	SYN	26 22 16	&	46 38 26	6	66 54 36	F	106 70 46	V	126 86 56	f	146 102 66	v	166 118 76
7	0 1 1 1	BEL	7 7 7	ETB	27 23 17	'	47 39 27	7	67 55 37	G	107 71 47	W	127 87 57	g	147 103 67	w	167 119 77
8	1 0 0 0	BS	10 8 8	CAN	30 24 18	(	50 40 28	8	70 56 38	H	110 72 48	X	130 88 58	h	150 104 68	x	170 120 78
9	1 0 0 1	HT	11 9 9	EM	31 25 19	)	51 41 29	9	71 57 39	I	111 73 49	Y	131 89 59	i	151 105 69	y	171 121 79
10	1 0 1 0	LF	12 10 A	SUB	32 26 1A	*	52 42 2A	:	72 58 3A	J	112 74 4A	Z	132 90 5A	j	152 106 6A	z	172 122 7A
11	1 0 1 1	VT	13 11 B	ESC	33 27 1B	+	53 43 2B	;	73 59 3B	K	113 75 4B	[	133 91 5B	k	153 107 6B	{	173 123 7B
12	1 1 0 0	FF	14 12 C	FS	34 28 1C	,	54 44 2C	<	74 60 3C	L	114 76 4C	\	134 92 5C	l	154 108 6C	|	174 124 7C
13	1 1 0 1	CR	15 13 D	GS	35 29 1D	-	55 45 2D	=	75 61 3D	M	115 77 4D	]	135 93 5D	m	155 109 6D	}	175 125 7D
14	1 1 1 0	SO	16 14 E	RS	36 30 1E	.	56 46 2E	>	76 62 3E	N	116 78 4E	^	136 94 5E	n	156 110 6E	~	176 126 7E
15	1 1 1 1	SI	17 15 F	US	37 31 1F	/	57 47 2F	?	77 63 3F	O	117 79 4F	_	137 95 5F	o	157 111 6F	DEL	177 127 7F

←—— C0 Codes ——→←—— GL Codes (ASCII Graphic) ——→

KEY

Character — ESC — 23 / 27 / 1B — Octal / Decimal / Hexadecimal

Character code chart — Columns 8–15 (C1 Codes; GR Codes / DEC Supplemental Codes). Each cell lists the character with its octal, decimal, and hexadecimal code.

ROW	8	9	10	11	12	13	14	15	b4 b3 b2 b1
0	200 128 80	DCS 220 144 90	▨ 240 160 A0	° 260 176 B0	À 300 192 C0	320 208 D0	à 340 224 E0	360 240 F0	0 0 0 0
1	201 129 81	PU1 221 145 91	¡ 241 161 A1	± 261 177 B1	Á 301 193 C1	Ñ 321 209 D1	á 341 225 E1	ñ 361 241 F1	0 0 0 1
2	202 130 82	PU2 222 146 92	¢ 242 162 A2	² 262 178 B2	Â 302 194 C2	Ò 322 210 D2	â 342 226 E2	ò 362 242 F2	0 0 1 0
3	203 131 83	STS 223 147 93	£ 243 163 A3	³ 263 179 B3	Ã 303 195 C3	Ó 323 211 D3	ã 343 227 E3	ó 363 243 F3	0 0 1 1
4	IND 204 132 84	CCH 224 148 94	¤ 244 164 A4	264 180 B4	Ä 304 196 C4	Ô 324 212 D4	ä 344 228 E4	ô 364 244 F4	0 1 0 0
5	NEL 205 133 85	MW 225 149 95	¥ 245 165 A5	µ 265 181 B5	Å 305 197 C5	Õ 325 213 D5	å 345 229 E5	õ 365 245 F5	0 1 0 1
6	SSA 206 134 86	SPA 226 150 96	246 166 A6	¶ 266 182 B6	Æ 306 198 C6	Ö 326 214 D6	æ 346 230 E6	ö 366 246 F6	0 1 1 0
7	ESA 207 135 87	EPA 227 151 97	§ 247 167 A7	· 267 183 B7	Ç 307 199 C7	× 327 215 D7	ç 347 231 E7	÷ 367 247 F7	0 1 1 1
8	HTS 210 136 88	230 152 98	¨ 250 168 A8	270 184 B8	È 310 200 C8	Ø 330 216 D8	è 350 232 E8	ø 370 248 F8	1 0 0 0
9	HTJ 211 137 89	231 153 99	© 251 169 A9	¹ 271 185 B9	É 311 201 C9	Ù 331 217 D9	é 351 233 E9	ù 371 249 F9	1 0 0 1
10	VTS 212 138 8A	232 154 9A	ª 252 170 AA	º 272 186 BA	Ê 312 202 CA	Ú 332 218 DA	ê 352 234 EA	ú 372 250 FA	1 0 1 0
11	PLD 213 139 8B	CSI 233 155 9B	« 253 171 AB	» 273 187 BB	Ë 313 203 CB	Û 333 219 DB	ë 353 235 EB	û 373 251 FB	1 0 1 1
12	PLU 214 140 8C	ST 234 156 9C	254 172 AC	¼ 274 188 BC	Ì 314 204 CC	Ü 334 220 DC	ì 354 236 EC	ü 374 252 FC	1 1 0 0
13	RI 215 141 8D	OSC 235 157 9D	255 173 AD	½ 275 189 BD	Í 315 205 CD	Ÿ 335 221 DD	í 355 237 ED	ÿ 375 253 FD	1 1 0 1
14	SS2 216 142 8E	PM 236 158 9E	256 174 AE	276 190 BE	Î 316 206 CE	336 222 DE	î 356 238 EE	376 254 FE	1 1 1 0
15	SS3 217 143 8F	APC 237 159 9F	¿ 257 175 AF	¿ 277 191 BF	Ï 317 207 CF	ß 337 223 DF	ï 357 239 EF	▨ 377 255 FF	1 1 1 1

COLUMN BITS: b8 b7 b6 b5 — Col 8: 1 0 0 0; Col 9: 1 0 0 1; Col 10: 1 0 1 0; Col 11: 1 0 1 1; Col 12: 1 1 0 0; Col 13: 1 1 0 1; Col 14: 1 1 1 0; Col 15: 1 1 1 1

◄— C1 Codes —► ◄— GR Codes (DEC Supplemental Codes) —►

KEY

Character — ESC | 23 — Octal / 27 — Decimal / 1B — Hexadecimal
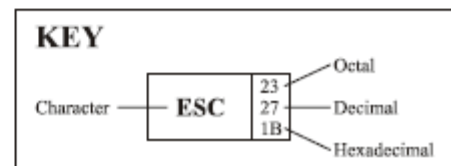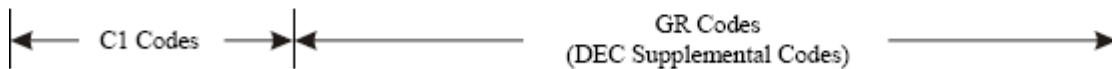
C0 Codes: 7-Bit Control Codes

C0 codes are 7-bit control codes that enable the programmer to perform basic functions with Honeywell clients and attached devices. This section lists all the C0 codes supported by Honeywell equipment. The examples show applications for each control code. Not all C0 codes are supported by Honeywell equipment. If a code is not listed, Honeywell does not support it, and it is treated as a no operation (NOP).

BEL - Bell

Function

BEL causes the client to play the Good Sound.

Hexadecimal Value

07

Control Code

^G

Modes that affect this code

None

Example

Refer to the following example on how a programmer can format a BEL command in the C programming language:

```
printf("Alert the user to this message!");
printf("\007\007\007\007"); /*Beep 4 times*/
```

BS - Backspace

Function

BS moves the cursor one space to the left. The cursor stops at the left margin of the virtual display.

Hexadecimal Value

08

Control Code

^H

Modes that affect this code

None

Example

Refer to the following example on how a programmer can format a BS command in the C programming language:

```
printf("The cursor will backspace one space.");
printf("\010"); /*(Octal for hex 08)*/
```

CR - Carriage Return

Function

CR returns the cursor to the left margin (of the virtual screen) of the row that the cursor is currently in.

Hexadecimal Value

0D

Control Code

^M

Modes that affect this code

None

Example

Refer to the following example on how a programmer can format a CR command in the C programming language:

```
printf("Return cursor to beginning of \n");
printf("this second line.");
printf("\015"); /*Octal for hex 0D*/
```

DC2 - Device Control 2

Function

DC2 is ignored by the client device while media copy is enabled. The DC2 code will not be sent to the printer.

Hexadecimal Value

12

Control Code

^R

Modes that affect this code

None

Example

Refer to the following example on how a programmer can format an DC2 command in the C programming language:

```
printf("\033[5i"); /*Enables following text to copy to the RS-232 port*/
printf("This message will copy to the RS-232 port.");
printf("\022"); /*Terminal ignores this code and does not send it to the RS-232
port.*/
printf("\033[4i"); /*Disables RS-232 port*/
```

DC4 - Device Control 4

Function

DC4 is an alternative way to turn off media copy.

Hexadecimal Value

14

Control Code

^T

Modes that affect this code

None

Example

Refer to the following example on how a programmer can format an DC4 command in the C programming language:

```
printf("\033[5i"); /*Enables following text to copy to the RS-232 port*/
printf("This message will copy to the RS-232 port.");
printf("\020"); /*Disables RS-232 port*/
```

DEL - Delete

Function

DEL erases a character in the data stream. DEL is for client user use only. The host does not send this command.

Hexadecimal Value

7F

Control Code

[Delete]

Modes that affect this code

None

Example

If an user enters a keystroke by mistake, the user can press [Del] causing the client to backspace, which deletes the last character.

ENQ - Inquiry

Function

ENQ requests a response from the client. The client responds with an answerback message.

Hexadecimal Value

05

Control Code

^E

Modes that affect this code

None

Example

Refer to the following example on how a programmer can format an ENQ command in the C programming language:

```
printf("Requesting client response now.");
printf("\005"); /*Octal for hex 05*/
gets(input_str); /*input_str = LXE/q/08/TERMS67001C/0010*/
```

ESC - Escape

Function

ESC extends the set of ANSI controls by acting as a code extension.

Hexadecimal Value

1B

Control Code

^[

Modes that affect this code

None

Example

Refer to the following example on how a programmer can format an ESC command in the C programming language:

```
printf("\033E"); /*Octal for hex 1B.  ESC E is a NEL command*/
```

FF - Form Feed

Function

FF is processed as a line feed (LF) in Honeywell clients and advances the cursor down one line. Refer to LF - Line Feed (page 5-12) control code for a more detailed description.

Hexadecimal Value

0C

Control Code

^L

Modes that affect this code

Scroll Region, LNM

Example

Refer to the following example on how a programmer can format an FF command in the C programming language:

```
printf("This appears on line 1.\n");
printf("\014"); /*(Octal for hex 0C)*/
printf("\014");
printf("This appears on line 4.");
```

See Also

HT - Horizontal Tab

Function

HT moves the cursor to the next predetermined position (tab stop) to the right, within the virtual screen.

If there are no more tab stops after the cursor, it will jump to the origin of the screen and continue looking for the next tab stop from there.

Note: The cursor will not tab to any protected screen cells.

Hexadecimal Value

09

Control Code

^I

Modes that affect this code

None

Example

Refer to the following example on how a programmer can format the HT command in the C programming language:

```
printf("\033[1;25H"); /*CUP-place cursor at 1,25*/
printf("\033H"); /*HTS-Set Tab*/
printf("\033[1;1H"); /*CUP-place cursor at 1,1*/
printf("\011"); /*HT-tab to 1,25.  Octal for hex 09*/
```

LF - Line Feed

Function

LF moves the cursor down one line.

If the cursor is outside the scrolling region when the Line Feed is received, it will not move past the bottom of the virtual screen. Scrolling does not occur outside the scrolling region.

If the cursor is on the bottom row of the scrolling region when the Line Feed is received and the client is in scroll mode, a blank line is inserted at the cursor and the screen scrolls up one (1) row.

Hexadecimal Value

0A

Control Code

^J

Modes that affect this code

Scroll Region, LNM

Example

Refer to the following example on how a programmer can format an LF command in the C programming language:

```
print("\033[20h"); /*Set LNM*/
printf("This appears on line 1.\n");
printf("\012"); /*Octal for hex 0A*/
printf("\012");
printf("This appears on line 4.");
```

NUL - Null

Function

NUL acts as a space-fill or time-fill character.

Note: You can insert a NUL anywhere in the data stream without affecting the information content.

Hexadecimal Value

00

Control Code

^@

Modes that affect this code

None

Example

Refer to the following example on how a programmer can format a NUL command in the C programming language:

```
printf("There will \000not be any\n");
printf("extra \000characters here.");
```

VT - Vertical Tab

Function

VT is processed as a line feed (LF) in LXE clients and advances the cursor down one line. Refer to the Line Feed control code for a more detailed description.

Hexadecimal Value

07

Control Code

^G

Modes that affect this code

Scroll Region, LNM

Example

Refer to the following example on how a programmer can format a VT command in the C programming language:

```
printf("This appears on line 1.\n");
printf("\013"); /*(Octal for hex 0B)*/
printf("\013");
printf("This appears on line 4.");
```

See Also

LF - Line Feed (page 5-12)

C1 Codes: 8-Bit Control Codes

C1 codes are 8-bit control codes that enable the programmer to perform various functions with Honeywell clients and attached devices. Some environments operate in 7-bit code; therefore, 8-bit control codes also have 7-bit equivalents. This section lists all the C1 codes supported by Honeywell equipment. The examples show applications for each control code. Honeywell supports most of the C1 codes but not all of them. If a code is not listed, Honeywell does not support it, and it is treated as a no operation (NOP).

CSI - Control Sequence Introducer

Function

CSI indicates the start of a control sequence.

Hexadecimal Value

9B

7-Bit Equivalent

ESC[

Modes that affect this code

None

Example

Refer to the following example on how a programmer can format a CSI command in the C programming language:

```
printf("\033[10C"); /*CUF moves cursor 10 spaces forward.  033[ represents hex 9B*/
```

EPA - End of Protected Area

Function

EPA indicates that the cursor's position is the end of a string of character positions protected from alteration by the client and guarded against transmission back to the host. The area from the cursor position forward is marked to accept all input as if a DAQ 0 command was issued from that position.

Hexadecimal Value

97

7-Bit Equivalent

ESC W

Modes that affect this code

None

Example

Refer to the following example on how a programmer can format an EPA command in the C programming language:

```
printf("\033V"); /*SPA*/
printf("This is the start of a protected area\n");
printf("This is the end of a protected area");
printf("\033W"); /*EPA*/
```

See Also

SPA - Start of Protected Area (page 5-18) (which precedes an EPA command)

ESA - End of Selected Area

Function

ESA indicates that the cursor position is the end of a string of character positions selected for transmission in a data stream to the host. The area from the cursor position forward is marked to accept all input as if a DAQ 0 command was issued from that position.

Note: The ESA does not initiate the RF transmission.

Hexadecimal Value

87

7-Bit Equivalent

ESC G

Modes that affect this code

None

Example

Refer to the following example on how a programmer can format an ESA command in the C programming language:

```
printf("\033F"); /*SSA-start of selected area*/
printf("This area is selected for transmission");
printf("\033G"); /*ESA-end of selected area*/
```

See Also

SSA - Start of Selected Area (page 5-19) (which precedes an ESA command).

HTJ - Horizontal Tab with Justify

Function

HTJ shifts the characters between the preceding tab position and the left of the cursor position, up to the next tab position. The screen cells to the left of the justified text will be space filled.

The cursor will also move to the left of the next tab stop. If the cursor was on a tab stop when the HTJ command was received, the cursor will move to the next tab stop with no justification. This command will act on regular tabs if they exist, otherwise it will act on default tabs. HTJ will not act on area tabs.

Hexadecimal Value

89

7-Bit Equivalent

ESC I

Modes that affect this code

None

Example

Refer to the following example on how a programmer can format an HTJ command in the C programming language:

```
printf("\033[5;5H"); /*CUP-move cursor to 5;5*/
printf("\033H"); /*HTS-tab set*/
printf("\033[5;12H"); /*CUP-move cursor to 5;12*/
printf("\033H"); /*HTS-tab set*/
printf("\033[5;5H"); /*CUP-move cursor to 5;5*/
sleep(10); /*Wait for user to enter data*/
printf("\033I"); /*HTJ-justify data to the tab set*/
gets(s); /*Wait for user to press <Enter> and read in data*/
```

HTS - Horizontal Tabulation Set

Function

HTS sets a tab position at the cursor position.

Hexadecimal Value

88

7-Bit Equivalent

ESC H

Modes that affect this code

TSM

Example

Refer to the following example on how a programmer can format an HTS command in the C programming language:

```
printf("\033[4,20H"); /*CUP-move cursor to 4,20*/
printf("\033H"); /*HTS-Set Tab Stop*/
```

IND - Index

Function

IND moves the cursor down one row without changing column position.

If the cursor is on the bottom row of the scrolling region, the display within the region will scroll up by one (1) row.

No scrolling occurs if the cursor is outside of the scrolling region.

Hexadecimal Value

84

7-Bit Equivalent

ESC D

Modes that affect this code

Scroll Region

Example

Refer to the following example on how a programmer can format an IND command in the C programming language:

```
printf("\033D"); /*Index-move down 1 row*/
```

NEL - Next Line

Function

NEL moves the cursor to the left margin on the next line.

If the cursor is on the bottom row of the scrolling region, the display within the region will scroll up by one (1) row.

No scrolling occurs if the cursor is outside of the scrolling region.

Hexadecimal Value

85

7-Bit Equivalent

ESC E

Modes that affect this code

Scroll Region

Example

Refer to the following example on how a programmer can format an NEL command in the C programming language:

```
printf("\033E"); /*NEL-down one line to the left margin*/
```

RI - Reverse Index

Function

RI moves the cursor up one line without changing the column position.

If the cursor is on the top row of the scrolling region, the display within the region will scroll down by one (1) row.

No scrolling occurs if the cursor is outside the scrolling region.

Hexadecimal Value

8D

7-Bit Equivalent

ESC M

Modes that affect this code

Scroll Region

Example

Refer to the following example on how a programmer can format an RI command in the C programming language:

```
printf("This prints on line 3.");
printf("\015"); /*Carriage Return.  Move to column 1*/
printf("\033M"); /*RI-move up 1 line*/
printf("This prints on line 2.");
```

SPA - Start of Protected Area

Function

SPA indicates the start of a string of character positions protected from alteration by the client and guarded against transmission back to the host. This command is equivalent to DAQ 1.

Hexadecimal Value

96

7-Bit Equivalent

ESC V

Modes that affect this code

None

Example

Refer to the following example on how a programmer can format an SPA command in the C programming language:

```
printf("\033V"); /*SPA*/
printf("This is the start of a protected area\n");
printf("This is the end of a protected area");
printf("\033W"); /*EPA*/
```

See Also

EPA - End of Protected Area (page 5-14) (which follows the SPA command)

SSA - Start of Selected Area

Function

SSA indicates the start of a string of character positions selected for transmission back to the host. This command is similar to DAQ 8, except that SSA allows user input whereas DAQ 8 does not.

Note: The SSA does not initiate the RF transmission.

Hexadecimal Value

86

7-Bit Equivalent

ESC F

Modes that affect this code

None

Example

Refer to the following example on how a programmer can format an SSA command in the C programming language:

```
printf("\033F"); /*SSA-start of selected area*/
printf("This area is selected for transmission");
printf("\033G"); /*ESA-end of selected area*/
```

See Also

ESA - End of Selected Area (page 5-15) (which follows the SSA command)

ANSI Escape Sequences

This section provides information on coding ANSI escape sequences, which extend the functions available with the control codes. If an ANSI escape sequence is not listed, Honeywell does not support it, and it is treated as a no operation (NOP).

CBT - Cursor Backward Tabulation

Function

CBT moves the cursor left, to the preceding tab position within the virtual screen.

If there are no tab stops before the cursor, it will jump to the lower right corner of the screen and continue looking backward for the next tab stop.

Note: The cursor will not tab to any protected screen cells.

Escape Sequence

ESC[PnZ

where:

Pn is the number of tab positions the cursor moves to the left.

Z is the final character.

Parameter Values

Refer to the following table for the movement of the cursor according to the value that you enter:

When you enter...	Then the cursor moves...
0	back one tab stop because the value defaults to 1 when you enter 0.
1 (default)	back one tab stop.
a number greater than 1	back the number of tab stops the value indicates within the bounds of the virtual screen.

Modes that affect this code

None

Example

Refer to the following example on how a programmer can format a CBT command in the C programming language:

```
printf("\033[1;25H"); /*CUP-place cursor at row 1, column 25*/
printf("\033H"); /*HTS-set tab set*/
printf("\033[1;35H"); /*CUP-place cursor at row 1, column 35*/
printf("\033[1Z"); /*CBT-move cursor back to tab set*/
```

CHA - Cursor Horizontal Absolute

Function

CHA moves the cursor to the column (on the current row) that the parameter indicates. If a number greater that 80 is entered, the cursor will move to column 80 by default.

Note: Column number depends on the setting in Session Configuration.

Escape Sequence

ESC[PnG

where:

Pn is the column number the cursor moves to.

G is the final character.

Parameter Values

Refer to the following table for the effect the value that you enter has on the cursor's position:

When you enter...	Then the cursor moves...
0	to column one because the value defaults to 1 when you enter 0.
1 (default)	to column one.
a number greater than 1	to the column the value indicates in the current line.

Modes that affect this code

None

Example

Refer to the following example on how a programmer can format a CHA command in the C programming language:

```
printf("\033[7G"); /*move cursor to column 7 of the current line*/
```

CHT - Cursor Horizontal Tab

Function

CHT moves the cursor right, to the next tab position within the virtual screen. If there are no tab stops found after the cursor, it will jump to the origin of the screen and continue looking for the next tab stop.

Note: The cursor will not tab to any protected screen cells.

Escape Sequence

ESC[PnI

where:

Pn is the number of tab positions the cursor moves to the right.

I is the final character.

Parameter Values

Refer to the following table for the effect the value that you enter has on the cursor's position:

When you enter...	Then the cursor moves...
0	forward one tab position because the value defaults to 1 when you enter 0.
1 (default)	forward one tab position.
a number greater than 1	forward the number of tab positions that the value indicates within the bounds of the virtual screen

Modes that affect this code

None

Example

Refer to the following example on how a programmer can format a CHT command in the C programming language:

```
printf("\033[1;25H"); /*CUP-place the cursor at row 1, column 25*/
printf("\033H"); /*HTS-tab stop*/
printf("\033[1;1H"); /*CUP-move cursor up to row 1, column 1*/
printf("\033[1I"); /*CHT-place cursor horizontal tab*/
```

CNL - Cursor Next Line

Function

CNL moves the cursor down one or more lines to the left margin from the cursor's current position. The cursor will stick at the bottom margin if a large number is entered.

Escape Sequence

ESC[PnE

where:

Pn is the number of lines the cursor moves down.

E is the final character.

Parameter Values

Refer to the following table for the effect the value that you enter has on the cursor's position:

When you enter...	Then the cursor moves...
0	to the left margin on the next line from its current position because the value defaults to 1 when you enter 0.
1 (default)	to the left margin on the next line from its current position.
a number greater than 1	down, as many lines as the value indicates, to the left margin.

Modes that affect this code

None

Example

Refer to the following example on how a programmer can format a CNL command in the C programming language:

```
printf("\033[1;20H"); /*CUP-place cursor at row 1, column 20*/
printf("\033[1E"); /*CNL-move cursor to next line, column 1*/
```

CPL - Cursor Preceding Line

Function

CPL moves the cursor up one or more lines to the left margin from the cursor's current position. The cursor will stick at the top margin if a large number is entered.

Escape Sequence

ESC[PnF

where:

Pn is the number of lines the cursor moves up.

F is the final character.

Parameter Values

Refer to the following table for the effect the value that you enter has on the cursor's position:

When you enter...	Then the cursor moves...
0	up one line to the left margin because the value defaults to 1 when you enter 0.
1 (default)	up one line to the left margin.
a number greater than 1	up, as many lines as the value indicates, to the left margin.

Modes that affect this code

None

Example

Refer to the following example on how a programmer can format a CPL command in the C programming language:

```
printf("\033[3;20H"); /*CUP-move the cursor to row 3, column 20*/
printf("\033[2F"); /*CPL-move the cursor up 2 lines*/
```

CPR - Cursor Position Report

Function

CPR reports the cursor's position to the host. DECOM is ignored when reporting the cursor position. The position reported is always relative to the origin of the virtual screen.

Note: This report is sent from the client to the host in response to a device status report 6 (DSR 6)

Escape Sequence

ESC[Pr,PcR

where:

Pr is the row position.

Pc is the column position.

R is the final character.

Example

Refer to the following example of a CPR sent from the client to the host:

```
printf("\033[2;5H"); /*CUP-Place cursor*/
printf("\033[6n"); /*DSR-Request cursor position*/
gets(s); /*String returned= "\033[2;5R"*/
```

Note: This example requires that the [Enter] key is pressed to exit from the gets command.

Modes that affect this code

None

See Also

DSR - Device Status Report (page 5-37)

CTC - Cursor Tabulation Control

Function

CTC sets or clears the horizontal tab positions.

Escape Sequence

ESC[PnW

where:

Pn is the tab position you want to set.

W is the final character.

Parameter Values

Refer to the following table for the effect the value that you enter has on the cursor's tab position:

When you enter...	Then this parameter value...
0 (default)	with TSM set, sets the tab stop at the cursor's position. with TSM reset, sets the tab stop at the cursor's column, on all rows in the virtual screen.
1	Honeywell does not support this parameter value.
2	with TSM set, clears the tab stop at the cursor's position. with TSM reset, clears the tab stop at the cursor's column, on all rows in the virtual screen.
3	Honeywell does not support this parameter value.
4	with TSM set, clears all of the tab stops on the cursor's row in the virtual screen. with TSM reset, clears all of the tab stops on the virtual screen.
5	with TSM set or reset, clears all of the tab stops on the virtual screen.
6	Honeywell does not support this parameter value.

Modes that affect this code

None

Example

Refer to the following example on how a programmer can format a CTC command in the C programming language:

```
printf("\033[5W"); /*clear all horizontal tab positions*/
```

CUB - Cursor Back

Function

CUB moves the cursor one or more positions to the left, up to the left margin. The cursor will stick at the left margin if a large number is entered.

Escape Sequence

ESC[PnD

where:

Pn is the number of character spaces the cursor moves to the left.

D is the final character.

Parameter Values

Refer to the following table for the effect the value that you enter has on the cursor's position:

When you enter...	Then the cursor moves...
0	to the left one space because the value defaults to 1 when you enter 0.
1 (default)	to the left one space.
a number greater than 1	to the left the number of spaces the value indicates up to the left margin. Each line contains 80 or 132 character positions depending on configuration.

Modes that affect this code

None

Example

The following example illustrates how a programmer can format a CUB command in the C programming language:

```
printf("\033[4D"); /*CUB-move cursor back 4 spaces*/
```

CUD - Cursor Down

Function

CUD moves the cursor down one or more lines, without changing the cursor's column position.

If the cursor is outside the scrolling region when this command is received, it will not move past the bottom of the virtual screen.

If the cursor is inside the scrolling region, it will not move past the bottom row of the scrolling region.

If Editing Boundary Mode (EBM) is set to the physical display, the scrolling region is ignored and the cursor will not move past the bottom of the physical display.

Note: Scrolling does not occur with this command.

Escape Sequence

ESC[PnB

where:

Pn is the number of lines the cursor moves down.

B is the final character.

Parameter Values

Refer to the following table for the effect the value that you enter has on the cursor's position:

When you enter...	Then the cursor moves...
0	down one line in the same column because the value defaults to 1 when you enter 0.
1 (default)	down one line in the same column.
a number greater than 1	down the number of lines the value indicates without changing column position.

Modes that affect this code

None

Example

Refer to the following example on how a programmer can format a CUD command in the C programming language:

```
printf("\033[4B"); /*CUD-move cursor down 4 lines*/
```

CUF - Cursor Forward

Function

CUF moves the cursor forward (to the right) one or more spaces up to the right margin. The cursor will stick at the right margin if a large number is entered.

Escape Sequence

ESC[PnC

where:

Pn is the number of character positions the cursor moves to the right.

C is the final character.

Parameter Values

Refer to the following table for the effect the value that you enter has on the cursor's position:

When you enter...	Then the cursor moves...
0	one position to the right because the value defaults to 1 when you enter 0.
1 (default)	one position to the right.
a number greater than 1	to the right the number of times the value indicates up to the right margin. Each line contains 80 or 132 character positions depending on configuration.

Modes that affect this code

None

Example

Refer to the following example on how a programmer can format a CUF command in the C programming language:

```
printf("\033[4C"); /*CUF-moves cursor forward 4 spaces*/
```

CUP - Cursor Position Absolute

Function

CUP moves the cursor to a specified row/column position.

If the row or column positions are out of range, the client will adjust them and be within range of the appropriate display.

Escape Sequence

ESC[Pr,PcH

where:

Pr is the row position.

Pc is the column position.

H is the final character.

Parameter Values

Refer to the following table for the values that you can enter for CUP:

Parameter	Value	
Pr	1-25	Line 25 is the status line.
Pc	1-80	
If you enter 0 for Pr or Pc, the parameter defaults to 1.		

Modes that affect this code

None

Example

Refer to the following example on how a programmer can format a CUP command in the C programming language:

```
printf("\033[3;17H"); /*CUP-move cursor to row 3, column 17*/
```

CUU - Cursor Up

Function

CUU moves the cursor up one or more lines, without changing the cursor's column position.

Note: Scrolling does not occur with this command.

Escape Sequence

ESC[PnA

where:

Pn is the number of lines the cursor moves up.

A is the final character.

Parameter Values

Refer to the following table for the effect the value that you enter has on the cursor's position:

When you enter...	Then the cursor moves...
0	up one line because the value defaults to 1 when you enter 0.
1 (default)	up one line.
a number greater than 1	up the number of lines the value indicates up to the top of the virtual screen.

Modes that affect this code

None

Example

Refer to the following example on how a programmer can format a CUU command in the C programming language:

```
printf("\033[4A"); /*CUU-move cursor up 4 lines*/
```

CVT - Cursor Vertical Tab

Function

CVT is processed the same as the Cursor Next Line command (CNL).

Escape Sequence

ESC[PnY

where:

Pn is the number of lines the cursor moves down.

Y is the final character.

Modes that affect this code

None

See

CNL for more details.

DAQ - Define Area Qualifications

Function

DAQ indicates that the cursor's position is the start of a string of consecutive character positions that constitute a qualified area. The end of a qualified area is indicated by the beginning of the next qualified area. A qualified area restricts the type of input the client user enters.

Escape Sequence

ESC[Pno

where:

Pn indicates the type of data that the client accepts.

o is the final character.

Multiple parameters may be sent in a single DAQ command if they are separated by semi-colons.

Parameter Values

Refer to the following table for the effect the value that you enter has on the qualified area:

When you enter...	Then the qualified area...
0 (default)	accepts all data.
1	does not accept any input and is not selected to transmit. Entering 1 for this value is equivalent to the 8-bit control code start of protected area (SPA) discussed in C1 Codes: 8-Bit Control Codes.
2	accepts only displayable characters, 20-7E hex.
3	accepts only numeric characters.
4	accepts only alphabetic characters.
5	right justifies the data.
6	is filled with zeros.
7	has a horizontal tab stop set at the start of area.
8	does not accept any input, but it is selected to transmit.
9	is filled with spaces.
10	accepts input, but the characters are invisible.
15	accepts only keyboard input.

Every new DAQ command that the client receives will always overwrite the existing DAQ attribute type from the cursor to the end of the area.

Note: Parameter types 6 and 9 are executed immediately and are not stored in the TE.

Rule

All DAQ parameters are supported in block mode. Parameters 0, 2, 3, 4 and 10 are supported in scroll mode. No parameters are supported in character mode.

However, if multiple DAQ parameters are specified in a single command, they will combine as described in the table below.

Parameter in DAQ command	+	Previous Parameter in DAQ command	=	Parameter Stored in TE
All data (0)	+	any	=	All data
Guarded (1)	+	any	=	Guarded
Displayable (2)	+	any	=	Displayable
Numeric (3)	+	Alphabetic	=	Alphanumeric

Parameter in DAQ command	+	Previous Parameter in DAQ command	=	Parameter Stored in TE
Numeric (3)	+	any other	=	Numeric
Alphabetic (4)	+	Numeric	=	Alphanumeric
Alphabetic (4)	+	any other	=	Alphabetic
Right Justify (5)	+	any	=	Previous+Right Justified (If 5 is the only parameter received, the area will be an "All data, right justified" one.)
Regular Tab (7)	+	any	=	All data+Regular Tab Stop (Ignores TSM)
Selected (8)	+	any	=	Selected

For example, if the host specified ESC[1;5;0o, the client would mark the area as simply "All data" since 0 was the last parameter. However, if the host specified ESC[3;4;5o, the client would mark the area as alpha-numeric and right justified.

Modes that affect this code

None

Example

Refer to the following example on how a programmer can format a DAQ command in the C programming language:

```
printf("\033[1o"); /start of a protected area*/
printf("Accept numeric character input only.\n");
printf("\033[3o"); /*Define numeric entry area start*/
printf("____"); /*4 underscore characters*/
printf("\033[1o"); /*define numeric entry area stop*/
printf("\033[4D"); /*CUB-moves the cursor back 4 spaces*/
gets(s); /*string returned will be numeric value only*/
```

DCH - Delete Character

Function

DCH deletes the character(s) at the cursor position and shifts all the characters right of the cursor to the left (toward the cursor).

The client will not delete past the first protected screen cell to the right of the cursor. If the cursor is on a protected cell when the DCH command is received, it will move one position to the right (i.e. CUF 1). No deletion takes place in this case.

Note: The vacated character position at the other end is erased.

Rule

Block mode must be enabled to use DCH.

Escape Sequence

ESC[PnP

where:

Pn is the number of characters to delete.

P is the final character.

Parameter Values

Refer to the following table for the effect the value that you enter has on the cursor's position:

When you enter...	Then the client...
0	deletes one character because the value defaults to 1 when you enter 0.
1 (default)	deletes one character.
a number greater than 1	deletes the number of characters the value indicates.

Modes that affect this code

SEM

Example

Refer to the following example on how a programmer can format a DCH command in the C programming language:

```
printf("All X's on this XX line will be deleted");
printf("\033[23D"); /*CUB-23 spaces back*/
printf("\033[2P"); /*DCH-deletes 2 x's*/
printf("\033[12D"); /*CUB-12 spaces back*/
printf("\033[1P"); /*DCH-deletes x's remaining*/
```

DL - Delete Line

Function

DL deletes the line the cursor is in and shifts all following lines up. If the cursor is outside the scrolling region, this command is ignored.

Escape Sequence

ESC[PnM

where:

Pn is the number of lines the device deletes.

M is the final character.

Parameter Values

Refer to the following table for the number of lines the client deletes according to the value that you enter:

When you enter...	Then the client deletes...
0	one character because the value defaults to 1 when you enter 0.
1 (default)	one line.
a number greater than 1	the number of lines the value indicates without going beyond the bottom of the virtual screen or the scrolling region.

Modes that affect this code

None

Example

Refer to the following example on how a programmer can format a DL command in the C programming language:

```
printf("This line will be deleted.\n");
printf("This line will be deleted.\n");
printf("This line moves up and is not deleted.\n");
printf("\033[3A"); /*CUU-cursor moves up 3 lines*/
printf("\033[2M"); /*DL-2 lines are deleted and remaining lines move up*/
```

DMI - Disable Manual Input

Function

DMI disables keyboard and RS-232 input. This command is equivalent to SM KAM.

Escape Sequence

ESC` (tilde)

Modes that affect this code

None

Example

Refer to the following example on how a programmer can format a DMI command in the C programming language:

```
printf("\033`"); /* Keyboard and RS-232 now locked */
```

DSR - Device Status Report

Function

DSR requests information or reports information. DSR from the host requests information from the client receiving the sequence (Pn = 5, 6). DSR from the client reports the status of the client (Pn = 0).

Escape Sequence

ESC[Pnn

where:

Pn is either a value that you enter (5 or 6) or it is a value returned from the client (0).

n is the final character.

Parameters Indicating a Request

Refer to the following table for the requests the host sends to a client according to the parameter value:

Note: Parameter 5 and 6 do not append a CR or LF to the response. Parameters 90, 92 and 93 append CR and LF as if the [SEND] key was pressed.

Parameter	Report that the Host is Requesting
5	Status Report. The client returns a CSI0n indicating ready status.
6	Cursor Position Report (CPR).
90	Sends the TE display, just as if the client user had pressed the [Enter] key.
92	Sends the TE display just as if the client user had pressed [Enter].
93	Same as 90, except the TE does not lock its keyboard.
94	Sends the upper left and lower right coordinates of the physical display in the format CSI?UL Row;UL Col;LR Row,LR Col R The coordinates are 1-based.

