User Manual

HP TeemTalk Terminal Emulator, version 7.2

578102-003

Third Edition (April 2010)

Table of contents

1 Introduction

This chapter introduces TeemTalk and describes the scope of this manual.

What is TeemTalk?

HP's TeemTalk host access software provides the ability to connect and communicate with applications on mainframes and midrange systems. These connections can be made from virtually any desktop running Microsoft Windows or Linux. TeemTalk enables desktops to emulate more than 30 different green screen terminals including IBM 3270, 5250, DEC VT, HP, MDIS Prism, and Wyse.

TeemTalk also provides a range of facilities to enhance your terminal emulation experience. These include the following:

- Programmable soft buttons.
- Redefinable key and mouse button functions.
- Redefinable display attributes and colors.
- Multiple concurrent sessions displayed on tabs.
- Auto logon for automating all or part of the host logon process.
- Script language to automate various operations.

About This User's Manual

This manual explains how to use TeemTalk version 7.2. It assumes you are familiar with the operating system in which you are running TeemTalk. Note that your version of TeemTalk may not support every emulation or feature described in this manual.

Terms & Conventions

The following terms and conventions are used in this manual:

keys to press

When you need to press two or more keys together at the same time, such as the **Shift** key and the **F4** key, this will be indicated by a plus character between the key names. For example: **Shift** + **F4**. The + character does not represent a key to be pressed.

click

To *click* means to click the left mouse button once when the mouse pointer is on a particular item on the display, such as an icon. You should use the left mouse button unless specifically told otherwise.

double-click

To *double-click* means to click the left mouse button twice in quick succession when the mouse pointer is on a particular item on the display, such as an icon. You should use the left mouse button unless specifically told otherwise.

drag

To *drag* means to position the mouse pointer on an item on the display (such as the edge of a window), then hold down the left mouse button and move the mouse while keeping the button held down.

Getting More Information

Technical Support

Current information about HP products including the latest software updates is available at:

http://www.hp.com/#support

In addition, this user manual and other HP documentation is available at the HP web site for browsing or downloading.

Contacting Us

If you need to contact HP, use one of the methods listed at:

http://welcome.hp.com/country/us/en/wwcontact_us.html

2 Getting Started

This chapter describes how to use the TeemTalk Session Wizard to create a session configuration file, then the various methods available to run it. An overview of the TeemTalk window elements follows, then descriptions of the configuration bar and status bar.

Creating a Session Using the Session Wizard

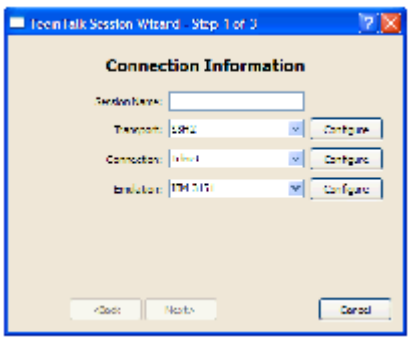
Introduction

TeemTalk enables you to create session configuration files which specify the terminal emulation to run and its settings, how to connect to the host, and additional features such as display colors, soft button definitions and keyboard macros.

A TeemTalk session configuration file can be created using the TeemTalk Session Wizard as described in this section, or when TeemTalk is running a session by selecting **Save Session As** on the **File** menu.

Using the Session Wizard

1. Run the TeemTalk Session Wizard from the **Start** menu by selecting **All Programs** > **HP** > **HP TeemTalk Terminal Emulator** > **Session Wizard**.



2. In the **Session Name** field, enter a unique name that will identify this session configuration for future selection.

   The name specified here will be used as the filename for the **.tts** session configuration file that will be created, and it will also appear in the title bar of the TeemTalk window in brackets when the session is being run.

3. Select the **Transport** method then click the **Configure** button to specify settings.

   - **SSH2**

     The SSH2 (Secure Shell) client/server protocol is used to encrypt and transmit data securely over a network, with authentication provided by a password and/or key. Refer to the section SSH2 Transport on page 13 for details.

   - **Serial**

     Enables host communication using the serial transport protocol. Refer to the section Serial Transport on page 26 for details.

   - **TCP/IP**

     Enables host communication using the TCP/IP protocol. Refer to the section TCP/IP Transport on page 12 for details.

   - **SSL**

     The SSL (Secure Sockets Layer) protocol enables authenticated and encrypted communication between clients and servers. Refer to the section SSL Transport on page 23 for details.

4. Select the **Connection** type (currently only Telnet is supported) then click the **Configure** button to specify settings.

5. Select the required terminal emulation in the **Emulation** list box then click the **Configure** button to specify settings.

   - **VT Series**

     Enables emulation of a suite of DEC VT and VT-based terminals. Refer to the chapter VT Series Emulation on page 67 and the section Setup Options on page 76.

   - **HP70092**

     Enables emulation of the Hewlett-Packard HP 700-92/96 terminal. Refer to the chapter HP 700-92/96 Emulation on page 90 and the section Setup Options on page 103.

   - **IBM 3151**

     Enables emulation of the IBM 3151 terminal. Refer to the chapter IBM 3151 Emulation on page 112 and the section Setup Options on page 118.

   - **IBM3270 Display**

     Enables emulation of the IBM 3270 terminal. Refer to the chapter IBM 3270 Display Emulation on page 126 and the section Setup Options on page 138.

   - **IBM3270 Printer**

     Enables emulation of the IBM 3270 printer. Refer to the chapter IBM 3270 Printer Emulation on page 149 and the section Setup Options on page 150.

   - **IBM5250 Display**

     Enables emulation of the IBM 5250 terminal. Refer to the chapter IBM 5250 Display Emulation on page 159and the section Setup Options on page 169.

   - **IBM5250 Printer**

Enables emulation of the IBM 5250 printer. Refer to the chapter IBM 5250 Printer Emulation on page 180 and the section Setup Options on page 181.

- **TA6530**

  Enables emulation of the Tandem TA 6530 terminal. Refer to the chapter TA6530 Emulation on page 192 and the section Setup Options on page 197.

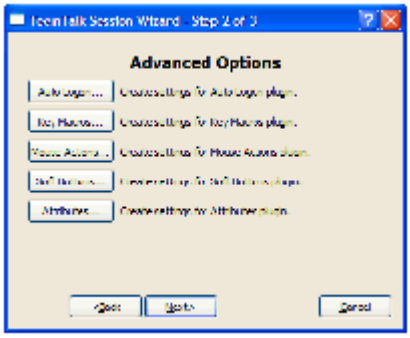
- **Wyse**

  Enables emulation of a suite of Wyse terminals and Wyse terminal emulations. Refer to the chapter Wyse Emulations on page 204 and the section Setup Options on page 210.

- **MD Prism**

  Enables emulation of the MDIS P8/P12 or P9 terminal. Refer to the chapter MDIS Prism Emulations on page 220 and the section Setup Options on page 224.

6. Click **Next** to display the **Advanced Options** dialog.



- **Auto Logon**

  Enables you to automate all or part of the host login process. Refer to the section Auto Logon on page 28.

- **Key Macros**

  Enables you to define the function of keys and key combinations on your keyboard. Refer to the section Defining Key Functions on page 30.

- **Mouse Actions**

  Enables you to define the function of the mouse buttons when clicked on their own or with modifier keys. Refer to the section Defining Mouse Functions on page 38.

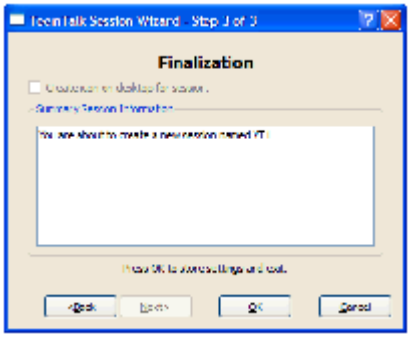
- **Soft Buttons**

  Enables you to define the function of the soft buttons displayed at the bottom of the TeemTalk window by default. Refer to the section Defining Soft Button Functions on page 45.

- **Attributes**

  Enables you to change the colors and text attributes displayed in the emulation workspace. Refer to the chapter Display Attributes on page 48.

7. Click **Next** to display the **Finalization** dialog.



8. If you want a shortcut icon for this session to be created on the desktop, click the checkbox **Create icon on desktop for session**.
9. Check the information displayed in the **Summary Session Information** box is correct. If not, click the **<Back** button to edit.
10. Click **OK** to create the session configuration file (with the filename extension **.tts**) and exit the Wizard.

Running a Session Configuration

You can run a TeemTalk session configuration using one of the following methods

- Desktop Icon

  If a desktop icon was created for the session configuration, double-clicking on it will automatically run TeemTalk and cause it to load the settings contained in the session configuration file.

- TeemTalk Menu

  To run a session configuration file while TeemTalk is running, run TeemTalk either by double-clicking on the **TeemTalk** icon displayed on the desktop, or from the **Start** menu by selecting **All Programs** > **HP** > **HP TeemTalk Terminal Emulator** > **TeemTalk**, then display the **File** menu and select **Open Session**. Select the name of the required **.tts** session file then click **Open**.

- Command Line Option

  The command line for running the TeemTalk executable file can include a command to load the settings stored in a specified session configuration file. The format of the command is as follows:

  +lsf" *sessionfile.tts* **"**

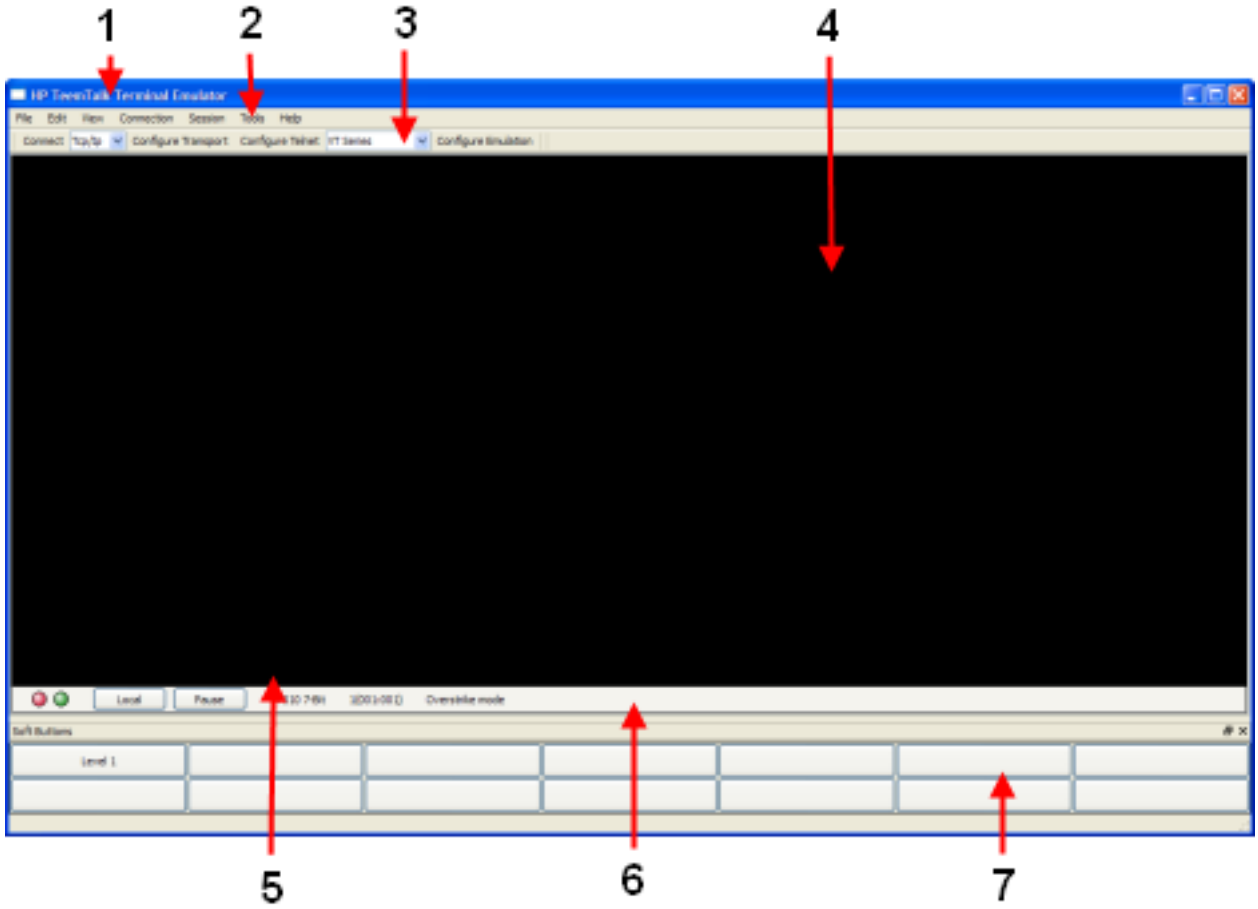
  The filename must include the extension **.tts** and must be enclosed within double-quote characters. The command must be preceded by a space to separate it from the name of the TeemTalk executable file or other command line options

  For example, to run TeemTalk and load the settings stored in the session configuration file **mysettings.tts**, you would enter the following on the command line:teemtalk.exe +lsf"mysettings.tts" Refer to the chapter Preferences and Command Line Options on page 236 for more information on command line options.

The TeemTalk Window

The TeemTalk window display consists of various elements which are described below. The **View** menu allows you to toggle the display of the configuration bar, status bar and soft buttons on and off. Note that you can also remove individual display elements from the TeemTalk window using command line options as described in the chapter Preferences and Command Line Options on page 236.

Figure 2-1 The TeemTalk Window



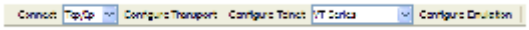
Item	Name	Description
1	**Title Bar**	The title bar displays the name of the session currently being run in brackets.
2	**Menu Bar**	The menu bar provides access to a series of commands and setup dialogs that enable you to perform various operations and configure TeemTalk and the terminal emulation. Individual menus and menu items can be removed from the display using command line options.
3	**Configuration Bar**	The configuration bar provides a quick way of creating or configuring a session by clicking buttons or selecting from drop-down list boxes. Refer to the section The Configuration Bar on page 8 for more details.

Item	Name	Description
4	**Emulation Workspace**	The emulation workspace is theTeemTalk window area providing the terminal emulation display. You can create multiple emulation workspaces in the TeemTalk window on separate tabs by selecting **New Tab** in the**File** menu. If you require a new TeemTalk window rather than an emulation workspace tab, select **New Window** in the **File** menu.
5	**Emulation Status Line**	Some terminal emulations use the last line of the display as a status line to indicate the status of various operations.
6	**Status Bar**	The status bar shows the status of various TeemTalk operations. The information displayed depends on the terminal emulation currently running. Refer to the section The Status Bar on page 9 for more details.
7	**Soft Buttons**	A set of programmable soft buttons is displayed at the bottom of the TeemTalk window by default. The soft buttons can be detached in a separate window. There are four soft button levels. Each level consists of twelve buttons providing a combined total of 48 programmable buttons. You can display all four levels at the same time if required. All levels are accessible even if not all are displayed, levels stored off-screen can be 'scrolled' into view by clicking the **Level #** button. Refer to the chapter Soft Buttons on page 45 for more details.

The Configuration Bar

The configuration bar provides a quick way of creating or configuring a session by clicking buttons or selecting from drop-down list boxes.

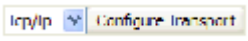
Figure 2-2 The Configuration Bar



You can remove the configuration bar from the TeemTalk window by selecting **Toolbars** > **Configuration** from the **Tools** menu. This will toggle display of the configuration bar on and off.

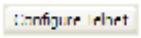
Connect Attempts to make a host connection using the current **Transport**, **Telnet** and **Emulation** settings. On a successful connection this button performs a **Disconnect** from host when clicked.

Figure 2-3 The Transport Button



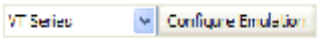
Enables you to select and configure the transport used to communicate with the host.

Figure 2-4 The Configure Telnet Button



Enables you to configure the Telnet host connection.

Figure 2-5 The Terminal Emulation Button



Enables you to select and configure the terminal emulation.

Saving the Session Configuration

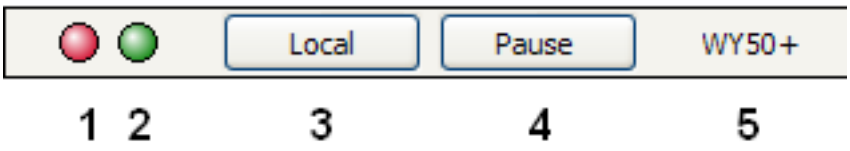
You can save the session configuration by selecting either **Save Session** (overwrite existing session configuration file) or **Save Session As** (create a new session configuration file) from the **File** menu.

The Status Bar

The status bar shows the status of various TeemTalk operations and enables you to switch between operating modes. You can remove the status bar from the TeemTalk window by selecting **Status Bar** on the **Tools** menu. This will toggle display of the status bar on and off.

The information displayed on the status bar depends on the terminal emulation currently running.

Figure 2-6 The Status Bar



Item	Description
1	This simulated LED indicates whether you are connected to the host. It will appear red when not connected and green when you are connected.
2	This simulated LED indicates whether data is being sent to or from the host. It will appear dull green when there is no activity, red when data is being sent to the host, and bright green when data is being received from the host.
3	This button enables you to switch between **Local** and **Online** mode. The label indicates the mode you will switch to when the button is clicked.
4	This button enables you to **Pause** or **Resume** scrolling data in the window. The label indicates the action that will be taken when the button is clicked.
5	Indicates the current terminal emulation.

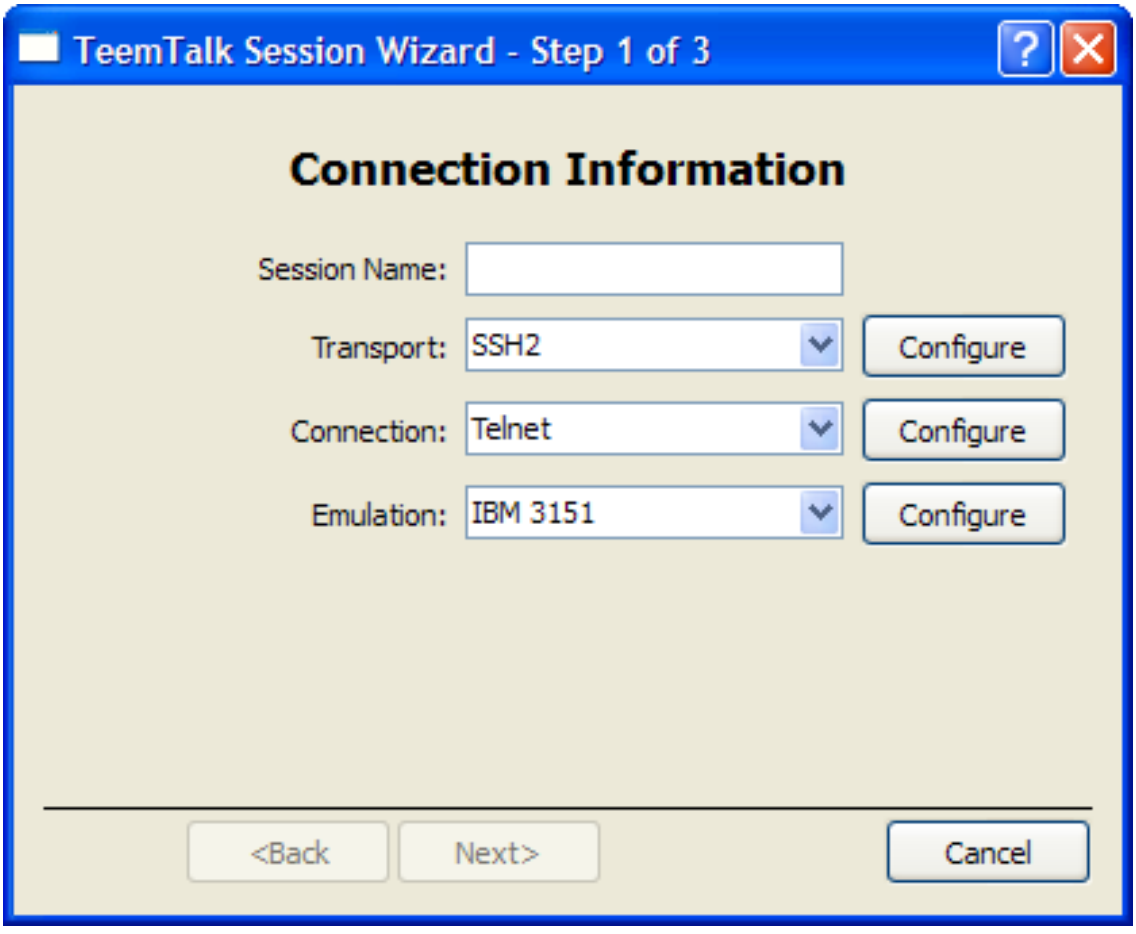
3 Host Connection

This chapter describes how to configure TeemTalk to communicate with the host.

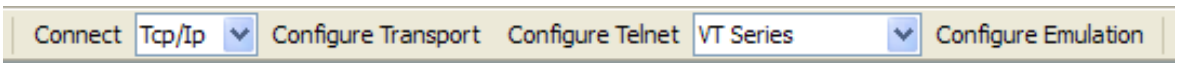
Introduction

Host connection settings are specified using the **Transport** and **Connection** options which can be found in three locations:

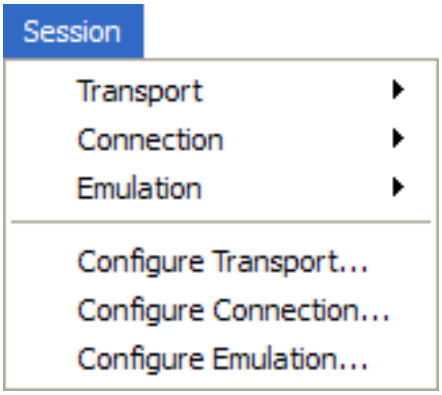
- TeemTalk Session Wizard:



- TeemTalk configuration bar:



- TeemTalk Session menu:



The **Transport** setting specifies the physical method by which the host connection is made. TeemTalk supports four transport protocols for communication with the host:

- **TCP/IP**

  For host communication using the internet protocol suite TCP (Transport Control Protocol) and IP (Internet Protocol). See TCP/IP Transport on page 12.

- **SSH2**

  A secure shell client/server protocol used to encrypt and transmit data securely over a network, with authentication provided by a password and/or key. See SSH2 Transport on page 13.

- **Serial**

  For host communication requiring data to be sent sequentially, one bit at a time, see Serial Transport on page 26.

- **SSL**

  For host connection using the Secure Sockets Layer protocol to encrypt communications and validate the host/client. See SSL Transport on page 23.

The **Connection** setting specifies the host connection protocol. Currently only **Telnet** is supported.

TeemTalk also provides an Auto Logon feature which enables you to automate all or part of the host logon procedure by specifying what is sent to the host in response to prompts displayed on the screen. See Auto Logon on page 28.

Telnet Settings

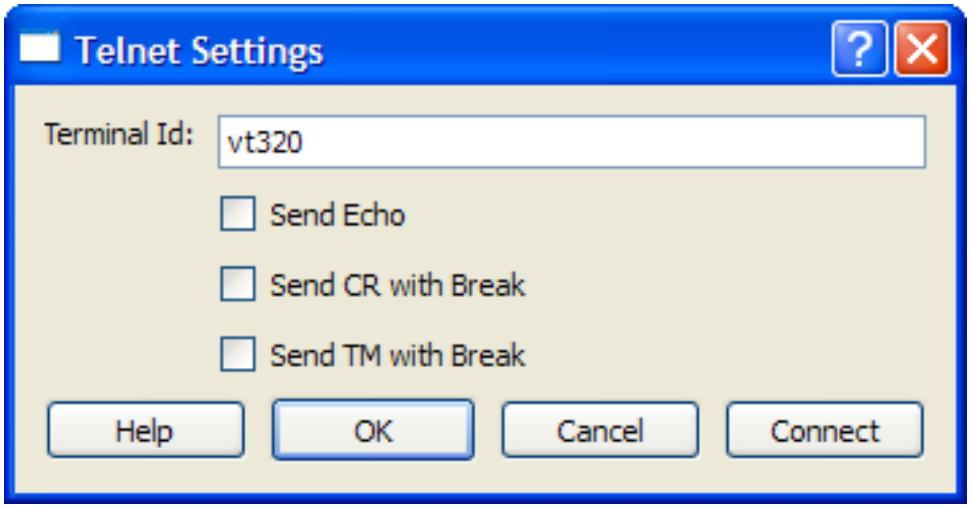
The settings for a Telnet host connection are specified using the **Telnet Settings** dialog which can be displayed using one of the following three methods:

Using the **Session Wizard**

- In **Step 1** set **Connection** to **Telnet** then click **Configure**.

Using the **TeemTalk Window**

- On the **Session** menu, select **Connection** > **Telnet** then select **Configure Connection...**.
- On the configuration bar, click **Configure Telnet**.



Specify the settings required by the host using the options described below, then click the **Connect** button.

- **Terminal Id**

  Factory default: Depends on the selected terminal emulation

  This specifies the terminal identification string that is passed to the host.

- **Send Echo**

  Factory default: nchecked

  When this option is unchecked the emulator is prevented generating the Telnet echo option on connection.

- **Send CR with Break**

  Factory default: Unchecked

  This determines whether a Carriage Return is sent with a Telnet break packet.

- **Send TM with Break**

  Factory default: Unchecked

  This determines whether a Timing Mark is sent with a Telnet break packet.

TCP/IP Transport

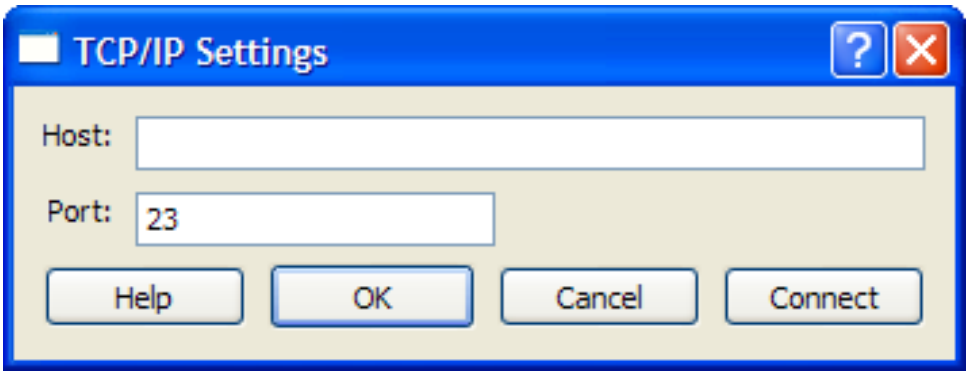
A host connection using the TCP/IP protocol is made using the **TCP/ IP Settings** dialog which can be displayed using one of the following three methods:

Using the **Session Wizard**

- In Step 1 set **Transport** to **TCP/IP** then click the **Configure** button.

Using the **TeemTalk Window**

- On the **Session** menu, select **Transport > TCP/IP** then select **Configure Transport...**.
- On the configuration bar, select **TCP/IP** in the **Transport** list box then click **Configure Transport**.



1. In the **Host** box enter the URL or IP address of the host to connect to.
2. In the **Port** box specify the number of the host port to connect to (default is 23).
3. Click the **Connect** button.

SSH2 Transport

The SSH2 (Secure Shell) client/server protocol is used to encrypt and transmit data securely over a network, with authentication provided by a password and/or key.

Making a Host Connection

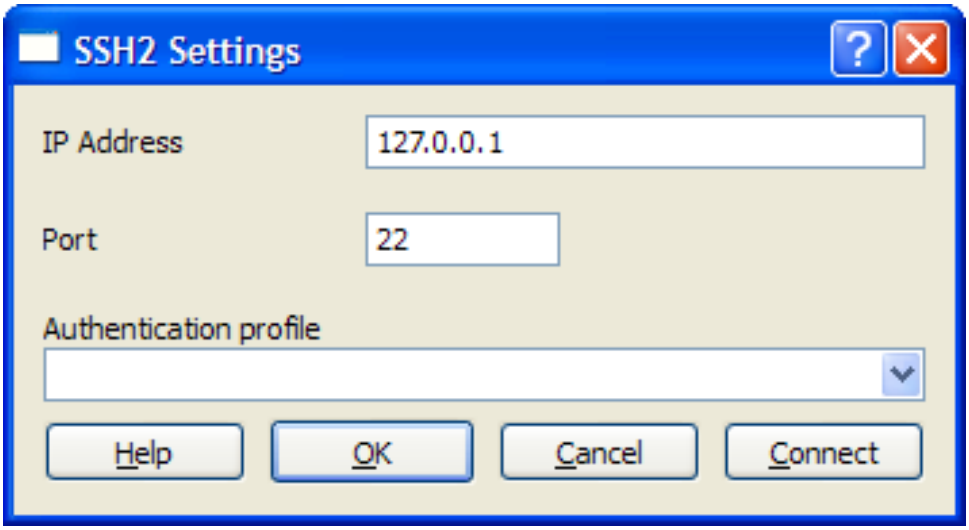
A host connection using the SSH2 protocol is made using the **SSH Settings** dialog which can be displayed using one of the following three methods:

Using the **Session Wizard**:

- In **Step 1** set **Transport** to **SSH2** then click the **Configure** button.

Using the **TeemTalk Window**

- On the **Session** menu, select **Transport > SSH2** then select **Configure Transport...**.
- On the configuration bar, select **SSH2** in the **Transport** list box then click **Configure Transport**.



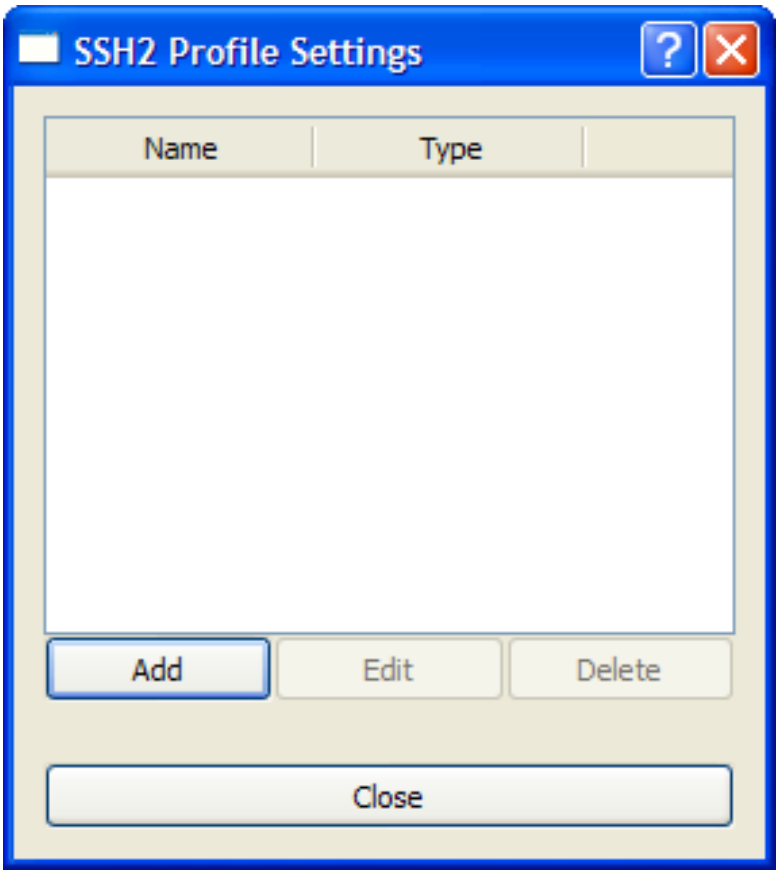
The basic procedure for making an SSH2 connection is as follows:

1. Specify the **IP Address** of the host to which you wish to connect.
2. Specify the host's SSH **Port** number (default is 22).
3. Select an **Authentication profile** (refer to the following sections for information on creating profiles).
4. Click the **Connect** button.