Note: DSR 90 - 94 are useful for debugging host applications.

Response to a CPR Request

The client sends a CPR response when the host requests a CPR. See CPR - Cursor Position Report (page 5-25).

Note: A carriage return (CR) and a line feed (LF) are not returned in the response to a CPR request.

Modes that affect this code

None

Example

Refer to the following example on how a programmer can format a DSR command that requests a client to send a status report in C programming language:

```
printf("\033[5n");
gets (s); /*string returned is \033[0n for a ready status*/
```

Note: The example above requires that the [Enter] key be pressed at the client to exit from the gets command.

EA - Erase in Area

Function

EA erases characters in the qualified area where the active position (cursor's position) resides according to the value that you enter. This command will not erase the type of qualified area that the cursor is in.

Escape Sequence

ESC[PnO

where:

Pn indicates what portion of the area is erased.

O is the final character.

Parameter Value

Refer to the following table on how characters are erased in the qualified area:

When you enter...	Then the client ...
0 (default)	erases characters from the cursor to the end of the qualified area.
1	erases characters from the start of the qualified area to the cursor.
2	erases all characters in the qualified area.

Modes that affect this code

ERM

Example

Refer to the following example on how a programmer can format an EA command in the C programming language:

```
printf("\033[6l"); /*Reset ERM*/
printf("\033[1o") /*DAQ-Start of protected area*/
printf("This will not be erased.\n");
printf("\033[0o"); /*DAQ-Accepts all input*/
printf("_ _ _ _ \033[1o"); /*DAQ-Accept no input*/
printf("\033[4D"); /*CUB-4 spaces*/
printf("\033[2O"); /*EA-Erase in Area-all*/
```

ECH - Erase Character

Function

ECH erases the character at the cursor's position and possibly other characters to the right of the cursor, depending on the value that you enter. If a large number of characters to erase is specified, the erase will continue on succeeding lines.

Note: The active (cursor) position is unchanged.

Escape Sequence

ESC[PnX

where:

Pn is the number of characters to erase.

X is the final character.

Parameter Values

Refer to the following table on how the client erases characters according to the value that you enter:

When you enter...	Then the client ...
0	erases one character because the value defaults to 1 when you enter 0.
1 (default)	erases one character.
a number greater than 1	erases the number of characters the value indicates.

Modes that affect this code

ERM

Example

Refer to the following example on how a programmer can format an ECH command in the C programming language:

```
printf("This Z will be erased.");
printf("\015"); /*Carriage return*/
printf("\033[5c"); /*Cursor forward 5 spaces*/
printf("\033[1X"); /*Erase character Z*/
```

ED - Erase in Display

Function

ED erases some or all of the characters in the display according to the value that you enter. This command will erase the type of qualified area that the cursor is in. It will also erase qualified area boundaries.

If EBM is set to the virtual screen, every row that is completely erased will have its line attribute reset to single high and single wide.

Escape Sequence

ESC[PnJ

where:

Pn indicates what portion of the display is erased.

J is the final character.

Parameter Values

Refer to the following table on how the client erases characters according to the value that you enter:

When you enter...	Then the client ...
0 (default)	erases characters starting with the cursor position to the end of the display.
1	erases the characters from the start of the display to the cursor.
2	erases all the characters on the display. The cursor is moved to the origin of the physical display or virtual screen, depending on the EBM setting.

Modes that affect this code

ERM

Example

Refer to the following example on how a programmer can format an ED command in the C programming language:

```
printf("\033[2J"); /*Erases entire display*/
```

EF - Erase in Field

Function

EF erases characters in the current field depending on the value that you enter. This command will not erase the type of qualified area that the cursor is in.

Escape Sequence

ESC[PnN

where:

Pn indicates what portion of the current field is erased.

N is the final character.

Parameter Values

Refer to the following table on how the client erases characters in a field according to the value that you enter:

When you enter...	Then the client ...
0 (default)	erases characters from the cursor position to the end of the field.
1	erases characters from the beginning of the field to the cursor position.
2	erases the entire field that the cursor is in.

Modes that affect this code

EBM

Example

Refer to the following example on how a programmer can format an EF command in the C programming language:

```
printf("\033[5W"); /*CTC-Clear all tabs*/
printf("\033[0W"); /*CTC-Set a tab*/
printf("_ _ _ _ \033[0W"); /*CTC-Set a tab*/
printf("\033[3D"); /*CUB-3 spaces*/
printf("\033[2N"); /*EF-Erases all of field*/
```

EL - Erase in Line

Function

EL erases characters in the line the cursor is in according to the value that you enter. This command will erase the type of qualified area that the cursor is in. It will also erase qualified area boundaries.

Escape Sequence

ESC[PnK

where:

Pn indicates what portion of the current line is erased.

K is the final character.

Parameter Values

Refer to the following table on how the client erases characters according to the value that you enter:

When you enter...	Then the client ...
0 (default)	erases characters from the cursor position to the end of line.
1	erases characters from the beginning of the line to the cursor.
2	erases the entire line that the cursor is in.

Modes that affect this code

ERM

Example

Refer to the following example on how a programmer can format an EL command in the C programming language:

```
printf("\033[6l"); /*Reset ERM*/
printf("\033[1o"); /*DAQ-Start of protected area*/
printf("This will not be erased.\n");
printf("\033[0o"); /*DAQ-Accepts all input*/
printf("_ _ _ _ \033[1o"); /*DAQ-Accepts no input*/
printf("\033[4D"); /*CUB-4 spaces*/
printf("\033[2K"); /*Erase in Line*/
```

EMI - Enable Manual Input

Function

EMI enables keyboard and RS-232 input. This command is equivalent to RM KAM.

Escape Sequence

ESCb

Modes that affect this code

None

Example

Refer to the following example on how a programmer can format an EMI command in the C programming language:

```
printf("\033b"); /* Keyboard and RS-232 now unlocked */
```

HVP - Horizontal Vertical Position

Function

HVP moves the cursor to the specified row/column position. HVP is the same as the CUP command in Legacy clients. Refer to the CUP command for more details. See .

Escape Sequence

ESC[Pr,Pcf

where:

Pr is the row position.

Pc is the column position.

f is the final character.

Parameter Values

Refer to the following table for the values that you can enter for HVP:

Parameter	Value
Pr	1 - 25(Line 25 is the status line.)
Pc	1 - 80
If you enter 0 for Pr or Pc, the parameter defaults to 1.	

Modes that affect this code

None

Example

Refer to the following example on how a programmer can format an HVP command in the C programming language:

```
printf("\033[3;17f"); /*Move the cursor to row 3, column 17*/
```

ICH - Insert Character

Function

ICH shifts all characters from the cursor to the right and inserts a space character at the cursor position.

The client will not insert past the first protected screen cell to the right of the cursor. If the cursor is on a protected cell when this command is received, it will move one position to the right (i.e. CUF 1). No insertion takes place in this case.

Escape Sequence

ESC[Pn@

where:

Pn is the number of character spaces the cursor shifts to the right.

@ is the final character.

Rule

Block mode must be enabled for ICH to work.

Parameter Values

Refer to the table below on how the characters move according to the value that you enter:

When you enter...	Then the client shifts the characters...
0	one space to the right because the value defaults to 1 when you enter 0.
1 (default)	one space to the right.
a number greater than 1	the number of spaces the value indicates to the right.

Modes that affect this code

SEM

Example

Refer to the following example on how a programmer can format an ICH command in the C programming language:

```
printf("Insert space here");
printf("\015"); /*CR-carriage return*/
printf("\033[6C"); /*CUF-cursor forward*/
printf("\033[1@"); /*ICH-insert space character*/
printf("\033[1C"); /*CUF-cursor forward*/
printf("\033[1@"); /*ICH-insert space character*/
```

IL - Insert Line

Function

IL inserts one or more blank lines at the cursor's position and shifts all following lines down. If the cursor is outside the scrolling region, this command is ignored.

Escape Sequence

ESC[PnL

where:

Pn is the number of blank lines inserted at the cursor's position.

L is the final character.

Parameter Values

Refer to the following table on how to insert blank lines at the cursor's position:

When you enter...	Then the client inserts...
0	one blank line because the value defaults to 1 when you enter 0.
1 (default)	one blank line.
a number greater than 1	the number of blank lines the value indicates at the cursor's position. The inserted lines do not go beyond the bottom of the virtual screen or the scrolling region.

Modes that affect this code

None

Example

Refer to the following example on how a programmer can format an IL command in the C programming language:

```
printf("This line will move down 2 lines.");
printf("\015"); /*CR-carriage return*/
printf("\033[2L"); /*Insert 2 lines*/
```

MC - Media Copy

Function

MC enables or disables the RS-232 port. When enabled, the client sends received characters to the RS-232 port without displaying them on the screen. All characters (except: Nul, XON, XOFF, DC4, DC2, CSI5i and CSI4i) are sent to the port. When disabled, the client sends received chars to the display. MC has a higher priority than autoprint mode.

Note: An alternative way to disable MC is to send a DC4.

Escape Sequence

ESC[Pni

where:

Pn indicates whether the RS-232 port is off or on.

i is the final character.

Parameter Values

Refer to the table below on how to enable or disable the RS-232 port:

When you enter...	Then the RS-232 port is ...
4	off.
5	on.

Modes that affect this code

None

Example

Refer to the following example on how a programmer can format an MC command in the C programming language:

```
printf("\033[5i"); /*Enables following text to copy to the RS-232 port*/
printf("This message will copy to the RS-232 port.");
printf("\033[4i"); /*Disables RS-232 port*/
```

REP - Repeat Character

Function

REP repeats the last character transmitted by the host the number of times indicated by the value. Only characters are repeated. Escape sequences are not repeated.

Escape Sequence

ESC[Pnb

where:

Pn is the number of times a character is repeated.

b is the final character.

Parameter Values

Refer to the table below on how many times the character is repeated according to the value that you enter:

When you enter...	Then the client repeats the character ...
0	once because the value defaults to 1 when you enter 0.
1 (default)	once.
a number greater than 1	the number of time that the value indicates.

Modes that affect this code

None

Example

Refer to the following example on how a programmer can format an REP command in the C programming language:

```
printf("The number 3 is repeated:\n);
printf("4 times-3");
printf("\033[4b"); /*repeat 4 times*/
```

RM - Reset Mode

Function

RM resets one or more modes for the device indicated by the value that you enter. Several modes can be reset with the same command if the parameter values are separated by semicolons. They can be sent in any order except #3.

Escape Sequence

ESC[Pn1

where:

Pn indicates which mode to reset.

l (lower-case L) is the final character.

Parameter Values

Refer to the following table for the modes RM resets:

Parameter	Mode to Reset	Description
1	Guarded Area Transfer Mode (GATM)	Enables the client to transmit only the unguarded areas to the host and auxiliary device. Refer to Sending the Client Screen to the Host (page 5-2) for more details.
2	Keyboard Action Mode (KAM)	Unlocks the keyboard and RS-232 data entry.
4	Insert-Replace Mode (IRM)	Enables the client to replace the information during editing by overwriting the content of the line.
6	Erasure Mode (ERM)	Determines that the editing commands such as EA cannot erase protected characters.
12	Send-Receive Mode (SRM)	Enables local echo in the client so that the client operates in scroll or block mode. Character mode communication is disabled.
15	Multiple Area Transmit Mode (MATM)	Enables the client to transmit only the selected area containing the cursor. Refer to Sending the Client Screen to the Host (page 5-2) for more details.
17	Selected Area Transmit Mode (SATM)	Enables the client to transmit only the selected areas. Refer to Sending the Client Screen to the Host (page 5-2) for more details.
18	Tab Stop Mode (TSM)	Determines that the tab stop settings affect the entire virtual display.
20	Line Feed/New Line Mode (LNM)	Enables the client to perform only a line feed while the cursor remains in its current column.

Modes that affect this code

None

Example

Refer to the following example on how a programmer can format an RM command in the C programming language:

```
printf("\033[4l")/*reset IRM*/
```

See Also

Refer to SM - Set Mode (page 5-50) for more information on how to set the modes discussed in the previous table.

SEM - Select Editing Extent Mode

Function

SEM indicates the extent to which the delete character (DCH) command and the insert character (ICH) command affect the display window.

Escape Sequence

ESC[PnQ

where:

Pn indicates how much of the display window is affected by the editing commands.

Q is the final character.

Parameter Values

Refer to the following table for the affect that SEM has on the DCH and ICH editing commands:

When you enter...	Then DCH and ICH commands affect...
0 (default)	the entire display.
1	only the row the cursor is in.
2	only the field containing the cursor (between horizontal tab stops).
3	only the selected area containing the cursor (defined by DAQ, SPA and EPA).

Modes that affect this code

None

Example

Refer to the following example on how a programmer can format an SEM command in the C programming language:

```
printf("\033[3Q"); /*SEM-3*/
```

See Also

Refer to DAQ - Define Area Qualifications (page 5-32) for more information on define area qualification. Refer to EPA - End of Protected Area (page 5-14) and SPA - Start of Protected Area (page 5-18) for more information on end of protected area and select protected area.

SM - Set Mode

Function

SM sets one or more modes for the client as specified by the parameter. Several modes can be set with the same command if the parameter values are separated by semicolons. They can be sent in any order except #3.

Escape Sequence

ESC[Pnh

where:

Pn indicates the mode to set.

h is the final character.

Parameter Values

Refer to the following table for the modes SM sets:

Parameter	Mode to Set	Description
1	Guarded Area Transfer Mode (GATM)	Enables the client to transmit the entire screen to the host or auxiliary device. Refer to Sending the Client Screen to the Host (page 5-2) for more details.
2	Keyboard Action Mode (KAM)	Locks the keyboard and RS-232 data entry. The keyboard cannot be unlocked from the client.
3	Control Representation Mode (CRM)	Enables the client to display the control codes. This parameter value must immediately precede the final character.
4	Insert-Replace Mode (IRM)	Enables the client to insert the information while the contents of the line shift to the right.
6	Erasure Mode (ERM)	Determines that the editing commands such as EA can erase protected characters.
12	Send-Receive Mode (SRM)	Disables local echo in the client so that the client operates in character mode. Scroll or block mode communication is disabled.
15	Multiple Area Transmit Mode (MATM)	Enables the client to transmit all selected areas. Refer to Sending the Client Screen to the Host (page 5-2) for more details.
17	Selected Area Transmit Mode (SATM)	Enables the client to transmit the entire virtual screen. Refer to Sending the Client Screen to the Host (page 5-2) for more details.
18	Tab Stop Mode (TSM)	Determines that the tab stop settings only affect the cursor's row.
20	Line Feed/New Line Mode (LNM)	Enables the client to perform a line feed and carriage return, placing the cursor at the beginning of the next line.

Modes that affect this code

None

Example

Refer to the following example on how a programmer can format an SM command in the C programming language:

```
printf("\033[4h"); /*Set IRM*/
```

See Also

RM - Reset Mode (page 5-48) (for more information on how to reset the modes discussed in the previous table).

TBC - Tab Clear

Function

TBC clears one or more tab stops according to the value that you enter.

Escape Sequence

ESC[Png

where:

Pn is the type of tab stops to clear.

g is the final character.

Parameter Values

Refer to the following table on how TBC affects the tab stop positions:

When you enter...	Then the parameter value ...
0 (default)	with TSM set, clears the tab stop at the cursor's position. with TSM reset, clears the tab stop at the cursor's column on all rows in the virtual screen.
1	Honeywell does not support this parameter.
2	with TSM set, clears all of the tab stops on the cursor's row in the virtual screen.
3	with TSM set or reset, clears all of the tab stops on the virtual screen.
4	Honeywell does not support this parameter.

Modes that affect this code

None

Example

Refer to the following example on how a programmer can format a TBC command in the C programming language:

```
printf("\033[0g"); /*Clear tab stop*/
```

DEC Private Escape Sequences

This section provides information for the programmer on how to code DEC private escape sequences for Honeywell equipment. All the private escape sequences supported by Honeywell are listed in this section. If a DEC private escape sequence is not listed, Honeywell does not support it, and it is treated as a no operation (NOP).

APM - Auto Print Mode

Function

APM turns auto print mode on or off. When auto print is on, the virtual screen row that the cursor is presently on prints when the cursor is moved off the line with a line feed, form feed, vertical tab or auto wrap. The printed line ends with a carriage return and a line feed. Trailing spaces on a screen row will not print.

Escape Sequence

ESC[?Pni

where:

Pn is the parameter value that indicates on or off.

i is the final character.

Parameter Values

Refer to the following table on the parameter values indicating the mode to set:

When you enter...	Auto Print mode is turned ...
4 (default)	off.
5	on.

Modes that affect this code

None

DECRM - DEC Reset Mode

Function

DECRM resets the mode you choose.

Escape Sequence

ESC[?Pnl

where:

? is a constant.

Pn is the value of the mode to reset.

l (lowercase L) is the final character.

Parameter Values

Refer to the following table for the modes DECRM can reset:

Parameter	Mode to Reset	Description
18	Print Form Feed Mode (DECPFF)	Disables the terminating character (form feed) after print screen operations. (Print full screen or scroll region with the PS command.)
19	Print Extent Mode (DECPEX)	Selects the scrolling region to print for each Print Screen (PS) command issued.

Modes that affect this code

None

DECSCA - Select Character Attribute

Function

DECSCA indicates the start of a protected or unprotected string of character positions.

Escape Sequence

ESC[Pn"q

where:

Pn is the parameter value that indicates the character attribute.

" and **q** are the final characters.

Parameter Values

Refer to the following table on the parameter values indicating the character attribute as protected or unprotected:

When you enter...	Then the character(s) is ..	
0 (default)	unprotected.	*This is the same as the* EPA *command.. See* EPA - End of Protected Area *(page 5-14).*
1	protected.	*This is the same as the* SPA *command. See* SPA - Start of Protected Area *(page 5-18).*
2	unprotected.	*This parameter has the same effect as parameter 0.*

Modes that affect this code

None

Example

Refer to the example below on how a programmer can format a DECSCA command in the C programming language:

```
printf("\033[1\"q"); /*DECSCA-1 cannot erase*/
printf("This text is protected from erasure.\n");
printf("\033[0\"q"); /*DECSCA-0 can erase*/
printf("This text is not protected.");
```

DECSED - Selective Erase in Display

Function

DECSED enables the programmer to erase some or all of the erasable characters in the display. This command will not erase qualified area boundaries or the type of qualified area the cursor is in.

If EBM is set to the virtual screen, every row that is completely erased will have its line attribute reset to single high and single wide.

Escape Sequence

ESC[?PnJ

where:

? is a constant.

Pn is the portion of the display to erase.

J is the final character.

Parameter Values

Refer to the following table on how the characters are erased according to the value that you enter:

When you enter...	Then the characters are erased from ...
0 (default)	the cursor through the end of the display.
1	the beginning of the display through the cursor.
2	the entire display. The cursor is moved to the origin of the physical or virtual display depending on the EBM setting.

Modes that affect this code

None

Example

Refer to the example below on how a programmer can format a DECSED command in the C programming language:

```
printf("\033[0\"q"); /*DECSCA = 0*/
printf("Text from this letter x to the end of \n");
printf("the display should be erased.\n");
printf("\033[2A"); /*CUU-Cursor up 2 lines*/
printf("\033[22C"); /*CUF-Cursor Forward 22 to the x*/
printf("\033[?0J"); /*Erase from x to the end of the display*/
```

DECSEL - Selective Erase in Line

Function

DECSEL enables the programmer to erase some or all of the erasable characters in a single line of text. This command will not erase qualified area boundaries or the type of qualified area the cursor is in.

Escape Sequence

ESC[?PnK

where:

? is a constant.

Pn is the portion of the line to erase.

K is the final character.

Parameter Values

Refer to the following table on how the characters are erased in relation to the cursor:

When you enter...	Then the characters are erased from ...
0 (default)	the cursor through the end of the line.
1	the beginning of the line through the cursor.
2	the entire line.

Modes that affect this code

None

Example

Refer to the example below on how a programmer can format a DECSEL command in the C programming language:

```
printf("\033[0\"q"); /*DECSCA = 0*/
printf("Text from this letter x to the end of \n");
printf("the above line should be erased.\n");
printf("\033[2A"); /*CUU-Cursor up 2 lines*/
printf("\033[22C"); /*CUF-Cursor forward 22*/
printf("\033[0K"); /*Erase from x to the end of the line*/
```

DECSM - DEC Set Mode

Function

DECSM sets the mode you choose.

Escape Sequence

ESC[?Pnh

where:

? is a constant.

Pn is the value of the mode to set.

h is the final character.

Parameter Values

Refer to the following table for the modes that DECSM can set:

Parameter	Mode to Reset	Description
18	Print Form Feed Mode (DECPFF)	Enables the terminating character (form feed) after print screen operations. (Print full screen with the PS command.)
19	Print Extent Mode (DECPEX)	Selects the full screen to print for each Print Screen (PS) command issued.

Modes that affect this code

None

DECDHL - Double-Height Line

Function

Makes the line with the cursor on it the top or bottom half of a double-height, double-width line. Pairs of this command must be used on adjacent lines.

The same screen character must be used on both the top and bottom lines in that column to form a full character.

Note: When this command is received, the device will reset the right half of the virtual screen to spaces and remove any tabs or areas contained there. If the cursor is in the right half, it will be moved to the last column in the left half.

Top Half

Escape Sequence

ESC#3

Modes that affect this code

None

Bottom Half

Escape Sequence

ESC#4

Modes that affect this code

None

Example

Refer to the following example on how a programmer can format a DECDHL command in the C programming language:

```
printf("\033#3 Double High Line\n");
printf("\033#4 Double High Line\n");
```

DECDWL - Double-Width Line

Function

Makes the line with the cursor on it double-width, single-height.

Note: When this command is received, the device will reset the right half of the virtual screen to spaces and remove any tabs or areas contained there. If the cursor is in the right half, it will be moved to the last column in the left half.

Escape Sequence

ESC#6

Modes that affect this code

None

Example

Refer to the following example on how a programmer can format a DECDWL command in the C programming language:

```
printf("\033#6 Double-Width Line\n");
```

G0/G1/G2/G3 - Designate G0/G1/G2/G3

Function

G0 designates one of the hard character sets (ASCII, DEC Supplemental Graphics, DEC Special Graphics, and National Replacement character sets) as G0 through G3.

Escape Sequence	To Designate
ESC(F	G0
ESC)F	G1
ESC*F	G2
ESC+F	G3

where:

F is the final character from the following table.

Character set to designate...	Final character...
ASCII	B
DEC Supplemental	<
DEC Special Graphics	0
National Replacement Character Sets	various final characters dependent upon mobile device operating system and device specific settings

For more information, refer to DEC Special Graphics - Code Table (page 6-10).

PL - Print Line

Function

PL prints the display line containing the cursor. A carriage return and line feed are automatically printed after the line.

Escape Sequence

ESC[?1i

Modes that affect this code

None

Example

Refer to the following example on how a programmer can format a PL command in the C programming language:

```
printf("\033[?1i"); /*Prints the line the cursor is on*/
```

PS - Print Screen

Function

PS prints the display to the RS-232 port. A carriage return and line feed is automatically printed after each line.

Escape Sequence

ESC[Pni

where:

Pn is either 0 or omitted.

Modes that affect this code

DECPEX, DECPFF

Example

Refer to the following example on how a programmer can format a PS command in the C programming language:

```
printf("\033[0i"); /*Causes the display to be printed*/
```

S7C1T - Select 7-Bit C1 Control Transmission

Function

S7C1T informs the client to convert all C1 codes to their 7-bit equivalent before sending them back to the host.

Note: The client will always accept either 7-bit or 8-bit control codes regardless of the state of this command.

Escape Sequence

ESC sp F

Modes that affect this code

None

Example

Refer to the following example on how a programmer can format a S7C1T command in the C programming language:

```
printf("\033 F"); /*There is a single space between the 3 and the F*/
```

S8C1T - Select 8-Bit C1 Control Transmission

Function

S8C1T informs the client to send all C1 codes back to the host without converting them to their 7-bit equivalent.

Note: The client will always accept either 7-bit or 8-bit control codes regardless of the state of this command.

Escape Sequence

ESC sp G

Modes that affect this code

None

Example

Refer to the following example on how a programmer can format a S8C1T command in the C programming language:

```
printf("\033 G"); /*There is a single space between the 3 and the G*/
```

SI - Shift In (Lock Shift G0)

Function

Invokes G0 character set into GL.

Hexadecimal Value	Control Code
0F	^O

Example

Refer to the following example on how a programmer can format an SI command in the C programming language:

```
printf("\033(0"); /* Designate DEC special graphics into G0.  */
printf("\017"); /* Shift G0 into GL */
printf("lqqk\n"); /* These two lines print a small box on the display.  */
printf("mqqj");
```

SO - Shift Out (Lock Shift G1)

Function

Invokes G1 character set into GL.

Hexadecimal Value	Control Code
0E	^N

Example

Refer to the following example on how a programmer can format an SO command in the C programming language:

```
printf("\033)0"); /* Designate DEC special graphics into G1.  */
printf("\016"); /* Shift G1 into GL */
printf("lqqk\n"); /* These two lines print a small box on the display.  */
printf("mqqj");
```

Private Escape Sequences

Honeywell offers special escape sequences as well as command strings that modify terminal emulation functions, window parameters, and wild card local edit characters. Honeywell also provides command strings for stored forms, using a backspace function with the [CLEAR] key, enabling an echo suppress, and a wide range of beep patterns.

This section describes the applications for each command string and information on how the programmer can code the escape sequences and command strings.

LXERM - Reset Mode

Function

LXERM resets the mode that you choose.

Escape Sequence

ESC[=Pnl

where:

= is a constant.

Pn is the value of the mode to reset.

l (lowercase L) is the final character.

Parameter Values

Refer to the following table for the modes LXERM can reset:

Parameter	Mode to Reset	Description
1	Scroll/Block Mode (LXELM)	Enables block mode. Rule: Send-receive mode (SRM) must be reset for LXELM to work.
2	New Line Echo Mode (LXENE)	Disables new line local echo. If the client is in scroll/block mode, does not execute carriage return and line feed to the client display when the [Enter] key is pressed.
3	Autosend (LXEAS)	Disables autosend. In other words, the client transmits only when the [Enter] key is pressed. Rule: Send-receive mode (SRM) must be reset for LXEAS to work.

Modes that affect this code

None

Example

Refer to the following example on how a programmer can format an LXERM command in the C programming language:

```
printf("\033[=3l"); /*Reset LXEAS- Reset autosend mode*/
```

LXESM - Set Mode

Function

LXESM sets the mode you choose.

Escape Sequence

ESC=Pnh

where:

= is a constant.

Pn is the value of the mode to set.

h is the final letter.

Parameter Values

Refer to the following table for the modes LXESM can set:

Parameter	Mode to Set	Description
1	Scroll/Block Mode (LXELM)	Enables scroll mode. Rule: Send-receive mode (SRM) must be reset for LXELM to work.
2	New Line Echo Mode (LXENE)	Enables new line local echo. If the client is in scroll/block mode, execute carriage return and line feed to the client display when the [Enter] key is pressed.
3	Autosend (LXEAS)	Enables autosend. In other words, the client transmits the screen when the last field is filled with a bar code entry, keyboard entry or RS-232 port entry. Rule: Send-receive mode (SRM) must be reset for LXEAS to work.

Modes that affect this code

None

Example

Refer to the following example on how a programmer can format an LXESM command in the C programming language:

```
printf("\033[=3h"); /*Set LXEAS-Set autosend mode*/
```

Scanner Enable / Disable

Function

Enable or disable scanner input.

Disable Scanner

The scanner is disabled when this command is used:

- For devices with an internal or tethered scanner, the scan trigger is disabled.
- For devices with a tethered scanner, serial input received from the scanner is rejected and an error sound is produced.

Escape Sequence

ESC%0

Modes that affect this code

None

Enable Scanner

This command enables the scanner after it has been disabled with the command above.

Escape Sequence

ESC%1

Modes that affect this code

None

Keyboard Enable / Disable

Function

Enable or disable keyboard input.

Disable Keyboard

The keyboard is disabled when this command is used. Any keystrokes entered are ignored and an error sound is produced.

Escape Sequence

ESC%0

Modes that affect this code

None

Enable Keyboard

This command enables the keyboard after it has been disabled with the command above.

Escape Sequence

ESC%1

Modes that affect this code

None

Enable/Disable Bar Code Symbologies

The host computer can be used to enable or disable scanning of specified bar code symbologies. If a bar code symbology is disabled with this feature, the scanner does not recognize that symbology. The scanner sounds a bad scan beep (double beep sound is the default) when trying to scan the disabled symbologies. Use the following example and table of values to see how a programmer can enable or disable symbologies with a command in the C programming language:

```
printf("\033[xx+A"); /*Substitute the applicable xx value from the chart to enable or disable symbology*/
```

Set xx to:	Perform this action
65 (0x41)	Enable Code 39
66 (0x42)	Disable Code 39
67 (0x43)	Enable Interleaved 2of5
68 (0x44)	Disable Interleaved 2of5
75 (0x4B)	Enable Codabar/Ames
76 (0x4C)	Disable Codabar/Ames
77 (0x4D)	Enable MSI
78 (0x4E)	Disable MSI
79 (0x4F)	Enable Code 93
80 (0x50)	Disable Code 93
81 (0x51)	Enable Code 128
82 (0x52)	Disable Code 128
85 (0x55)	Enable UPC-A
86 (0x56)	Disable UPC-A
87 (0x57)	Enable UPC-E
88 (0x58)	Disable UPC-E
89 (0x59)	Enable EAN/JAN
90 (0x5A)	Disable EAN/JAN

Specifying Bar Code, Keypad and Control Modes

This section discusses the elements of the command string that enable the programmer to set the bar code, keypad and control modes for the client. The different settings for each parameter of the command string are discussed in detail.

Command String for Bar Code, Keypad and Control Modes

The programmer can specify bar code, keypad and control modes with the appropriate command string. This section discusses elements of the command string and its structure.

Command String

Use the following command string for specifying bar code, keypad, and control modes:

```
CSIc1;p1;p2;p3;p4;p5;p6;p7;p8;p9;p10+E
```

Rule

Each parameter must be preceded by a semicolon (;).

You can use the semicolon as a placeholder if you want to change only one parameter. For example, you can send the following string to change only p5 of the command string:

```
CSI1;;;;;1+E
```

String Elements

The following table describes the different elements of the command string for specifying bar code, keypad, and control modes:

String Element	Description
CSI	ANSI control sequence introducer (Hex 9B for 8-bit code or Hex 1B5B for 7-bit code).
c1	A compatibility byte that ensures the terminal emulation understands the command string sent to it. The c1 is a revision level character for compatibility purposes, which increments with each revision. The original value for this parameter is 1.
;	A required delimiter that must precede all parameter entries.

p2	Bar Code/RS-232 Input Left Justify Mode
	  0 = Left Justify Mode Off
	  1 = Left Justify Mode On
	Left Justify Mode: p2 (page 5-65) discusses this parameter in more detail.

p3	Bar Code/RS-232 Input Clear Mode
	  0 = Clear Off
	  1 = Clear On
	Clear Mode: p3 (page 5-66) discusses this parameter in more detail.

p4	Bar Code/RS-232 Input Truncate Mode
	  0 = Truncate Off
	  1 = Truncate On
	Truncate Mode: p4 (page 5-66) discusses this parameter in more detail.

p5	Bar Code/RS-232 Input Advance Mode
	  0 = Advance Off
	  1 = Advance On
	Advance Mode: p5 (page 5-67) discusses this parameter in more detail.

+E	The final characters of the ANSI command string. This combination indicates the end of the command string and identifies the command string as a bar code, keypad, and control mode command.

Left Justify Mode: p2

Left justify mode determines where the cursor appears in a field from one bar code entry to the next. The programmer must decide if the cursor in a field justifies to the left each time a new bar code entry occurs or if the bar code entry appears at the end of the previous entry.

Rule

You must enable block mode to use left justify mode.

Parameter Values

Refer to the following table on how to set p2 of the command string to disable or enable left justify mode:

When you enter ...	Then left justify is ...
0	off
1 (default)	on

Left Justify Off

Left Justify Off enables a bar code read to appear in the next available cursor position of a field directly following a previous bar code entry. For example, the first bar code entry fills the first five positions of the first field available as shown below:

Part No. JK562 ▨   Location Bin: _ _ _

The next bar code read is entered starting at the cursor's position and proceeding to the next unprotected field.

Left Justify On

Left Justify On enables the cursor to left justify in a field each time a bar code read occurs. For example, the following bar code read appears in the field and then the cursor left justifies when the next bar code entry occurs. The next bar code read appears in the field starting at the B position:

```
          ↓ _____
         |          |
Part: No: B9356
```

Clear Mode: p3

Clear mode determines if a field is automatically cleared when the next bar code entry occurs or if the data in the field is overwritten by the new entry.

Note: If a field is not cleared after the data is transmitted to the host, there is a chance that some of the previous data will not be completely overwritten by the new entry. If the data is not completely overwritten, it appears at the end of the new entry and is transmitted with the new entry to the host.

Rule

You must enable block mode to use clear mode.

Parameter Values

Refer to the following table on how to set p3 of the command string to disable or enable clear mode:

When you enter ...	Then clear mode is ...
0	off
1 (default)	on

Clear Mode Off

When clear mode is off, the client does not clear the data in a field. The new data entered overwrites portions of the left-over data. An operation that has bar code entries with equal character lengths might choose clear mode off.

Clear Mode On

When clear mode is on, the client clears the data entered in a field each time a new bar code entry occurs. An operation that has bar code entries with varying lengths would need to use clear mode on to ensure accurate transmission of each entry.

Truncate Mode: p4

Truncate mode determines whether the character positions of a bar code entry that exceeds the field length are simply dropped off or if the leftover characters are entered in the next available field.

Rule

You must enable block mode to use truncate mode.

Parameter Values

Refer to the following table on how to set p4 of the command string to disable or enable truncate mode:

When you enter ...	Then truncate mode is ...
0	off
1 (default)	on

Truncate Mode Off

When truncate mode is off, the character positions of a bar code entry exceeding the field length are entered in the next available field. An operation that has two kinds of information in one bar code entry would use truncate mode off so that one bar code read can fill two fields on a form.

Truncate Mode On

When truncate mode is on, the character positions of a bar code entry exceeding the field length are dropped off. If the field has 10 available character positions and the bar code entry has 22, the first 10 character positions of the entry are entered in the field and the remaining 12 character positions are dropped. An operation that wants to ensure that a bar code entry from one field is not carried over into the next field would want to have truncate mode on.

Advance Mode: p5

Advance mode determines whether the cursor advances to the next field at the end of a bar code entry. If the cursor does not advance to the next field, the next bar code entry is entered at the end of the previous bar code entry.

Rule

You must enable block mode to use advance mode.

Parameter Values

Refer to the following table on how to set p5 of the command string to disable or enable advance mode:

When you enter ...	Then advance mode is ...
0	off
1 (default)	on

Advance Mode Off

When advance mode is off, the cursor does not advance to the next field at the end of a bar code entry. The next bar code entry is entered directly following the previous bar code entry.

Advance Mode On

When advance mode is on, the cursor advances to the next field at the end of each entry regardless of whether the field is completely filled or not. An operation that has bar code entries that do not always fill the field would use advance mode on.

If autosend (LXEAS) is also enabled, the client will automatically send the screen even if the last bar code entry did not completely fill the last field on the display.

Specifying Transmit and Screen Function Setup

Command String for Transmit and Screen Function Setup

You must specify the transmit and screen function setup with the appropriate command string. This section discusses elements of the command string and its structure.

Command String

Use the following command string for the transmit and screen function setup:

```
CSIc1;p1;p2;p3;p4;p5;p6;p7;p8;p9;p10+F
```

Rule

Each parameter must be preceded by a semicolon (;).

You can use the semicolon as a placeholder if you want to change only one parameter. For example, you can send the following string to change only p5 of the command string:

```
CSI1;;;;;1+F
```

String Elements

The following table describes the different elements of the command string for the transmit and screen function setup:

String Element	Description	Related Sections
CSI	ANSI control sequence introducer (Hex 9B for 8-bit code or hex 1B5B for 7-bit code).	-
c1	A compatibility byte that ensures the terminal emulation understands the command string sent to it. The c1 is a revision level character for compatibility purposes, which increments with each revision. The original value for this parameter is 1.	-
;	A required delimiter that must precede all parameter entries.	-
p1	Not used.	
p2	8-Bit Code control from the host. The client can always accept either 7-bit or 8-bit codes from the host. The value of this parameter is therefore ignored.	8-Bit Code Table (page 5-4)

p3	Auto Transmit Mode
	  0 = Auto Transmit Mode is OFF. The [Enter] key must be pressed to transmit the data.
	  1 = Auto Transmit Mode is ON. The data is automatically transmitted when the last field is filled with a bar code entry, an RS-232 port entry or keyboard entry.
		LXEAS, see:
		LXERM - Reset Mode (page 5-61)
		LXESM - Set Mode (page 5-62)

p4	LF Transmission on Send
	  0 = The [Enter] key places a carriage return in the data stream.
	  1 = The [Enter] key places a carriage return and line feed in the data stream.
		LNM, see:
		RM - Reset Mode (page 5-48)
		SM - Set Mode (page 5-50)

p5	Screen Mode
	  0 = Screen Mode is Block Mode.
	  1 = Screen Mode is Scroll Mode.
		LXELM, see:
		LXERM - Reset Mode (page 5-61)
		LXESM - Set Mode (page 5-62)

p6	New Line Echo Mode
	  0 = New Line Echo Mode OFF.
	  1 = New Line Echo Mode ON.
		LXENE, see:
		LXERM - Reset Mode (page 5-61)
		LXESM - Set Mode (page 5-62)

p7	Auto Wrap Mode
	  0 = Auto Wrap Mode OFF.
	  1 = Auto Wrap Mode ON.
		DECAWM

p8	On Line Mode
	  0 = Operate in On Line Mode. The [Enter] key is enabled to send messages to the host through the RF link.
	  1 = Operate in Local Mode. The [Enter] key is disabled.
		-

p9	Not used.	

p10	Transmit Mode
	  0 = Transmit in Block or Scroll Mode.
	  1 = Transmit in Character Mode.
		SRM, see:
		RM - Reset Mode (page 5-48)
		SM - Set Mode (page 5-50)

+F	The final character of the ANSI command string. This combination indicates the end of the command string and identifies the command string as a transmit and screen function mode.	-

Local Edit Commands

Local edit commands enable a programmer to control data entry from the client. This section discusses the two types of local edit commands and the command string elements for each.

Command String for Local Edit Match Field

A local edit match field restricts user data entry to exact match values or ranges of accepted values. A programmer can use this feature to prevent incorrect part number or bin location entries.

Definitions

An exact match field is a field with predetermined values that must be matched exactly by user entry.

Local edit match field is a feature provided by Honeywell that enables the client to perform data comparisons between the match buffer in the client and the data entered by the client user. In other words, the client locally edits information as the client user enters data instead of the host performing the edit.

A match buffer is an area of memory used by the local edit match field command to restrict data entry by the client user.

Rules

Refer to the following rules for using local edit match field:

- You must specify a local edit field by placing the cursor at the beginning of the appropriate field and sending the correct command string.
- You must place match data between two identical Honeywell local edit command strings.
- You must enable Local echo. Refer to RM - Reset Mode (page 5-48) (parameter value 12) in this manual for more information on local echo.
- You must enable block mode. If character mode or scroll mode is enabled, local edit match fields are ignored.
- Use characters entered into the match buffer field that do not match the local edit wildcard symbols (defaults: ?, $, #, +, *) as exact match characters.

Command String

Use the following command string for specifying a local edit match field:

CSId+A

String Elements

The following table describes the different elements of the command string for specifying a local edit match field:

String Element	Description
CSI	ANSI control sequence introducer (Hex 9B for 8-bit code or Hex 1B5B for 7-bit code).
d	Keyboard Input 0 (default) = Display the keyboard input if user entry matches the requirements of the match buffer. 1 = Do not display the keyboard input if user entry matches the requirements of the match buffer. Host input on these cells is displayed.
+A	The final character of the ANSI command sequence. This combination indicates the end of the command string and identifies the command string as a local edit match field.

Example

Refer to the following example of a local edit match field command:

```
printf(" _ _ _ _ _ _ "); /*6 character fields*/
printf("\033[6D"); /*CUB-move cursor back 6*/
printf("\033[0+A"); /*turn on local edit setup mode*/
printf("P?$$$$"); /*part number format*/
printf("\033[0+A"); /*turn off local edit setup mode*/
printf("\033[6D"); /*CUB-move cursor back 6*/
gets(s) /*wait for user to enter data*/
```

Command String for Local Edit Wildcard

Local edit wildcard enables the programmer to change the default match symbols. Wildcard match values represent a range of acceptable user input. The host may change the definition of a particular wildcard at any time without affecting any previously set local edit match fields. (The TE stores the type of wildcard rather than the actual wildcard value.)

Command String

Use the following command string for local edit wildcard:

```
CSIc1;p1;p2;p3;p4;p5;p6+G
```

Rule

The values you enter for the symbols must be in their decimal equivalent forms. Refer to the 8-Bit Code Table (page 5-4) for these decimal values.

You can use the semicolon as a placeholder if you want to change only one parameter. For example, you can send the following string to change only p5 of the command string:

```
CSI1;;;;;1+G
```

String Elements

The following table describes the different elements of the command string for specifying a local edit wildcard:

String Element	Description
CSI	ANSI control sequence introducer (Hex 9B for 8-bit code or Hex 1B5B for 7-bit code).
c1	A compatibility byte that ensures the terminal emulation understands the command string sent to it. The c1 is a revision level character for compatibility purposes, which will increment with each revision. The original value for this parameter is 1.
;	A required delimiter that must precede all parameter entries.
p1	Not used.
p2	?(Alpha Only Match) Alpha only match includes the following characters: A-Z, a-z, comma, period, dash, space.
p3	$(Digits Only Match) Digits only match includes the following characters: 0-9.
p4	#(Numeric Only Match) Numeric only match includes the following characters: 0-9, plus, comma, period, dash, space.
p5	+(Alphanumeric Only Match) Alphanumeric only match includes the following characters: A-Z, a-z, 0-9, plus, comma, period, dash, space.
p6	*(Match All) Match all includes any GL or GR characters.
+G	The final characters of the ANSI command sequence. This combination indicates the end of the command string and identifies the command string as a local edit wildcard command.

Using Local Edit

Using the local edit command enables the programmer to control data entry at the client. The local edit field length can be as long as the virtual screen.

The client edits the field locally as data is entered and not when the field is exited. During the editing of a field, if the data fails the match test, the cursor does not move.

Exception

When a bar code entry fails the match test, the cursor goes to the first position where the character did not match the test. The remaining characters in the input field are checked against the match test.

Programming Local Edit Fields

1. Position the cursor to the beginning of the local edit field.

2. Send the CSId+A command to put the TE in local edit setup mode.

3. Send the local edit match characters which could be either exact match or wildcards. These are sent as regular GL or GR characters. They will be stored internally in the TE and not displayed on the screen. The cursor position will automatically be updated after each char is received.

Note: Setting a screen cell as a local edit cell overrides any previous DAQ/SPA/SSA settings for that cell and vice versa.

4. If desired, position the cursor to a new location and send more local edit match characters to define more fields. Repeat as necessary.

5. Send a matching CSId+A command to put the TE in normal mode.

6. If automatic tabbing is desired to the start of each field, the host must send the standard area or tab commands at the start of each local edit field. This can be accomplished even when the TE is in local edit mode.

7. The TE user may now enter data through keyboard or RS-232 inputs.

If the user input passes the local edit checks, the data will be displayed (if the local edit field was set up as CSI0+A). The data will not be displayed if the local edit field was set up as CSI1+A. In either case, the cursor position will advance by 1.

If the data does not pass the local edit checks, the TE will beep to inform the user and the cursor will not advance.

Requirements

The following requirements must be met for local edit to work properly:

- The client must be in block mode (LXELM).
- Local echo must be enabled in send-receive mode (SRM).
- The client must be an RFTerm client to have local edit capabilities.

VT Host Key Descriptions

Escape sequence values associated with various keys are noted for 7 bit ASCII mode and 8 bit ASCII mode.

Hold

Hld - This key has no current action.

Enter

Ent - The Enter or Return key transmits either a carriage return (CR) character or a carriage return and line feed (LF) character, depending on the VT configuration.

See 8-Bit Code Table (page 5-4).

Compose Character

Cmp - The Compose Character key does not transmit a code. Pressing the Compose character key starts a compose sequence which is used to generate characters that cannot be typed directly from the keyboard. This key is not implemented.

Tab

Tab - This key transmits a TAB character.

Delete

Del - This key transmits a DEL character.

Break

Brk - This key has no current action.

Cancel

Can - This key transmits a CAN character.

Answerback

Ans - This key sends an ENQ request to the host.

Find

Fnd - This key transmits the escape sequence:

 ESC [1 ~ (7 bit ASCII mode)

or

CSI 1 ~ (8 bit ASCII mode)

Insert Here

Ins - This key transmits the escape sequence:

ESC [2 ~ (7 bit ASCII mode)

or

CSI 2 ~ (8 bit ASCII mode)

Remove

Rem - This key transmits the escape sequence:

ESC [3 ~ (7 bit ASCII mode)

or

CSI 3 ~ (8 bit ASCII mode)

Select

Sel - This key transmits the escape sequence:

ESC [4 ~ (7 bit ASCII mode)

or

CSI 4 ~ (8 bit ASCII mode)

Previous Screen

Prv - This key generates an escape sequence:

ESC [5 ~ (7 bit ASCII mode)

or

CSI 5 ~ (8 bit ASCII mode)

Next Screen

Nxt - This key transmits the escape sequence:

ESC [6 ~ (7 bit ASCII mode)

or

CSI 6 ~ (8 bit ASCII mode)

Escape

Esc - This key sends an ESC character to the host.

Backspace

BS - This key sends a BS character to the host.

Line Feed

LF - This key sends a LF character to the host

PF Keys

PF1 - **PF4** - The numeric keypad keys PF1 through PF5 keys transmit the following escape sequences. The default action of Function Keys 1 through 4 is identical.

PF Key	7 bit ANSI Mode	8 bit ANSI Mode	VT 52 Mode
PF1	SS3 P	ESC OP	ESC P
PF2	SS3 Q	ESC OQ	ESC Q
PF3	SS3 R	ESC OR	ESC R
PF4	SS3 S or	ESC OS	ESC S

The 5 keys F1-F5 on a VT client are local function keys and do not send codes. When a device has physical keys for F1-F5, we send PF1-PF4 for the corresponding F1-F4 and send a custom escape sequence for F5, the custom escape sequence depends on the device.

Function Keys

F1 - **F40** - The Function keys F1 - F40 communicate with the host application. They transmit the following default escape sequences or their 7-bit equivalent, unless reprogrammed by the user in the Function Key dialog.

Function Key	Default Value
F1	ESC OP
F2	ESC OQ
F3	ESC OR
F4	ESC OS
F5	none
F6	CSI 17~
F7	CSI 18~
F8	CSI 19~

Function Key	Default Value
F9	CSI 20~
F10	CSI 21~
F11 (ESC)	CSI 23~ (ESC in VT100 and VT 52)
F12 (BS)	CSI 24~ (BS in VT 100 and VT 52)
F13 (LF)	CSI 25~ (LF in VT 100 and VT 52)
F14	CSI 26~
F15 (HELP)	CSI 28~
F16 (DO)	CSI 29~
F17	CSI 31~
F18	CSI 32~
F19	CSI 33~
F20	CSI 34~
F21	CSI 25~
F22	CSI 26~
F23	CSI 28~
F24	CSI 29~
F25	CSI 31~
F26	CSI 32~
F27	CSI 33~
F28	CSI 34~
F29 through F40	*none*

Custom VT220 Host Commands

The following host command strings can be sent to RFTerm to provide the designated action.

Command String	Action	Notes
/cmd!1;3z/cmde	RFTerm disables the scanner	
/cmd!1;0z/cmde	RFTerm enables the scanner	
/cmd!1;2z/cmde	RFTerm turns on the display backlight	
/cmd!1;1z/cmde	RFTerm turns off the display backlight	
/cmd!1;4z/cmde	RFTerm turns on vibration for 1 second	Only supported on mobile devices containing a vibration unit, such as MX7 Tecton, MX8 and MX9. Vibration has no effect on other devices.
/cmd!1;5z/cmde	RFTerm turns on vibration for 2 seconds	
/cmd!1;6z/cmde	RFTerm turns on vibration for 3 seconds	
/cmd!1;7z/cmde	RFTerm turns on vibration for 7 seconds	
/cmd!2;00/cmde	Do not display (or remove) virtual keyboard	Virtual keyboard is only supported on the Dolphin 70e Black. See Virtual Keyboards (page 9-12).
/cmd!2;10/cmde	Display virtual keyboard configuration 1 (Left Numeric), orientation 0	
/cmd!2;20/cmde	Display virtual keyboard configuration 2 (Right Numeric), orientation 0	
/cmd!2;30/cmde	Display virtual keyboard configuration 3 (Qwerty or SIP), orientation 0	
/cmd!2;40/cmde	Display virtual keyboard configuration 4 (HX2 Emulator), orientation 0	

ANSI Quick Reference Guide

Functionality List

Notes

Reset mode terminating character is l, set mode is h.

C	The configuration utility equivalent of this command.
M	The modes that affect this command.
R	The effect generated when this mode is reset.
S	The effect generated when this mode is set.
BKC	Bar code/Keypad Setup Private Sequence
CCT	Character Collection Timer Private Sequence
DECOM	DEC Origin Mode
DECPEX	DEC Print Extent Mode
DECPFF	DEC Print Form Feed Mode
DRM/SM	DECRM/DECSM
EBM	Editing Boundary Mode
ERM	Erasure Mode
LNM	Line Feed/New Line Mode
LRM/SM	LXERM/LXESM
NRC	National Replacement Character Sets
SEM	Select Editing Extent Mode
SGR	Select Graphic Rendition
SRM	Send/Receive Mode
TSM	Tab Stop Mode
TSS	Transmit/Screen Setup Private Sequence

Cursor Positioning

Cursor Pos.	Description	Hex Value / Esc Seq	Notes
BS	Backspace	0x08 (^H)	
CUB	Cursor Back	ESC[PnD	M=None
CUF	Cursor Forward	ESC[PnC	M=None
CUD	Cursor Down	ESC[PnB	M=None
CUU	Cursor Up	ESC[PnA	M=None
CUP	Cursor Position	ESC[Pr;PcH	M=None
HVP	Horizontal Vertical Pos	ESC[Pr;Pcf	M=None
CHA	Cursor Horizontal Absolute	ESC[PnG	
CR	Carriage Return	0x0d (^M)	
LF	Line Feed	0x0a (^J)	M=Scroll Region, LNM
FF	Form Feed	0x0c (^L)	M=Scroll Region, LNM; Same as LF
VT	Vertical Tab	0x0b (^K)	M=Scroll Region, LNM; Same as LF
IND	Index	0x84 (ESC D)	M=Scroll Region
RI	Reverse Index	0x8d (ESC M)	M=Scroll Region
LNM	Line Feed/New Line Mode	ESC[20l (or h)	R=LF, S=LF+CR (RM/SM); See Transmission To Host (page 6-4)
LXENE	New Line Echo Mode	ESC[=2l (or h)	R=neither, S=CR+LF (LRM/SM);Also TSS 6; C=EchoCrLf
CNL	Cursor Next Line	ESC[PnE	
NEL	Next Line	0x85 (ESC E)	M=Scroll Region
CVT	Cursor Vertical Tab	ESC[PnY	
CPL	Cursor Previous Line	ESC[PnF	

Forms

Forms	Description	Hex Value/ ESC Seq	Notes
HT	Horizontal Tab	0x09 (^I)	No tab to protected cells
CHT	Cursor Horizontal Tab	ESC[PnI	No tab to protected cells
CBT	Cursor Back Tab	ESC[PnZ	No tab to protected cells
HTJ	Horizontal Tab w/ Justify	0x89 (ESC I)	No tab to protected cells
HTS	Horizontal Tab Set	0x88 (ESC H)	M=TSM
CTC	Cursor Tab Clear	ESC[PnW	(TSM reset/TSM set); 0,2=column/position, 4=all/row, 5=all/all
TBC	Tab Clear	ESC[Png	(TSM reset/TSM set); 0=column/position, 2=all/row, 3=all/all
TSM	Tab Set Mode	ESC[18l (or h)	R=virtual, S=curr line (RM/SM)
DAQ	Define Area Qualification	ESC[Pno	0=all data, 1=prot, 2=display,3=num, 4=alpha, 5=right just, 6=zero filled, 7=tab, 8=selected, 9=space filled,10=hidden, 15=keyboard input only
SPA	Start Protected Area	0x96 (ESC V)	Same as DAQ 1
EPA	End Protected Area	0x97 (ESC W)	Current area is all input
SSA	Start Selected Area	0x86 (ESC F)	
ESA	End Selected Area	0x87 (ESC G)	Current area is all input
EA	Erase Area	ESC[PnO	0=to end, 1=from start, 2=all; M=ERM Does not erase area type
EF	Erase Field	ESC[PnN	0=to end, 1= from start, 2=all; M=EBM; Does not erase area type
LEM	Local Edit Match	ESC[Pn+A	R=display, S=hide
LEM Alpha WC	Alpha only wildcard	ESC[c1;;p2+G	Matches A-Z, a-z, comma, period, dash, space; C=AlphaOnly
LEM Digits WC	Digits only wildcard	ESC[c1;;;p3+G	Matches 0-9; C=DigitsOnly
LEM Numeric WC	Numeric only wildcard	ESC[c1;;;;p4+G	Matches 0-9, plus, comma, period, dash, space; C=NumericOnly
LEM Alphanum WC	Alphanumeric only wildcard	ESC[c1;;;;;p5+G	Matches A-Z, a-z, 0-9, plus, comma, period, dash, space; C = AlphaNumericOnly
LEM Match All WC	Match all wildcard	ESC[c1;;;;;;p6+G	All GL and GR; C=MatchAll

Transmission To Host

Transmission To Host	Description	Hex Value/ Esc Seq	Notes
GATM	Guarded Area Transmit Mode	ESC[1l (or h)	R=unguarded, S=entire screen (RM/SM)
MATM	Multiple Area Transmit Mode	ESC[15l (or h)	R=cursor selected, S=all selected (RM/SM)
SATM	Selected Area Transmit Mode	ESC[17l (or h)	R=selected, S=virtual (RM/SM)
LXEAS	Auto Send Mode	ESC[=3l (or h)	R=disable, s=enable (LRM/SM); SRM must be reset; Also TSS 3; C=AutoTransmit
SRM	Send Receive Mode	ESC[12l (or h)	R=local echo, S=char (RM/SM); Also TSS 10; C=SendReceiveMode
LXELM	Line Mode	ESC[=1l (or h)	R=block, S=scroll (LRM/SM);Also TSS 5; C=ScrollMode
DECSCL	Select Operating Level	ESC[62;Pn"p	R=8 bit, S=7 bit
S7C1T	Select 7 Bit Transmission	ESC F	A space (0x20) precedes F; C=EightBitMode
S8C1T	Select 8 Bit Transmission	ESC G	A space (0x20) precedes G; C=EightBitMode
LNM	Line Feed/New Line Mode	ESC[c1;;;;p4+F	R=CR, S=CR+LF; Also TSS 4; See Cursor Positioning (page 6-2); C=TransmitCR/LF
OLM	Online Mode	ESC[c1;;;;;;;;;p8+F	R=online, S=offline; Also TSS 8; C=OnlineMode

Editing

Editing	Description	Hex Value/ Esc Seq	Notes
ECH	Erase Character	ESC[PnX	M=ERM
DCH	Delete Character	ESC[PnP	M=SEM Aborts at protected cells
ICH	Insert Character	ESC[Pn@	M=SEM Aborts at protected cells
SEM	Select Editing Extent Mode	ESC[PnQ	0=display, 1=row, 2=field, 3=area; M=None
DL	Delete Line	ESC[PnM	M=None
IL	Insert Line	ESC[PnL	M=None
ED	Erase Display	ESC[PnJ	0=to end, 1=from start, 2=all; M=ERM Erases area type/boundaries, homes cursor.
EL	Erase Line	ESC[PnK	0=to end, 1=from start, 2=all; M=ERM Erases area type/boundaries
DECSED	DEC Selective Erase In Display	ESC[?PnJ	0=to end, 1=from start, 2=all; M=None Never erases protected cells or area types/boundaries, homes cursor
DECSEL	DEC Selective Erase In Line	ESC[?PnK	0=to end, 1=from start, 2=all; M=None Never erases protected cells or area types/boundaries
ERM	Erasure Mode	ESC[6l (or h)	R=cannot erase prot, S=erase prot (RM/SM)
SD	Scroll Down	ESC[PnT	M=Scroll Region
SU	Scroll Up	ESC[PnS	M=Scroll Region
DECSTBM	DEC Set Top/ Bottom Margins	ESC[Pt;Pbr	M=DECOM; Must have full screen client to use; Min height of region is 2 rows, Homes cursor according to DECOM
IRM	Insert/Replace Mode	ESC[4l (or h)	R=overwrite, S=insert (RM/SM)

Character Rendition

Character Rendition	Description	Hex Value/ Esc Seq	Notes
SGR	Select Graphics Rendition	ESC[Pnm	0=normal 1,22=bold 4,24=underline 5,25=blink 7,27=reverse First number enables, second disables

Bar Code

Bar code	Description	Hex Value/ Esc Seq	Notes
Left Justify	Left Justify	ESC[c1;;p2+E	R=off S=on (BKC); Requires block mode C=LeftJustify
Clear	Clear	ESC[c1;;;p3+E	R=off S=on (BKC); Requires block mode C=ClearData
Truncate	Truncate	ESC[c1;;;;p4+E	R=off S=on (BKC); Requires block mode C=TruncateData
Auto Advance	Auto Advance	ESC[c1;;;;;p5+E	R=off S=on (BKC); Requires block mode C=AutoAdvance

Reports / Status / Test

Reports /Status/ Test	Description	Hex Value/ Esc Seq	Notes
ENQ	Enquire	0x05 (^E)	
CPR	Cursor Position Report	ESC[Pr;PcR	Only sent from client; Position relative to virtual display
DSR	Device Status Report	ESC[Pnn	5=status 6=CPR 26=keyboard

Printing

Printing	Description	Hex Value/ Esc Seq	Notes
MC	Media Copy	ESC[Pni	4=off 5=on
DC2	Device Control 2	0x12 (^R)	Ignored from host
DC4	Device Control 4	0x14 (^T)	Same as MC4
APM	Auto Print Mode	ESC[?Pni	4=off 5=on
PL	Print Line	ECS[?1i	
PS	Print Screen	ESC[0i	
DECPFF	DEC Print Form Feed Mode	ECS[?18l (or h)	h=enable terminating character l=disable terminating character
DECPEX	DEC Print Extent Mode	ECS[?18l (or h)	h=full screen l=scrolling region

Hat Encoding

Desired ASCII	Hex Value	Hat Encoded	Desired ASCII	Hex Value	Hat Encoded
NUL	00	^@	×	D7	~W
SOH	01	^A	Ø	D8	~X
STX	02	^B	Ù	D9	~Y
ETX	03	^C	Ú	DA	~Z
EOT	04	^D	Û	DB	~[
ENQ	05	^E	Ü	DC	~\\
ACK	06	^F	Ý	DD	~]
BEL	07	^G	Þ	DE	~\^
BS	08	^H	ß	DF	~_ (Underscore)
HT	09	^I	à	E0	~`
LF	0A	^J	á	E1	~a
VT	0B	^K	â	E2	~b
FF	0C	^L	ã	E3	~c
CR	0D	^M	ä	E4	~d
SO	0E	^N	å	E5	~e
SI	0F	^O	æ	E6	~f
DLE	10	^P	ç	E7	~g
DC1 (XON)	11	^Q	è	E8	~h
DC2	12	^R	é	E9	~i
DC3 (XOFF)	13	^S	ê	EA	~j
DC4	14	^T	ë	EB	~k
NAK	15	^U	ì	EC	~l
SYN	16	^V	í	ED	~m
ETB	17	^W	î	EE	~n
CAN	18	^X	ï	EF	~o
EM	19	^Y	ð	F0	~p
SUB	1A	^Z	ñ	F1	~q
ESC	1B	^[	ò	F2	~r
FS	1C	^\\	ó	F3	~s
GS	1D	^]	ô	F4	~t

Desired ASCII	Hex Value	Hat Encoded	Desired ASCII	Hex Value	Hat Encoded
RS	1E	^^	õ	F5	~u
US	1F	^_ (Underscore)	ö	F6	~v
	80	~^@	÷	F7	~w
	81	~^A	ø	F8	~x
	82	~^B	ù	F9	~y
	83	~^C	ú	FA	~z
IND	84	~^D	û	FB	~{
NEL	85	~^E	ü	FC	~|
SSA	86	~^F	ý	FD	~}
®	AE	~. (Period)	þ	FE	~~
¯	AF	~/	ÿ	FF	~^?
°	B0	~0 (Zero)	ESA	87	~^G
±	B1	~1	HTS	88	~^H
²	B2	~2	HTJ	89	~^I
³	B3	~3	VTS	8A	~^J
´	B4	~4	PLD	8B	~^K
µ	B5	~5	PLU	8C	~^L
¶	B6	~6	RI	8D	~^M
·	B7	~7	SS2	8E	~^N
¸	B8	~8	SS3	8F	~^O
¹	B9	~9	DCS	90	~^P
º	BA	~:	PU1	91	~^Q
»	BB	~;	PU2	92	~^R
¼	BC	~<	STS	93	~^S
½	D	~=	CCH	94	~^T
¾	BE	~>	MW	95	~^U
¿	BF	~?	SPA	96	~^V
À	C0	~@	EPA	97	~^W
Á	C1	~A		98	~^X
Â	C2	~B		99	~^Y
Ã	C3	~C		9A	~^Z

Desired ASCII	Hex Value	Hat Encoded	Desired ASCII	Hex Value	Hat Encoded
Ä	C4	~D	CSI	9B	~^[
Å	C5	~E	ST	9C	~^\\
Æ	C6	~F	OSC	9D	~^]
Ç	C7	~G	PM	9E	~^^
È	C8	~H	APC	9F	~^_ (Underscore)
É	C9	~I	(no-break space)	A0	~ (Tilde and Space)
Ê	CA	~J	¡	A1	~!
Ë	CB	~K	¢	A2	~"
Ì	CC	~L	£	A3	~#
Í	CD	~M	¤	A4	~$
Î	CE	~N	¥	A5	~%
Ï	CF	~O	¦	A6	~&
Ð	D0	~P	§	A7	~'
Ñ	D1	~Q	¨	A8	~(
Ò	D2	~R	©	A9	~)
Ó	D3	~S	ª	AA	~*
Ô	D4	~T	«	AB	~+
Õ	D5	~U	¬	AC	~,
Ö	D6	~V	(soft hyphen)	AD	~- (Dash)

DEC Special Graphics - Code Table

Refer to the 8-bit code table below that lists all the decimal, hexadecimal, and octal values for each character:

ROW	b4 b3 b2 b1	COLUMN 0	1	2	3	4	5	6	7
0	0 0 0 0	NUL 0/0/0	DLE 20/16/10	SP 40/32/20	0 60/48/30	@ 100/64/40	P 120/80/50	♦ 140/96/60	— 160/112/70 · SCAN3
1	0 0 0 1	SOH 1/1/1	DC1 (XON) 21/17/11	! 41/33/21	1 61/49/31	A 101/65/41	Q 121/81/51	▒ 141/97/61	— 161/113/71 · SCAN5
2	0 0 1 0	STX 2/2/2	DC2 22/18/12	" 42/34/22	2 62/50/32	B 102/66/42	R 122/82/52	H_T 142/98/62	— 162/114/72 · SCAN7
3	0 0 1 1	ETX 3/3/3	DC3 (XOFF) 23/19/13	# 43/35/23	3 63/51/33	C 103/67/43	S 123/83/53	F_F 143/99/63	— 163/115/73 · SCAN9
4	0 1 0 0	EOT 4/4/4	DC4 24/20/14	$ 44/36/24	4 64/52/34	D 104/68/44	T 124/84/54	C_R 144/100/64	├ 164/116/74
5	0 1 0 1	ENQ 5/5/5	NAK 25/21/15	% 45/37/25	5 65/53/35	E 105/69/45	U 125/85/55	L_F 145/101/65	┤ 165/117/75
6	0 1 1 0	ACK 6/6/6	SYN 26/22/16	& 46/38/26	6 66/54/36	F 106/70/46	V 126/86/56	° 146/102/66	⊥ 166/118/76
7	0 1 1 1	BEL 7/7/7	ETB 27/23/17	' 47/39/27	7 67/55/37	G 107/71/47	W 127/87/57	± 147/103/67	⊤ 167/119/77
8	1 0 0 0	BS 10/8/8	CAN 30/24/18	(50/40/28	8 70/56/38	H 110/72/48	X 130/88/58	N_L 150/104/68	│ 170/120/78
9	1 0 0 1	HT 11/9/9	EM 31/25/19	) 51/41/29	9 71/57/39	I 111/73/49	Y 131/89/59	V_T 151/105/69	≤ 171/121/79
10	1 0 1 0	LF 12/10/A	SUB 32/26/1A	* 52/42/2A	: 72/58/3A	J 112/74/4A	Z 132/90/5A	⌟ 152/106/6A	≥ 172/122/7A
11	1 0 1 1	VT 13/11/B	ESC 33/27/1B	+ 53/43/2B	; 73/59/3B	K 113/75/4B	[133/91/5B	⌐ 153/107/6B	π 173/123/7B
12	1 1 0 0	FF 14/12/C	FS 34/28/1C	, 54/44/2C	< 74/60/3C	L 114/76/4C	\ 134/92/5C	┌ 154/108/6C	≠ 174/124/7C
13	1 1 0 1	CR 15/13/D	GS 35/29/1D	- 55/45/2D	= 75/61/3D	M 115/77/4D	] 135/93/5D	└ 155/109/6D	£ 175/125/7D
14	1 1 1 0	SO 16/14/E	RS 36/30/1E	. 56/46/2E	> 76/62/3E	N 116/78/4E	^ 136/94/5E	+ 156/110/6E	· 176/126/7E
15	1 1 1 1	SI 17/15/F	US 37/31/1F	/ 57/47/2F	? 77/63/3F	O 117/79/4F	(BLANK) 137/95/5F	— SCAN1 157/111/6F	177/127/7F

BITS: b8 0 ... b7 0 ... b6 0 ... b5 0/1 (column bit pattern across columns 0–7)

←— C0 Codes —→ ←———————— GL Codes (DEC Special Graphic) ————————→

KEY

Character — ESC	23 — Octal
	27 — Decimal
	1B — Hexadecimal
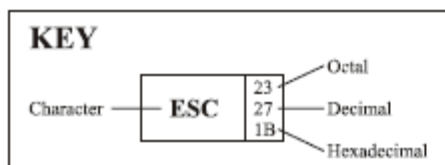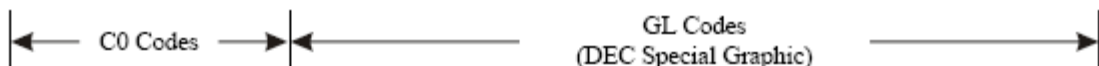
IS0 8859-1 Character Set

	00	01	02	03	04	05	06	07	08	09	0A	0B	0C	0D	0E	0F
00	NUL 0000	STX 0001	SOT 0002	ETX 0003	EOT 0004	ENQ 0005	ACK 0006	BEL 0007	BS 0008	HT 0009	LF 000A	VT 000B	FF 000C	CR 000D	SO 000E	SI 000F
10	DLE 0010	DC1 0011	DC2 0012	DC3 0013	DC4 0014	NAK 0015	SYN 0016	ETB 0017	CAN 0018	EM 0019	SUB 001A	ESC 001B	FS 001C	GS 001D	RS 001E	US 001F
20	SP 0020	! 0021	" 0022	# 0023	$ 0024	% 0025	& 0026	' 0027	(0028	) 0029	* 002A	+ 002B	, 002C	− 002D	. 002E	/ 002F
30	0 0030	1 0031	2 0032	3 0033	4 0034	5 0035	6 0036	7 0037	8 0038	9 0039	: 003A	; 003B	< 003C	= 003D	> 003E	? 003F
40	@ 0040	A 0041	B 0042	C 0043	D 0044	E 0045	F 0046	G 0047	H 0048	I 0049	J 004A	K 004B	L 004C	M 004D	N 004E	O 004F
50	P 0050	Q 0051	R 0052	S 0053	T 0054	U 0055	V 0056	W 0057	X 0058	Y 0059	Z 005A	[005B	\ 005C	] 005D	^ 005E	_ 005F
60	` 0060	a 0061	b 0062	c 0063	d 0064	e 0065	f 0066	g 0067	h 0068	i 0069	j 006A	k 006B	l 006C	m 006D	n 006E	o 006F
70	p 0070	q 0071	r 0072	s 0073	t 0074	u 0075	v 0076	w 0077	x 0078	y 0079	z 007A	{ 007B	| 007C	} 007D	~ 007E	DEL 007F
80																
90																
A0	NBSP 00A0	¡ 00A1	¢ 00A2	£ 00A3	¤ 00A4	¥ 00A5	¦ 00A6	§ 00A7	¨ 00A8	© 00A9	ª 00AA	« 00AB	¬ 00AC	00AD	® 00AE	¯ 00AF
B0	° 00B0	± 00B1	² 00B2	³ 00B3	´ 00B4	µ 00B5	¶ 00B6	· 00B7	¸ 00B8	¹ 00B9	º 00BA	» 00BB	¼ 00BC	½ 00BD	¾ 00BE	¿ 00BF
C0	À 00C0	Á 00C1	Â 00C2	Ã 00C3	Ä 00C4	Å 00C5	Æ 00C6	Ç 00C7	È 00C8	É 00C9	Ê 00CA	Ë 00CB	Ì 00CC	Í 00CD	Î 00CE	Ï 00CF
D0	Ð 00D0	Ñ 00D1	Ò 00D2	Ó 00D3	Ô 00D4	Õ 00D5	Ö 00D6	× 00D7	Ø 00D8	Ù 00D9	Ú 00DA	Û 00DB	Ü 00DC	Ý 00DD	Þ 00DE	ß 00DF
E0	à 00E0	á 00E1	â 00E2	ã 00E3	ä 00E4	å 00E5	æ 00E6	ç 00E7	è 00E8	é 00E9	ê 00EA	ë 00EB	ì 00EC	í 00ED	î 00EE	ï 00EF
F0	ð 00F0	ñ 00F1	ò 00F2	ó 00F3	ô 00F4	õ 00F5	ö 00F6	÷ 00F7	ø 00F8	ù 00F9	ú 00FA	û 00FB	ü 00FC	ý 00FD	þ 00FE	ÿ 00FF

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IBM 3270

3270 Host Key Descriptions

Attention

Attn - The Attention key interrupts the host application.

System Request

Srq - The System Request key gives context to the System Software such as the SSCP (System Services Control Point).

Clear

Clr - The Clear key causes a CLEAR Attention Identifier key to be sent to the host and the host responds according to the host application.

Reset

Rst - The Reset key resets the mobile client. Depending upon the current state, it removes the host application from a key-board inhibit state, terminates the System Request functions and exits the mobile client from insert mode.

Erase Input

EIn - This key clears all unprotected input fields and moves the cursor to the beginning of the first input field.

Erase to End of Field

Eof - This key erases all data in an input field from the current cursor location to the end of the input field.

Delete

Del - The Delete key deletes data from an input field. When you press this key, the character at the cursor location is deleted, and all characters to the right of the cursor shift one position to the left.

Insert

Ins - This key les the insert mode on and off. In insert mode, characters are inserted at the current cursor location if space is available. The characters to the right of the cursor are shifted one character position to the right.

Home

Hm - This key repositions the cursor to the first input location of the first input field.

Tab or Next

Tb - This key moves the cursor forward to the next input field. When the cursor is not on an input field it moves to the next input field from the current cursor location.

Backtab or Previous

BTb - This key moves the cursor back to the previous input field. When the cursor is not on an input field, the cursor moves to the previous input field from the current cursor location. This key is equivalent to **[Shift][Tab]**.

Enter

Ent - The Enter key submits control to the host application.

New Line

NL - This function moves the cursor to the first input field on the next line.

Escape

Esc - The function is the same as the Reset command.

PA Keys

Pa1, **Pa2**, **Pa3** - The PA1 through PA3 keys communicate with the host application. Their use is defined by the host application.

Function Keys

F1 - **F24** - The Function keys F1 - F24 communicate with the host application. Their use is defined by the host application, unless their action has been programmed using the Function Key dialog.

3270 Commands

Printing a Field

You can print a field by sending a print command (*P) from the host to the client. It must be preceded by a field attribute (FA) byte. The printing ends when the next FA is encountered. The value of the FA is ignored, but it must be present.

Beep

You can sound a beep by sending the beep command (*B) from the host to the client. It must be preceded by a field attribute (FA) byte. When RFTerm encounters a beep command, by default it activates the Good sound.