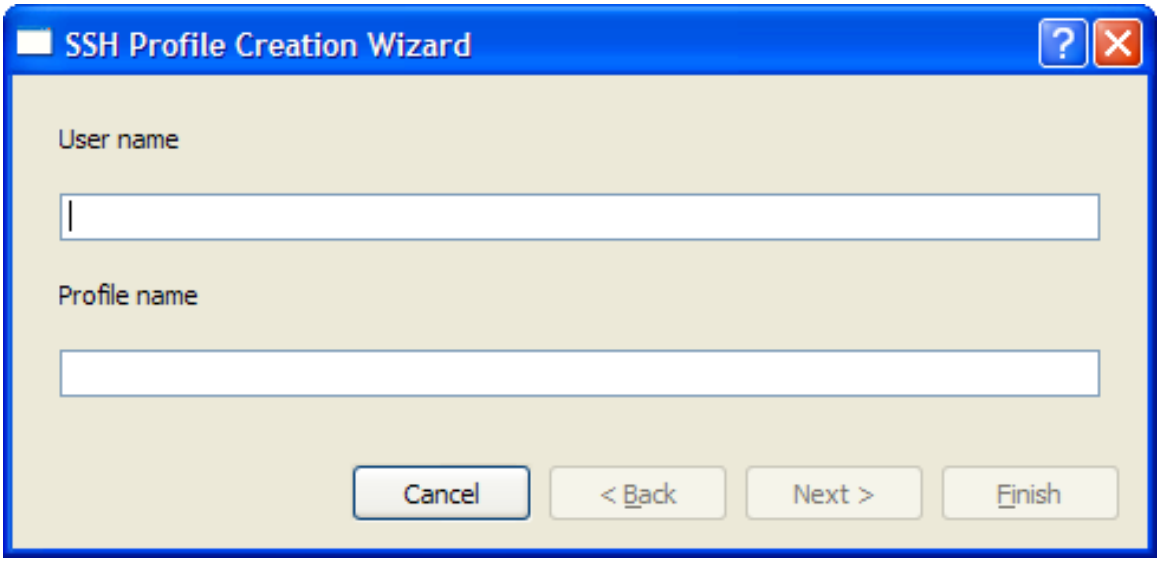
Creating an Authentication Profile using a Password

To create an authentication profile using a password:

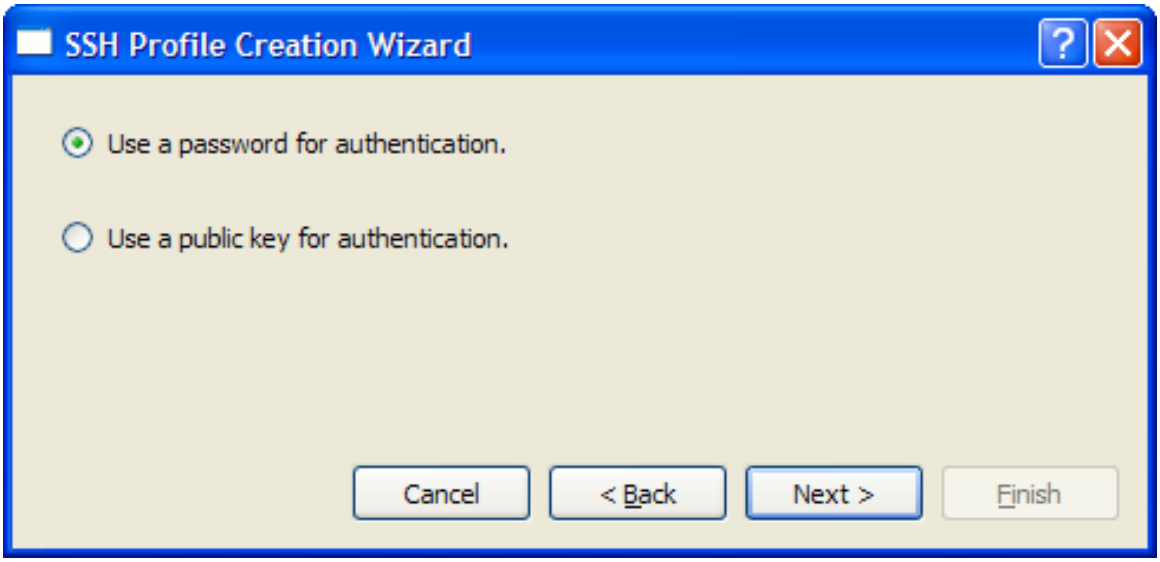
1. Select **SSH2 Profile...** on the **Tools** menu.



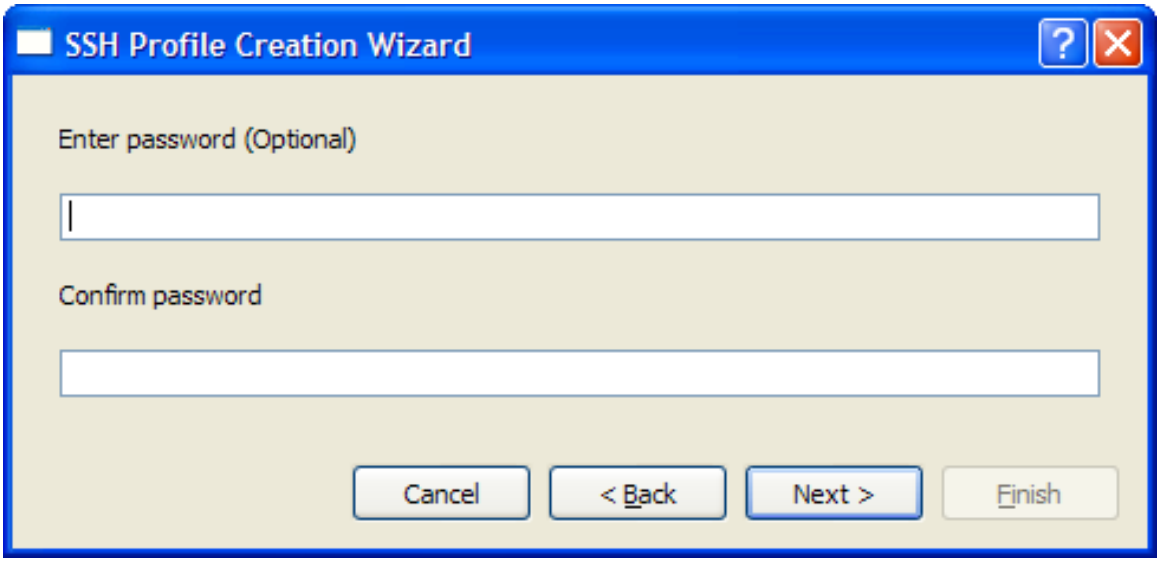
2. Click the **Add** button.



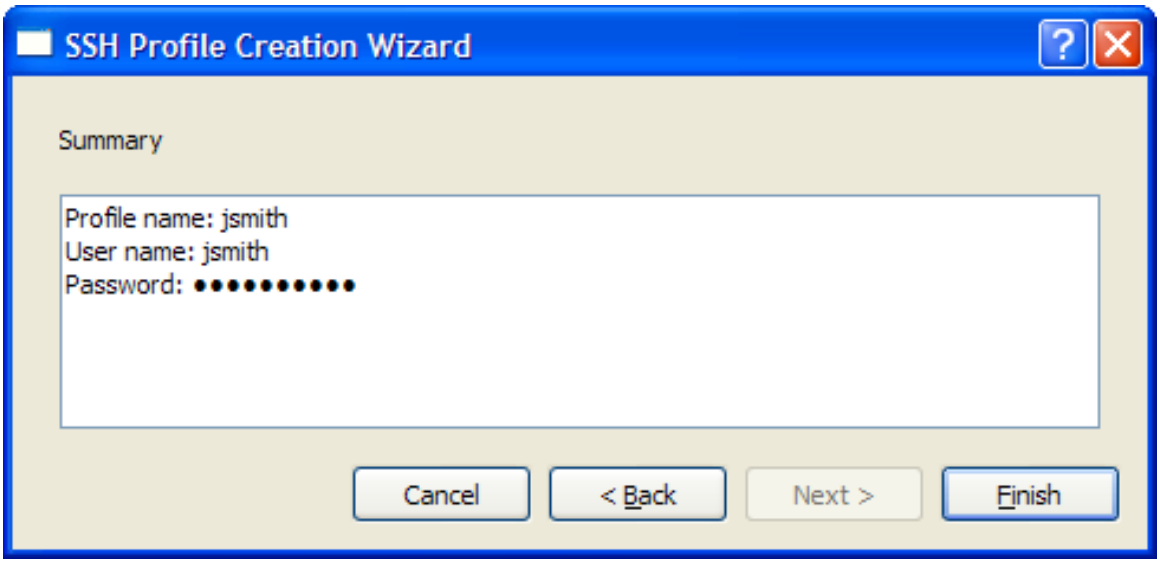
3. Enter a **User name**. The **Profile name** will automatically display the **User name** entered, but you can change it if required. Click **Next >**



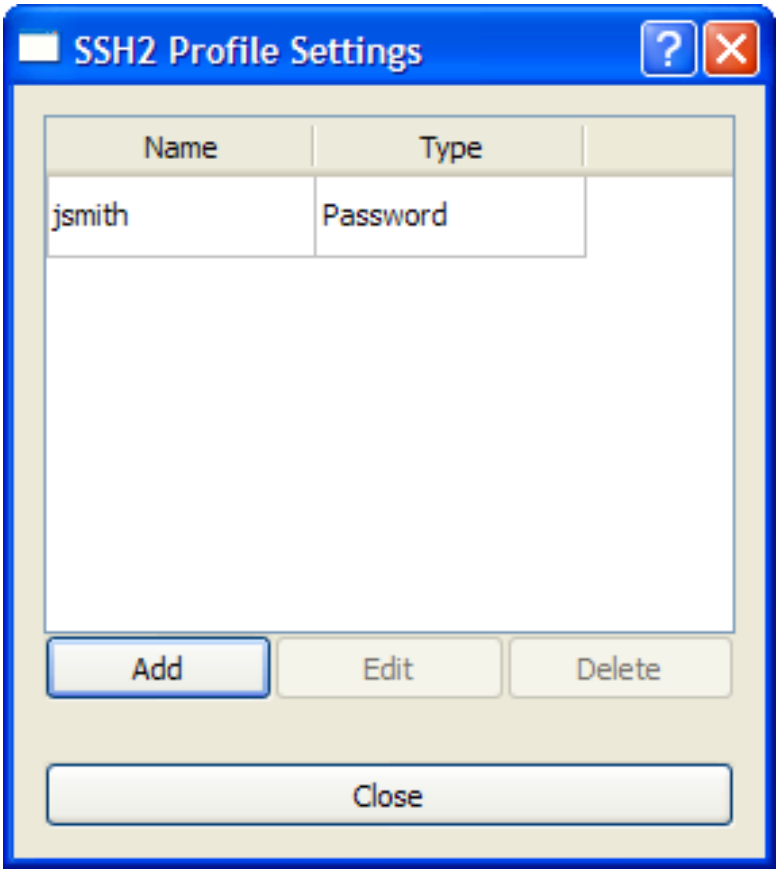
4. Select **Use a password for authentication** then click **Next >**



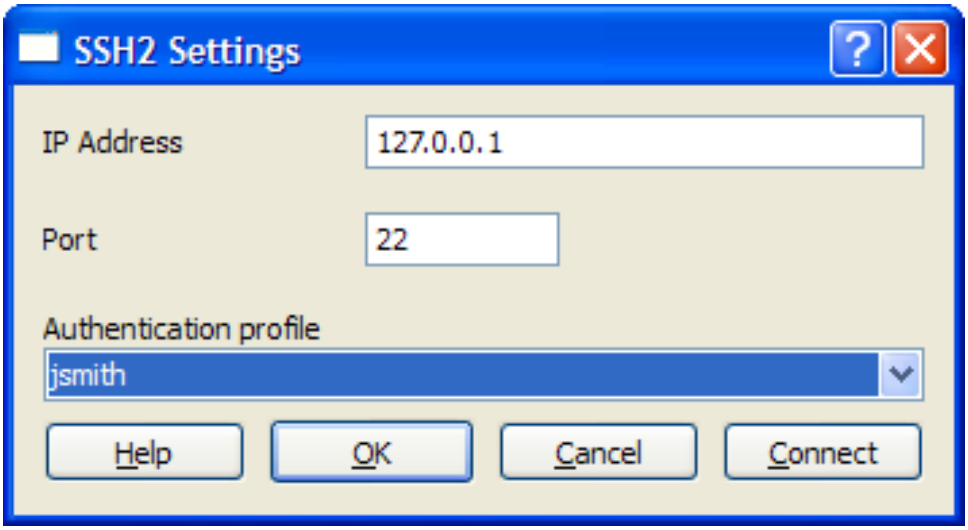
5. Enter and confirm the password then click **Next >**.



6. Check the summary. If it is incorrect you can go back and make changes by clicking the **< Back** button, otherwise click **Finish** to generate the authentication profile. The new profile will now be listed in the **SSH2 Profile Settings** dialog.



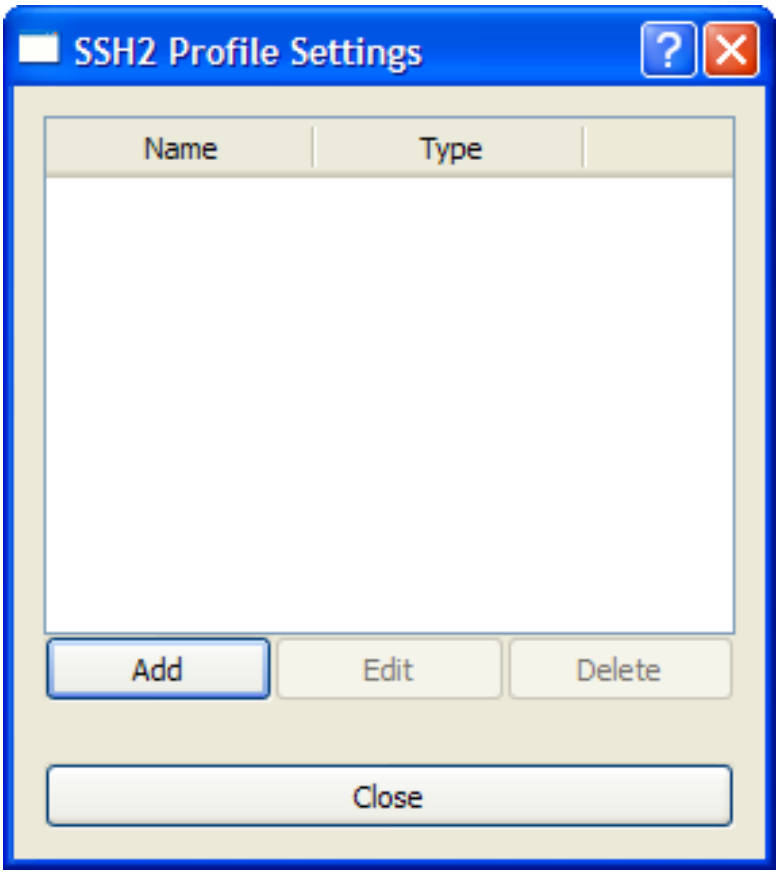
7. To use the new profile, display the **SSH2 Settings** dialog (see Making a Host Connection on page 23) and select the name of the profile from the **Authentication profile** list box.



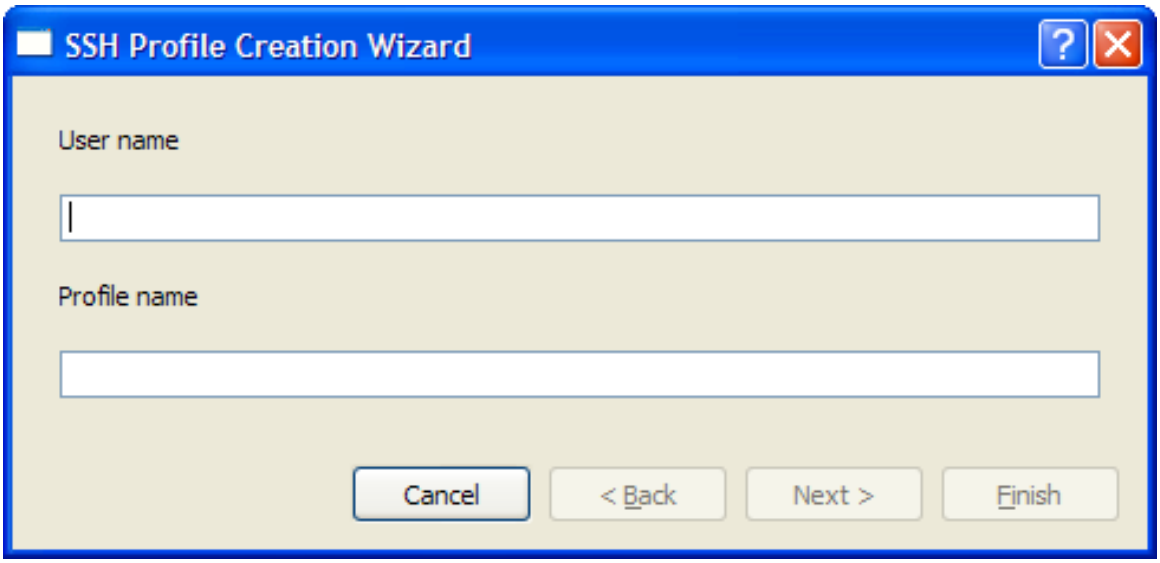
Creating an Authentication Profile using a New Public Key

To create an authentication profile using a new public key:

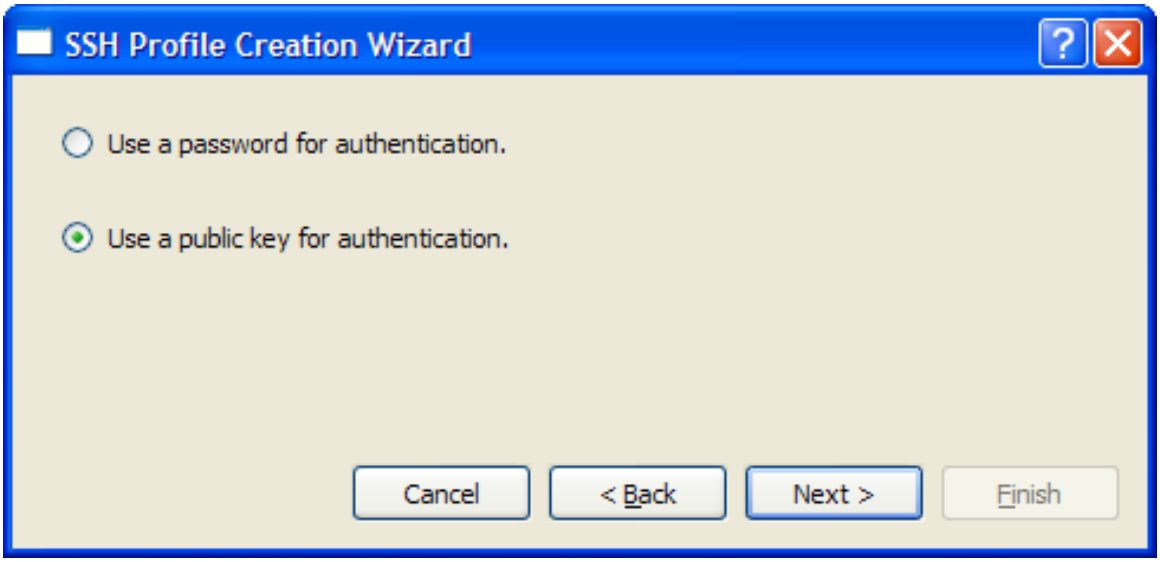
1. Select **SSH2 Profile...** on the **Tools** menu.



2. Click the **Add** button.

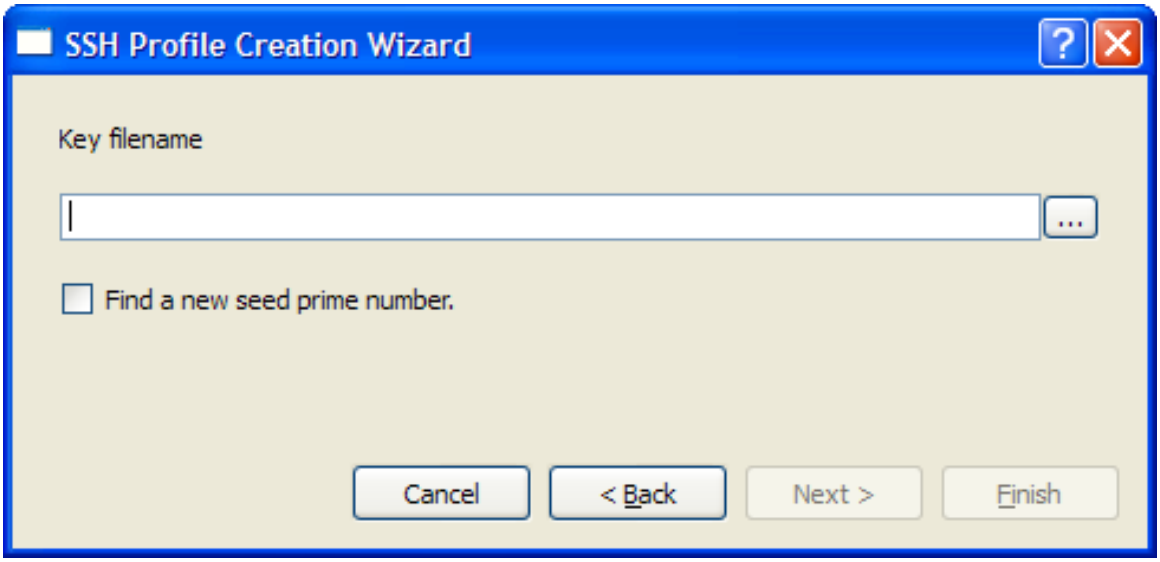


3. Enter a **User name**. The **Profile name** will automatically display the User name entered, but you can change it if required. Click **Next >**.