Host initiated sounds can also be reassigned to produce the Bad or Alarm sounds by using the Sound Key field. For example entering **$HA** in the Sound Key field means to assign **H**ost initiated sounds to the **A**larm sound

Refer to Sounds (page 2-14) to review Good, Bad and Alarm sounds and for more instructions on using the Sound Key field.

Custom IBM 3270 Host Commands

The following host command strings can be sent to RFTerm to provide the designated action.

Command String	Action	Notes
/cmd!1;3z/cmde	RFTerm disables the scanner	
/cmd!1;0z/cmde	RFTerm enables the scanner	
/cmd!1;2z/cmde	RFTerm turns on the display backlight	
/cmd!1;1z/cmde	RFTerm turns off the display backlight	
/cmd!1;4z/cmde	RFTerm turns on vibration for 1 second	Only supported on mobile devices containing a vibration unit, such as MX7 Tecton, MX8 and MX9. Vibration has no effect on other devices.
/cmd!1;5z/cmde	RFTerm turns on vibration for 2 seconds	
/cmd!1;6z/cmde	RFTerm turns on vibration for 3 seconds	
/cmd!1;7z/cmde	RFTerm turns on vibration for 7 seconds	
/cmd!2;00/cmde	Do not display (or remove) virtual keyboard	Virtual keyboard is only supported on the Dolphin 70e Black. See Virtual Keyboards (page 9-12).
/cmd!2;10/cmde	Display virtual keyboard configuration 1 (Left Numeric), orientation 0	
/cmd!2;20/cmde	Display virtual keyboard configuration 2 (Right Numeric), orientation 0	
/cmd!2;30/cmde	Display virtual keyboard configuration 3 (Qwerty or SIP), orientation 0	
/cmd!2;40/cmde	Display virtual keyboard configuration 4 (HX2 Emulator), orientation 0	

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IBM 5250

5250 Host Key Descriptions

Attention

Attn - The Attention key interrupts the host application.

System Request

Srq - The System Request key gives context to the System Software such as the SSCP (System Services Control Point).

Clear

Clr - The Clear key causes a CLEAR Attention Identifier key to be sent to the host and the host responds according to the host application.

Reset

Rst - The Reset key resets the client. Depending upon the current state, it removes the host application from a keyboard inhibit state, terminates the System Request functions and exits the client from insert mode.

Erase Input

EIn - This key clears all unprotected input fields and moves the cursor to the beginning of the first input field.

Erase to End of Field

Eof - This key erases all data in an input field from the current cursor location to the end of the input field.

Field Minus

F- - This key causes the cursor to advance to the next field and a minus sign is inserted in the last position of a signed numeric-only field.

Field Plus

F+ - This key causes the cursor to exit an input field and insert null characters from the current cursor location to the end of the field.

Field Exit

FEx - This key behaves similar to the Field Plus key. It causes the cursor to exit an input field and insert null characters from the current cursor location to the end of the field.

Duplicate

Dup - This DUP key is used to insert DUP characters in a field for host processing.

Field Mark

Mrk - The Field Mark key is used to insert a Field Mark character in a field for host processing.

Delete

Del - The Delete key deletes data from an input field. When you press this key, the character at the cursor location is deleted, and all characters to the right of the cursor shift one position to the left.

Insert

Ins - This key les the insert mode on and off. In insert mode, characters are inserted at the current cursor location if space is available. The characters to the right of the cursor are shifted one character position to the right.

Home

Hm - This key moves the cursor to the first input location of the first input field.

Tab or Next

Tb - This key moves the cursor forward to the next input field. When the cursor is not on an input field it moves to the next input field from the current cursor location.

Backtab or Previous

BTb - This key moves the cursor back to the previous input field. When the cursor is not on an input field, the cursor moves to the previous input field from the current cursor location. This key is equivalent to **[Shift][Tab]**.

Enter

Ent - The Enter key submits control to the host application.

New Line

NL - This function moves the cursor to the first input field on the next line.

Roll Up

RUp - This function sends a roll up request to the host, similar to a scroll up.

Roll Down

RDn - This function sends a roll down request to the host, similar to a scroll down.

Cursor Select

Sel - This function allows the user to select an input field using the keyboard.

Print

Prt - This function prints the current screen.

Function Keys

F1 - **F24** -The Function keys F1 - F24 communicate with the host application. Their use is defined by the host application, unless their action has been programmed using the Function Key dialog.

5250 Commands

Input Device ID (*K)

The input device ID feature provides the host application developer with the ability to determine which Honeywell mobile client user input device and which bar code symbology was utilized to enter data in any field on the screen. When the 5250 host application is programmed to request this data from the mobile client, and when the input device ID feature is enabled at the client, the client sends this information to the 5250 host emulation. This feature can be used with the match field edit and scan and increment features, in addition to normal user input.

This feature is useful to monitor the use of automatic input devices to enforce the practice of not using the keyboard or keypad as an input device.

Description

There are two major components to this feature:

- The input ID field identifies the field that follows as an operator input field.
- The operator input field is the area on the screen where information is returned to the host application.

Input ID Field

The input ID field:

- must be preceded by a field attribute (FA) that designates the input ID field as unprotected (operator input capable).
- is designated with an * (asterisk) as the first character and a K as the second character.
- can have any display attribute including non-display.
- does not have to be on the same line as the operator input field, but it must be the first input field to precede it.
- cannot have any input fields defined on the screen map between it and its associated operator input field.
- must have the Modified Data Tag (MDT) set by the host application so it will return to the host when [Enter] is pressed.
- behaves exactly the same as any protected field on the Honeywell client device.

Terminal Operation

When the input ID feature is enabled in client setup, the RFTerm 5250 terminal emulation modifies the input ID field to behave as if it has the Bypass (protected) field attribute. The user can place the cursor in the input ID field with the arrow keys, but input is not allowed. If the user attempts input in this field, an error message will appear indicating that the field is protected. If the input ID feature is not enabled at the client device, RFTerm will treat input ID fields as normal input fields.
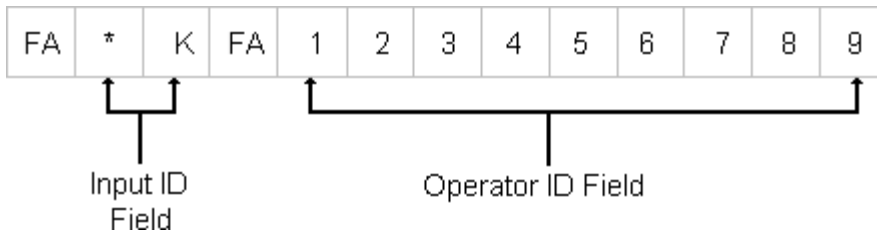
Examples

Example 1

The example illustrates the input ID feature used with a normal input field. In all cases, the field attribute (FA) preceding the input ID field (*K) designates an unprotected (input capable) field:
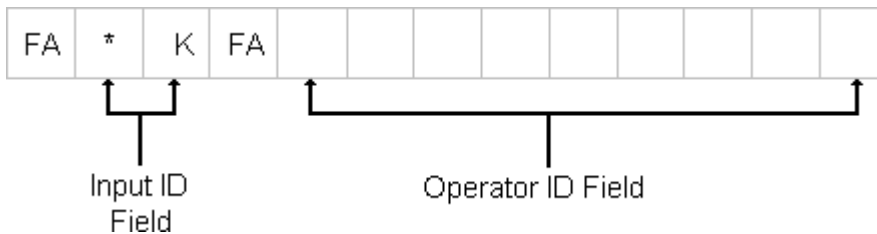
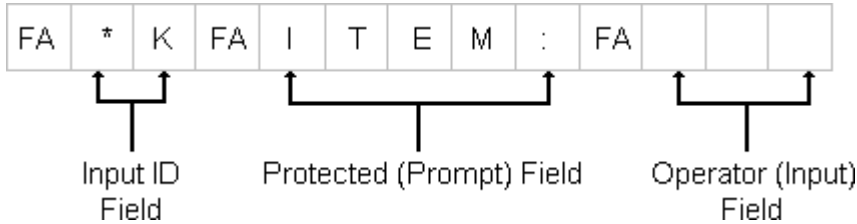After keyboard entry (123456789), the contents of the input ID field and the operator input field become:

The input ID field is now 00, which indicates that the user utilized the keyboard or keypad to enter data. In the event the user utilized a bar code scanner, the input ID field would contain a two-digit code identifying the bar code symbology. (Refer to the list of input device types and their corresponding input ID codes at the end of this segment.)

Input device ID reports the last device utilized by the end-user to fill in the input field to the host. If the user were to partially fill in an input field using a bar code scanner, and then finish filling in the input field with entry from the keyboard, the host application would report that entry for the field came from the keyboard or keypad. The user cannot modify the contents of the input ID field.

Example 2

Example 2 illustrates that protected fields can be present between the input ID field and the operator input field. The field attribute (FA) preceding ITEM: designates the prompt field as a protected field; the FA preceding the operator input field designates the last field as unprotected:

Input Identification Types

Here is a list of the numerical values that appear in the input ID field returned from the mobile client, designating the type of input device utilized by the end-user.

Numerical Value	Input Device Type
00	Keyboard / Keypad
01	Bar code Code 39
02	Bar code Code 128
03	Bar code Interleaved 2 of 5
04	Bar code UPC
05	Bar code EAN
06	Bar code Code 11
07	Bar code Discrete 2 of 5
08	Bar code MSI Plessey
50	RS-232

Printing a Field

You can print a field by sending a print command (*P) from the host to the client. It must be preceded by a field attribute (FA) byte. The printing ends when the next FA is encountered. The value of the FA is ignored, but it must be present.

Beep

You can sound a beep by sending the beep command (*B) from the host to the client. It must be preceded by a field attribute (FA) byte. When RFTerm encounters a beep command, by default it activates the Good sound.

Host initiated sounds can also be reassigned to produce the Bad or Alarm sounds by using the Sound Key field. For example entering **$HA** in the Sound Key field means to assign **H**ost initiated sounds to the **A**larm sound

Refer to Sounds (page 2-14) to review Good, Bad and Alarm sounds and for more instructions on using the Sound Key field.

Terminal Setup

You can configure printing options by sending the Terminal Setup command (*E) from the host to the client. These options apply when either the "Prnt" ToolBar button (IBM 3 or IBM 4 KeyBar) or the "Prt" button on the CE SmartPad is pressed. The Terminal Setup command has the following format, each parameter must be preceded by a semicolon (;) :

```
*Ecl;p1;p2;p3;p4;p5;p6;p7;p8;p9;p10;p11;p12
```

This command must be sent to the client in the screen definition of the first field on the screen.

c1	A revision compatibility byte, currently not supported, use 1.
p1	Save to disk, currently not supported, use 0.

p2	Bar code left justify, currently not supported, use a semicolon as a place holder.
p3	Bar code input clear mode, currently not supported, use a semicolon as a place holder.
p4	Bar code input truncate mode, currently not supported, use a semicolon as a place holder.
p5	Bar code input truncate mode, currently not supported, use a semicolon as a place holder.
p6	Auto transmit after print. 　　0 = Do not transmit an Enter command after a print (default) 　　1 = Automatically transmit an Enter command after a print
p7	Print carriage return per line. 　　0 = No carriage return per line on a screen print 　　1 = Append a carriage return per line on a screen print (default)
p8	Print line feed per line. 　　0 = No line feed per line on a screen print 　　1 = Append a line feed per line on a screen print (default)
p9	Status line display mode, currently not supported, use a semicolon as a place holder.
p10	Input device ID, currently not supported, use a semicolon as a place holder.
p11	Swap Tab/Field Exit, currently not supported, use a semicolon as a place holder.
p12	Tab/Field Exit for advancing, currently not supported, use a semicolon as a place holder.

Input Identification Types

Here is a list of the numerical values that appear in the input ID field returned from the mobile client, designating the type of input device utilized by the end-user.

Numerical Value	Input Device Type
00	Keyboard / Keypad
01	Bar code Code 39
02	Bar code Code 128
03	Bar code Interleaved 2 of 5
04	Bar code UPC
05	Bar code EAN
06	Bar code Code 11
07	Bar code Discrete 2 of 5
08	Bar code MSI Plessey
50	RS-232

Custom Mapping

The method for creating EBCDIC character sets for countries other than the U.S. is described below, and is followed by an example.

Custom Character Mapping

Upon loading, RFTerm first loads the standard character set , see IS0 8859-1 Character Set (page 6-11) (Latin 1). RFTerm then searches for a plain text document file named EBCDIC.TXT in the \os dependent\LXE\RFTerm folder, which is the default install folder for the application. If the file is found, RFTerm will read replacement character pairs from the EBCDIC.TXT file and place them in the substitution table for IBM emulations.

For example

```
0x40 0x52
```

will replace the default character whose value is 0x40 with the character whose value is 0x52 according to ISO Character Set 8859-1 (Latin 1). Each occurrence of the character 0x40 will be replaced regardless of whether it originated from the host or from the client.

Where the <white space> represents any number of spaces and/or tabs, and is used for clarity. The first entry is the EBC-DIC character position in hexadecimal in the default EBCDIC character table, and the second entry is the hexadecimal or decimal position in the ISO Character Set 8859-1 (Latin 1) table.

Custom Keyboard Mapping

RFTerm will also search for a KEYS.TXT file in the same folder. It will contain character pairs of the same format as the EBCDIC.TXT file, however these substitutions will be made ONLY for characters originating from the keyboard.

Note: If both files are present, a key press will be modified by the KEYS.TXT substitution and then modified by the EBCDIC.TXT substitution. Place a copy of the EBCDIC.TXT and KEYS.TXT files in the device operating system persistent folder. This will ensure the files are saved instead of discarded if the device is rebooted.

Custom IBM 5250 Host Commands

The following host command strings can be sent to RFTerm to provide the designated action.

Command String	Action	Notes
/cmd!1;3z/cmde	RFTerm disables the scanner	
/cmd!1;0z/cmde	RFTerm enables the scanner	
/cmd!1;2z/cmde	RFTerm turns on the display backlight	
/cmd!1;1z/cmde	RFTerm turns off the display backlight	
/cmd!1;4z/cmde	RFTerm turns on vibration for 1 second	Only supported on mobile devices containing a vibration unit, such as MX7 Tecton, MX8 and MX9. Vibration has no effect on other devices.
/cmd!1;5z/cmde	RFTerm turns on vibration for 2 seconds	
/cmd!1;6z/cmde	RFTerm turns on vibration for 3 seconds	
/cmd!1;7z/cmde	RFTerm turns on vibration for 7 seconds	
/cmd!2;00/cmde	Do not display (or remove) virtual keyboard	Virtual keyboard is only supported on the Dolphin 70e Black. See Virtual Keyboards (page 9-12).
/cmd!2;10/cmde	Display virtual keyboard configuration 1 (Left Numeric), orientation 0	
/cmd!2;20/cmde	Display virtual keyboard configuration 2 (Right Numeric), orientation 0	
/cmd!2;30/cmde	Display virtual keyboard configuration 3 (Qwerty or SIP), orientation 0	
/cmd!2;40/cmde	Display virtual keyboard configuration 4 (HX2 Emulator), orientation 0	

9

Key Maps

RFTerm ToolBar

The bitmaps and associated action text for all the actions and operations that can be associated with the configurable keys are in the table below.

Icon	Function	Icon	Function
	Previous KeyBar	Do	VT Do
	Next KeyBar	Esc	VT Escape
	(Blank) no action	Fnd	VT Find
Ent	Enter key	Hlp	VT Help
Tab	Tab key	Hld	VT Hold
Btb	Field Backspace (Backtab)	Ins	VT Insert Here
	Left arrow key	LF	VT Linefeed
	Right arrow key	Nxt	VT Next
	Up arrow key	PF1	VT PF1
	Down arrow key	PF2	VT PF2
S1	Jump to Session 1 (S1)	PF3	VT PF3
S2	Jump to Session 2 (S2)	PF4	VT PF4
S3	Jump to Session 3 (S3)	Prv	VT Previous
S4	Jump to Session 4 (S4)	Rem	VT Remove
Ses	Jump to Next Connected Session	Sel	VT Select
	Connect Session	K0	VT Numpad 0
	Font Increase	K1	VT Numpad 1
	Font Decrease	K2	VT Numpad 2
	Configure Session	K3	VT Numpad 3
Prt Scr	Print Screen	K4	VT Numpad 4
	Start Menu Toggle	K5	VT Numpad 5
	SmartPad Toggle	K6	VT Numpad 6

Icon	Function	Icon	Function
	Text InputTool Toggle	κ7	VT Numpad 7
	Program Exit (Emulator)	κ8	VT Numpad 8
F1	F1 function key	κ9	VT Numpad 9
F2	F2 function key	κ,	VT Numpad Comma
F3	F3 function key	κE	VT Numpad Enter
F4	F4 function key	κ—	VT Numpad Minus
F5	F5 function key	κ.	VT Numpad Period
F6	F6 function key	0	ASCII 0
F7	F7 function key	1	ASCII 1
F8	F8 function key	2	ASCII 2
F9	F9 function key	3	ASCII 3
F10	F10 function key	4	ASCII 4
F11	F11 function key	5	ASCII 5
F12	F12 function key	6	ASCII 6
F13	F13 function key	7	ASCII 7
F14	F14 function key	8	ASCII 8
F15	F15 function key	9	ASCII 9
F16	F16 function key	+	ASCII +
F17	F17 function key	—	ASCII -
F18	F18 function key	u6	VT UDK 6
F19	F19 function key	u7	VT UDK 7
F20	F20 function key	u8	VT UDK 8
F21	F21 function key	u9	VT UDK 9
F22	F22 function key	u10	VT UDK 10
F23	F23 function key	u11	VT UDK 11
F24	F24 function key	u12	VT UDK 12

Icon	Function	Icon	Function
F25	F25 function key (VT only)	u13	VT UDK 13
F26	F26 function key (VT only)	u14	VT UDK 14
F27	F27 function key (VT only)	u15	VT UDK 15
F28	F28 function key (VT only)	u16	VT UDK 16
F29	F29 function key (VT only)	u17	VT UDK 17
F30	F30 function key (VT only)	u18	VT UDK 18
F31	F31 function key (VT only)	u19	VT UDK 19
F32	F32 function key (VT only)	u20	VT UDK 20
F33	F33 function key (VT only)	I1	Input 1 (Text InputTool)
F34	F34 function key (VT only)	I2	Input 2 (Text InputTool)
F36	F35 function key (VT only)	I3	Input 3 (Text InputTool)
F36	F36 function key (VT only)	I4	Input 4 (Text InputTool)
F37	F37 function key (VT only)	I5	Input 5 (Text InputTool)
F38	F38 function key (VT only)	I6	Input 6 (Text InputTool)
F39	F39 function key (VT only)	I7	Input 7 (Text InputTool)
F40	F40 function key (VT only)	I8	Input 8 (Text InputTool)
Atn	IBM Attention	I9	Input 9 (Text InputTool)
Bsp	IBM Backspace	I10	Input 10 (Text InputTool)
Clr	IBM Clear	I11	Input 11 (Text InputTool)
Del	IBM Delete	I12	Input 12 (Text InputTool)
Dup	IBM Duplicate	I13	Input 13 (Text InputTool)
Er EOF	IBM Erase EOF	I14	Input 14 (Text InputTool)
Er INP	IBM Erase Input	I15	Input 15 (Text InputTool)
Esc	IBM Escape key	I16	Input 16 (Text InputTool)
Fld +	IBM Field +	I17	Input 17 (Text InputTool)
Fld -	IBM Field -	I18	Input 18 (Text InputTool)

Icon	Function	Icon	Function
Fld EXIT	IBM Field Exit	^{I}19	Input 19 (Text InputTool)
Mrk	IBM Field Mark	^{I}20	Input 20 (Text InputTool)
Hlp	IBM Help (5250 only)		Horizontal Scroll Toggle
Hm	IBM Home		Vertical Scroll Toggle
Ins	IBM Insert Toggle	◀	Horizontal Scroll Left (Page)
NL	IBM New Line	▶	Horizontal Scroll Right (Page)
OIA	IBM OIA Toggle	▲	Vertical Scroll Up (Page)
Prt	IBM Print (5250 only)	▼	Vertical Scroll Down (Page)
PA1	IBM PA1 key (3270 only)	◀|	Horizontal Scroll Left (End)
PA2	IBM PA2 key (3270 only)	|▶	Horizontal Scroll Right (End)
PA3	IBM PA3 key (3270 only)	▲	Vertical Scroll Up (End)
Rst	IBM Reset	▼	Vertical Scroll Down (End)
Roll ↑	IBM Roll Up (5250 only)		Scroll Upper Left quadrant
Roll ↓	IBM Roll Down (5250 only)		Scroll Upper Right quadrant
SRq	IBM System Request		Scroll Lower Left quadrant
Ans	VT Answerback		Scroll Lower Right quadrant
Bsp	VT Backspace		Scroll Center quadrant
Can	VT Cancel		Scroll Cursor Center
Del	VT Delete		Scroll Cursor Visible

RFTerm Functions

Function	Path
Connect to Host	Session > Connect or ToolBar Button
Disconnect from Host	Session > Disconnect or ToolBar Button
Hide / Display MenuBar	File > Settings > Display > Hide Main Menu
Enable / Disable MenuBar (XP)	File > Settings > Display > Disable MenuBar
Hide / Display ToolBar	File > Settings > Display > Hide ToolBar
Hide / Display KeyBar	File > Settings > Display > Hide KeyBar
Hide / Display All Bars *(Not supported on Windows Mobile)*	File > Settings > Display > Hide All Bars
Toggle MenuBar Bottom / Top *(Not supported on Windows Mobile, Windows XP, Windows 7, Windows 10, or Windows Embedded Standard)*	File > Settings > Display > Menu at Bottom
Configure Host Session	Session > Configure
Increase Font Size	ToolBar Button: Capital A with Up Arrow
Decrease Font Size	ToolBar Button: Capital A with Down Arrow
Font Selection	Session > Configure > Font > Font Weight combo box
Display / Hide SmartPad *(Not supported on Windows XP, Windows 7, Windows 10, or Windows Embedded Standard)*	Display > SmartPad
Display / Hide InputTool *(Not supported on Windows XP, Windows 7, Windows 10, or Windows Embedded Standard)*	Display > InputTool
Scroll Up	Scroll Bars
Scroll Down	Scroll Bars
Scroll Left	Scroll Bars
Scroll Right	Scroll Bars
Print Setup	File > Print Setup
Exit RFTerm	File > Exit

Functions Not Supported

Some functions are not supported with certain operating systems.

Function	Not Supported with these operating systems
Display / Hide SmartPad	Windows XP, Windows 7, Windows 10,,Windows Embedded Standard
Display / Hide InputTool	Windows XP, Windows 7, Windows 10,,Windows Embedded Standard
Toggle MenuBar Bottom / Top	Windows XP, Windows 7, Windows 10,,Windows Embedded Standard, Windows Mobile
Hide / Display All Bars	Windows Mobile

Virtual Key Maps

The Virtual Key tables indicate the key combinations that RFTerm looks for to perform each function. These key combinations are provided for the convenience of users who wish to remap RFTerm functions to physical keys different from those provided by the default key map. In most cases, the key combinations used by RFTerm are the same for each device type. Exceptions are noted.

RFTerm Functions - Virtual Keys

Important note for HX2 users:

When running an HX2 with an Alpha Mode 3 Tap keypad, RFTerm hijacks virtual function keys F11 through F19 to perform the RFTerm functions indicated in the "HX2" column of this table. This hijacking occurs only if the HX2 Function Key Enable (page 3-35) option is not selected. If HX2 Function Key Enable is selected, the key map reverts to the standard RFTerm virtual key map (indicated in the column labeled "Virtual Key" in the table below).

RFTerm Function	Virtual Key	HX2	RFTerm GUI Equivalent
Connect to Host	Ctrl Shift C	F17	Session > Connect
Disconnect from Host	Ctrl Shift D	F17	Session > Disconnect
Exit the Emulator	Alt X	Escape	File > Exit
	Ctrl Shift X		
Help	Ctrl H	Ctrl H	N/A
Hide / Display All Bars *(See Note 1 below)*	Ctrl Shift L	F16	File > Settings > Display > Hide All Bars
Hide / Display MenuBar	Ctrl Shift M	F15	File > Settings > Display > Hide MenuBar
Hide / Display ToolBar	Ctrl Shift T	F14	File > Settings > Display > Hide ToolBar
Hide / Display KeyBar	Ctrl Shift K	F13	File > Settings > Display > Hide KeyBar
Toggle MenuBar Bottom / Top *(See Note 2 below)*	Ctrl Shift B	Ctrl Shift B	File > Settings > Display > Menu at Bottom
Configure Host Session	Ctrl Shift N	F18	Session > Configure
Next Session	Ctrl Shift J		Session > S1/S2/S3/S4
Application Settings	Ctrl Shift E	F19	File > Settings
Increase Font Size	Ctrl Shift Up Arrow	F12	Display > Font Up
Decrease Font Size	Ctrl Shift Down Arrow	F11	Display > Font Down
Toggle Font Bold / Normal	Ctrl Shift 1	Ctrl Shift 1	Session > Configure > Font tab
Toggle Status *(See Note 3 below)*	Ctrl Shift 2	Ctrl Shift 2	File > Settings > Status > Orientation
Toggle OIA Bar	Ctrl Shift O	Ctrl Shift O	File > Settings > Display > Hide OIA Bar
Display / Hide SmartPad *(see Note 1 below)*			Display > SmartPad
Display / Hide InputTool *(see Note 1 below)*	Ctrl Shift I	Ctrl Shift I	Display > InputTool
Toggle Vertical Scroll Bars	Ctrl Shift V	Ctrl Shift V	File > Settings > Display > Hide Vertical
Toggle Horizontal Scroll Bars	Ctrl Shift H	Ctrl Shift H	File > Settings > Display > Hide Horiz
Print Screen	Ctrl Alt P	Ctrl Alt P	File > Print Screen
Scroll Up One Row	Shift Up Arrow	Shift Up Arrow	Scroll Bars
Scroll Down One Row	Shift Down Arrow	Shift Down Arrow	Scroll Bars
Scroll Left One Column	Shift Left Arrow	Shift Left Arrow	Scroll Bars

RFTerm Function	Virtual Key	HX2	RFTerm GUI Equivalent
Scroll Right One Column	Shift Right Arrow	Shift Right Arrow	Scroll Bars

Note 1

These RFTerm functions are not available with the following operating systems:

- Windows Embedded Standard, Microsoft Windows Embedded 7
- Windows XP, Windows 7, Windows 10,

Note 2

These RFTerm functions are not available with the following operating systems:

- Windows Mobile
- Windows Embedded Standard, Microsoft Windows Embedded 7
- Windows XP, Windows 7, Windows 10,

Note 3

These RFTerm functions are not available with the following operating systems:

- Windows Mobile

ANSI Functions - Virtual Keys

Refer to the VT Host Key Descriptions (page 5-72) for explanations of the ANSI key functions.

⚠ If using an HX2 with the Alpha Mode 3 Tap keypad, review the Important Note for Alpha Mode 3 Tap Keypad (page 9-54). It contains important information on the function of keys F11 through F19 on this HX2 keypad.

ANSI Function	Virtual Key	RFTerm GUI Equivalent
Answerback	*Not Supported*	Display > SmartPad > Ans
Backspace	BKSP	Display > SmartPad > BS
Delete	Ctrl D	Display > SmartPad > Del
Exit Program	Alt X	File > Exit
	Ctrl Shift X	
Function Key Editor	*Not Supported*	Session > Configure > FNKeys
Help	Ctrl H	
Local Echo On / Off	*Not Supported*	Session > Configure > Connection > VT Config > Screen > Local Echo
Print Screen	Ctrl Alt P	
Send	Enter	Display > SmartPad > Ent
Window Down	Ctrl Down Arrow	Scroll Bars
Window Left	Ctrl Left Arrow	Scroll Bars
Window Right	Ctrl Right Arrow	Scroll Bars
Window Up	Ctrl Up Arrow	Scroll Bars
F1 - F10	F1 - F10	KeyBar
F11 - F20	F11 - F20	KeyBar
F21 - F30	F21 - F30	KeyBar
F21 - F40	F31 - F40	KeyBar

IBM 3270 Functions - Virtual Keys

When running the RFTerm IBM 3270 terminal emulator on the HX2 refer to the 3270 Host Key Descriptions (page 7-1) for explanations of the IBM 3270 functions.

⚠ If using an HX2 with the Alpha Mode 3 Tap keypad, review the Important Note for Alpha Mode 3 Tap Keypad (page 9-54). It contains important information on the function of keys F11 through F19 on this HX2 keypad.

3270 Function	Virtual Key	RFTerm GUI Equivalent
Attention	Ctrl A	Display > SmartPad > Attn
Backtab	Shift Tab	Display > SmartPad > Btb
Clear	Ctrl C	Display > SmartPad > Clr
Cursor Block / Underline	*Not Supported*	File > Settings > Cursor > Cursor Options
Delete	Ctrl D	Display > SmartPad > Del
Erase	Bksp	Display > SmartPad > BSp
Erase Input	Ctrl Bksp	Display > SmartPad > Ein
Error Reset	Ctrl R	Display > SmartPad > Rst
Exit Program	Alt X	File > Exit
	Ctrl Shift X	
Function Key Editor	*Not Supported*	Session > Configure > FNKeys
Help	Ctrl H	
Home Key	*Not Supported*	Display > SmartPad > Hm
Insert	Ctrl I	Display > SmartPad > Ins
New Line Key	Ctrl N	Display > SmartPad > NL
Next or Tab	Tab	Display > SmartPad > Tb
Print Screen	Ctrl Alt P	
Roll Up	*Not Supported*	IBM 3 KeyBar: Roll Up
Roll Down	*Not Supported*	IBM 3 KeyBar: Roll Dn
SW Rev	*Not Supported*	File > About
Send	*Not Supported*	Base KeyBar: Ent
Status Line Toggle	Alt T	File > Settings > Display > Hide OIA
	Ctrl Shift O	
System Request	Ctrl S	Display > SmartPad > Srq
Window Down	Ctrl Down Arrow	Scroll Bars
Window Right	Ctrl Right Arrow	Scroll Bars
Window Left	Ctrl Left Arrow	Scroll Bars
Window Up	Ctrl Up Arrow	Scroll Bars
PA1 - PA3	Ctrl 1 - 3	Display > SmartPad > Pa1 - Pa3
F1 - F10	F1 - F10	KeyBar
F11 - F20	F11 - F20	KeyBar
F21 - F24	F21 - F24	KeyBar

IBM 5250 Functions - Virtual Keys

Refer to the 5250 Host Key Descriptions (page 8-1) for explanations of the IBM 5250 functions.

⚠ If using an HX2 with the Alpha Mode 3 Tap keypad, review the Important Note for Alpha Mode 3 Tap Keypad (page 9-54). It contains important information on the function of keys F11 through F19 on this HX2 keypad.

5250 Function	Virtual key	RFTerm GUI Equivalent
Attention	Ctrl A	Display > SmartPad > Attn
Backtab	Shift Tab	Base KeyBar: Btb
Char Backspace	Bksp	Display > SmartPad > BSp
Clear	Ctrl C	Display > SmartPad > Clr
Cursor Block / Underline	*Not Supported*	File > Settings > Cursor > Cursor Options
Delete	Ctrl D	Display > SmartPad > Del
Dup	Ctrl U	Display > SmartPad > Dup
Erase Input	Ctrl Bksp	Display > SmartPad > Ein
Error Reset or Reset	Esc	Display > SmartPad > Rst
Exit Program	Alt X	File > Exit
	Ctrl Shift X	
Field Exit	Ctrl Enter	Display > SmartPad > Fex
Field Minus	Ctrl M	Display > SmartPad > F-
Field Plus	Ctrl L	Display > SmartPad > F+
Function Key Editor	*Not Supported*	Session > Configure > FNKeys
Home Key	*Not Supported*	Display > SmartPad > Hm
Help	Ctrl H	
Insert	Ctrl I	Display > SmartPad > Ins
New Line Key	Ctrl N	Display > SmartPad > NL
Next or Field Advance or Tab	Tab	Base KeyBar: Tb
Print Screen	Ctrl Alt P	Display > SmartPad > Prt
Send or Enter CATV	Enter	Base KeyBar: Ent
Status Line Toggle	Alt T	Special KeyBar: OIA
	Ctrl Shift 0	
SW Rev	*Not Supported*	File > About
System Request	Ctrl S	Display > SmartPad > Srq
Window Down	Ctrl Down Arrow	Scroll Bars
Window Left	Ctrl Left Arrow	Scroll Bars
Window Right	Ctrl Right Arrow	Scroll Bars
Window Up	Ctrl Up Arrow	Scroll Bars
F1 - F10	F1 - F10	KeyBar
F11 - F20	F11 - F20	KeyBar
F21 - F24	F21 - F24	KeyBar

Optional F1 - F40 Key Maps

There are optional key maps for the F1 through F40 keys. To access the option, select **Session > Configure > Keybd**. If the Two-key Function Keys checkbox is unchecked, the standard function key keypresses listed for each piece of equipment apply.

If this checkbox is checked, the following key maps replace the standard key maps for F1 through F40:

F1 and...	Produces	Ctrl or F2 and...	Produces	F3 and...	Produces	F4 and...	Produces
1	F1	1	F11	1	F21	1	F31
2	F2	2	F12	2	F22	2	F32
3	F3	3	F13	3	F23	3	F33
4	F4	4	F14	4	F24	4	F34
5	F5	5	F15	5	F25	5	F35
6	F6	6	F16	6	F26	6	F36
7	F7	7	F17	7	F27	7	F37
8	F8	8	F18	8	F28	8	F38
9	F9	9	F19	9	F29	9	F39
10	F10	10	F20	10	F30	10	F40

If using an HX2 with the Alpha Mode 3 Tap keypad, review the Important Note for Alpha Mode 3 Tap Keypad (page 9-54). It contains important information on the function of keys F11 through F19 on this HX2 keypad.

Dolphin 70e Black Keymaps

The Dolphin 70e Black does not have a traditional keypad. A virtual keyboard is used instead.
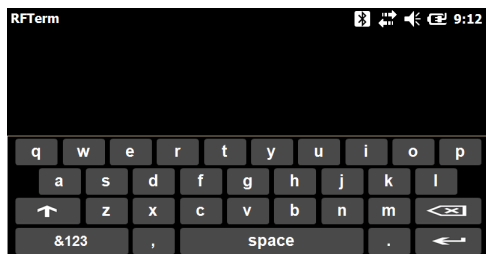
Virtual Keyboards

Multiple virtual keypads can be displayed on the device by commands issued from the host. For example, the host can display a full QWERTY keypad if the user must input information such as a user name and password or just a numeric keypad if the user must input a quantity. The following commands can be sent out as either ASCII or EBCIDIC strings:

```
/cmd!2;0z/cmde = Do not display (or remove) virtual keyboard
/cmd!2;1z/cmde = Display virtual keyboard Configuration 1
/cmd!2;2z/cmde = Display virtual keyboard Configuration 2
/cmd!2;3z/cmde = Display virtual keyboard Configuration 3
/cmd!2;4z/cmde = Display virtual keyboard Configuration 4
```

Predefined keypad layouts are installed on the Dolphin 70e Black.

Virtual keypad layout can also be selected on the Options3 (page 2-12) tab.

Virtual Keypad Displayed	Command	Description	Identifier on Options 3 tab
	`/cmd!2;00/cmde`	VK off (or hide if currently displayed)	None
	`/cmd!2;10/cmde`	VK layout 1 (Left Numeric) Orientation 0	Left Numeric
	`/cmd!2;20/cmde`	VK layout 2 (Right Numeric) Orientation 0	Right Numeric
	`/cmd!2;30/cmde`	VK layout 3 (Qwerty or SIP) Orientation 0	Qwerty or SIP

Virtual Keypad Displayed	Command	Description	Identifier on Options 3 tab
	`/cmd!2;40/cmde`	VK layout 4 (HX2 Emulator) Orientation 0	HX2 Emulator

Tecton and MX7 Key Maps
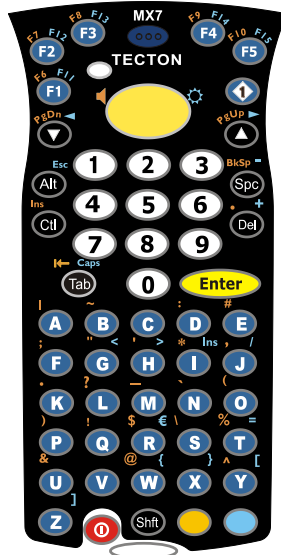
| 32-key Keypad | 55-key Primary Delete Keypad | 55-key IBM 5250 Keypad | 55-key Primary Backspace Keypad |
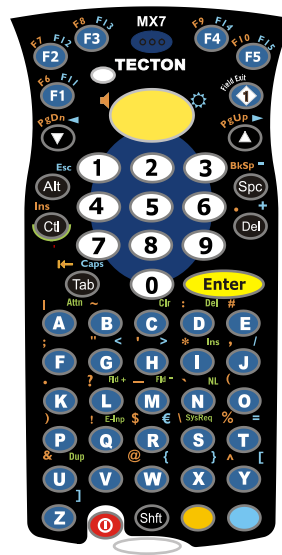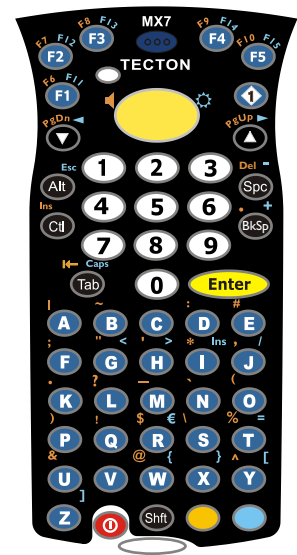
The MX7 Tecton keypads are shown above. The MX7 keypad is similar except for the "Tecton" logo and the position of the "MX7" logo.