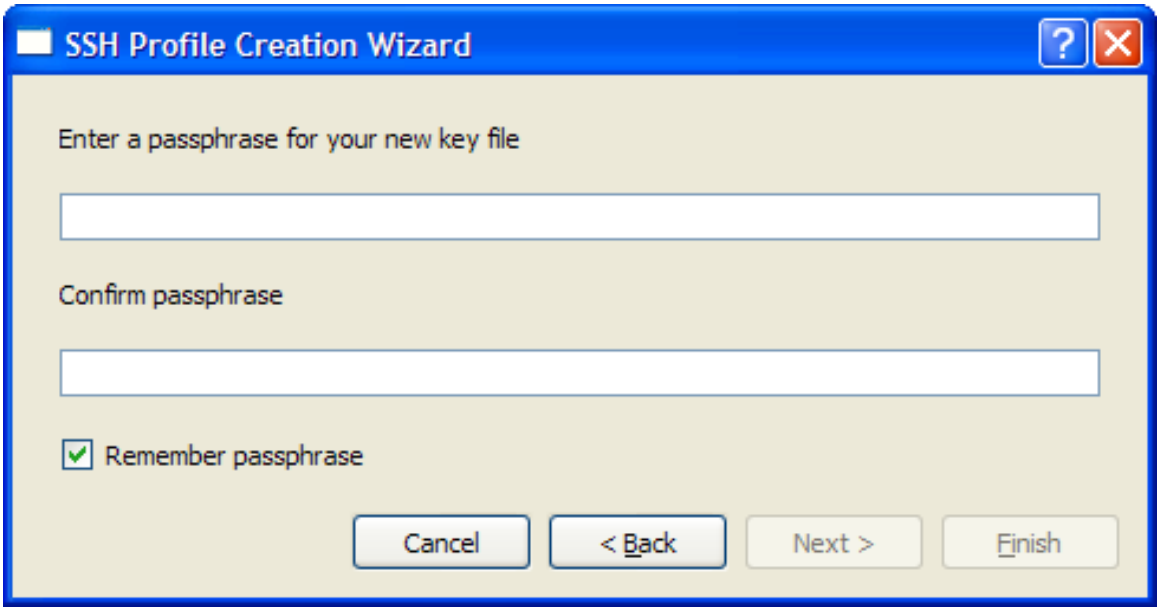
4. Select **Use a public key for authentication** then click **Next >**.

5. Select **Create a new key** then click **Next >**.

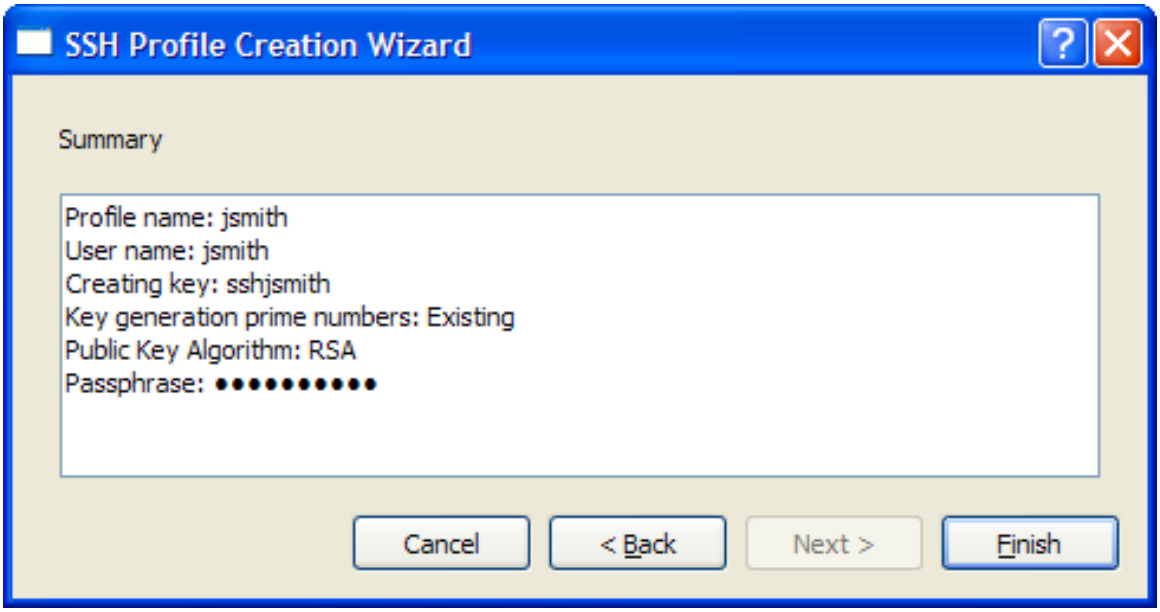


6. Enter a **Key filename**. If necessary, check the **Find a new seed prime number** box. Click **Next >**.

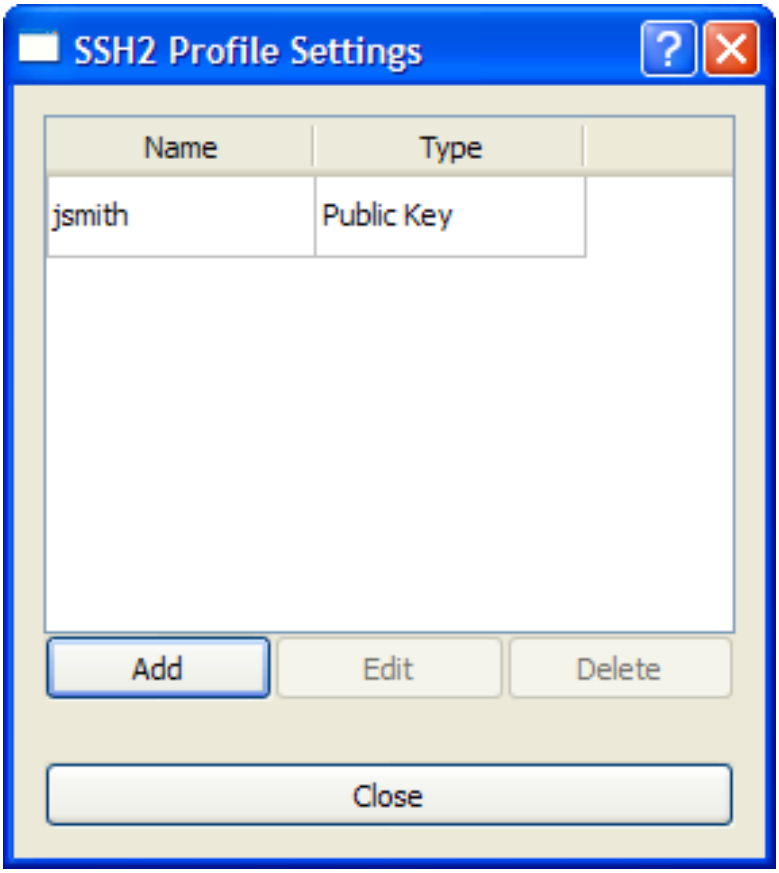
7. Select either **RSA algorithm** or **DSA algorithm** then click **Next >**.



8. Enter and confirm the passphrase to use for your new key file then click **Next >**.



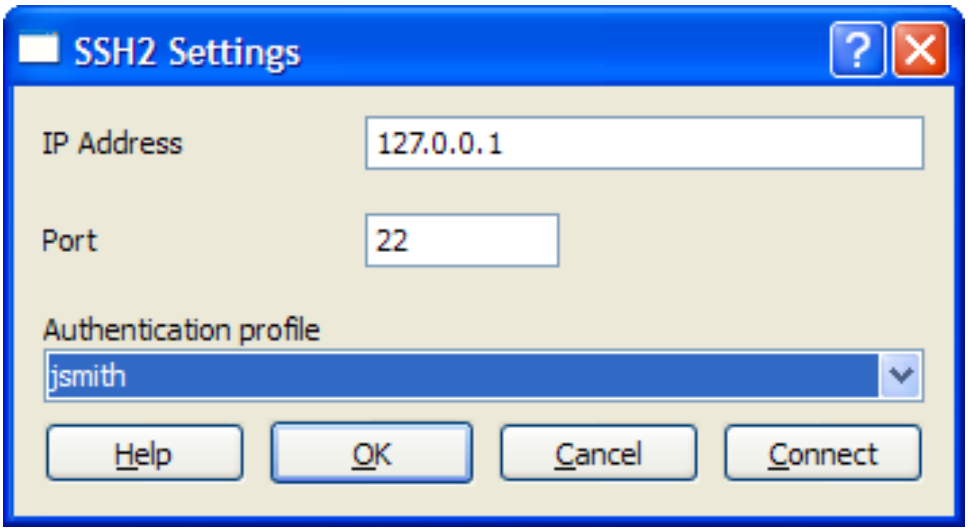
9. Check the summary. If it is incorrect you can go back and make changes by clicking the **< Back** button, otherwise click **Finish** to generate the authentication profile. The new profile will now be listed in the **SSH2 Profile Settings** dialog.



To make use of your key you need to copy it on to the server as follows:

10. Select the name of the profile in the **SSH2 Profile Settings** dialog then click the **Edit** button.
11. Select and copy everything displayed in the new window.
12. Logon to your server using username and password.
13. In your home directory you need to have a sub-directory called **.ssh**. You may have to create this directory yourself. Within the **.ssh** directory you need a file called **authorized_keys**. Again if it is not there you will have to create it.
14. Using whatever editor is available on your server, paste the key into the file and save it.

15. To use the new profile, display the **SSH2 Settings** dialog (see Making a Host Connection on page 23) and select the name of the profile from the **Authentication profile** list box.



SSL Transport

The SSL (Secure Sockets Layer) protocol enables authenticated and encrypted communication between clients and servers.

Before anyone can connect to a server the system administrator must make available a copy of the root certificate used to sign the server's identity certificate and the number of the telnet port the server is listening on (the default for secure telnet is 992).

Additionally the system administrator may issue each user or terminal with their own password protected client certificate.

Making a Host Connection

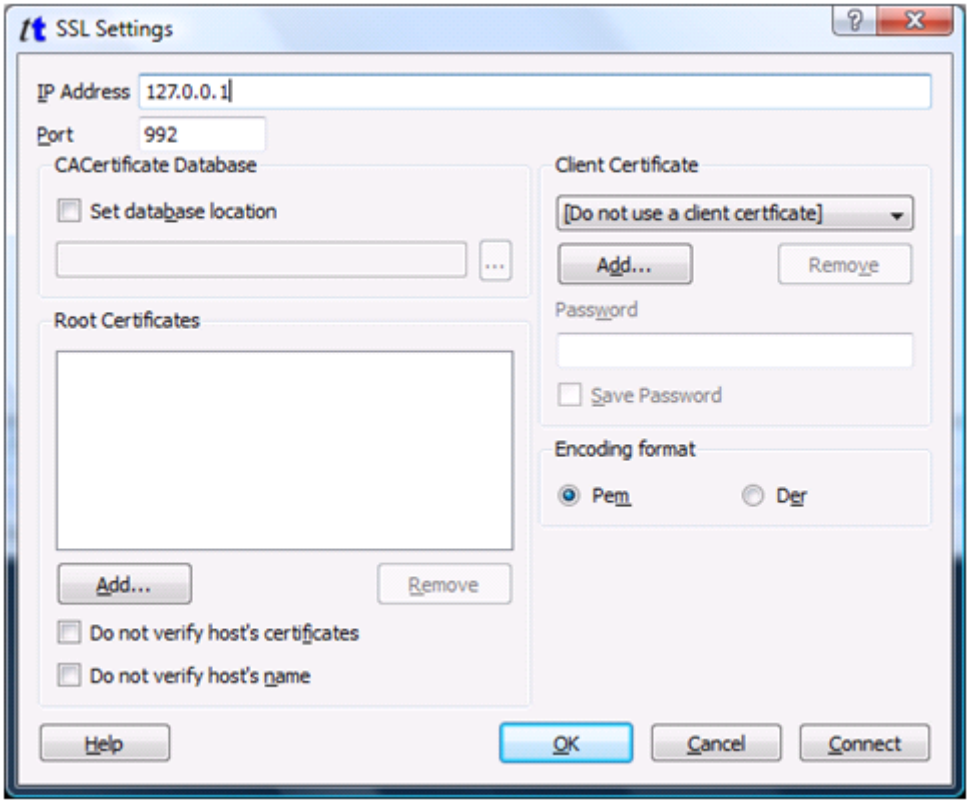
A host connection using the SSL protocol is made using the **SSL Settings** dialog which can be displayed using one of the following three methods:

Using the **Session Wizard**

- In Step 1 set **Transport** to **SSL** then click **Configure**.

Using the **TeemTalk Window**

- On the **Session** menu, select **Transport** > **SSL** then select **Configure Transport...**.
- On the configuration bar, select **SSL** in the **Transport** list box then click **Configure Transport**.



The basic procedure for making an SSL connection is as follows:

1. Add Server Root Certificate.

   If you have been given a certificate to verify the server to which you are connecting, you will need to add this to the TeemTalk list of root certificates.

   To do this, click **Add** below the **Root Certificates** list and then use the file chooser to locate, select and open the file containing the certificate. This will add the certificate name to the list.

   Alternatively, if you have configured a CA certificate text database locally, you can select the option for **Set database location** and specify the folder containing the CA certificate database below this option.

   If you do not need to verify the server, then select the option for **Do not verify host's certificate**.

2. Select Client Certificate

   If the server you are going to connect to requires you to have a client certificate, choose the relevant certificate from the **Client Certificate** drop down list.

   If you have not already installed your client certificate, click **Add** under the **Client Certificate** drop down list, and choose the file containing the certificate. This will import the certificate and add its name to the list.

   You may optionally enter your password for the client certificate. If you check **Save Password**, the password will be encrypted and stored along with the certificate itself.

NOTE: Saving the password is a security risk as anyone who can access the local system will be able to connect to the host.

3. Specify the **Encoding format** for the certificates by selecting either **Pem** (ASCII Text file Base64 encoded) or **Der** (binary file).
4. Specify the host name or IP address in the **IP Address** field.
5. Specify the host's SSH **Port** number (the default is 992).
6. Click **Connect**.
7. Login as usual when the telnet login prompt appears.

Error Messages

Connection Failed SSL to *host* **:** *port*

The most likely cause of this error is that the service is not running on the server, or the port number is incorrect.

This message can also be returned if the server refuses the SSL connection. The most likely causes are that the server is expecting a client certificate but none has been specified or the client certificate specified is invalid for some reason. This error may also be seen if the server is running an incompatible version of SSL. TeemTalk currently supports SSL2, SSL3 and TLS.

No Root Certificate assigned

This is caused when no **Root Certificate** or no **CACertificate Databse** was specified in the **SSL Settings** dialog for the connection. If no root certificate is available, the server certificate check can be bypassed by selecting the **Do not verify host's certificate** option.

The issuer certificate of a locally looked u certificate could not be found. / No certificates could be verified.

The server's identity certificate was not signed by any of the root certificates installed in TeemTalk. TeemTalk will not connect to a host it cannot verify.

The host name did not match any of the valid hosts for this certificate

The common name is part of the server's certificate. SSL assumes this will match the host name given in the **IP Address** box in the **SSL Settings** dialog. If they do not match TeemTalk will not connect to the host.

Notes About Certificates

The SSL Protocol uses three types of certificates:

- **Server certificates**. These are always sent by the server to the client to validate the server's identity. SSL handles them internally and they are never saved on the client.
- **Client certificates**. These are sent by the client, only if the server requests them, and validate the client's identity. The client will need to store these locally. Usually a client will only have one certificate to validate it on a particular server but different servers may require different client certificates.
- **CA (Certificate Authority) or root certificates**. These are used to authenticate the other two types. The client will need to store these locally.

Storage of Certificates

Unlike previous versions of TeemTalk, certificates are no longer imported and stored in the local system registry. TeemTalk now pulls the certificate values as needed from their original container file. If the certificate file is moved or deleted, the SSL connection will fail until the certificate information is corrected in the **SSL Settings** dialog.

Serial Transport

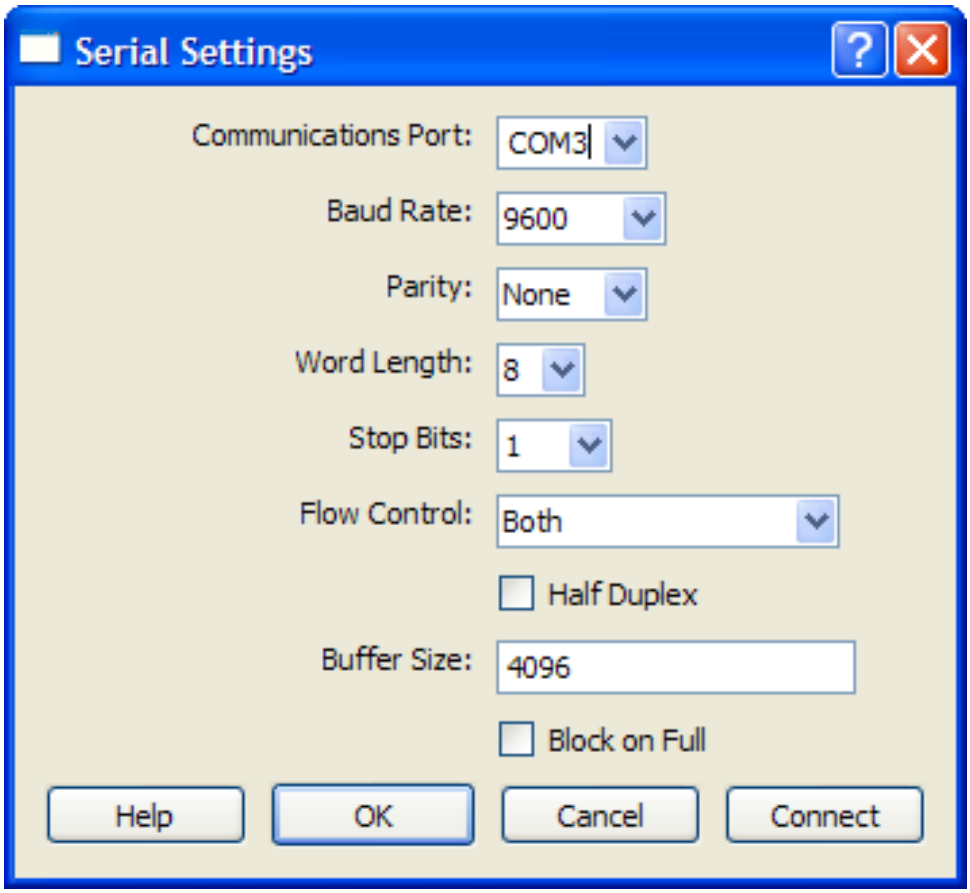
A serial host connection is made using the **Serial Settings** dialog which can be displayed using one of the following three methods:

Using the **Session Wizard**

- In **Step 1** set **Transport** to **Serial** then click the **Configure** button.

Using the **TeemTalk Window**

- On the **Session** menu, select **Transport > Serial** then select **Configure Transport...**.
- On the configuration bar, select **Serial** in the **Transport** list box then click **Configure Transport**.



Specify the settings required by the host using the options described below, then click the **Connect** button.

- **Communications Port**

  Factory default: COM3

  This specifies the port used to communicate with the host.

- **Baud Rate**

  Factory default: 9600

  Specifies the connection speed in the range 110 to 115200 baud.

- **Parity**

  Factory default: None

  This option specifies the parity mode for each transmitted character. If the number of data bits specified by **Word Length** is **8**, set this option to **None**.

  Selecting **Odd** will cause an eighth bit to be added with a value of 1 if the previous 7 bits add up to an even number, and 0 if the previous 7 bits add up to an odd number. Selecting **Even** will cause an eighth bit to be added with a value of 1 if the previous 7 bits add up to an odd number, and 0 if the previous 7 bits add up to an even number. **Mark** parity will set every eighth bit to 1 and **Space** parity every bit to 0.

- **Word Length**

  Factory default: 8

  This option specifies the number of data bits sent for each transmitted character.

- **Stop Bits**

  Factory default: 1

  This specifies the number of stop bits sent for each transmitted character.

- **Flow Control**

  Factory default: Both

  This option specifies the type of flow control used by the line port to communicate readiness to transmit or receive data from the host.

Flow control setting	Effect on flow control
None	No flow control.
Input	XON/XOFF on received data.
Output	XON/XOFF on transmitted data.
Both	XON/XOFF on transmitted and received
Hardware	RTS/CTS hardware flow control.

- **Half Duplex**

  Factory default: Unchecked

The setting of this option determines whether keyboard entered characters are immediately displayed on the screen when transmitted to the host (otherwise known as local echo). When unchecked, characters are not displayed locally when they are transmitted unless the host 'echoes' them back.

- **Buffer Size**

  Factory default: 4096

  This specifies the size of the buffer used for temporary storage of input and output data.

- **Block on Full**

  Factory default: Unchecked

  This determines what happens when the buffer becomes full. Checking this option will cause TeemTalk to block all actions until the buffer is ready to receive new data.

Auto Logon

TeemTalk enables you to automate all or part of the host logon procedure. Settings in the **Auto Logon Options** dialog enable you to specify what is sent to the host in response to prompts displayed on the screen.