Note: The 55-key Primary Delete keypad has a primary **delete** *key. The 55-key Primary Backspace keypad has a primary* **backspace** *key. All other keys are the same.*

Note: All RFTerm shortcut keys are directly accessible through the RFTerm user interface.

Unless otherwise noted, key maps in this section are valid for the MX7 Tecton with either a Microsoft Windows CE 6.0 or Windows Mobile 6.5 operating system.

When using a sequence of keys that includes the **Orange** or **Blue** keys, press the color key first then the rest of the key sequence unless otherwise noted in the tables. **Ctrl**, **Alt**, **Shft**, **Blue** and **Orange** keys are "sticky keys". They do not need to be held down before pressing the next (or desired) key. It is valid to use combined modifiers on specific keys.

Alphabetic keys default to lower case letters. Press the **Shft** key, then the alphabetic key for an uppercase letter.

Note: When the computer boots, the default condition of Caps (or CapsLock) is Off. The Caps (or CapsLock) condition can be toggled with Blue plus Tab key sequence.

RFTerm Functions - MX7 and MX7 Tecton

MX7 and MX7 Tecton 55-Key Keypad

The keymaps below apply to both the 55-key Primary Delete and 55-key Primary Backspace keypads.

RFTerm Function	Press these keys in this order	RFTerm GUI Equivalent
Connect to Host	Ctl Shft C	Session > Connect
Disconnect from Host	Ctl Shft D	Session > Disconnect
Hide / Display All Bars	Ctl Shft L	File > Settings > Display > Hide All Bars
Hide / Display MenuBar	Ctl Shft M	File > Settings > Display > Hide MenuBar
Hide / Display ToolBar	Ctl Shft T	File > Settings > Display > Hide ToolBar
Hide / Display KeyBar	Ctl Shft K	File > Settings > Display > Hide KeyBar
Toggle MenuBar Bottom / Top *(N/A with Windows Mobile)*	Ctl Shft B	File > Settings > Display > At Bottom
Configure Host Session	Ctl Shft N	Session > Configure
Application Settings	Ctl Shft E	File > Settings
Increase Font Size	Ctl Shft Up Arrow	Display > Font Up
Decrease Font Size	Ctl Shft Down Arrow	Display > Font Down
Toggle Font Bold / Normal	Ctl Shft 1	Session > Configure > Font Tab
Display/Hide SmartPad	Ctl Shft P	Display > SmartPad
Display / Hide Text Input	Ctl Shft I	Display > InputTool
Help	Ctl H	
Scroll Up One Row	Shft Up Arrow	Scroll Bars
Scroll Down One Row	Shft Down Arrow	Scroll Bars
Scroll Left One Row	Shft Blue Down Arrow	Scroll Bars
Scroll Right One Row	Shft Blue Up Arrow	Scroll Bars
Exit the Emulator	Alt X	File > Exit
	Ctl Shft X	

MX7 and MX7 Tecton 32-Key Keypad

RFTerm Function	Press these keys in this order	RFTerm GUI Equivalent
Connect to Host	Alph Ctl Shft 2 2 2	Session > Connect
Disconnect from Host	Alph Ctl Shft 3	Session > Disconnect
Hide / Display All Bars	Alph Ctl Shft 5 5 5	File > Settings > Display > Hide All Bars
Hide / Display MenuBar	Alph Ctl Shft 6	File > Settings > Display > Hide MenuBar
Hide / Display ToolBar	Alph Ctl Shft 8	File > Settings > Display > Hide ToolBar
Hide / Display KeyBar	Alph Ctl Shft 5 5	File > Settings > Display > Hide KeyBar
Toggle MenuBar Bottom / Top *(N/A with Windows Mobile)*	Alph Ctl Shft 2 2	File > Settings > Display > At Bottom
Configure Host Session	Alph Ctl Shft 6 6	Session > Configure
Application Settings	Alph Ctl Shft 3 3	File > Settings
Increase Font Size	Ctl Shft Up Arrow	Display > Font Up
Decrease Font Size	Ctl Shft Down Arrow	Display > Font Down
Toggle Font Bold / Normal	Ctl Shft 1	Session > Configure > Font Tab
Display/Hide SmartPad	Alph Ctl Shft 7	Display > SmartPad
Display / Hide Text Input	Alph Ctl Shft 4 4 4	Display > InputTool
Help	Alph Ctl 4 4	
Scroll Up One Row	Shft Up Arrow	Scroll Bars
Scroll Down One Row	Shft Down Arrow	Scroll Bars
Scroll Left One Row	Shft Blue Down Arrow	Scroll Bars
Scroll Right One Row	Shft Blue Up Arrow	Scroll Bars
Exit the Emulator	Alph Alt 9 9	File > Exit

ANSI Functions - MX7 and MX7 Tecton

When running the RFTerm ANSI on the MX7 and MX7 Tecton refer to the VT Host Key Descriptions (page 5-72) for explanations of the ANSI key functions.

Note: Physical keypad key presses and MX7 virtual keypad presses are the same.

MX7 and MX7 Tecton 55-Key Primary Delete Keypad

Alternative keypresses may be defined for F1 through F40. Refer to Optional F1 - F40 Key Maps (page 9-11).

ANSI Function	Press these keys in this order	RFTerm GUI Equivalent
Answerback	*Not Supported*	Display > SmartPad > Ans
Backspace	Orange Spc	Display > SmartPad > BSp
Delete	Del	Display > SmartPad > DEL
Exit Program	Alt X	File > Exit
	Ctl Shft X	
Help	Ctl H	
F1 - F5	F1 - F5	KeyBar
F6 - F10	Orange F1 - F5	KeyBar
F11 - F15	Blue F1 - F5	KeyBar
F16 - F20	Shft F1 - F5	KeyBar
F21 - F24	Ctl Orange F1 - F4	KeyBar
F25 - F40	*Not Supported*	KeyBar
Function Key Editor	*Not Supported*	Session > Configure > FNKeys
Send	Enter	Display > SmartPad > Ent
Window Down	Ctl Down Arrow	Scroll Bars
Window Left	Ctl Blue Down Arrow	Scroll Bars
Window Right	Ctl Blue Up Arrow	Scroll Bars
Window Up	Ctl Up Arrow	Scroll Bars
Print Screen	Ctl Alt P	

MX7 and MX7 Tecton 55-Key Primary Backspace Keypad

Alternative keypresses may be defined for F1 through F40. Refer to Optional F1 - F40 Key Maps (page 9-11).

ANSI Function	Press these keys in this order	RFTerm GUI Equivalent
Answerback	*Not Supported*	Display > SmartPad > Ans
Backspace	Bksp	Display > SmartPad > BSp
Delete	Orange Spc	Display > SmartPad > DEL
Exit Program	Alt X	File > Exit
	Ctl Shft X	
Help	Ctl H	
F1 - F5	F1 - F5	KeyBar
F6 - F10	Orange F1 - F5	KeyBar
F11 - F15	Blue F1 - F5	KeyBar
F16 - F20	Shft F1 - F5	KeyBar
F21 - F24	Ctl Orange F1 - F4	KeyBar
F25 - F40	*Not Supported*	KeyBar
Function Key Editor	*Not Supported*	Session > Configure > FNKeys
Send	Enter	Display > SmartPad > Ent
Window Down	Ctl Down Arrow	Scroll Bars
Window Left	Ctl Blue Down Arrow	Scroll Bars
Window Right	Ctl Blue Up Arrow	Scroll Bars
Window Up	Ctl Up Arrow	Scroll Bars
Print Screen	Ctl Alt P	

MX7 and MX7 Tecton 32-Key Keypad

Alternative keypresses may be defined for F1 through F40. Refer to Optional F1 - F40 Key Maps (page 9-11).

ANSI Function	Press these keys in this order	RFTerm GUI Equivalent
Answerback	*Not Supported*	Display > SmartPad > Ans
Backspace	Orange Spc	Display > SmartPad > BSp
Delete	Delete	Display > SmartPad > DEL
Exit Program	Alph Alt 9 9	File > Exit
Help	Alph Ctl 4 4	
F1 - F5	F1 - F5	KeyBar
F6 - F10	Orange F1 - F5	KeyBar
F11 - F15	Blue F1 - F5	KeyBar
F16 - F20	Shift F1 - F5	KeyBar
F21 - F24	Ctl Orange F1 - F4	KeyBar
F25 - F40	*Not Supported*	KeyBar
Function Key Editor	*Not Supported*	Session > Configure > FNKeys
Send	Enter	Display > SmartPad > Ent
Window Down	Ctl Down Arrow	Scroll Bars
Window Left	Ctl Blue Down Arrow	Scroll Bars
Window Right	Ctl Blue Up Arrow	Scroll Bars
Window Up	Ctl Up Arrow	Scroll Bars
Print Screen	Alph Ctl Alt 7	

IBM 3270 Functions - MX7 and MX7 Tecton

When running the RFTerm IBM 3270 terminal emulator on the MX7 and MX7 Tecton refer to the 3270 Host Key Descriptions (page 7-1) for explanations of the IBM 3270 functions.

MX7 and MX7 Tecton 55-Key Primary Delete Keypad

Alternative keypresses may be defined for F1 through F40. Refer to Optional F1 - F40 Key Maps (page 9-11).

3270 Function	Press these keys in this order	RFTerm GUI Equivalent
Attn	Ctl A	Display > SmartPad > Attn
Backtab	Orange Tab	Display > SmartPad > BTb
Clear	Ctl C	Display > SmartPad > Clr
Delete	Ctl D	Display > SmartPad > Del
Erase	Orange Spc	Display > SmartPad > Bsp
Erase Input	Ctl Orange Spc	Display > SmartPad > EIn
Error Reset or Reset	Ctl R	Display > SmartPad > Rst
Exit Program	Alt X	File > Exit
	Ctl Shft X	
Function Key Editor	*Not Supported*	Session > Configure > FNKeys
Help	Ctl H	
Homekey	*Not Supported*	Display > SmartPad > Hm
Insert	Ctl I	Display > SmartPad > Ins
LDUB	*Not Supported*	
New Line Key	Ctl N	Display > SmartPad > Nl
Next or Tab	Tab	Display > SmartPad > Tb
Print Screen	Ctl Alt P	
RDUB	*Not Supported*	
SW Rev	*Not Supported*	File > About
Window Down	Ctl Down Arrow	Scroll Bars
Window Right	Ctl Blue Up Arrow	Scroll Bars
Window Left	Ctl Blue Down Arrow	Scroll Bars
Window Up	Ctl Up Arrow	Scroll Bars
Status Line Toggle	Alt T	File > Settings > Display > Hide OIA
	Ctl Shft O	
SYS_REQ	Ctl S	Display > SmartPad > Srq
PA1 - PA3	Ctl 1 - 3	Display > SmartPad > Pa1 - Pa3
F1 - F5	F1 - F5	KeyBar
F6 - F10	Orange F1- F5	KeyBar
F11 - F15	Blue F1 - F5	KeyBar
F16 - F20	Shft F1 - F5	KeyBar
F21 - F24	Ctl Orange F1 - F4	KeyBar

MX7 and MX7 Tecton 55-Key Primary Backspace Keypad

Alternative keypresses may be defined for F1 through F40. Refer to Optional F1 - F40 Key Maps (page 9-11).

3270 Function	Press these keys in this order	RFTerm GUI Equivalent
Attn	Ctl A	Display > SmartPad > Attn
Backtab	Orange Tab	Display > SmartPad > BTb
Clear	Ctl C	Display > SmartPad > Clr
Delete	Ctl D	Display > SmartPad > Del
Erase	Bksp	Display > SmartPad > Bsp
Erase Input	Ctl Bksp	Display > SmartPad > EIn
Error Reset or Reset	Ctl R	Display > SmartPad > Rst
Exit Program	Alt X	File > Exit
	Ctl Shft X	
Function Key Editor	*Not Supported*	Session > Configure > FNKeys
Help	Ctl H	
Homekey	*Not Supported*	Display > SmartPad > Hm
Insert	Ctl I	Display > SmartPad > Ins
LDUB	*Not Supported*	
New Line Key	Ctl N	Display > SmartPad > Nl
Next or Tab	Tab	Display > SmartPad > Tb
Print Screen	Ctl Alt P	
RDUB	*Not Supported*	
SW Rev	*Not Supported*	File > About
Window Down	Ctl Down Arrow	Scroll Bars
Window Right	Ctl Blue Up Arrow	Scroll Bars
Window Left	Ctl Blue Down Arrow	Scroll Bars
Window Up	Ctl Up Arrow	Scroll Bars
Status Line Toggle	Alt T	File > Settings > Display > Hide OIA
	Ctl Shft O	
SYS_REQ	Ctl S	Display > SmartPad > Srq
PA1 - PA3	Ctl 1 - 3	Display > SmartPad > Pa1 - Pa3
F1 - F5	F1 - F5	KeyBar
F6 - F10	Orange F1- F5	KeyBar
F11 - F15	Blue F1 - F5	KeyBar
F16 - F20	Shft F1 - F5	KeyBar
F21 - F24	Ctl Orange F1 - F4	KeyBar

MX7 and MX7 Tecton 32-Key Keypad

Alternative keypresses may be defined for F1 through F40. Refer to .

3270 Function	Press these keys in this order	RFTerm GUI Equivalent
Attn	Alph Ctl 2	Display > SmartPad > Attn
Backtab	Orange Tab	Display > SmartPad > BTb
Clear	Alph Ctl 2 2 2	Display > SmartPad > Clr
Delete	Alph Ctl 3	Display > SmartPad > Del
Erase	Orange Space	Display > SmartPad > Bsp
Erase Input	Ctl Orange Spc	Display > SmartPad > EIn
Error Reset or Reset	Alph Ctl 7 7 7	Display > SmartPad > Rst
Exit Program	Alph Alt 9 9	File > Exit
Function Key Editor	*Not Supported*	Session > Configure > FNKeys
Help	Alph Ctl 4 4	
Homekey	*Not Supported*	Display > SmartPad > Hm
Insert	Alph Ctl 4 4 4	Display > SmartPad > Ins
LDUB	*Not Supported*	
New Line Key	Alph Ctl 6 6	Display > SmartPad > Nl
Next or Tab	Tab	Display > SmartPad > Tb
Print Screen	Alph Ctl Alt 7	
RDUB	*Not Supported*	
SW Rev	*Not Supported*	File > About
Window Down	Ctl Down Arrow	Scroll Bars
Window Right	Ctl Blue Up Arrow	Scroll Bars
Window Left	Ctl Blue Down Arrow	Scroll Bars
Window Up	Ctl Up Arrow	Scroll Bars
Status Line Toggle	Alph Alt 8	File > Settings > Display > Hide OIA
SYS_REQ	Alph Ctl 7 7 7 7	Display > SmartPad > Srq
PA1 - PA3	Ctl 1 - 3	Display > SmartPad > Pa1 - Pa3
F1 - F5	F1 - F5	KeyBar
F6 - F10	Orange F1- F5	KeyBar
F11 - F15	Blue F1 - F5	KeyBar
F16 - F20	Shft F1 - F5	KeyBar
F21 - F24	Ctl Orange F1 - F4	KeyBar

IBM 5250 Functions - MX7 and MX7 Tecton

When running the RFTerm IBM 5250 terminal emulator on MX7 and MX7 Tecton devices refer to the 5250 Host Key Descriptions (page 8-1) for explanations of the IBM 5250 functions.

MX7 and MX7 Tecton 55-Key Primary Delete Keypad

Alternative keypresses may be defined for F1 through F40. Refer to Optional F1 - F40 Key Maps (page 9-11).

5250 Function	Press these keys in this order	RFTerm GUI Equivalent
Attn	Ctl A	Display > SmartPad > Attn
Backtab	Orange Tab	Display > SmartPad > BTb
Char Backspace	Bksp	Display > SmartPad > BSp
Clear	Ctl C	Display > SmartPad > Clr
Delete	Ctl D	Display > SmartPad > Del
Dup	Ctl U	Display > SmartPad > Dup
Erase Input	Ctl Orange Spc	Display > SmartPad > EIn
Error Reset or Reset	Blue Alt	Display > SmartPad > Rst
Exit Program	Alt X	File > Exit
	Ctl Shft X	
Function Key Editor	*Not Supported*	Session > Configure > FNKeys
Fastback	*Not Supported*	
Fastfwd	*Not Supported*	
Field Exit	Ctl Enter	Display > SmartPad > FEx
	Diamond 1	
Field Minus	Ctl M	Display > SmartPad > F-
Field Plus	Ctl L	Display > SmartPad > F+
Help	Ctl H	
Homekey	*Not Supported*	Display > SmartPad > Hm
Insert	Ctl I	Display > SmartPad > Ins
New Line Key	Ctl N	Display > SmartPad > Nl
Next or Tab	Tab	Display > SmartPad > Tb
Print Screen	Ctl Alt P	Display > SmartPad > Prt
SW REV	*Not Supported*	File > About
Window Down	Ctl Down Arrow	Scroll Bars
Window Right	Ctl Blue Down Arrow	Scroll Bars
Window Left	Ctl Blue Up Arrow	Scroll Bars
Window Up	Ctl Up Arrow	Scroll Bars
Send or Entercatv	Enter	Display > SmartPad > Ent
Status Line Toggle	Alt T	File > Settings > Display > Hide OIA
	Ctl Shft O	
Sys_Req	Ctl S	Display > SmartPad > Srq
F1 - F5	F1 - F5	KeyBar
F6 - F10	Orange F1 - F5	KeyBar
F11 - F15	Blue F1 - F5	KeyBar
F16 - F20	Shft F1 - F5	KeyBar
F21 - F24	Ctl Orange F1 - F4	KeyBar

MX7 and MX7 Tecton 55-Key Primary Backspace Keypad

Alternative keypresses may be defined for F1 through F40. Refer to .

5250 Function	Press these keys in this order	RFTerm GUI Equivalent
Attn	Ctl A	Display > SmartPad > Attn
Backtab	Orange Tab	Display > SmartPad > BTb
Char Backspace	Orange Spc	Display > SmartPad > BSp
Clear	Ctl C	Display > SmartPad > Clr
Delete	Ctl D	Display > SmartPad > Del
Dup	Ctl U	Display > SmartPad > Dup
Erase Input	Ctl Orange Spc	Display > SmartPad > EIn
Error Reset or Reset	Blue Alt	Display > SmartPad > Rst
Exit Program	Alt X	File > Exit
	Ctl Shft X	
Function Key Editor	*Not Supported*	Session > Configure > FNKeys
Fastback	*Not Supported*	
Fastfwd	*Not Supported*	
Field Exit	Ctl Enter	Display > SmartPad > FEx
	Diamond 1	
Field Minus	Ctl M	Display > SmartPad > F-
Field Plus	Ctl L	Display > SmartPad > F+
Help	Ctl H	
Homekey	*Not Supported*	Display > SmartPad > Hm
Insert	Ctl I	Display > SmartPad > Ins
New Line Key	Ctl N	Display > SmartPad > Nl
Next or Tab	Tab	Display > SmartPad > Tb
Print Screen	Ctl Alt P	Display > SmartPad > Prt
SW REV	*Not Supported*	File > About
Window Down	Ctl Down Arrow	Scroll Bars
Window Right	Ctl Blue Down Arrow	Scroll Bars
Window Left	Ctl Blue Up Arrow	Scroll Bars
Window Up	Ctl Up Arrow	Scroll Bars
Send or Entercatv	Enter	Display > SmartPad > Ent
Status Line Toggle	Alt T	File > Settings > Display > Hide OIA
	Ctl Shft O	
Sys_Req	Ctl S	Display > SmartPad > Srq
F1 - F5	F1 - F5	KeyBar
F6 - F10	Orange F1 - F5	KeyBar
F11 - F15	Blue F1 - F5	KeyBar
F16 - F20	Shft F1 - F5	KeyBar
F21 - F24	Ctl Orange F1 - F4	KeyBar

MX7 and MX7 Tecton 32-Key Keypad

Alternative keypresses may be defined for F1 through F40. Refer to Optional F1 - F40 Key Maps (page 9-11).

5250 Function	Press these keys in this order	RFTerm GUI Equivalent
Attn	Alph Ctl 2	Display > SmartPad > Attn
Backtab	Orange Tab	Display > SmartPad > BTb
Char Backspace	Orange Spc	Display > SmartPad > BSp
Clear	Alph Ctl 2 2 2	Display > SmartPad > Clr
Delete	Alph Ctl 3	Display > SmartPad > Del
Dup	Alph Ctl 8 8	Display > SmartPad > Dup
Erase Input	Ctl Orange Spc	Display > SmartPad > EIn
Error Reset or Reset	Blue Alt	Display > SmartPad > Rst
Exit Program	Alph Alt 9 9	File > Exit
Function Key Editor	*Not Supported*	Session > Configure > FNKeys
Fastback	*Not Supported*	
Fastfwd	*Not Supported*	
Field Exit	Ctl Enter	Display > SmartPad > FEx
	Diamond 1	
Field Minus	Alph Ctl 6	Display > SmartPad > F-
Field Plus	Alph Ctl 5 5 5	Display > SmartPad > F+
Help	Alph Ctl 4 4	
Homekey	*Not Supported*	Display > SmartPad > Hm
Insert	Alph Ctl 4 4 4	Display > SmartPad > Ins
New Line Key	Alph Ctl 6 6	Display > SmartPad > Nl
Next or Tab	Tab	Display > SmartPad > Tb
Print Screen	Alph Alt 8	Display > SmartPad > Prt
SW REV	*Not Supported*	File > About
Window Down	Ctl Down Arrow	Scroll Bars
Window Right	Ctl Blue Down Arrow	Scroll Bars
Window Left	Ctl Blue Up Arrow	Scroll Bars
Window Up	Ctl Up Arrow	Scroll Bars
Send or Entercatv	Enter	Display > SmartPad > Ent
Status Line Toggle	Alph Alt 8	File > Settings > Display > Hide OIA
Sys_Req	Alph Ctl 7 7 7 7	Display > SmartPad > Srq
F1 - F5	F1 - F5	KeyBar
F6 - F10	Orange F1 - F5	KeyBar
F11 - F15	Blue F1 - F5	KeyBar
F16 - F20	Shft F1 - F5	KeyBar
F21 - F24	Orange Ctl F1 - F4	KeyBar

Thor VM1 Key Maps
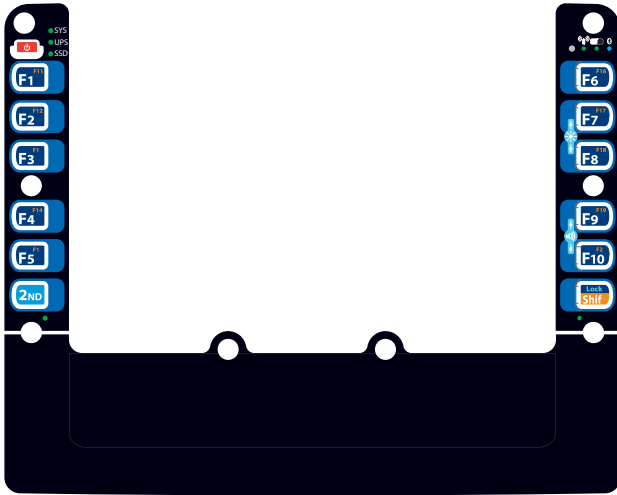
12-key Keypad

Note: The 12-key keypad is available on a Thor VM1 running Windows CE 6.0.
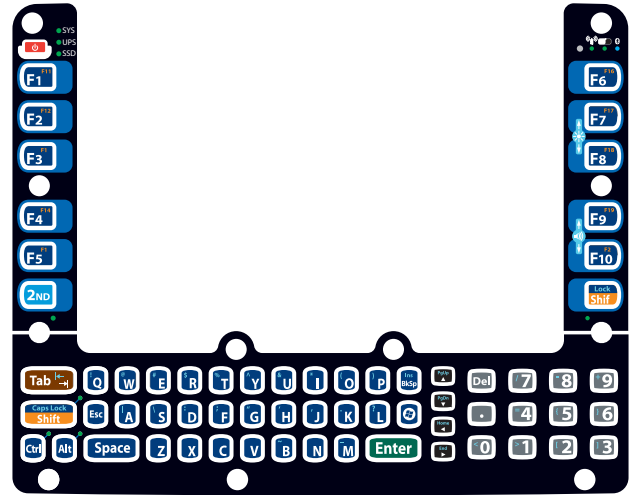
64-key ANSI Keypad
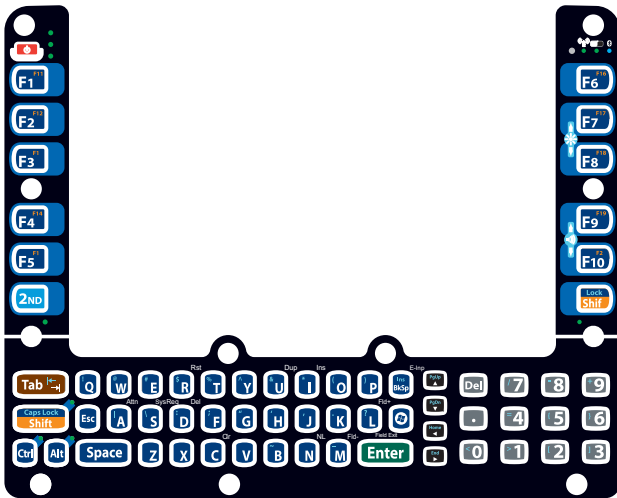
64-key IBM 5250 Keypad

64-key IBM 3270 Keypad

Note: All RFTerm shortcut keys are directly accessible through the RFTerm user interface.

Alphabetic keys default to lower case letters. Press the **Shift** key, then the alphabetic key for an uppercase letter.

*Note: When the computer boots, the default condition of CapsLock is Off. CapsLock can be toggled with **2nd** plus **Shift** key sequence.*

RFTerm Functions - Thor VM1

Thor VM1 64-Key Keypad

RFTerm Function	Press these keys in this order	RFTerm GUI Equivalent
Connect to Host	Ctrl Shift C	Session > Connect
Disconnect from Host	Ctrl Shift D	Session > Disconnect
Hide / Display All Bars	Ctrl Shift L	File > Settings > Display > Hide All Bars
Hide / Display MenuBar	Ctrl Shift M	File > Settings > Display > Hide MenuBar
Hide / Display ToolBar	Ctrl Shift T	File > Settings > Display > Hide ToolBar
Hide / Display KeyBar	Ctrl Shift K	File > Settings > Display > Hide KeyBar
Toggle MenuBar Bottom / Top *(N/A with Windows Embedded Standard)*	Ctrl Shift B	File > Settings > Display > At Bottom
Configure Host Session	Ctrl Shift N	Session > Configure
Application Settings	Ctrl Shift E	File > Settings
Increase Font Size	Ctrl Shift Up Arrow	Display > Font Up
Decrease Font Size	Ctrl Shift Down Arrow	Display > Font Down
Toggle Font Bold / Normal	Ctrl Shift 1	Session > Configure > Font Tab
Display/Hide SmartPad *(N/A with Windows Embedded Standard)*	Ctrl Shift P	Display > SmartPad
Display / Hide Text Input *(N/A with Windows Embedded Standard)*	Ctrl Shift I	Display > InputTool
Help	Ctrl H	
Scroll Up One Row	Shift Up Arrow	Scroll Bars
Scroll Down One Row	Shift Down Arrow	Scroll Bars
Scroll Left One Row	Shift Left Arrow	Scroll Bars
Scroll Right One Row	Shift Right Arrow	Scroll Bars
Exit the Emulator	Ctrl Shift X	File > Exit
	Alt X	

Thor VM1 12-Key Keypad

The notation *Not Defined* in the following table indicates that no key combination provides this function in the default key map. To obtain this function, some key (or combination of keys) must be remapped to provide key combination specified earlier in RFTerm Functions - Virtual Keys (page 9-6).

Note: This keyboard is not available with the Microsoft Windows Embedded Standard operating system.

RFTerm Function	Press these keys in this order	RFTerm GUI Equivalent
Connect to Host	*Not Defined*	Session > Connect
Disconnect from Host	*Not Defined*	Session > Disconnect
Hide / Display All Bars	*Not Defined*	File > Settings > Display > Hide All Bars
Hide / Display MenuBar	*Not Defined*	File > Settings > Display > Hide MenuBar
Hide / Display ToolBar	*Not Defined*	File > Settings > Display > Hide ToolBar
Hide / Display KeyBar	*Not Defined*	File > Settings > Display > Hide KeyBar
Toggle MenuBar Bottom / Top	*Not Defined*	File > Settings > Display > At Bottom
Configure Host Session	*Not Defined*	Session > Configure
Application Settings	*Not Defined*	File > Settings
Increase Font Size	*Not Defined*	Display > Font Up
Decrease Font Size	*Not Defined*	Display > Font Down
Toggle Font Bold / Normal	*Not Defined*	Session > Configure > Font Tab
Display/Hide SmartPad	*Not Defined*	Display > SmartPad
Display / Hide Text Input	*Not Defined*	Display > InputTool
Help	*Not Defined*	
Scroll Up One Row	*Not Defined*	Scroll Bars
Scroll Down One Row	*Not Defined*	Scroll Bars
Scroll Left One Row	*Not Defined*	Scroll Bars
Scroll Right One Row	*Not Defined*	Scroll Bars
Exit the Emulator	*Not Defined*	File > Exit

ANSI Functions - Thor VM1

When running the RFTerm ANSI on the Thor VM1 refer to the VT Host Key Descriptions (page 5-72) for explanations of the ANSI key functions.

Note: Physical keypad key presses and Thor VM1 virtual keypad presses are the same.

Thor VM1 64-Key Keypad

Alternative keypresses may be defined for F1 through F40. Refer to Optional F1 - F40 Key Maps (page 9-11).

ANSI Function	Press these keys in this order	RFTerm GUI Equivalent
Answerback	*Not Supported*	Display > SmartPad > Ans
Backspace	BkSp	Display > SmartPad > BSp
Delete	2nd . (period)	Display > SmartPad > DEL
Exit Program	Alt X	File > Exit
	Shift Ctrl X	
Help	Ctrl H	
F1 - F10	F1 - F10	KeyBar
F11 - F20	Shift F1 - F10	KeyBar
F21 - F30	Alt F1 - F10	KeyBar
F31 - F40	Ctrl F1 - F10	KeyBar
Function Key Editor	*Not Supported*	Session > Configure > FNKeys
Send	Enter	Display > SmartPad > Ent
Window Down	Ctrl Down Arrow	Scroll Bars
Window Left	Ctrl Left Arrow	Scroll Bars
Window Right	Ctrl Right Arrow	Scroll Bars
Window Up	Ctrl Up Arrow	Scroll Bars
Print Screen	Ctrl Alt P	

Thor VM1 12-Key Keypad

The notation *Not Defined* in the following table indicates that no key combination provides this function in the default key map. To obtain this function, some key (or combination of keys) must be remapped to provide key combination specified earlier in ANSI Functions - Virtual Keys (page 9-8).

Note: This keyboard is not available with the Microsoft Windows Embedded Standard operating system.

ANSI Function	Press these keys in this order	RFTerm GUI Equivalent
Answerback	*Not Supported*	Display > SmartPad > Ans
Backspace	*Not Defined*	Display > SmartPad > BSp
Delete	*Not Defined*	Display > SmartPad > DEL
Exit Program	*Not Defined*	File > Exit
Help	*Not Defined*	
F1 - F10	F1 - F10	KeyBar
F11 - F20	Shift F1 - F10	KeyBar
F21 - F30	*Not Defined*	KeyBar
F31 - F40	*Not Defined*	KeyBar
Function Key Editor	*Not Supported*	Session > Configure > FNKeys
Send	*Not Defined*	Display > SmartPad > Ent
Window Down	*Not Defined*	Scroll Bars
Window Left	*Not Defined*	Scroll Bars
Window Right	*Not Defined*	Scroll Bars
Window Up	*Not Defined*	Scroll Bars
Print Screen	*Not Defined*	

IBM 3270 Functions - Thor VM1

When running the RFTerm IBM 3270 terminal emulator on the Thor VM1 refer to the 3270 Host Key Descriptions (page 7-1) for explanations of the IBM 3270 functions.

Thor VM1 64-Key Keypad

Alternative keypresses may be defined for F1 through F40. Refer to Optional F1 - F40 Key Maps (page 9-11).

3270 Function	Press these keys in this order	RFTerm GUI Equivalent
Attn	Ctrl A	Display > SmartPad > Attn
Backtab	2nd Tab	Display > SmartPad > BTb
Clear	Ctrl C	Display > SmartPad > Clr
	ESC	
Delete	Ctrl D	Display > SmartPad > Del
Erase	BkSp	Display > SmartPad > Bsp
Erase Input	Ctrl BkSp	Display > SmartPad > EIn
Error Reset or Reset	Ctrl R	Display > SmartPad > Rst
Exit Program	Alt X	File > Exit
	Shift Ctrl X	
Function Key Editor	*Not Supported*	Session > Configure > FNKeys
Help	Ctrl H	
Homekey	Ctrl Left Arrow	Display > SmartPad > Hm
	2nd Home	
Insert	Ctrl I	Display > SmartPad > Ins
LDUB	*Not Supported*	
New Line Key	Ctrl N	Display > SmartPad > Nl
Next or Tab	Tab	Display > SmartPad > Tb
Print Screen	Ctrl Alt P	
RDUB	*Not Supported*	
SW Rev	Alt F B	File > About
Window Down	Ctrl Down Arrow	Scroll Bars
Window Right	Ctrl Right Arrow	Scroll Bars
Window Left	Ctrl Left Arrow	Scroll Bars
Window Up	Ctrl Up Arrow	Scroll Bars
Status Line Toggle	Alt T	File > Settings > Display > Hide OIA
	Ctrl Shift O	
SYS_REQ	Ctrl S	Display > SmartPad > Srq
PA1 - PA3	Ctrl F1 - F3	Display > SmartPad > Pa1 - Pa3
F1 - F10	F1 - F10	KeyBar
F11 - F20	Shift F1 - F10	KeyBar
F21 - F24	Alt F1 - F4	KeyBar

Thor VM1 12-Key Keypad

The notation *Not Defined* in the following table indicates that no key combination provides this function in the default key map. To obtain this function, some key (or combination of keys) must be remapped to provide key combination specified earlier in IBM 3270 Functions - Virtual Keys (page 9-9).

Note: This keyboard is not available with the Microsoft Windows Embedded Standard operating system.

3270 Function	Press these keys in this order	RFTerm GUI Equivalent
Attn	*Not Defined*	Display > SmartPad > Attn
Backtab	*Not Defined*	Display > SmartPad > BTb
Clear	*Not Defined*	Display > SmartPad > Clr
Delete	*Not Defined*	Display > SmartPad > Del
Erase	*Not Defined*	Display > SmartPad > Bsp
Erase Input	*Not Defined*	Display > SmartPad > EIn
Error Reset or Reset	*Not Defined*	Display > SmartPad > Rst
Exit Program	*Not Defined*	File > Exit
Function Key Editor	*Not Defined*	Session > Configure > FNKeys
Help	*Not Defined*	
Homekey	*Not Defined*	Display > SmartPad > Hm
Insert	*Not Defined*	Display > SmartPad > Ins
LDUB	*Not Defined*	
New Line Key	*Not Defined*	Display > SmartPad > Nl
Next or Tab	*Not Defined*	Display > SmartPad > Tb
Print Screen	*Not Defined*	
RDUB	*Not Defined*	
SW Rev	*Not Defined*	File > About
Window Down	*Not Defined*	Scroll Bars
Window Right	*Not Defined*	Scroll Bars
Window Left	*Not Defined*	Scroll Bars
Window Up	*Not Defined*	Scroll Bars
Status Line Toggle	*Not Defined*	File > Settings > Display > Hide OIA
SYS_REQ	*Not Defined*	Display > SmartPad > Srq
PA1 - PA3	*Not Defined*	Display > SmartPad > Pa1 - Pa3
F1 - F10	F1 - F10	KeyBar
F11 - F20	Shift F1 - F10	KeyBar
F21 - F24	*Not Defined*	KeyBar

IBM 5250 Functions - Thor VM1

When running the RFTerm IBM 5250 terminal emulator on Thor VM1 devices refer to the 5250 Host Key Descriptions (page 8-1) for explanations of the IBM 5250 functions.

Thor VM1 64-Key Keypad

Alternative keypresses may be defined for F1 through F40. Refer to Optional F1 - F40 Key Maps (page 9-11)for details.

| 5250 Function	Press these keys in this order	RFTerm GUI Equivalent
Attn	Ctrl A	Display > SmartPad > Attn
Backtab	2nd Tab	Display > SmartPad > BTb
Char Backspace	BkSp	Display > SmartPad > BSp
Clear	Ctrl C	Display > SmartPad > Clr
Delete	Ctrl D	Display > SmartPad > Del
Dup	Ctrl U	Display > SmartPad > Dup
Erase Input	Ctrl BkSp	Display > SmartPad > EIn
Error Reset or Reset	ESC	Display > SmartPad > Rst
Exit Program	Alt X	File > Exit
	Ctrl Shift X	
Function Key Editor	*Not Supported*	Session > Configure > FNKeys
Fastback	*Not Supported*	
Fastfwd	*Not Supported*	
Field Exit	Ctrl Enter	Display > SmartPad > FEx
	2nd Enter	
Field Minus	Ctrl M	Display > SmartPad > F-
Field Plus	Ctrl L	Display > SmartPad > F+
Help	Ctrl H	
Homekey	2nd Home	Display > SmartPad > Hm
Insert	Ctrl I	Display > SmartPad > Ins
New Line Key	Ctrl N	Display > SmartPad > Nl
Next or Tab	TAB	Display > SmartPad > Tb
Print Screen	Ctrl Alt P	Display > SmartPad > Prt
SW REV	Alt F B	File > About
Window Down	Ctrl Down Arrow	Scroll Bars
Window Right	Ctrl Right Arrow	Scroll Bars
Window Left	Ctrl Left Arrow	Scroll Bars
Window Up	Ctrl Up Arrow	Scroll Bars
Send or Entercatv	Enter	Display > SmartPad > Ent
Status Line Toggle	Alt T	File > Settings > Display > Hide OIA
	Ctrl Shift O	
Sys_Req	Ctrl S	Display > SmartPad > Srq
F1 - F10	F1 - F10	KeyBar
F11 - F20	Shift F1 - F10	KeyBar
F21 - F24	Alt F1 - F4	KeyBar

Thor VM1 12-Key Keypad

The notation *Not Defined* in the following table indicates that no key combination provides this function in the default key map. To obtain this function, some key (or combination of keys) must be remapped to provide key combination specified earlier in IBM 5250 Functions - Virtual Keys (page 9-10).

Note: This keyboard is not available with the Microsoft Windows Embedded Standard operating system.

5250 Function	Press these keys in this order	RFTerm GUI Equivalent
Attn	*Not Defined*	Display > SmartPad > Attn
Backtab	*Not Defined*	Display > SmartPad > BTb
Char Backspace	*Not Defined*	Display > SmartPad > BSp
Clear	*Not Defined*	Display > SmartPad > Clr
Delete	*Not Defined*	Display > SmartPad > Del
Dup	*Not Defined*	Display > SmartPad > Dup
Erase Input	*Not Defined*	Display > SmartPad > EIn
Error Reset or Reset	*Not Defined*	Display > SmartPad > Rst
Exit Program	*Not Defined*	File > Exit
Function Key Editor	*Not Defined*	Session > Configure > FNKeys
Fastback	*Not Defined*	
Fastfwd	*Not Defined*	
Field Exit	*Not Defined*	Display > SmartPad > FEx
Field Minus	*Not Defined*	Display > SmartPad > F-
Field Plus	*Not Defined*	Display > SmartPad > F+
Help	*Not Defined*	
Homekey	*Not Defined*	Display > SmartPad > Hm
Insert	*Not Defined*	Display > SmartPad > Ins
New Line Key	*Not Defined*	Display > SmartPad > Nl
Next or Tab	*Not Defined*	Display > SmartPad > Tb
Print Screen	*Not Defined*	Display > SmartPad > Prt
SW REV	*Not Defined*	File > About
Window Down	*Not Defined*	Scroll Bars
Window Right	*Not Defined*	Scroll Bars
Window Left	*Not Defined*	Scroll Bars
Window Up	*Not Defined*	Scroll Bars
Send or Entercatv	*Not Defined*	Display > SmartPad > Ent
Status Line Toggle	*Not Defined*	File > Settings > Display > Hide OIA
Sys_Req	*Not Defined*	Display > SmartPad > Srq
F1 - F10	F1 - F10	KeyBar
F11 - F20	Shift F1 - F10	KeyBar
F21 - F24	*Not Defined*	KeyBar

Thor VM2 Key Maps

Note: All RFTerm shortcut keys are directly accessible through the RFTerm user interface.

Integrated Keypad

There are ten Programmable Keys on the Thor VM2 front bezel. These keys may be programmed to an RFTerm function by the system administrator.

For pre-programmed functions, see:

- RFTerm Functions - Thor VM2 Integrated Keypad (page 9-36)
- ANSI Functions - Thor VM2 Integrated Keypad (page 9-36)
- IBM 3270 Functions - Thor VM2 Integrated Keypad (page 9-36)
- IBM 5250 Functions - Thor VM2 Integrated Keypad (page 9-36)

External 21-Key Numeric Keypad

The Thor VM2 supports the external 21-key numeric keypad. See 21-Key Numeric Keypad (page 9-39) for RFTerm keymaps for this optional keyboard.

External 95-Key Keyboard

The Thor VM2 supports the external 95-key keyboard. This keyboard may be a USB or PS/2 keyboard (see the *Thor VM2 User's Guide* for hardware details). See 95-Key Keyboard (page 9-40) for RFTerm keymaps for this optional keyboard.

External 60-Key Keyboard

The Thor VM2 supports the external 60-key keyboard. See 60-Key Keyboard (page 9-44) for RFTerm keymaps for this optional keyboard.

RFTerm Functions - Thor VM2 Integrated Keypad

By default, no RFTerm functions are assigned to the integrated keypad.

ANSI Functions - Thor VM2 Integrated Keypad

When running RFTerm ANSI on the Thor VM2 refer to the VT Host Key Descriptions (page 5-72) for explanations of the ANSI key functions.

By default, no ANSI functions are assigned to the integrated keypad keys except as noted below:

VM2 Key	Default Programmable Key Value
P1	F1
P2	F2
P3	F3
P4	F4
P5	F5

IBM 3270 Functions - Thor VM2 Integrated Keypad

When running RFTerm IBM 3270 on the Thor VM2 refer to the 3270 Host Key Descriptions (page 7-1) for explanations of the IBM 3270 functions.

By default, no IBM 3270 functions are assigned to the integrated keypad keys except as noted below:

VM2 Key	Default Programmable Key Value
P1	F1
P2	F2
P3	F3
P4	F4
P5	F5

IBM 5250 Functions - Thor VM2 Integrated Keypad

When running RFTerm IBM 5250 on the Thor VM2 refer to the 5250 Host Key Descriptions (page 8-1) for explanations of the IBM 5250 functions.

By default, no IBM 5250 functions are assigned to the integrated keypad keys except as noted below:

VM2 Key	Default Programmable Key Value
P1	F1
P2	F2
P3	F3
P4	F4
P5	F5

Thor VM3 Key Maps

Note: All RFTerm shortcut keys are directly accessible through the RFTerm user interface.

Integrated Keypad

There are fourteen Programmable Keys on the Thor VM3 front bezel. These keys may be programmed to an RFTerm function by the system administrator.

For pre-programmed functions, see:

- RFTerm Functions - Thor VM3 Integrated Keypad (page 9-38)
- ANSI Functions - Thor VM3 Integrated Keypad (page 9-38)
- IBM 3270 Functions - Thor VM3 Integrated Keypad (page 9-38)
- IBM 5250 Functions - Thor VM3 Integrated Keypad (page 9-38)

External 21-Key Numeric Keypad

The Thor VM3 supports the external 21-key numeric keypad. See 21-Key Numeric Keypad (page 9-39) for RFTerm keymaps for this optional keyboard.

External 95-Key Keyboard

The Thor VM3 supports the external 95-key numeric keypad. This keyboard may be a USB or PS/2 keyboard (see the *Thor VM3 User's Guide* for hardware details). See 95-Key Keyboard (page 9-40) for RFTerm keymaps for this optional keyboard.

External 60-Key Keyboard

The Thor VM3 supports the external 60-key keyboard. See 60-Key Keyboard (page 9-44) for RFTerm keymaps for this optional keyboard.

RFTerm Functions - Thor VM3 Integrated Keypad

By default, no RFTerm functions are assigned to the integrated keypad.

ANSI Functions - Thor VM3 Integrated Keypad

When running RFTerm ANSI on the Thor VM3 refer to the VT Host Key Descriptions (page 5-72) for explanations of the ANSI key functions.

By default, no ANSI functions are assigned to the integrated keypad keys except as noted below:

VM3 Key	Default Programmable Key Value
P1	F1
P2	F2
P3	F3
P4	F4
P5	F5

IBM 3270 Functions - Thor VM3 Integrated Keypad

When running RFTerm IBM 3270 on the Thor VM3 refer to the 3270 Host Key Descriptions (page 7-1) for explanations of the IBM 3270 functions.

By default, no IBM 3270 functions are assigned to the integrated keypad keys except as noted below:

VM3 Key	Default Programmable Key Value
P1	F1
P2	F2
P3	F3
P4	F4
P5	F5

IBM 5250 Functions - Thor VM3 Integrated Keypad

When running RFTerm IBM 5250 on the Thor VM3 refer to the 5250 Host Key Descriptions (page 8-1) for explanations of the IBM 5250 functions.

By default, no IBM 5250 functions are assigned to the integrated keypad keys except as noted below:

VM3 Key	Default Programmable Key Value
P1	F1
P2	F2
P3	F3
P4	F4
P5	F5

External Keyboards for Vehicle Mounted Computers

The following external keyboards may be available for vehicle mounted computers.

21-Key Numeric Keypad

The numeric keypad is pre-programmed for F1-F20 keys.

RFTerm Functions - External 21-Key Numeric Keypad

By default, no RFTerm functions are assigned to this keyboard.

ANSI Functions - External 21-Key Numeric Keypad

When running RFTerm ANSI on these devices refer to the VT Host Key Descriptions (page 5-72) for explanations of the ANSI key functions.

The following ANSI functions are supported on the numeric keypad:

ANSI Function	Press these keys in this order
F1 - F10	Yellow 1 - 0
F11 - F20	Green 1 - 0

IBM 3270 Functions - External 21-Key Numeric Keypad

When running RFTerm IBM 3270 on these devices refer to the 3270 Host Key Descriptions (page 7-1) for explanations of the IBM 3270 functions.

The following IBM 3270 functions are supported on the numeric keypad:

ANSI Function	Press these keys in this order
F1 - F10	Yellow 1 - 0
F11 - F20	Green 1 - 0

IBM 5250 Functions - Numeric Keypad

When running RFTerm IBM 5250 on these devices refer to the 5250 Host Key Descriptions (page 8-1) for explanations of the IBM 5250 functions.

The following IBM 5250 functions are supported on the numeric keypad:

ANSI Function	Press these keys in this order
F1 - F10	Yellow 1 - 0
F11 - F20	Green 1 - 0

95-Key Keyboard

For the external 95-key keyboard:

- Set the On/Off condition of NumLock before pressing a key sequence.
- When the computer boots, the default condition of CapsLock is Off. The Caps condition can be toggled with a CapsLock key.

RFTerm Functions - External 95-Key Keyboard

RFTerm Function	Press these keys in this order	RFTerm GUI Equivalent
Connect to Host	Ctrl Shift C	Session > Connect
Disconnect from Host	Ctrl Shift D	Session > Disconnect
Hide / Display All Bars	Ctrl Shift L	File > Settings > Display > Hide All Bars
Hide / Display MenuBar	Ctrl Shift M	File > Settings > Display > Hide MenuBar
Hide / Display ToolBar	Ctrl Shift T	File > Settings > Display > Hide ToolBar
Hide / Display KeyBar	Ctrl Shift K	File > Settings > Display > Hide KeyBar
Toggle MenuBar Bottom / Top *(Windows CE and Windows Embedded Compact only)*	Ctrl Shift B	File > Settings > Display > At Bottom
Configure Host Session	Ctrl Shift N	Session > Configure
Application Settings	Ctrl Shift E	File > Settings
Increase Font Size	Ctrl Shift Up Arrow	Display > Font Up
Decrease Font Size	Ctrl Shift Down Arrow	Display > Font Down
Toggle Font Bold / Normal	Ctrl Shift 1	Session > Configure > Font Tab
Display/Hide SmartPad *(Windows CE and Windows Embedded Compact only)*	Ctrl Shift P	Display > SmartPad
Display / Hide Text Input *(Windows CE and Windows Embedded Compact only)*	Ctrl Shift I	Display > InputTool
Help	Ctrl H	
Scroll Up One Row	Shift Up Arrow	Scroll Bars
Scroll Down One Row	Shift Down Arrow	Scroll Bars
Scroll Left One Row	Shift Left Arrow	Scroll Bars
Scroll Right One Row	Shift Right Arrow	Scroll Bars
Exit the Emulator	Ctrl Shift X	File > Exit
	Alt X	

ANSI Functions - External 95-Key Keyboard

When running RFTerm ANSI on these devices refer to the VT Host Key Descriptions (page 5-72) for explanations of the ANSI key functions.

Alternative keypresses may be defined for F1 through F40. Refer to Optional F1 - F40 Key Maps (page 9-11).

ANSI Function	Press these keys in this order	RFTerm GUI Equivalent
Answerback	*Not Supported*	Display > SmartPad > Ans
Backspace	BackSpace	Display > SmartPad > BSp
Delete	Del	Display > SmartPad > DEL
Exit Program	Alt X	File > Exit
	Shift Ctrl X	
Help	Ctrl H	
F1 - F10	F1 - F10	KeyBar
F11 - F20	Alt F1 - F10	KeyBar
F21 - F30	Shift F1 - F10	KeyBar
F31 - F40	Ctrl F1 - F10	KeyBar
Function Key Editor	*Not Supported*	Session > Configure > FNKeys
Send	Enter	Display > SmartPad > Ent
Window Down	Ctrl Down Arrow	Scroll Bars
Window Left	Ctrl Left Arrow	Scroll Bars
Window Right	Ctrl Right Arrow	Scroll Bars
Window Up	Ctrl Up Arrow	Scroll Bars
Print Screen	Ctrl Alt P	

IBM 3270 Functions - External 95-Key Keyboard

When running RFTerm IBM 3270 on these devices refer to the 3270 Host Key Descriptions (page 7-1) for explanations of the IBM 3270 functions.

Alternative keypresses may be defined for F1 through F40. Refer to Optional F1 - F40 Key Maps (page 9-11).

3270 Function	Press these keys in this order	RFTerm GUI Equivalent
Attn	Ctrl A	Display > SmartPad > Attn
Backtab	Shift Tab	Display > SmartPad > BTb
Clear	Ctrl C	Display > SmartPad > Clr
	Esc	
Delete	Ctrl D	Display > SmartPad > Del
Erase	BackSpace	Display > SmartPad > Bsp
Erase Input	Ctrl BackSpace	Display > SmartPad > EIn
Error Reset or Reset	Ctrl R	Display > SmartPad > Rst
Exit Program	Alt X	File > Exit
	Shift Ctrl X	
Function Key Editor	*Not Supported*	Session > Configure > FNKeys
Help	Ctrl H	
Homekey	Ctrl Left Arrow	Display > SmartPad > Hm
	Ctrl Home	
Insert	Ctrl I	Display > SmartPad > Ins
LDUB	*Not Supported*	
New Line Key	Ctrl N	Display > SmartPad > Nl
Next or Tab	Tab	Display > SmartPad > Tb
Print Screen	Ctrl Alt P	
RDUB	*Not Supported*	
SW Rev	Alt F B	File > About
Window Down	Ctrl Down Arrow	Scroll Bars
Window Right	Ctrl Right Arrow	Scroll Bars
Window Left	Ctrl Left Arrow	Scroll Bars
Window Up	Ctrl Up Arrow	Scroll Bars
Status Line Toggle	Alt T	File > Settings > Display > Hide OIA
	Shift Ctrl O	
SYS_REQ	Ctrl S	Display > SmartPad > Srq
PA1 - PA3	Ctrl F1 - F3	Display > SmartPad > Pa1 - Pa3
F1 - F10	F1 - F10	KeyBar
F11 - F20	Alt F1 - F10	KeyBar
F21 - F24	Shift F1 - F4	KeyBar

IBM 5250 Functions - External 95-Key Keyboard

When running RFTerm IBM 5250 on these devices refer to the 5250 Host Key Descriptions (page 8-1) for explanations of the IBM 5250 functions.

Alternative keypresses may be defined for F1 through F40. Refer to Optional F1 - F40 Key Maps (page 9-11).

5250 Function	Press these keys in this order	RFTerm GUI Equivalent
Attn	Ctrl A	Display > SmartPad > Attn
Backtab	Shift Tab	Display > SmartPad > BTb
Char Backspace	BackSpace	Display > SmartPad > BSp
Clear	Ctrl C	Display > SmartPad > Clr
Delete	Ctrl D	Display > SmartPad > Del
Dup	Ctrl U	Display > SmartPad > Dup
Erase Input	Ctrl BackSpace	Display > SmartPad > EIn
Error Reset or Reset	Esc	Display > SmartPad > Rst
Exit Program	Alt X	File > Exit
	Ctrl Shift X	
Function Key Editor	*Not Supported*	Session > Configure > FNKeys
Fastback	*Not Supported*	
Fastfwd	*Not Supported*	
Field Exit	Ctrl Enter	Display > SmartPad > FEx
	End	
	Pause	
Field Minus	Ctrl M	Display > SmartPad > F-
Field Plus	Ctrl L	Display > SmartPad > F+
Help	Ctrl H	
Homekey	Home	Display > SmartPad > Hm
Insert	Ctrl I	Display > SmartPad > Ins
New Line Key	Ctrl N	Display > SmartPad > Nl
Next or Tab	Tab	Display > SmartPad > Tb
Print Screen	Ctrl Alt P	Display > SmartPad > Prt
SW REV	Alt F B	File > About
Window Down	Ctrl Down Arrow	Scroll Bars
Window Right	Ctrl Right Arrow	Scroll Bars
Window Left	Ctrl Left Arrow	Scroll Bars
Window Up	Ctrl Up Arrow	Scroll Bars
Send or Entercatv	Enter	Display > SmartPad > Ent
Status Line Toggle	Alt T	File > Settings > Display > Hide OIA
	Ctrl Shift O	
Sys_Req	Ctrl S	Display > SmartPad > Srq
F1 - F10	F1 - F10	KeyBar
F11 - F20	Alt F1 - F10	KeyBar
F21 - F24	Shift F1 - F4	KeyBar

60-Key Keyboard

The 60-key keyboard may offered in three variations depending on the device.
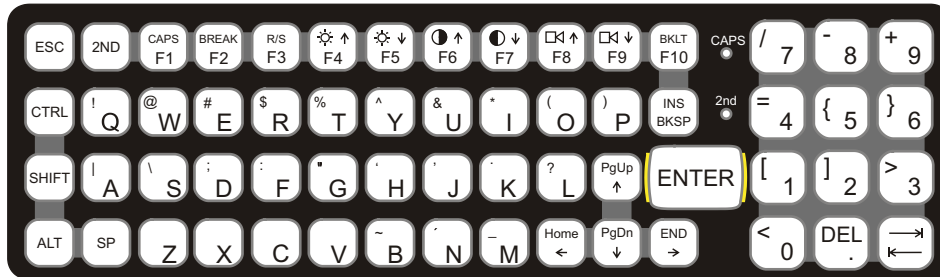
60-key ANSI Keyboard

60-key 3270 Keyboard

60-key 5250 Keyboard

For the 60-key keyboard:

- When using a sequence of keys that includes the **2ND** key, press the **2ND** key first then the rest of the key sequence.
- Set the On/Off condition of NumLock before pressing a key sequence. There is no visual indication of the condition of NumLock.
- When the computer boots, the default condition of Caps (or CapsLock) is Off. The Caps (or CapsLock) condition can be toggled with a **2ND**-**F1** key sequence. The CAPS LED is illuminated when CapsLock is On.

RFTerm Functions - 60-key Keyboard

RFTerm Function	Press these keys in this order	RFTerm GUI Equivalent
Connect to Host	Ctrl SHIFT C	Session > Connect
Disconnect from Host	Ctrl SHIFT D	Session > Disconnect
Hide / Display All Bars	Ctrl SHIFT L	File > Settings > Display > Hide All Bars
Hide / Display ToolBar	Ctrl SHIFT T	File > Settings > Display > Hide ToolBar
Hide / Display KeyBar	Ctrl SHIFT K	File > Settings > Display > Hide KeyBar
Toggle MenuBar Bottom / Top *(Windows CE and Windows Embedded Compact only)*	Ctrl SHIFT B	File > Settings > Display > At Bottom
Configure Host Session	Ctrl SHIFT N	Session > Configure
Application Settings	Ctrl SHIFT E	File > Settings
Increase Font Size	Ctrl SHIFT Up Arrow	Display > Font Up
Decrease Font Size	Ctrl SHIFT Down Arrow	Display > Font Down
Toggle Font Bold / Normal	Ctrl SHIFT 1	Session > Configure > Font Tab
Display/Hide SmartPad *(Windows CE and Windows Embedded Compact only)*	Ctrl Shift P	Display > SmartPad
Display / Hide Text Input *(Windows CE and Windows Embedded Compact only)*	Ctrl Shift I	Display > InputTool
Help	Ctrl H	
Scroll Up One Row	SHIFT Up Arrow	Scroll Bars
Scroll Down One Row	SHIFT Down Arrow	Scroll Bars
Scroll Left One Row	SHIFT Left Arrow	Scroll Bars
Scroll Right One Row	SHIFT Right Arrow	Scroll Bars
Exit the Emulator	Ctrl SHIFT X / ALT X	File > Exit

ANSI Functions - 60-key Keyboard

When running RFTerm ANSI on these devices refer to the VT Host Key Descriptions (page 5-72) for explanations of the ANSI key functions.

Alternative keypresses may be defined for F1 through F40. Refer to Optional F1 - F40 Key Maps (page 9-11).

ANSI Function	Press these keys in this order	RFTerm GUI Equivalent
Answerback	*Not Supported*	Display > SmartPad > Ans
Backspace	BKSP	Display > SmartPad > BSp
Delete	2ND . (period)	Display > SmartPad > DEL
Exit Program	ALT X	File > Exit
	SHIFT Ctrl X	
Help	Ctrl H	
F1 - F10	F1 - F10	KeyBar
F11 - F20	ALT F1 - F10	KeyBar
F21 - F30	SHIFT F1 - F10	KeyBar
F31 - F40	Ctrl F1 - F10	KeyBar
Function Key Editor	*Not Supported*	Session > Configure > FNKeys
Send	ENTER	Display > SmartPad > Ent
Window Down	Ctrl Down Arrow	Scroll Bars
Window Left	Ctrl Left Arrow	Scroll Bars
Window Right	Ctrl Right Arrow	Scroll Bars
Window Up	Ctrl Up Arrow	Scroll Bars
Print Screen	Ctrl ALT P	

IBM 3270 Functions - 60-key Keyboard

When running RFTerm IBM 3270 on these devices refer to the 3270 Host Key Descriptions (page 7-1) for explanations of the IBM 3270 functions.

Alternative keypresses may be defined for F1 through F40. Refer to Optional F1 - F40 Key Maps (page 9-11).

3270 Function	Press these keys in this order	RFTerm GUI Equivalent
Attn	Ctrl A	Display > SmartPad > Attn
Backtab	2ND Tab	Display > SmartPad > BTb
Clear	Ctrl C	Display > SmartPad > Clr
	ESC	
Delete	Ctrl D	Display > SmartPad > Del
Erase	BKSP	Display > SmartPad > Bsp
Erase Input	Ctrl BKSP	Display > SmartPad > EIn
Error Reset or Reset	Ctrl R	Display > SmartPad > Rst
Exit Program	ALT X	File > Exit
	SHIFT Ctrl X	
Function Key Editor	*Not Supported*	Session > Configure > FNKeys
Help	Ctrl H	
Homekey	Ctrl Left Arrow	Display > SmartPad > Hm
	2ND Home	
Insert	Ctrl I	Display > SmartPad > Ins
LDUB	*Not Supported*	
New Line Key	Ctrl N	Display > SmartPad > Nl
Next or Tab	Tab	Display > SmartPad > Tb
Print Screen	Ctrl ALT P	
RDUB	*Not Supported*	
SW Rev	ALT F B	File > About
Window Down	Ctrl Down Arrow	Scroll Bars
Window Right	Ctrl Right Arrow	Scroll Bars
Window Left	Ctrl Left Arrow	Scroll Bars
Window Up	Ctrl Up Arrow	Scroll Bars
Status Line Toggle	ALT T	File > Settings > Display > Hide OIA
	Ctrl SHIFT O	
SYS_REQ	Ctrl S	Display > SmartPad > Srq
PA1 - PA3	Ctrl F1 - F3	Display > SmartPad > Pa1 - Pa3
F1 - F10	F1 - F10	KeyBar
F11 - F20	ALT F1 - F10	KeyBar
F21 - F24	SHIFT F1 - F4	KeyBar

IBM 5250 Functions - 60-key Keyboard

When running RFTerm IBM 5250 on these devices refer to the 5250 Host Key Descriptions (page 8-1) for explanations of the IBM 5250 functions.

Alternative keypresses may be defined for F1 through F40. Refer to Optional F1 - F40 Key Maps (page 9-11).

5250 Function	Press these keys in this order	RFTerm GUI Equivalent
Attn	Ctrl A	Display > SmartPad > Attn
Backtab	2ND Tab	Display > SmartPad > BTb
Char Backspace	BKSP	Display > SmartPad > BSp
Clear	Ctrl C	Display > SmartPad > Clr
Delete	Ctrl D	Display > SmartPad > Del
Dup	Ctrl U	Display > SmartPad > Dup
Erase Input	Ctrl BKSP	Display > SmartPad > EIn
Error Reset or Reset	ESC	Display > SmartPad > Rst
Exit Program	ALT X	File > Exit
	Ctrl SHIFT X	
Function Key Editor	*Not Supported*	Session > Configure > FNKeys
Fastback	*Not Supported*	
Fastfwd	*Not Supported*	
Field Exit	Ctrl ENTER	Display > SmartPad > FEx
	2ND ENTER	
Field Minus	Ctrl M	Display > SmartPad > F-
Field Plus	Ctrl L	Display > SmartPad > F+
Help	Ctrl H	
Homekey	2ND Home	Display > SmartPad > Hm
Insert	Ctrl I	Display > SmartPad > Ins
New Line Key	Ctrl N	Display > SmartPad > Nl
Next or Tab	TAB	Display > SmartPad > Tb
Print Screen	Ctrl ALT P	Display > SmartPad > Prt
SW REV	ALT F B	File > About
Window Down	Ctrl Down Arrow	Scroll Bars
Window Right	Ctrl Right Arrow	Scroll Bars
Window Left	Ctrl Left Arrow	Scroll Bars
Window Up	Ctrl Up Arrow	Scroll Bars
Send or Entercatv	ENTER	Display > SmartPad > Ent
Status Line Toggle	ALT T	File > Settings > Display > Hide OIA
	Ctrl SHIFT O	
Sys_Req	Ctrl S	Display > SmartPad > Srq
F1 - F10	F1 - F10	KeyBar
F11 - F20	ALT F1 - F10	KeyBar
F21 - F24	SHIFT F1 - F4	KeyBar

Marathon Key Maps

Note: All RFTerm shortcut keys are directly accessible through the RFTerm user interface.

- There is no 2ND key on this keyboard.
- Set the On/Off condition of NumLock before pressing a key sequence. When NumLock is On, the NumLck key is backlit amber. When NumLock is Off, the NumLck key backlight is off.
- When the computer boots, the default condition of CapsLock is Off. The Caps condition can be toggled with the **Shift** key. Press and hold the **Shift** key for approximately 1.5 seconds to enter CapsLock mode. The blue LED on the **Shift** key remains lit while in CapsLock mode.

RFTerm Functions - Marathon

RFTerm Function	Press these keys in this order	RFTerm GUI Equivalent
Connect to Host	Ctl Shift C	Session > Connect
Disconnect from Host	Ctl Shift D	Session > Disconnect
Hide / Display All Bars	Ctl Shift L	File > Settings > Display > Hide All Bars
Hide / Display ToolBar	Ctl Shift T	File > Settings > Display > Hide ToolBar
Hide / Display KeyBar	Ctl Shift K	File > Settings > Display > Hide KeyBar
Configure Host Session	Ctl Shift N	Session > Configure
Application Settings	Ctl Shift E	File > Settings
Increase Font Size	Ctl Shift Up Arrow	Display > Font Up
Decrease Font Size	Ctl Shift Down Arrow	Display > Font Down
Toggle Font Bold / Normal	Ctl Shift 1	Session > Configure > Font Tab
Display/Hide SmartPad	Ctl Shift P	Display > SmartPad
Display / Hide Text Input	Ctl Shift I	Display > InputTool
Help	Ctl H	
Scroll Up One Row	Ctl Down Arrow (NumLck off)	Scroll Bars
	Ctl Shift 2 (NumLck on)	
Scroll Down One Row	Ctl Left Arrow (NumLck off)	Scroll Bars
	Ctl Shift 4 (NumLck on)	
Scroll Left One Row	Ctl Right Arrow (NumLck off)	Scroll Bars
	Ctl Shift 6 (NumLck on)	
Scroll Right One Row	Ctl Up Arrow (NumLck off)	Scroll Bars
	Ctl Shift 8 (NumLck on)	
Exit the Emulator	Ctl Shift X	File > Exit
	Alt X	

ANSI Functions - Marathon

When running the RFTerm ANSI on the Marathon refer to the VT Host Key Descriptions (page 5-72) for explanations of the ANSI key functions.

Alternative keypresses may be defined for F1 through F40. Refer to Optional F1 - F40 Key Maps (page 9-11).

ANSI Function	Press these keys in this order	RFTerm GUI Equivalent
Answerback	*Not Supported*	Display > SmartPad > Ans
Backspace	BkSp	Display > SmartPad > BSp
Delete	DEL	Display > SmartPad > DEL
Exit Program	Alt X	File > Exit
	Shift Ctl X	
Help	Ctl H	
F1 - F10	F1 - F10	KeyBar
F11 - F20	Alt F1 - F10	KeyBar
F21 - F30	Shift F1 - F10	KeyBar
F31 - F40	Ctl F1 - F10	KeyBar
Function Key Editor	*Not Supported*	Session > Configure > FNKeys
Send	Enter	Display > SmartPad > Ent
Window Down	Ctl Down Arrow (NumLck off)	Scroll Bars
	Ctl Shift 2 (NumLck on)	
Window Left	Ctl Left Arrow (NumLck off)	Scroll Bars
	Ctl Shift 4 (NumLck on)	
Window Right	Ctl Right Arrow (NumLck off)	Scroll Bars
	Ctl Shift 6 (NumLck on)	
Window Up	Ctl Up Arrow (NumLck off)	Scroll Bars
	Ctl Shift 8 (NumLck on)	
Print Screen	Ctl Alt P	

IBM 3270 Functions - Marathon

When running the RFTerm IBM 3270 terminal emulator on the Marathon refer to the 3270 Host Key Descriptions (page 7-1) for explanations of the IBM 3270 functions.

Alternative keypresses may be defined for F1 through F40. Refer to Optional F1 - F40 Key Maps (page 9-11).

3270 Function	Press these keys in this order	RFTerm GUI Equivalent
Attn	Ctl A	Display > SmartPad > Attn
Backtab	Shift Tab	Display > SmartPad > BTb
Clear	Ctl C	Display > SmartPad > Clr
Delete	Ctl D	Display > SmartPad > Del
Erase	BkSp	Display > SmartPad > Bsp
Erase Input	Ctl BkSp	Display > SmartPad > EIn
Error Reset or Reset	Ctl R	Display > SmartPad > Rst
Exit Program	Alt X	File > Exit
	Shift Ctl X	
Function Key Editor	*Not Supported*	Session > Configure > FNKeys
Help	Ctl H	
Homekey	Ctl Left Arrow	Display > SmartPad > Hm
Insert	Ctl I	Display > SmartPad > Ins
LDUB	*Not Supported*	
New Line Key	Ctl N	Display > SmartPad > Nl
Next or Tab	Tab	Display > SmartPad > Tb
Print Screen	Ctl Alt P	
RDUB	*Not Supported*	
SW Rev	Alt F B	File > About
Window Down	Ctl Down Arrow (NumLck off)	Scroll Bars
	Ctl Shift 2 (NumLck on)	
Window Right	Ctl Left Arrow (NumLck off)	Scroll Bars
	Ctl Shift 4 (NumLck on)	
Window Left	Ctl Right Arrow (NumLck off)	Scroll Bars
	Ctl Shift 6 (NumLck on)	
Window Up	Ctl Up Arrow (NumLck off)	Scroll Bars
	Ctl Shift 8 (NumLck on)	
Status Line Toggle	Alt T	File > Settings > Display > Hide OIA
	Shift Ctl O	
SYS_REQ	Ctl S	Display > SmartPad > Srq
PA1 - PA3	Ctl F1 - F3	Display > SmartPad > Pa1 - Pa3
F1 - F10	F1 - F10	KeyBar
F11 - F20	Alt F1 - F10	KeyBar
F21 - F24	Shift F1 - F4	KeyBar

IBM 5250 Functions - Marathon

When running the RFTerm IBM 5250 terminal emulator on the Marathon refer to the 5250 Host Key Descriptions (page 8-1) for explanations of the IBM 5250 functions.

Alternative keypresses may be defined for F1 through F40. Refer to Optional F1 - F40 Key Maps (page 9-11).

5250 Function	Press these keys in this order	RFTerm GUI Equivalent
Attn	Ctl A	Display > SmartPad > Attn
Backtab	Shift Tab	Display > SmartPad > BTb
Char Backspace	BkSp	Display > SmartPad > BSp
Clear	Ctl C	Display > SmartPad > Clr
Delete	Ctl D	Display > SmartPad > Del
Dup	Ctl U	Display > SmartPad > Dup
Erase Input	Ctl BkSp	Display > SmartPad > EIn
Error Reset or Reset	Esc	Display > SmartPad > Rst
Exit Program	Alt X	File > Exit
	Ctl Shift X	
Function Key Editor	*Not Supported*	Session > Configure > FNKeys
Fastback	*Not Supported*	
Fastfwd	*Not Supported*	
Field Exit	Ctl Enter	Display > SmartPad > FEx
Field Minus	Ctl M	Display > SmartPad > F-
Field Plus	Ctl L	Display > SmartPad > F+
Help	Ctl H	
Homekey	Ctrl Home	Display > SmartPad > Hm
Insert	Ctl I	Display > SmartPad > Ins
New Line Key	Ctl N	Display > SmartPad > Nl
Next or Tab	Tab	Display > SmartPad > Tb
Print Screen	Ctl Alt P	Display > SmartPad > Prt
SW REV	Alt F B	File > About
Window Down	Ctl Down Arrow (NumLck off)	Scroll Bars
	Ctl Shift 2 (NumLck on)	
Window Right	Ctl Left Arrow (NumLck off)	Scroll Bars
	Ctl Shift 4 (NumLck on)	
Window Left	Ctl Right Arrow (NumLck off)	Scroll Bars
	Ctl Shift 6 (NumLck on)	
Window Up	Ctl Up Arrow (NumLck off)	Scroll Bars
	Ctl Shift 8 (NumLck on)	
Send or Entercatv	Enter	Display > SmartPad > Ent
Status Line Toggle	Alt T	File > Settings > Display > Hide OIA
	Ctl Shift O	
Sys_Req	Ctl S	Display > SmartPad > Srq
F1 - F10	F1 - F10	KeyBar
F11 - F20	Alt F1 - F10	KeyBar
F21 - F24	Shift F1 - F4	KeyBar

HX2 Key Maps
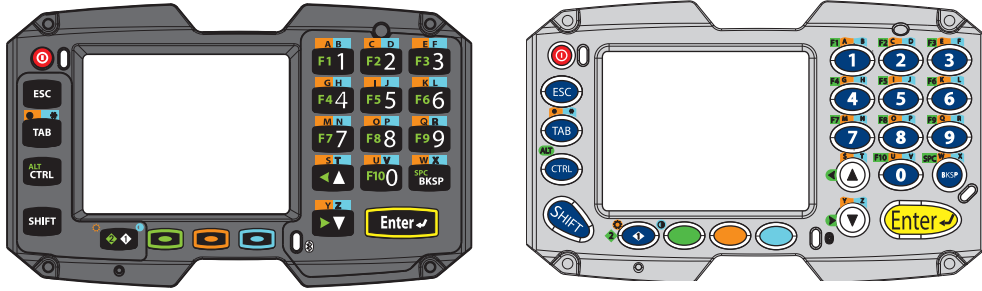
Dual Alpha Keypads
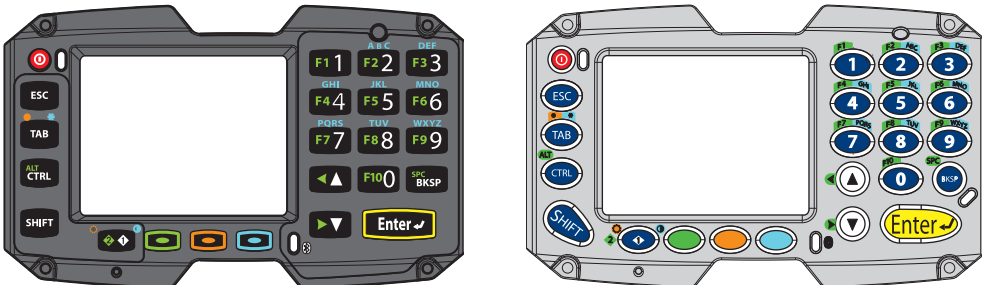
Triple Tap Keypads
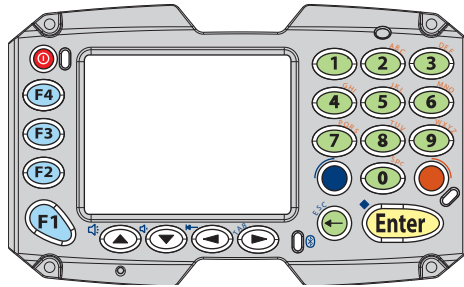
Alpha Mode 3 Tap Keypad

Note: All RFTerm shortcut keys are directly accessible through the RFTerm user interface.

When using a sequence of keys that includes the **Blue**, **Orange**, **Green** or **Light Blue** key, press the color key first then the rest of the key sequence unless otherwise noted in the tables. **Ctrl**, **Shift**, **Blue**, **Light Blue** and **Orange** keys (not all keys are present on each keyboard) are "sticky keys". They do not need to be held down before pressing the next (or desired) key.

By default, the **Green** key (when present) is not sticky. However the **Green** key can be configured to be sticky via the **Start > Settings > Control Panel > HX2-3 Options > Misc** tab.

User defined keys can be set using **Start > Settings > Control Panel > Keypad** and selecting the **Key Map** tab. Refer to the *HX2 Reference Guide* for details.

Important Note for Alpha Mode 3 Tap Keypad

When running an HX2 with an Alpha Mode 3 Tap keypad, RFTerm hijacks virtual function keys F11 through F19 to perform the RFTerm functions indicated in the HX2 Alpha Mode 3 Tap Keypad (page 9-57) key map for the Alpha Mode 3 Tap key-pad. This hijacking occurs only if the HX2 Function Key Enable (page 3-35) option is not selected. If HX2 Function Key Enable is selected, the key map reverts to the standard RFTerm virtual key map RFTerm Functions - Virtual Keys (page 9-6).

RFTerm Functions - HX2

HX2 Dual Alpha Keypad

RFTerm Function	Press these keys in this order	RFTerm GUI Equivalent
Connect to Host	Ctrl SHIFT Orange 2	Session > Connect
Disconnect from Host	Ctrl SHIFT Light Blue 2	Session > Disconnect
Hide / Display All Bars	Ctrl SHIFT Light Blue 6	File > Settings > Display > Hide All Bars
Hide / Display MenuBar	Ctrl SHIFT Orange 7	File > Settings > Display > Hide MenuBar
Hide / Display ToolBar	Ctrl SHIFT Light Blue Up Arrow	File > Settings > Display > Hide ToolBar
Hide / Display KeyBar	Ctrl SHIFT Orange 6	File > Settings > Display > Hide KeyBar
Toggle MenuBar Bottom / Top	Ctrl SHIFT Light Blue 1	File > Settings > Display > At Bottom
Configure Host Session	Ctrl SHIFT Light Blue 7	Session > Configure
Application Settings	Ctrl SHIFT Orange 3	File > Settings
Increase Font Size	Ctrl SHIFT Up Arrow	Display > Font Up
Decrease Font Size	Ctrl SHIFT Down Arrow	Display > Font Down
Toggle Font Bold / Normal	Ctrl SHIFT 1	Session > Configure > Font Tab
Display/Hide SmartPad	Ctrl SHIFT Light Blue 8	Display > SmartPad
Display / Hide Text Input	Ctrl SHIFT Orange 5	Display > InputTool
Help	Ctrl Light Blue 4	
Scroll Up One Row	SHIFT Up Arrow	Scroll Bars
Scroll Down One Row	SHIFT Down Arrow	Scroll Bars
Scroll Left One Row	SHIFT Green Up Arrow	Scroll Bars
Scroll Right One Row	SHIFT Green Down Arrow	Scroll Bars
Exit the Emulator	Green Ctrl Light Blue BKSP	File > Exit

HX2 Triple Tap Keypad

RFTerm Function	Press these keys in this order	RFTerm GUI Equivalent
Connect to Host	Ctrl SHIFT Light Blue 2 2 2	Session > Connect
Disconnect from Host	Ctrl SHIFT Light Blue 3	Session > Disconnect
Hide / Display All Bars	Ctrl SHIFT Light Blue 5 5 5	File > Settings > Display > Hide All Bars
Hide / Display MenuBar	Ctrl SHIFT Light Blue 6	File > Settings > Display > Hide MenuBar
Hide / Display ToolBar	Ctrl SHIFT Light Blue 8	File > Settings > Display > Hide ToolBar
Hide / Display KeyBar	Ctrl SHIFT Light Blue 5 5	File > Settings > Display > Hide KeyBar
Toggle MenuBar Bottom / Top	Ctrl SHIFT Light Blue 2 2	File > Settings > Display > At Bottom
Configure Host Session	Ctrl SHIFT Light Blue 6 6	Session > Configure
Application Settings	Ctrl SHIFT Light Blue 3 3	File > Settings
Increase Font Size	Ctrl SHIFT Up Arrow	Display > Font Up
Decrease Font Size	Ctrl SHIFT Down Arrow	Display > Font Down
Toggle Font Bold / Normal	Ctrl SHIFT 1	Session > Configure > Font Tab
Display/Hide SmartPad	Ctrl SHIFT Light Blue 7	Display > SmartPad
Display / Hide Text Input	Ctrl SHIFT Light Blue 4 4 4	Display > InputTool
Help	Ctrl Light Blue 4 4	
Scroll Up One Row	SHIFT Up Arrow	Scroll Bars
Scroll Down One Row	SHIFT Down Arrow	Scroll Bars
Scroll Left One Row	SHIFT Green Up Arrow	Scroll Bars
Scroll Right One Row	SHIFT Green Down Arrow	Scroll Bars
Exit the Emulator	Green Ctrl Light Blue 9 9	File > Exit

HX2 Alpha Mode 3 Tap Keypad

The notation *Not Defined* in the following table indicates that no key combination provides this function in the default key map. To obtain this function, some key (or combination of keys) must be remapped to provide key combination specified in RFTerm Functions - Virtual Keys (page 9-6).

RFTerm Function	Press these keys in this order	RFTerm GUI Equivalent
Connect to Host	Blue 7	Session > Connect
Disconnect from Host	Blue 7	Session > Disconnect
Hide / Display All Bars	Blue 6	File > Settings > Display > Hide All Bars
Hide / Display MenuBar	Blue 5	File > Settings > Display > Hide MenuBar
Hide / Display ToolBar	Blue 4	File > Settings > Display > Hide ToolBar
Hide / Display KeyBar	Blue 3	File > Settings > Display > Hide KeyBar
Toggle MenuBar Bottom / Top	*Not Defined*	File > Settings > Display > At Bottom
Configure Host Session	Blue 8	Session > Configure
Application Settings	Blue 9	File > Settings
Increase Font Size	Blue 2	Display > Font Up
Decrease Font Size	Blue 1	Display > Font Down
Toggle Font Bold / Normal	*Not Defined*	Session > Configure > Font Tab
Display/Hide SmartPad	*Not Defined*	Display > SmartPad
Display / Hide Text Input	*Not Defined*	Display > InputTool
Help	*Not Defined*	
Scroll Up One Row	*Not Defined*	Scroll Bars
Scroll Down One Row	*Not Defined*	Scroll Bars
Scroll Left One Row	*Not Defined*	Scroll Bars
Scroll Right One Row	*Not Defined*	Scroll Bars
Exit the Emulator	Blue Bksp	File > Exit

ANSI Functions - HX2

When running the RFTerm ANSI on the HX2 refer to the VT Host Key Descriptions (page 5-72) for explanations of the ANSI key functions.

HX2 Dual Alpha Keypad

Alternative keypresses may be defined for F1 through F40. Refer to Optional F1 - F40 Key Maps (page 9-11).

ANSI Function	Press these keys in this order	RFTerm GUI Equivalent
Answerback	*Not Supported*	Display > SmartPad > Ans
Backspace	BKSP	Display > SmartPad > BSp
Delete	Orange Light Blue 1	Display > SmartPad > DEL
Exit Program	Green Ctrl Light Blue BKSP	File > Exit
Help	Ctrl Light Blue 4	
F1 - F10	Green 1 - 0	KeyBar
F11 - F20	SHIFT Green 1 - 0	KeyBar
F21 - F24	SHIFT Green Light Blue 1 - 4	KeyBar
F25 - F40	*Not Supported*	KeyBar
Function Key Editor	*Not Supported*	Session > Configure > FNKeys
Send	Enter	Display > SmartPad > Ent
Window Down	Ctrl Down Arrow	Scroll Bars
Window Left	Ctrl Green Up Arrow	Scroll Bars
Window Right	Ctrl Green Down Arrow	Scroll Bars
Window Up	Ctrl Up Arrow	Scroll Bars
Print Screen	Green Ctrl Light Blue 8	

HX2 Triple Tap Keypad

Alternative keypresses may be defined for F1 through F40. Refer to Optional F1 - F40 Key Maps (page 9-11).

ANSI Function	Press these keys in this order	RFTerm GUI Equivalent
Answerback	*Not Supported*	Display > SmartPad > Ans
Backspace	BKSP	Display > SmartPad > BSp
Delete	Orange Light Blue 1	Display > SmartPad > DEL
Exit Program	Green Ctrl Light Blue 9 9	File > Exit
Help	Ctrl Light Blue 4 4	
F1 - F10	Green 1 - 0	KeyBar
F11 - F20	SHIFT Green 1 - 0	KeyBar
F21 - F24	SHIFT Green Light Blue 1 - 4	KeyBar
F25 - F40	*Not Supported*	KeyBar
Function Key Editor	*Not Supported*	Session > Configure > FNKeys
Send	Enter	Display > SmartPad > Ent
Window Down	Ctrl Down Arrow	Scroll Bars
Window Left	Ctrl Green Up Arrow	Scroll Bars
Window Right	Ctrl Green Down Arrow	Scroll Bars
Window Up	Ctrl Up Arrow	Scroll Bars
Print Screen	Green Ctrl Light Blue 7	

HX2 Alpha Mode 3 Tap Keypad

The notation *Not Defined* in the following table indicates that no key combination provides this function in the default key map. To obtain this function, some key (or combination of keys) must be remapped to provide key combination specified earlier in the ANSI Functions - Virtual Keys (page 9-8) table.

Alternative keypresses may be defined for F1 through F40. Refer to Optional F1 - F40 Key Maps (page 9-11).

⚠ If using an HX2 with the Alpha Mode 3 Tap keypad, review the Important Note for Alpha Mode 3 Tap Keypad (page 9-54). It contains important information on the function of keys F11 through F19 on this HX2 keypad.

ANSI Function	Press these HX2 keys in this order	RFTerm GUI Equivalent
Answerback	*Not Supported*	Display > SmartPad > Ans
Backspace	Bksp	Display > SmartPad > BSp
Delete	*Not Defined*	Display > SmartPad > DEL
Exit Program	Blue Bksp	File > Exit
Help	*Not Defined*	
F1 - F4	F1-F4	KeyBar
F5 - F8	Blue F1 - F4	KeyBar
F9	*Not Defined*	KeyBar
F10	Blue 0	KeyBar
F11 - F19	*Not Supported*	KeyBar
F20	*Not Defined*	KeyBar
F21 - F24	*Not Defined*	KeyBar
F25 - F40	*Not Defined*	KeyBar
Function Key Editor	*Not Supported*	Session > Configure > FNKeys
Send	Enter	Display > SmartPad > Ent
Window Down	*Not Defined*	Scroll Bars
Window Left	*Not Defined*	Scroll Bars
Window Right	*Not Defined*	Scroll Bars
Window Up	*Not Defined*	Scroll Bars
Print Screen	*Not Defined*	

IBM 3270 Functions - HX2

When running the RFTerm IBM 3270 terminal emulator on the HX2 refer to the 3270 Host Key Descriptions (page 7-1) for explanations of the IBM 3270 functions.

HX2 Dual Alpha Keypad

Alternative keypresses may be defined for F1 through F40. Refer to Optional F1 - F40 Key Maps (page 9-11).

3270 Function	Press these keys in this order	RFTerm GUI Equivalent
Attn	Ctrl Orange 1	Display > SmartPad > Attn
Backtab	Green TAB	Display > SmartPad > BTb
Clear	Ctrl Orange 2	Display > SmartPad > Clr
Delete	Ctrl Light Blue 2	Display > SmartPad > Del
Erase	BKSP	Display > SmartPad > Bsp
Erase Input	Ctrl BKSP	Display > SmartPad > EIn
Error Reset or Reset	Ctrl Light Blue 9	Display > SmartPad > Rst
Exit Program	Green Ctrl Light Blue BKSP	File > Exit
Function Key Editor	*Not Supported*	Session > Configure > FNKeys
Help	Ctrl Light Blue 4	
Homekey	*Not Supported*	Display > SmartPad > Hm
Insert	Ctrl Orange 5	Display > SmartPad > Ins
LDUB	*Not Supported*	
New Line Key	Ctrl Light Blue 7	Display > SmartPad > Nl
Next or Tab	TAB	Display > SmartPad > Tb
Print Screen	Green Ctrl Light Blue 8	
RDUB	*Not Supported*	
SW Rev	*Not Supported*	File > About
Window Down	Ctrl Down Arrow	Scroll Bars
Window Right	Ctrl Green Down Arrow	Scroll Bars
Window Left	Ctrl Green Up Arrow	Scroll Bars
Window Up	Ctrl Up Arrow	Scroll Bars
Status Line Toggle	Green Ctrl Light Blue Up Arrow	File > Settings > Display > Hide OIA
SYS_REQ	Ctrl Orange Up Arrow	Display > SmartPad > Srq
PA1 - PA3	Ctrl 1-3	Display > SmartPad > Pa1 - Pa3
F1 - F10	Green 1 - 0	KeyBar
F11 - F20	SHIFT Green 1 - 0	KeyBar
F21 - F24	SHIFT Green Light Blue 1 - 4	KeyBar

HX2 Triple Tap Keypad

Alternative keypresses may be defined for F1 through F40. Refer to Optional F1 - F40 Key Maps (page 9-11).

3270 Function	Press these keys in this order	RFTerm GUI Equivalent
Attn	Ctrl Light Blue 2	Display > SmartPad > Attn
Backtab	Green TAB	Display > SmartPad > BTb
Clear	Ctrl Light Blue 2 2 2	Display > SmartPad > Clr
Delete	Ctrl Light Blue 3	Display > SmartPad > Del
Erase	BKSP	Display > SmartPad > Bsp
Erase Input	Ctrl BKSP	Display > SmartPad > EIn
Error Reset or Reset	Ctrl Light Blue 7 7 7	Display > SmartPad > Rst
Exit Program	Green Ctrl Light Blue 9 9	File > Exit
Function Key Editor	*Not Supported*	Session > Configure > FNKeys
Help	Ctrl Light Blue 4 4	
Homekey	*Not Supported*	Display > SmartPad > Hm
Insert	Ctrl Light Blue 4 4 4	Display > SmartPad > Ins
LDUB	*Not Supported*	
New Line Key	Ctrl Light Blue 6 6	Display > SmartPad > Nl
Next or Tab	TAB	Display > SmartPad > Tb
Print Screen	Green Ctrl Light Blue 7	
RDUB	*Not Supported*	
SW Rev	*Not Supported*	File > About
Window Down	Ctrl Down Arrow	Scroll Bars
Window Right	Ctrl Green Down Arrow	Scroll Bars
Window Left	Ctrl Green Up Arrow	Scroll Bars
Window Up	Ctrl Up Arrow	Scroll Bars
Status Line Toggle	Green Ctrl Light Blue 8	File > Settings > Display > Hide OIA
SYS_REQ	Ctrl Light Blue 7 7 7 7	Display > SmartPad > Srq
PA1 - PA3	Ctrl 1 - 3	Display > SmartPad > Pa1 - Pa3
F1 - F10	Green 1 - 0	KeyBar
F11 - F20	SHIFT Green 1 - 0	KeyBar
F21 - F24	SHIFT Green Light Blue 1 - 4	KeyBar

HX2 Alpha Mode 3 Tap Keypad

The notation *Not Defined* in the following table indicates that no key combination provides this function in the default key map. To obtain this function, some key (or combination of keys) must be remapped to provide key combination specified earlier in the IBM 3270 Functions - Virtual Keys (page 9-9) table.

Alternative keypresses may be defined for F1 through F40. Refer to Optional F1 - F40 Key Maps (page 9-11).

⚠ If using an HX2 with the Alpha Mode 3 Tap keypad, review the Important Note for Alpha Mode 3 Tap Keypad (page 9-54). It contains important information on the function of keys F11 through F19 on this HX2 keypad.

3270 Function	Press these keys in this order	RFTerm GUI Equivalent
Attn	*Not Defined*	Display > SmartPad > Attn
Backtab	Blue Left Arrow	Display > SmartPad > BTb
Clear	*Not Defined*	Display > SmartPad > Clr
Delete	*Not Defined*	Display > SmartPad > Del
Erase	Bksp	Display > SmartPad > Bsp
Erase Input	*Not Defined*	Display > SmartPad > EIn
Error Reset or Reset	*Not Defined*	Display > SmartPad > Rst
Exit Program	Blue Bksp	File > Exit
Function Key Editor	*Not Supported*	Session > Configure > FNKeys
Help	*Not Defined*	
Homekey	*Not Defined*	Display > SmartPad > Hm
Insert	*Not Defined*	Display > SmartPad > Ins
LDUB	*Not Supported*	
New Line Key	*Not Defined*	Display > SmartPad > Nl
Next or Tab	Blue Right Arrow	Display > SmartPad > Tb
Print Screen	*Not Defined*	
RDUB	*Not Supported*	
SW Rev	*Not Defined*	File > About
Window Down	*Not Defined*	Scroll Bars
Window Right	*Not Defined*	Scroll Bars
Window Left	*Not Defined*	Scroll Bars
Window Up	*Not Defined*	Scroll Bars
Status Line Toggle	*Not Defined*	File > Settings > Display > Hide OIA
SYS_REQ	*Not Defined*	Display > SmartPad > Srq
PA1 - PA3	*Not Defined*	Display > SmartPad > Pa1 - Pa3
F1 - F4	F1-F4	KeyBar
F5 - F8	Blue F1 - F4	KeyBar
F9	*Not Defined*	KeyBar
F10	Blue 0	KeyBar
F11 - F19	*Not Supported*	KeyBar
F20 - F24	*Not Defined*	KeyBar

IBM 5250 Functions - HX2

When running the RFTerm IBM 5250 terminal emulator on HX2 devices refer to the for explanations of the IBM 5250 functions.

HX2 Dual Alpha Keypad

Alternative keypresses may be defined for F1 through F40. Refer to .

5250 Function	Press these keys in this order	RFTerm GUI Equivalent
Attn	Ctrl Orange 1	Display > SmartPad > Attn
Backtab	Green TAB	Display > SmartPad > BTb
Char Backspace	BKSP	Display > SmartPad > BSp
Clear	Ctrl Orange 2	Display > SmartPad > Clr
Delete	Ctrl Light Blue 2	Display > SmartPad > Del
Dup	Ctrl Orange 0	Display > SmartPad > Dup
Erase Input	Ctrl BKSP	Display > SmartPad > EIn
Error Reset or Reset	ESC	Display > SmartPad > Rst
Exit Program	Green Ctrl Light Blue BKSP	File > Exit
Function Key Editor	*Not Supported*	Session > Configure > FNKeys
Fastback	*Not Supported*	
Fastfwd	*Not Supported*	
Field Exit	Ctrl Enter	Display > SmartPad > FEx
Field Minus	Ctrl Orange 7	Display > SmartPad > F-
Field Plus	Ctrl Light Blue 6	Display > SmartPad > F+
Help	Ctrl Light Blue 4	
Homekey	*Not Supported*	Display > SmartPad > Hm
Insert	Ctrl Orange 5	Display > SmartPad > Ins
New Line Key	Ctrl Light Blue 7	Display > SmartPad > Nl
Next or Tab	TAB	Display > SmartPad > Tb
Print Screen	Green Ctrl Light Blue 8	Display > SmartPad > Prt
SW REV	*Not Supported*	File > About
Window Down	Ctrl Down Arrow	Scroll Bars
Window Right	Ctrl Green Down Arrow	Scroll Bars
Window Left	Ctrl Green Up Arrow	Scroll Bars
Window Up	Ctrl Up Arrow	Scroll Bars
Send or Entercatv	Enter	Display > SmartPad > Ent
Status Line Toggle	Green Ctrl Light Blue Up Arrow	File > Settings > Display > Hide OIA
Sys_Req	Ctrl Orange Up Arrow	Display > SmartPad > Srq
F1 - F10	Green 1 - 0	KeyBar
F11 - F20	SHIFT Green 1 - 0	KeyBar
F21 - F24	SHIFT Green Light Blue 1 - 4	KeyBar

HX2 Triple Tap Keypad

Alternative keypresses may be defined for F1 through F40. Refer to Optional F1 - F40 Key Maps (page 9-11).

5250 Function	Press these keys in this order	RFTerm GUI Equivalent
Attn	Ctrl Light Blue 2	Display > SmartPad > Attn
Backtab	Green TAB	Display > SmartPad > BTb
Char Backspace	BKSP	Display > SmartPad > BSp
Clear	Ctrl Light Blue 2 2 2	Display > SmartPad > Clr
Delete	Ctrl Light Blue 3	Display > SmartPad > Del
Dup	Ctrl Light Blue 8 8	Display > SmartPad > Dup
Erase Input	Ctrl BKSP	Display > SmartPad > EIn
Error Reset or Reset	ESC	Display > SmartPad > Rst
Exit Program	Green Ctrl Light Blue 9 9	File > Exit
Function Key Editor	*Not Supported*	Session > Configure > FNKeys
Fastback	*Not Supported*	
Fastfwd	*Not Supported*	
Field Exit	Ctrl Enter	Display > SmartPad > FEx
Field Minus	Ctrl Light Blue 6	Display > SmartPad > F-
Field Plus	Ctrl Light Blue 5 5 5	Display > SmartPad > F+
Help	Ctrl Light Blue 4 4	
Homekey	*Not Supported*	Display > SmartPad > Hm
Insert	Ctrl Light Blue 4 4 4	Display > SmartPad > Ins
New Line Key	Ctrl Light Blue 6 6	Display > SmartPad > Nl
Next or Tab	TAB	Display > SmartPad > Tb
Print Screen	Green Ctrl Light Blue 7	Display > SmartPad > Prt
SW REV	*Not Supported*	File > About
Window Down	Ctrl Down Arrow	Scroll Bars
Window Right	Ctrl Green Down Arrow	Scroll Bars
Window Left	Ctrl Green Up Arrow	Scroll Bars
Window Up	Ctrl Up Arrow	Scroll Bars
Send or Entercatv	Enter	Display > SmartPad > Ent
Status Line Toggle	Green Ctrl Light Blue 8	File > Settings > Display > Hide OIA
Sys_Req	Ctrl Light Blue 7 7 7 7	Display > SmartPad > Srq
F1 - F10	Green 1 - 0	KeyBar
F11 - F20	SHIFT Green 1 - 0	KeyBar
F21 - F24	SHIFT Green Light Blue 1-4	KeyBar

HX2 Alpha Mode 3 Tap Keypad

The notation *Not Defined* in the following table indicates that no key combination provides this function in the default key map. To obtain this function, some key (or combination of keys) must be remapped to provide key combination specified earlier in the IBM 5250 Functions - Virtual Keys (page 9-10) table.

Alternative keypresses may be defined for F1 through F40. Refer to Optional F1 - F40 Key Maps (page 9-11).

⚠ If using an HX2 with the Alpha Mode 3 Tap keypad, review the Important Note for Alpha Mode 3 Tap Keypad (page 9-54). It contains important information on the function of keys F11 through F19 on this HX2 keypad.

5250 Function	Press these keys in this order	RFTerm GUI Equivalent
Attn	*Not Defined*	Display > SmartPad > Attn
Backtab	Blue Left Arrow	Display > SmartPad > BTb
Char Backspace	Bksp	Display > SmartPad > BSp
Clear	*Not Defined*	Display > SmartPad > Clr
Delete	*Not Defined*	Display > SmartPad > Del
Dup	*Not Defined*	Display > SmartPad > Dup
Erase Input	*Not Defined*	Display > SmartPad > EIn
Error Reset or Reset	*Not Defined*	Display > SmartPad > Rst
Exit Program	Blue Bksp	File > Exit
Function Key Editor	*Not Supported*	Session > Configure > FNKeys
Fastback	*Not Supported*	
Fastfwd	*Not Supported*	
Field Exit	Blue Enter	Display > SmartPad > FEx
Field Minus	*Not Defined*	Display > SmartPad > F-
Field Plus	*Not Defined*	Display > SmartPad > F+
Help	*Not Defined*	
Homekey	*Not Defined*	Display > SmartPad > Hm
Insert	*Not Defined*	Display > SmartPad > Ins
New Line Key	*Not Defined*	Display > SmartPad > Nl
Next or Tab	Blue Right Arrow	Display > SmartPad > Tb
Print Screen	*Not Defined*	Display > SmartPad > Prt
SW REV	*Not Supported*	File > About
Window Down	*Not Defined*	Scroll Bars
Window Right	*Not Defined*	Scroll Bars
Window Left	*Not Defined*	Scroll Bars
Window Up	*Not Defined*	Scroll Bars
Send or Entercatv	Enter	Display > SmartPad > Ent
Status Line Toggle	*Not Defined*	File > Settings > Display > Hide OIA
Sys_Req	*Not Defined*	Display > SmartPad > Srq
F1 - F4	F1 - F4	KeyBar
F5 - F8	Blue F1 - F4	KeyBar
F9	*Not Defined*	KeyBar
F10	Blue 0	KeyBar
F11 - F19	*Not Supported*	KeyBar
F20 - F24	*Not Defined*	KeyBar

MX3Plus, MX3X, VX3Plus and VX3X Key Maps
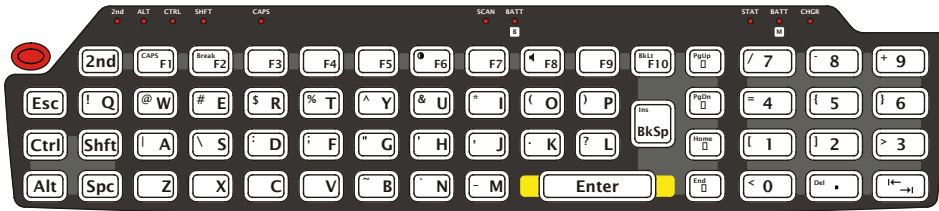
The MX3Plus keypad is shown above. The MX3X keypad is similar except there is an "MX3X" logo above the F9 and F10 keys.
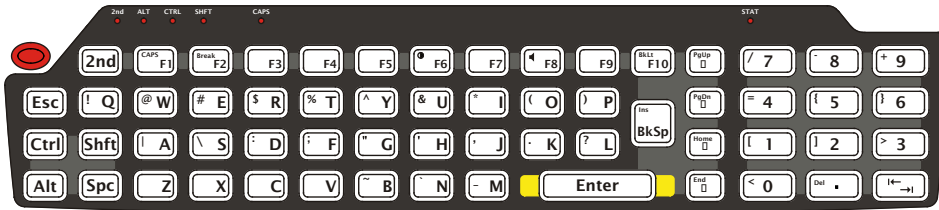
The VX3Plus keypad is shown above. The VX3X keypad is similar except there is a "VX3X" logo above the F9 and F10 keys.

Note: All RFTerm shortcut keys are directly accessible through the RFTerm user interface.

When using a sequence of keys that includes the **2nd** key, press the **2nd** key first then the rest of the key sequence. Set the On/Off condition of NumLock before pressing a key sequence. There is no visual indication of the condition of NumLock.

Note: When the computer boots, the default condition of NumLock is On.

Note: When the computer boots, the default condition of Caps (or CapsLock) is Off. The Caps (or CapsLock) condition can be toggled with a 2nd - F1 key sequence. The CAPS LED is illuminated when CapsLock is On.

RFTerm Functions - MX3Plus / MX3X / VX3Plus / VX3X

RFTerm Function	Press these keys in this order	RFTerm GUI Equivalent
Connect to Host	Ctrl Shft C	Session > Connect
Disconnect from Host	Ctrl Shft D	Session > Disconnect
Hide / Display All Bars	Ctrl Shft L	File > Settings > Display > Hide All Bars
Hide / Display MenuBar	Ctrl Shft M	File > Settings > Display > Hide MenuBar
Hide / Display ToolBar	Ctrl Shft T	File > Settings > Display > Hide ToolBar
Hide / Display KeyBar	Ctrl Shft K	File > Settings > Display > Hide KeyBar
Toggle MenuBar Bottom / Top	Ctrl Shft B	File > Settings > Display > At Bottom
Configure Host Session	Ctrl Shft N	Session > Configure
Application Settings	Ctrl Shft E	File > Settings
Increase Font Size	Ctrl Shft Up Arrow	Display > Font Up
Decrease Font Size	Ctrl Shft Down Arrow	Display > Font Down
Toggle Font Bold / Normal	Ctrl Shft 1	Session > Configure > Font Tab
Display/Hide SmartPad	Ctrl Shft P	Display > SmartPad
Display / Hide Text Input	Ctrl Shft I	Display > InputTool
Help	Ctrl H	
Scroll Up One Row	Shft Up Arrow	Scroll Bars
Scroll Down One Row	Shft Down Arrow	Scroll Bars
Scroll Left One Row	Shft Left Arrow	Scroll Bars
Scroll Right One Row	Shft Right Arrow	Scroll Bars
Exit the Emulator	Ctrl Shft X	File > Exit
	Alt X	

ANSI Functions - MX3Plus / MX3X / VX3Plus / VX3X

When running the RFTerm ANSI on these devices refer to the VT Host Key Descriptions (page 5-72) for explanations of the ANSI key functions.

Alternative keypresses may be defined for F1 through F40. Refer to Optional F1 - F40 Key Maps (page 9-11).

ANSI Function	Press these keys in this order	RFTerm GUI Equivalent
Answerback	*Not Supported*	Display > SmartPad > Ans
Backspace	BkSp	Display > SmartPad > BSp
Delete	2nd . (period)	Display > SmartPad > DEL
Exit Program	Alt X	File > Exit
	Shft Ctrl X	
Help	Ctrl H	
F1 - F10	F1 - F10	KeyBar
F11 - F20	Alt F1 - F10	KeyBar
F21 - F30	Shft F1 - F10	KeyBar
F31 - F40	Ctrl F1 - F10	KeyBar
Function Key Editor	*Not Supported*	Session > Configure > FNKeys
Send	Enter	Display > SmartPad > Ent
Window Down	Ctrl Down Arrow	Scroll Bars
Window Left	Ctrl Left Arrow	Scroll Bars
Window Right	Ctrl Right Arrow	Scroll Bars
Window Up	Ctrl Up Arrow	Scroll Bars
Print Screen	Ctrl Alt P	

IBM 3270 Functions - MX3Plus / MX3X / VX3Plus / VX3X

When running the RFTerm IBM 3270 terminal emulator on these devices refer to the 3270 Host Key Descriptions (page 7-1) for explanations of the IBM 3270 functions.

Alternative keypresses may be defined for F1 through F40. Refer to Optional F1 - F40 Key Maps (page 9-11).

3270 Function	Press these keys in this order	RFTerm GUI Equivalent
Attn	Ctrl A	Display > SmartPad > Attn
Backtab	2nd Tab	Display > SmartPad > BTb
Clear	Ctrl C	Display > SmartPad > Clr
Delete	Ctrl D	Display > SmartPad > Del
Erase	BkSp	Display > SmartPad > Bsp
Erase Input	Ctrl BkSp	Display > SmartPad > EIn
Error Reset or Reset	Ctrl R	Display > SmartPad > Rst
Exit Program	Alt X	File > Exit
	Shft Ctrl X	
Function Key Editor	*Not Supported*	Session > Configure > FNKeys
Help	Ctrl H	
Homekey	Ctrl Left Arrow	Display > SmartPad > Hm
Insert	Ctrl I	Display > SmartPad > Ins
LDUB	*Not Supported*	
New Line Key	Ctrl N	Display > SmartPad > Nl
Next or Tab	Tab	Display > SmartPad > Tb
Print Screen	Ctrl Alt P	
RDUB	*Not Supported*	
SW Rev	Alt F B	File > About
Window Down	Ctrl Down Arrow	Scroll Bars
Window Right	Ctrl Right Arrow	Scroll Bars
Window Left	Ctrl Left Arrow	Scroll Bars
Window Up	Ctrl Up Arrow	Scroll Bars
Status Line Toggle	Alt T	File > Settings > Display > Hide OIA
	Shft Ctrl O	
SYS_REQ	Ctrl S	Display > SmartPad > Srq
PA1 - PA3	Ctrl F1 - F3	Display > SmartPad > Pa1 - Pa3
F1 - F10	F1 - F10	KeyBar
F11 - F20	Alt F1 - F10	KeyBar
F21 - F24	Shft F1 - F4	KeyBar

IBM 5250 Functions - MX3Plus / MX3X / VX3Plus / VX3X

When running the RFTerm IBM 5250 terminal emulator on these devices refer to the 5250 Host Key Descriptions (page 8-1) for explanations of the IBM 5250 functions.

Alternative keypresses may be defined for F1 through F40. Refer to Optional F1 - F40 Key Maps (page 9-11).

5250 Function	Press these keys in this order	RFTerm GUI Equivalent
Attn	Ctrl A	Display > SmartPad > Attn
Backtab	2nd Tab	Display > SmartPad > BTb
Char Backspace	BkSp	Display > SmartPad > BSp
Clear	Ctrl C	Display > SmartPad > Clr
Delete	Ctrl D	Display > SmartPad > Del
Dup	Ctrl U	Display > SmartPad > Dup
Erase Input	Ctrl BkSp	Display > SmartPad > EIn
Error Reset or Reset	Esc	Display > SmartPad > Rst
Exit Program	Alt X	File > Exit
	Ctrl Shft X	
Function Key Editor	*Not Supported*	Session > Configure > FNKeys
Fastback	*Not Supported*	
Fastfwd	*Not Supported*	
Field Exit	Ctrl Enter	Display > SmartPad > FEx
	2nd Enter	
Field Minus	Ctrl M	Display > SmartPad > F-
Field Plus	Ctrl L	Display > SmartPad > F+
Help	Ctrl H	
Homekey	2nd Home	Display > SmartPad > Hm
Insert	Ctrl I	Display > SmartPad > Ins
New Line Key	Ctrl N	Display > SmartPad > Nl
Next or Tab	Tab	Display > SmartPad > Tb
Print Screen	Ctrl Alt P	Display > SmartPad > Prt
SW REV	Alt F B	File > About
Window Down	Ctrl Down Arrow	Scroll Bars
Window Right	Ctrl Right Arrow	Scroll Bars
Window Left	Ctrl Left Arrow	Scroll Bars
Window Up	Ctrl Up Arrow	Scroll Bars
Send or Entercatv	Enter	Display > SmartPad > Ent
Status Line Toggle	Alt T	File > Settings > Display > Hide OIA
	Ctrl Shft O	
Sys_Req	Ctrl S	Display > SmartPad > Srq
F1 - F10	F1 - F10	KeyBar
F11 - F20	Alt F1 - F10	KeyBar
F21 - F24	Shft F1 - F4	KeyBar

MX8 Key Maps
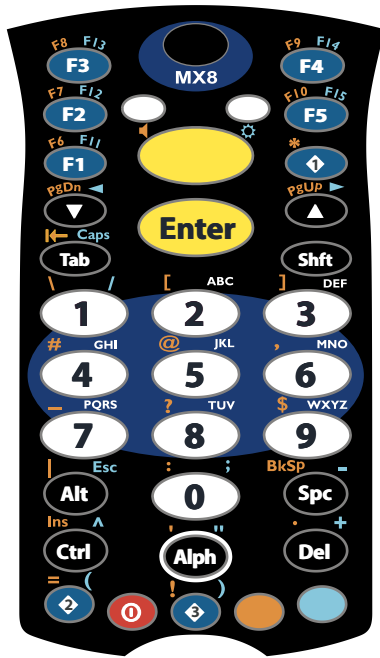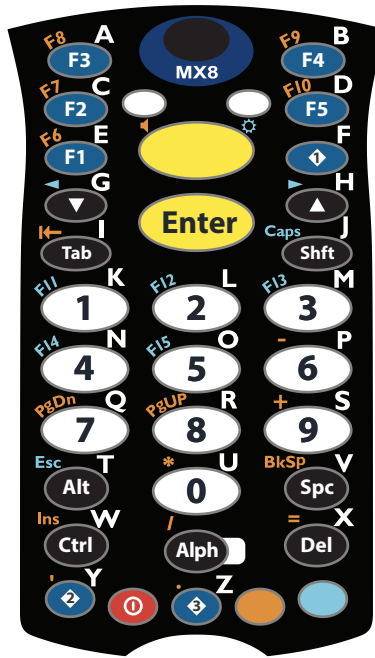
Triple Tap Keypad   Alpha Mode Keypad

Note: All RFTerm shortcut keys are directly accessible through the RFTerm user interface.

Unless otherwise noted, key maps in this section are valid for the MX8 with either a Microsoft Windows CE 5.0 or Windows Mobile 6.1 operating system.

When using a sequence of keys that includes the **Orange** or **Blue** keys, press the color key first then the rest of the key sequence unless otherwise noted in the tables. **Ctrl**, **Alt**, **Shft**, **Blue** and **Orange** keys are "sticky keys". They do not need to be held down before pressing the next (or desired) key. It is valid to use combined modifiers on specific keys.

Alphabetic keys default to lower case letters. Press the **Shft** key, then the alphabetic key for an uppercase letter.

*Note: When the computer boots, the default condition of Caps (or CapsLock) is Off. The Caps (or CapsLock) condition can be toggled with **Blue** plus **Tab** key sequence.*

RFTerm Functions - MX8

MX8 Triple Tap Keypad

RFTerm Function	Press these keys in this order	RFTerm GUI Equivalent
Connect to Host	Alph Ctrl Shft 2 2 2	Session > Connect
Disconnect from Host	Alph Ctrl Shft 3	Session > Disconnect
Hide / Display All Bars	Alph Ctrl Shft 5 5 5	File > Settings > Display > Hide All Bars
Hide / Display MenuBar	Alph Ctrl Shft 6	File > Settings > Display > Hide MenuBar
Hide / Display ToolBar	Alph Ctrl Shft 8	File > Settings > Display > Hide ToolBar
Hide / Display KeyBar	Alph Ctrl Shft 5 5	File > Settings > Display > Hide KeyBar
Toggle MenuBar Bottom / Top *(N/A with Windows Mobile)*	Alph Ctrl Shft 2 2	File > Settings > Display > At Bottom
Configure Host Session	Alph Ctrl Shft 6 6	Session > Configure
Application Settings	Alph Ctrl Shft 3 3	File > Settings
Increase Font Size	Ctrl Shft Up Arrow	Display > Font Up
Decrease Font Size	Ctrl Shft Down Arrow	Display > Font Down
Toggle Font Bold / Normal	Ctrl Shft 1	Session > Configure > Font Tab
Display/Hide SmartPad	Alph Ctrl Shft 7	Display > SmartPad
Display / Hide Text Input	Alph Ctrl Shft 4 4 4	Display > InputTool
Help	Alph Ctrl 4 4	
Scroll Up One Row	Shft Up Arrow	Scroll Bars
Scroll Down One Row	Shft Down Arrow	Scroll Bars
Scroll Left One Row	Shft Blue Down Arrow	Scroll Bars
Scroll Right One Row	Shft Blue Up Arrow	Scroll Bars
Exit the Emulator	Alph Alt 9 9	File > Exit

MX8 Alpha Mode Keypad

RFTerm Function	Press these keys in this order	RFTerm GUI Equivalent
Connect to Host	Ctrl Shft Alph F2	Session > Connect
Disconnect from Host	Ctrl Shft Alph F5	Session > Disconnect
Hide / Display All Bars	Ctrl Shft Alph 2	File > Settings > Display > Hide All Bars
Hide / Display MenuBar	Ctrl Shft Alph 3	File > Settings > Display > Hide MenuBar
Hide / Display ToolBar	Ctrl Shft Alph Alt	File > Settings > Display > Hide ToolBar
Hide / Display KeyBar	Ctrl Shft Alph 1	File > Settings > Display > Hide KeyBar
Toggle MenuBar Bottom / Top *(N/A with Windows Mobile)*	Ctrl Shft Alph F4	File > Settings > Display > At Bottom
Configure Host Session	Ctrl Shft Alph 4	Session > Configure
Application Settings	Ctrl Shft Alph F1	File > Settings
Increase Font Size	Ctrl Shft Up Arrow	Display > Font Up
Decrease Font Size	Ctrl Shft Down Arrow	Display > Font Down
Toggle Font Bold / Normal	Ctrl Shft 1	Session > Configure > Font Tab
Display/Hide SmartPad	Ctrl Shft Alph 6	Display > SmartPad
Display / Hide Text Input	Ctrl Shft Alph Tab	Display > InputTool
Help	Ctrl Alph Up Arrow	
Scroll Up One Row	Shft Up Arrow	Scroll Bars
Scroll Down One Row	Shft Down Arrow	Scroll Bars
Scroll Left One Row	Shft Blue Down Arrow	Scroll Bars
Scroll Right One Row	Shft Blue Up Arrow	Scroll Bars
Exit the Emulator	Alt Alph Del	File > Exit
	Ctrl Shft Alph Del	

ANSI Functions - MX8

When running the RFTerm ANSI on the MX8 refer to the VT Host Key Descriptions (page 5-72) for explanations of the ANSI key functions.

Note: Physical keypad key presses and MX8 virtual keypad presses are the same.

Alternative keypresses may be defined for F1 through F40. Refer to Optional F1 - F40 Key Maps (page 9-11).

MX8 Triple Tap Keypad

ANSI Function	Press these keys in this order	RFTerm GUI Equivalent
Answerback	*Not Supported*	Display > SmartPad > Ans
Backspace	Orange Spc	Display > SmartPad > BSp
Delete	Del	Display > SmartPad > DEL
Exit Program	Alph Alt 9 9	File > Exit
Help	Alph Ctrl 4 4	
F1 - F5	F1 - F5	KeyBar
F6 - F10	Orange F1 - F5	KeyBar
F11 - F15	Blue F1 - F5	KeyBar
F16 - F20	Shft F1 - F5	KeyBar
F21 - F24	Ctrl Orange F1 - F4	KeyBar
F25 - F40	*Not Supported*	KeyBar
Function Key Editor	*Not Supported*	Session > Configure > FNKeys
Send	Enter	Display > SmartPad > Ent
Window Down	Ctrl Down Arrow	Scroll Bars
Window Left	Ctrl Blue Down Arrow	Scroll Bars
Window Right	Ctrl Blue Up Arrow	Scroll Bars
Window Up	Ctrl Up Arrow	Scroll Bars
Print Screen	Alph Ctrl Alt 7	

MX8 Alpha Mode Keypad

ANSI Function	Press these keys in this order	RFTerm GUI Equivalent
Answerback	*Not Supported*	Display > SmartPad > Ans
Backspace	Orange Spc	Display > SmartPad > BSp
Delete	Del	Display > SmartPad > DEL
Exit Program	Alt Alph Del	File > Exit
	Ctrl Shft Alph Del	
Help	Ctrl Alph Up Arrow	
F1 - F5	F1 - F5	KeyBar
F6 - F10	Orange F1 - F5	KeyBar
F11 - F15	Blue 1 - 5	KeyBar
	Blue F1 - F5	
F16 - F20	Shft F1 - F5	KeyBar
F21 - F24	Ctrl Orange F1 - F4	KeyBar
F25 - F40	*Not Supported*	KeyBar
Function Key Editor	*Not Supported*	Session > Configure > FNKeys
Send	Enter	Display > SmartPad > Ent
Window Down	Ctrl Down Arrow	Scroll Bars
Window Left	Ctrl Blue Down Arrow	Scroll Bars
Window Right	Ctrl Blue Up Arrow	Scroll Bars
Window Up	Ctrl Up Arrow	Scroll Bars
Print Screen	Ctrl Alt Alph 6	

IBM 3270 Functions - MX8

When running the RFTerm IBM 3270 terminal emulator on the MX8 refer to the 3270 Host Key Descriptions (page 7-1) for explanations of the IBM 3270 functions.

MX8 Triple Tap Keypad

Alternative keypresses may be defined for F1 through F40. Refer to Optional F1 - F40 Key Maps (page 9-11).

3270 Function	Press these keys in this order	RFTerm GUI Equivalent
Attn	Alph Ctrl 2	Display > SmartPad > Attn
Backtab	Orange Tab	Display > SmartPad > BTb
Clear	Alph Ctrl 2 2 2	Display > SmartPad > Clr
Delete	Alph Ctrl 3	Display > SmartPad > Del
Erase	Orange Space	Display > SmartPad > Bsp
Erase Input	Ctrl Orange Spc	Display > SmartPad > EIn
Error Reset or Reset	Alph Ctrl 7 7 7	Display > SmartPad > Rst
Exit Program	Alph Alt 9 9	File > Exit
Function Key Editor	*Not Supported*	Session > Configure > FNKeys
Help	Alph Ctrl 4 4	
Homekey	*Not Supported*	Display > SmartPad > Hm
Insert	Alph Ctrl 4 4 4	Display > SmartPad > Ins
LDUB	*Not Supported*	
New Line Key	Alph Ctrl 6 6	Display > SmartPad > Nl
Next or Tab	Tab	Display > SmartPad > Tb
Print Screen	Alph Ctrl Alt 7	
RDUB	*Not Supported*	
SW Rev	*Not Supported*	File > About
Window Down	Ctrl Down Arrow	Scroll Bars
Window Right	Ctrl Blue Up Arrow	Scroll Bars
Window Left	Ctrl Blue Down Arrow	Scroll Bars
Window Up	Ctrl Up Arrow	Scroll Bars
Status Line Toggle	Alph Alt 8	File > Settings > Display > Hide OIA
SYS_REQ	Alph Ctrl 7 7 7 7	Display > SmartPad > Srq
PA1 - PA3	Ctrl 1 - 3	Display > SmartPad > Pa1 - Pa3
F1 - F5	F1 - F5	KeyBar
F6 - F10	Orange F1- F5	KeyBar
F11 - F21	Blue F1 - F5	KeyBar
F16 - F20	Shft F1 - F5	KeyBar
F21 - F24	Ctrl Orange F1 - F4	KeyBar

MX8 Alpha Mode Keypad

Alternative keypresses may be defined for F1 through F40. Refer to Optional F1 - F40 Key Maps (page 9-11).

3270 Function	Press these keys in this order	RFTerm GUI Equivalent
Attn	Ctrl Alph F3	Display > SmartPad > Attn
Backtab	Orange Tab	Display > SmartPad > BTb
Clear	Ctrl Alph F2	Display > SmartPad > Clr
Delete	Ctrl Alph F5	Display > SmartPad > Del
Erase	Orange Spc	Display > SmartPad > Bsp
Erase Input	Ctrl Orange Spc	Display > SmartPad > EIn
Error Reset or Reset	Ctrl Alph 8	Display > SmartPad > Rst
Exit Program	Alt Alph Del	File > Exit
	Ctrl Shft Alph Del	
Function Key Editor	*Not Supported*	Session > Configure > FNKeys
Help	Ctrl Alph Up Arrow	
Homekey	*Not Supported*	Display > SmartPad > Hm
Insert	Ctrl Alph Tab	Display > SmartPad > Ins
LDUB	*Not Supported*	
New Line Key	Ctrl Alph 4	Display > SmartPad > Nl
Next or Tab	Tab	Display > SmartPad > Tb
Print Screen	Ctrl Alt Alph 6	
RDUB	*Not Supported*	
SW Rev	*Not Supported*	File > About
Window Down	Ctrl Down Arrow	Scroll Bars
Window Right	Ctrl Blue Up Arrow	Scroll Bars
Window Left	Ctrl Blue Down Arrow	Scroll Bars
Window Up	Ctrl Up Arrow	Scroll Bars
Status Line Toggle	Alt Alph Alt	File > Settings > Display > Hide OIA
	Ctrl Shft Alph 5	
SYS_REQ	Ctrl Alph 9	Display > SmartPad > Srq
PA1 - PA3	Ctrl 1 - 3	Display > SmartPad > Pa1 - Pa3
F1 - F5	F1 - F5	KeyBar
F6 - F10	Orange F1- F5	KeyBar
F11 - F21	Blue 1 - 5	KeyBar
	Blue F1 - F5	
F16 - F20	Shft F1 - F5	KeyBar
F21 - F24	Ctrl Orange F1 - F4	KeyBar

IBM 5250 Functions - MX8

When running the RFTerm IBM 5250 terminal emulator on MX8 devices refer to the 5250 Host Key Descriptions (page 8-1) for explanations of the IBM 5250 functions.

MX8 Triple Tap Keypad

Alternative keypresses may be defined for F1 through F40. Refer to Optional F1 - F40 Key Maps (page 9-11).

5250 Function	Press these keys in this order	RFTerm GUI Equivalent
Attn	Alph Ctrl 2	Display > SmartPad > Attn
Backtab	Orange Tab	Display > SmartPad > BTb
Char Backspace	Orange Spc	Display > SmartPad > BSp
Clear	Alph Ctl 2 2 2	Display > SmartPad > Clr
Delete	Alph Ctl 3	Display > SmartPad > Del
Dup	Alph Ctl 8 8	Display > SmartPad > Dup
Erase Input	Orange Ctl Spc	Display > SmartPad > EIn
Error Reset or Reset	Blue Alt	Display > SmartPad > Rst
Exit Program	Alph Alt 9 9	File > Exit
Function Key Editor	*Not Supported*	Session > Configure > FNKeys
Fastback	*Not Supported*	
Fastfwd	*Not Supported*	
Field Exit	Ctl Enter	Display > SmartPad > FEx
	Diamond 1	
Field Minus	Alph Ctl 6	Display > SmartPad > F-
Field Plus	Alph Ctl 5 5 5	Display > SmartPad > F+
Help	Alph Ctl 4 4	
Homekey	*Not Supported*	Display > SmartPad > Hm
Insert	Alph Ctl 4 4 4	Display > SmartPad > Ins
New Line Key	Alph Ctl 6 6	Display > SmartPad > Nl
Next or Tab	Tab	Display > SmartPad > Tb
Print Screen	Alph Alt 8	Display > SmartPad > Prt
SW REV	*Not Supported*	File > About
Window Down	Ctl Down Arrow	Scroll Bars
Window Right	Ctl Blue Down Arrow	Scroll Bars
Window Left	Ctl Blue Up Arrow	Scroll Bars
Window Up	Ctl Up Arrow	Scroll Bars
Send or Entercatv	Enter	Display > SmartPad > Ent
Status Line Toggle	Alph Alt 8	File > Settings > Display > Hide OIA
Sys_Req	Alph Ctl 7 7 7 7	Display > SmartPad > Srq
F1 - F5	F1 - F5	KeyBar
F6 - F10	Orange F1 - F5	KeyBar
F11 - F15	Blue F1 - F5	KeyBar
F16 - F20	Shft F1 - F5	KeyBar
F21 - F24	Orange Ctl F1 - F4	KeyBar

MX8 Alpha Mode Keypad

Alternative keypresses may be defined for F1 through F40. Refer to .

5250 Function	Press these keys in this order	RFTerm GUI Equivalent
Attn	Ctrl Alph F3	Display > SmartPad > Attn
Backtab	Orange Tab	Display > SmartPad > BTb
Char Backspace	Orange Spc	Display > SmartPad > BSp
Clear	Ctrl Alph F2	Display > SmartPad > Clr
Delete	Ctrl Alph F5	Display > SmartPad > Del
Dup	Ctrl Alph 0	Display > SmartPad > Dup
Erase Input	Ctrl Orange Spc	Display > SmartPad > EIn
Error Reset or Reset	Orange Alt	Display > SmartPad > Rst
Exit Program	Alt Alph Del	File > Exit
	Ctrl Shft Alph Del	
Function Key Editor	*Not Supported*	Session > Configure > FNKeys
Fastback	*Not Supported*	
Fastfwd	*Not Supported*	
Field Exit	Ctrl Enter	Display > SmartPad > FEx
Field Minus	Ctrl Alph 3	Display > SmartPad > F-
Field Plus	Ctrl Alph 2	Display > SmartPad > F+
Help	Ctrl Alph Up Arrow	
Homekey	*Not Supported*	Display > SmartPad > Hm
Insert	Ctrl Alph Tab	Display > SmartPad > Ins
New Line Key	Ctrl Alph 4	Display > SmartPad > Nl
Next or Tab	Tab	Display > SmartPad > Tb
Print Screen	Ctrl Alt Alph 6	Display > SmartPad > Prt
SW REV	*Not Supported*	File > About
Window Down	Ctrl Down Arrow	Scroll Bars
Window Right	Ctrl Blue Up Arrow	Scroll Bars
Window Left	Ctrl Blue Down Arrow	Scroll Bars
Window Up	Ctrl Up Arrow	Scroll Bars
Send or Entercatv	Enter	Display > SmartPad > Ent
Status Line Toggle	Alt Alph Alt	File > Settings > Display > Hide OIA
	Ctrl Shft Alph 5	
Sys_Req	Ctrl Alph 9	Display > SmartPad > Srq
F1 - F5	F1 - F5	KeyBar
F6 - F10	Orange F1 - F5	KeyBar
F11 - F15	Blue 1 - 5	KeyBar
	Blue F1 - F5	
F16 - F20	Shft F1 - F5	KeyBar
F21 - F24	Orange Ctl F1 - F4	KeyBar

MX9 Key Maps
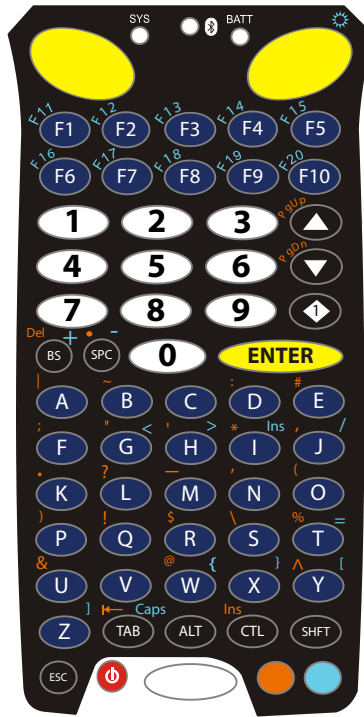
38-key Keypad   62-key Keypad

Note: All RFTerm shortcut keys are directly accessible through the RFTerm user interface.

Unless otherwise noted, key maps in this section are valid for the MX9 with either a Microsoft Windows CE 5.0 or Windows Mobile 6.5 operating system.

When using a sequence of keys that includes the **Orange** or **Blue** keys, press the color key first then the rest of the key sequence unless otherwise noted in the tables. **Ctrl**, **Alt**, **Shift**, **Blue** and **Orange** keys are "sticky keys". They do not need to be held down before pressing the next (or desired) key. It is valid to use combined modifiers on specific keys.

Alphabetic keys default to lower case letters. Press the **Shift** key, then the alphabetic key for an uppercase letter.

*Note: When the computer boots, the default condition of Caps (or CapsLock) is Off. The Caps (or CapsLock) condition can be toggled with **Blue** plus **Tab** key sequence.*

RFTerm Functions - MX9

MX9 38-Key Keypad

RFTerm Function	Press these keys in this order	RFTerm GUI Equivalent
Connect to Host	ALPHA Ctrl SHIFT 2 2 2	Session > Connect
Disconnect from Host	ALPHA Ctrl SHIFT 3	Session > Disconnect
Hide / Display All Bars	ALPHA Ctrl SHIFT 5 5 5	File > Settings > Display > Hide All Bars
Hide / Display MenuBar	ALPHA Ctrl SHIFT 6	File > Settings > Display > Hide MenuBar
Hide / Display ToolBar	ALPHA Ctrl SHIFT 8	File > Settings > Display > Hide ToolBar
Hide / Display KeyBar	ALPHA Ctrl SHIFT 5 5	File > Settings > Display > Hide KeyBar
Toggle MenuBar Bottom / Top *(N/A with Windows Mobile)*	ALPHA Ctrl SHIFT 2 2	File > Settings > Display > At Bottom
Configure Host Session	ALPHA Ctrl SHIFT 6 6	Session > Configure
Application Settings	ALPHA Ctrl SHIFT 3 3	File > Settings
Increase Font Size	Ctrl SHIFT Up Arrow	Display > Font Up
Decrease Font Size	Ctrl SHIFT Down Arrow	Display > Font Down
Toggle Font Bold / Normal	Ctrl SHIFT 1	Session > Configure > Font Tab
Display/Hide SmartPad	ALPHA Ctrl SHIFT 7	Display > SmartPad
Display / Hide Text Input	ALPHA Ctrl SHIFT 4 4 4	Display > InputTool
Help	ALPHA Ctrl 4 4	
Scroll Up One Row	SHIFT Up Arrow	Scroll Bars
Scroll Down One Row	SHIFT Down Arrow	Scroll Bars
Scroll Left One Row	SHIFT Blue Down Arrow	Scroll Bars
Scroll Right One Row	SHIFT Blue Up Arrow	Scroll Bars
Exit the Emulator	ALPHA ALT 9 9	File > Exit

MX9 62-Key Keypad

RFTerm Function	Press these keys in this order	RFTerm GUI Equivalent
Connect to Host	CTL SHFT C	Session > Connect
Disconnect from Host	CTL SHFT D	Session > Disconnect
Hide / Display All Bars	CTL SHFT L	File > Settings > Display > Hide All Bars
Hide / Display MenuBar	CTL SHFT M	File > Settings > Display > Hide MenuBar
Hide / Display ToolBar	CTL SHFT T	File > Settings > Display > Hide ToolBar
Hide / Display KeyBar	CTL SHFT K	File > Settings > Display > Hide KeyBar
Toggle MenuBar Bottom / Top *(N/A with Windows Mobile)*	CTL SHFT B	File > Settings > Display > At Bottom
Configure Host Session	CTL SHFT N	Session > Configure
Application Settings	CTL SHFT E	File > Settings
Increase Font Size	CTL SHFT Up Arrow	Display > Font Up
Decrease Font Size	CTL SHFT Down Arrow	Display > Font Down
Toggle Font Bold / Normal	CTL SHFT 1	Session > Configure > Font Tab
Display/Hide SmartPad	CTL SHFT P	Display > SmartPad
Display / Hide Text Input	CTL SHFT I	Display > InputTool
Help	CTL H	
Scroll Up One Row	SHFT Up Arrow	Scroll Bars
Scroll Down One Row	SHFT Down Arrow	Scroll Bars
Scroll Left One Row	SHFT Blue Down Arrow	Scroll Bars
Scroll Right One Row	SHFT Blue Up Arrow	Scroll Bars
Exit the Emulator	ALT X	File > Exit
	CTL SHFT X	

ANSI Functions - MX9

When running the RFTerm ANSI on the MX9 refer to the VT Host Key Descriptions (page 5-72) for explanations of the ANSI key functions.

Note: Physical keypad key presses and MX9 virtual keypad presses are the same.

MX9 38-Key Keypad

Alternative keypresses may be defined for F1 through F40. Refer to Optional F1 - F40 Key Maps (page 9-11).

ANSI Function	Press these keys in this order	RFTerm GUI Equivalent
Answerback	*Not Supported*	Display > SmartPad > Ans
Backspace	BKSP	Display > SmartPad > BSp
Delete	Orange BKSP	Display > SmartPad > DEL
	Ctrl D	
Exit Program	ALPHA ALT 9 9	File > Exit
Help	ALPHA Ctrl 4 4	
F1 - F10	F1 - F10	KeyBar
F11 - F20	Blue F1 - F10	KeyBar
F21 - F24	SHIFT F1 - F4	KeyBar
F25 - F40	*Not Supported*	KeyBar
Function Key Editor	*Not Supported*	Session > Configure > FNKeys
Send	ENTER	Display > SmartPad > Ent
Window Down	Ctrl Down Arrow	Scroll Bars
Window Left	Ctrl Blue Down Arrow	Scroll Bars
Window Right	Ctrl Blue Up Arrow	Scroll Bars
Window Up	Ctrl Up Arrow	Scroll Bars
Print Screen	ALPHA Ctrl Alt 7	

MX9 62-Key Keypad

Alternative keypresses may be defined for F1 through F40. Refer to Optional F1 - F40 Key Maps (page 9-11).

ANSI Function	Press these keys in this order	RFTerm GUI Equivalent
Answerback	*Not Supported*	Display > SmartPad > Ans
Backspace	BS	Display > SmartPad > BSp
Delete	Orange BS	Display > SmartPad > DEL
	CTL D	
Exit Program	ALT X	File > Exit
	CTL SHFT X	
Help	CTL H	
F1 - F10	F1 - F10	KeyBar
F11 - F20	Blue F1 - F10	KeyBar
F21 - F24	SHFT F1 - F4	KeyBar
F25 - F40	*Not Supported*	KeyBar
Function Key Editor	*Not Supported*	Session > Configure > FNKeys
Send	ENTER	Display > SmartPad > Ent
Window Down	CTL Down Arrow	Scroll Bars
Window Left	CTL Blue Down Arrow	Scroll Bars
Window Right	CTL Blue Up Arrow	Scroll Bars
Window Up	CTL Up Arrow	Scroll Bars
Print Screen	CTL ALT P	

IBM 3270 Functions - MX9

When running the RFTerm IBM 3270 terminal emulator on the MX9 refer to the 3270 Host Key Descriptions (page 7-1) for explanations of the IBM 3270 functions.

MX9 38-Key Keypad

Alternative keypresses may be defined for F1 through F40. Refer to Optional F1 - F40 Key Maps (page 9-11).

3270 Function	Press these keys in this order	RFTerm GUI Equivalent
Attn	ALPHA Ctrl 2	Display > SmartPad > Attn
Backtab	Orange TAB	Display > SmartPad > BTb
	SHIFT TAB	
Clear	ALPHA Ctrl 2 2 2	Display > SmartPad > Clr
Delete	ALPHA Ctrl 3	Display > SmartPad > Del
	Orange BKSP	
Erase	BKSP	Display > SmartPad > Bsp
Erase Input	Ctrl BKSP	Display > SmartPad > EIn
Error Reset or Reset	ALPHA Ctrl 7 7 7	Display > SmartPad > Rst
Exit Program	ALPHA ALT 9 9	File > Exit
Function Key Editor	*Not Supported*	Session > Configure > FNKeys
Help	ALPHA Ctrl 4 4	
Homekey	Orange SHIFT Down Arrow	Display > SmartPad > Hm
Insert	ALPHA Ctrl 4 4 4	Display > SmartPad > Ins
LDUB	*Not Supported*	
New Line Key	ALPHA Ctrl 6 6	Display > SmartPad > Nl
Next or Tab	TAB	Display > SmartPad > Tb
Print Screen	ALPHA Ctrl ALT 7	
RDUB	*Not Supported*	
SW Rev	*Not Supported*	File > About
Window Down	Ctrl Down Arrow	Scroll Bars
Window Right	Ctrl Blue Up Arrow	Scroll Bars
Window Left	Ctrl Blue Down Arrow	Scroll Bars
Window Up	Ctrl Up Arrow	Scroll Bars
Status Line Toggle	ALPHA ALT 8	File > Settings > Display > Hide OIA
SYS_REQ	ALPHA Ctrl 7 7 7 7	Display > SmartPad > Srq
PA1 - PA3	Ctrl 1 - 3	Display > SmartPad > Pa1 - Pa3
F1 - F10	F1 - F10	KeyBar
F11 - F20	Blue F1 - F10	KeyBar
F21 - F24	SHIFT F1 - F4	KeyBar

MX9 62-Key Keypad

Alternative keypresses may be defined for F1 through F40. Refer to Optional F1 - F40 Key Maps (page 9-11).

3270 Function	Press these keys in this order	RFTerm GUI Equivalent
Attn	CTL A	Display > SmartPad > Attn
Backtab	Orange TAB	Display > SmartPad > BTb
	SHFT TAB	
Clear	CTL C	Display > SmartPad > Clr
Delete	CTL D	Display > SmartPad > Del
	Orange BS	
Erase	BS	Display > SmartPad > Bsp
Erase Input	CTL BS	Display > SmartPad > EIn
Error Reset or Reset	CTL R	Display > SmartPad > Rst
Exit Program	ALT X	File > Exit
	CTL SHFT X	
Function Key Editor	*Not Supported*	Session > Configure > FNKeys
Help	CTL H	
Homekey	Orange SHFT Down Arrow	Display > SmartPad > Hm
Insert	CTL I	Display > SmartPad > Ins
LDUB	*Not Supported*	
New Line Key	CTL N	Display > SmartPad > Nl
Next or Tab	TAB	Display > SmartPad > Tb
Print Screen	CTL ALT P	
RDUB	*Not Supported*	
SW Rev	*Not Supported*	File > About
Window Down	CTL Down Arrow	Scroll Bars
Window Right	CTL Blue Up Arrow	Scroll Bars
Window Left	CTL Blue Down Arrow	Scroll Bars
Window Up	CTL Up Arrow	Scroll Bars
Status Line Toggle	ALT T	File > Settings > Display > Hide OIA
	CTL SHFT O	
SYS_REQ	CTL S	Display > SmartPad > Srq
PA1 - PA3	CTL 1 - 3	Display > SmartPad > Pa1 - Pa3
F1 - F10	F1 - F10	KeyBar
F11 - F20	Blue F1 - F10	KeyBar
F21 - F24	SHFT F1 - F4	KeyBar

IBM 5250 Functions - MX9

When running the RFTerm IBM 5250 terminal emulator on MX9 devices refer to the 5250 Host Key Descriptions (page 8-1) for explanations of the IBM 5250 functions.

MX9 38-Key Keypad

Alternative keypresses may be defined for F1 through F40. Refer to Optional F1 - F40 Key Maps (page 9-11).

5250 Function	Press these keys in this order	RFTerm GUI Equivalent
Attn	ALPHA Ctrl 2	Display > SmartPad > Attn
Backtab	Orange Tab	Display > SmartPad > BTb
	SHIFT Tab	
Char Backspace	BKSP	Display > SmartPad > BSp
Clear	ALPHA Ctrl 2 2 2	Display > SmartPad > Clr
Delete	ALPHA Ctrl 3	Display > SmartPad > Del
	Orange BKSP	
Dup	ALPHA Ctrl 8 8	Display > SmartPad > Dup
Erase Input	Ctrl BKSP	Display > SmartPad > EIn
Error Reset or Reset	ESC	Display > SmartPad > Rst
Exit Program	ALPHA ALT 9 9	File > Exit
Function Key Editor	*Not Supported*	Session > Configure > FNKeys
Fastback	*Not Supported*	
Fastfwd	*Not Supported*	
Field Exit	Ctrl ENTER	Display > SmartPad > FEx
Field Minus	ALPHA Ctrl 6	Display > SmartPad > F-
Field Plus	ALPHA Ctrl 5 5 5	Display > SmartPad > F+
Help	ALPHA Ctrl 4 4	
Homekey	Orange SHIFT Down Arrow	Display > SmartPad > Hm
Insert	ALPHA Ctrl 4 4 4	Display > SmartPad > Ins
New Line Key	ALPHA Ctrl 6 6	Display > SmartPad > Nl
Next or Tab	TAB	Display > SmartPad > Tb
Print Screen	ALPHA Ctrl ALT 8	Display > SmartPad > Prt
SW REV	*Not Supported*	File > About
Window Down	Ctrl Down Arrow	Scroll Bars
Window Right	Ctrl Blue Down Arrow	Scroll Bars
Window Left	Ctrl Blue Up Arrow	Scroll Bars
Window Up	Ctrl Up Arrow	Scroll Bars
Send or Entercatv	ENTER	Display > SmartPad > Ent
Status Line Toggle	ALPHA ALT 8	File > Settings > Display > Hide OIA
Sys_Req	ALPHA Ctrl 7 7 7 7	Display > SmartPad > Srq
F1 - F10	F1 - F10	KeyBar
F11 - F20	Blue F1 - F10	KeyBar
F21 - F24	SHIFT F1 - F4	KeyBar

MX9 62-Key Keypad

Alternative keypresses may be defined for F1 through F40. Refer to Optional F1 - F40 Key Maps (page 9-11).

5250 Function	Press these keys in this order	RFTerm GUI Equivalent
Attn	CTL A	Display > SmartPad > Attn
Backtab	SHFT Tab	Display > SmartPad > BTb
	Orange Tab	
Char Backspace	BS	Display > SmartPad > BSp
Clear	CTL C	Display > SmartPad > Clr
Delete	CTL D	Display > SmartPad > Del
	Orange BS	
Dup	CTL U	Display > SmartPad > Dup
Erase Input	CTL BS	Display > SmartPad > EIn
Error Reset or Reset	ESC	Display > SmartPad > Rst
Exit Program	ALT X	File > Exit
	CTL SHFT X	
Function Key Editor	*Not Supported*	Session > Configure > FNKeys
Fastback	*Not Supported*	
Fastfwd	*Not Supported*	
Field Exit	CTL ENTER	Display > SmartPad > FEx
Field Minus	CTL M	Display > SmartPad > F-
Field Plus	CTL L	Display > SmartPad > F+
Help	CTL H	
Homekey	Orange SHFT X	Display > SmartPad > Hm
Insert	CTL I	Display > SmartPad > Ins
New Line Key	CTL N	Display > SmartPad > Nl
Next or Tab	TAB	Display > SmartPad > Tb
Print Screen	CTL ALT P	Display > SmartPad > Prt
SW REV	*Not Supported*	File > About
Window Down	CTL Down Arrow	Scroll Bars
Window Right	CTL Blue Down Arrow	Scroll Bars
Window Left	CTL Blue Up Arrow	Scroll Bars
Window Up	CTL Up Arrow	Scroll Bars
Send or Entercatv	ENTER	Display > SmartPad > Ent
Status Line Toggle	ALT T	File > Settings > Display > Hide OIA
	CTL SHFT O	
Sys_Req	CTL Blue S	Display > SmartPad > Srq
F1 - F10	F1 - F10	KeyBar
F11 - F20	Blue F1 - F10	KeyBar
F21 - F24	SHFT F1 - F4	KeyBar

VX6 and VX7 Key Maps

Note: All RFTerm shortcut keys are directly accessible through the RFTerm user interface.

VX6 60-key Keyboard

The VX6 integrated keyboard functions the same as the external 60-key keyboard See 60-Key Keyboard (page 9-44) for RFTerm keymaps for this keyboard.

VX7 External 60-Key Keyboard

The VX7 supports the external 60-key keyboard. See 60-Key Keyboard (page 9-44) for RFTerm keymaps for this optional keyboard.

VX7 External 95-Key Keyboard

The VX7 supports the external 95-key keyboard. See 95-Key Keyboard (page 9-40) for RFTerm keymaps for this optional keyboard.

Thor VX8 and Thor VX9 Key Maps

Note: All RFTerm shortcut keys are directly accessible through the RFTerm user interface.

Thor VX8 and Thor VX9 External 60-Key Keyboard

The Thor VX8 and Thor VX9 support the external 60-key keyboard. See 60-Key Keyboard (page 9-44) for RFTerm key-maps for this optional keyboard.

Thor VX8 and Thor VX9 External 95-Key Keyboard

The Thor VX8 and Thor VX9 support the external 60-key keyboard. See 95-Key Keyboard (page 9-40) for RFTerm key-maps for this optional keyboard.

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Customer Support

Product Service and Repair

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Knowledge Base: www.hsmknowledgebase.com

Our Knowledge Base provides thousands of immediate solutions. If the Knowledge Base cannot help, our Technical Support Portal (see below) provides an easy way to report your problem or ask your question.

Technical Support Portal: www.hsmsupportportal.com

The Technical Support Portal not only allows you to report your problem, but it also provides immediate solutions to your technical issues by searching our Knowledge Base. With the Portal, you can submit and track your questions online and send and receive attachments.

Web form: www.hsmcontactsupport.com

You can contact our technical support team directly by filling out our online support form. Enter your contact details and the description of the question/problem.

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