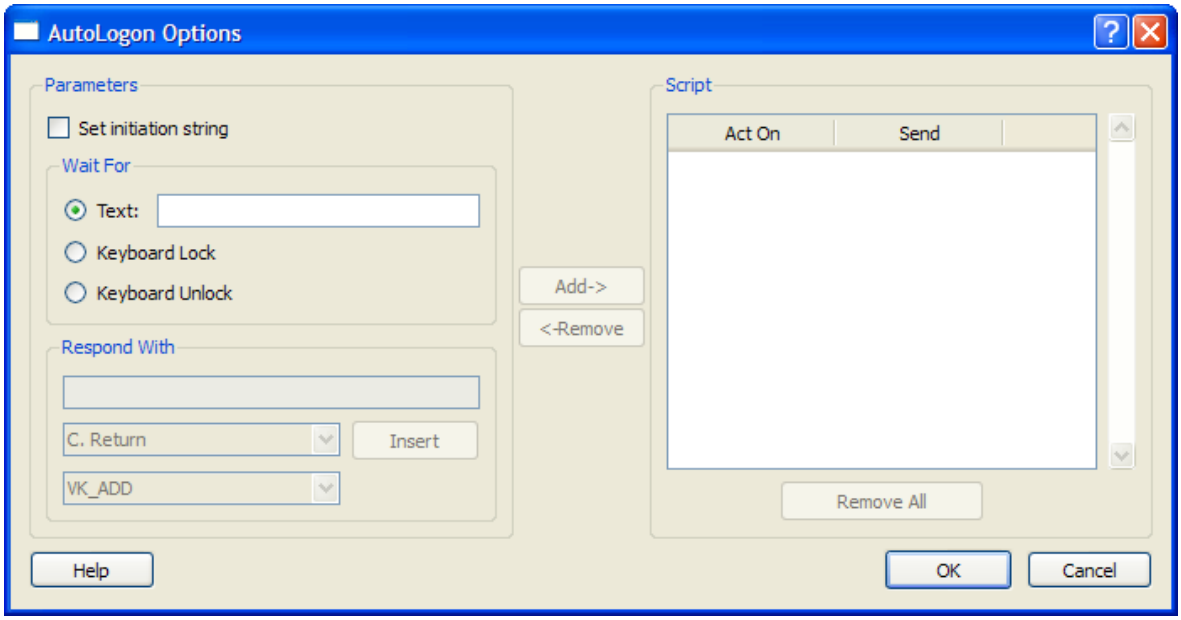
The **Auto Logon Options** dialog can be displayed using one of the following methods:

Using the **Session Wizard**

- Click on the **Auto Logon...** button in **Step 2**.

Using the **TeemTalk Window**

- Select **Auto Logon...** on the **Tools** menu.



To specify auto logon settings:

1. If an initiation string is required by the host when you first make a connection, check the **Set initiation string** box, enter the required characters in the **Initiate with** box (the **Respond With** box in the illustration above), then click the **Add** button. The initiation string will be added to the **Script** window on the right.

2. The **Wait For** options enable you to specify the prompt or keyboard locked or unlocked command that the automatic login process is to wait for before proceeding. Some systems are case Host Connection Auto Logon 35 sensitive, so make sure your **Text** entries follow the correct conventions for your system.

NOTE: When running the IBM 3270 or IBM 5250 emulation, **Text** entries are only applicable in NVT mode.

3. Enter the response required in the **Respond With** box. In order for a text entry to be sent to the host it must be followed by a carriage return command. This is specified by selecting **C. Return** in the list of predefined commands in the list box below then clicking the **Insert** button. A **<CR>** will appear in the **Respond With** box.

   You can also enter a predefined key function in the **Respond With** box by selecting **Key Definition** in the list of predefined commands in the list box below, selecting one of the virtual key names listed in the box below that, then clicking the **Insert** button.

   The list of predefined commands that can be inserted include **UserName** (indicated by **<UN>**) and **Password** (indicated by **<PW>**). Selecting either of these will cause a dialog box to popup when logging on to the host prompting the user to enter a name or password, respectively. You can also delay the script response by 2 seconds by inserting **Delay (2s)** (indicated by **<D>**) or 0.255 seconds by inserting **Pause (0.255)** (indicated by **<P>**).

4. When you have finished specifying the response to a particular prompt, click the **Add** button to add the definition to the **Script** window on the right.

   The script will perform the actions in the order displayed in the **Script** window. To change the order of the script lines, use the up and down arrow buttons to the right of the **Script** window.

5. Repeat this procedure for each prompt as required.

   If you want to edit one of the script lines, select the line in the **Script** window then click **Remove** to send it to the edit boxes on the left. Make the change(s) then click **Add** to send it back to the script. Note that this will now be the last line of the script.

6. When the **Script** window contains all the required responses to the relevant prompts in the correct order, click **Finish**.

4 Keyboard Configuration

This chapter describes how to configure the keyboard, define key functions and compose special characters.

Keyboard Mapping

The functions of the computer keyboard are mapped as closely as possible to the terminal being emulated. The mapping of key functions can be determined by referring to the **Emulation Keys** list box in the **Key Macro Settings** dialog, which is displayed by selecting **Key Macros...** on the **Tools** menu.

The information in brackets in the right column indicates the default mapping of the key function named in the left column. In the list, **S**+ indicates the **Shift** key, **C**+ indicates the **Control** key and **A**+ indicates the **Alt** key. For example:

WY_INSLINE (S+C+VK_INSERT)

indicates that the Wyse emulation **Insert Line** function is mapped to the key combination **Shift + Control + Insert**.

Special key functions supported by each terminal emulation can be mapped to keys using the predefined macros listed in the **Key Macro Settings** dialog.

Defining Key Functions

You can redefine the function of keys on the keyboard using the **Key Macro Settings** dialog. The options in this dialog enable you to redefine the function of most of the keys on your keyboard including the key combinations listed below:

- Key
- Shift + Key
- Control + Key
- Control + Shift + Key
- Alt + Key
- Alt + Shift + Key
- Alt + Control + Key
- Alt + Control + Shift + Key

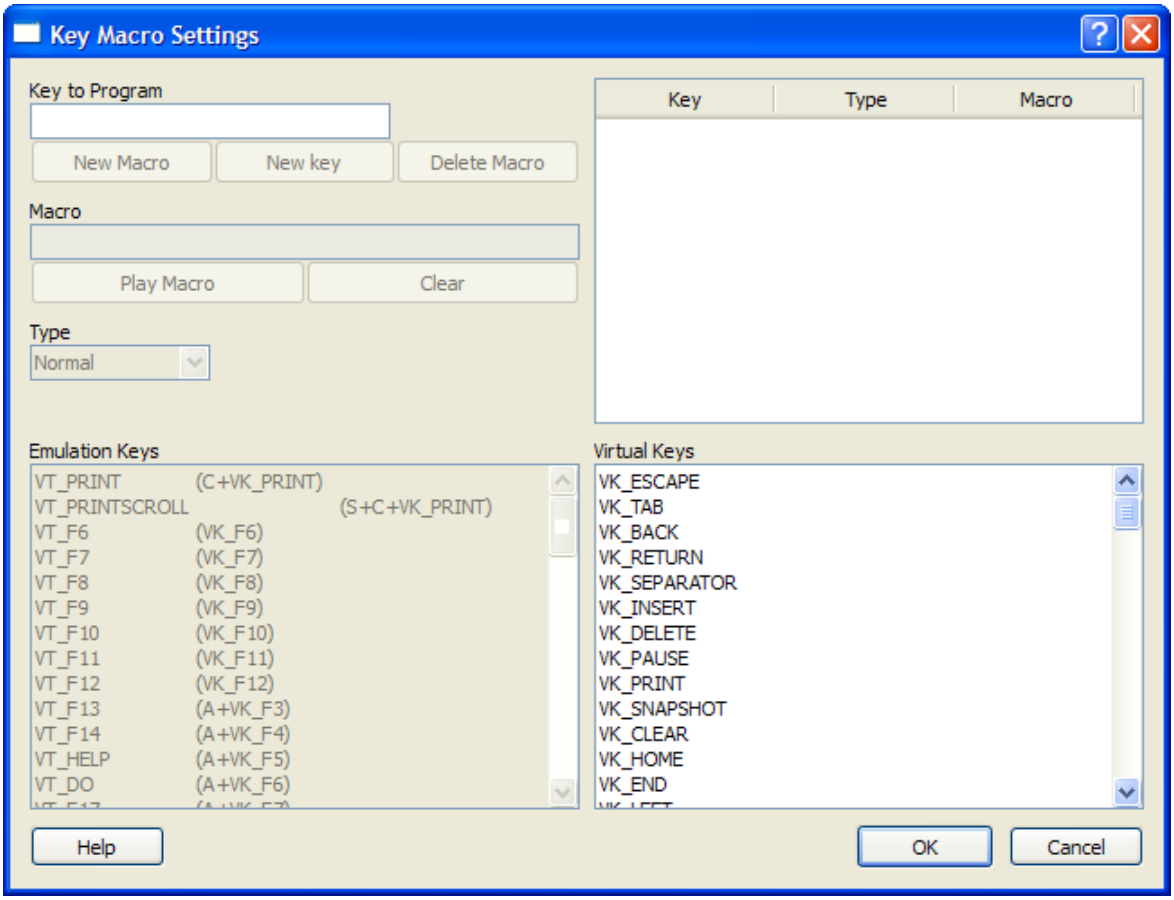
The **Key Macro Settings** dialog can be displayed using one of the following methods:

Session Wizard

- Click on the **Key Macros...** button in **Step 2**.

TeemTalk Window

- Select **Key Macros...** on the **Tools** menu.



The top right panel is used to display information about keys that have been programmed and enables you to select them in order to edit or delete. The **Key** column identifies the programmed key using its virtual key name. The **Type** column specifies how the macro is to be processed. The **Macro** column displays the function definition.

The **Emulation Keys** list box enables you to select from a list of standard key functions specific to the currently selected terminal emulation. The information in brackets in the right column indicates the default mapping of the key function named in the left column. In the list, **S+** indicates the **Shift** key, **C +** indicates the **Control** key and **A+** indicates the **Alt** key.

For example:

WY_INSLINE (S+C+VK_INSERT)

indicates that the Wyse emulation **Insert Line** function is mapped to the key combination **Shift + Control + Insert.**

The **Virtual Keys** list box enables you to select from a list of standard key functions available for all terminal emulations.

The procedure for programming a key is as follows:

1. On your keyboard, press the key or key combination you want to define. The **Key to Program** box will display the corresponding virtual key name for each key pressed.
2. In the **Macro** box enter the function definition for the key or key combination.

   The definition may contain a string of up to 127 characters. The combined total of all the characters that may be programmed into keys is determined by the 127 character limit per definition and the amount of memory available in your PC.

   The definition can contain key functions and control characters to be actioned as well as normal text. Refer to the appendix Programming Keys and Buttons on page 243 for details.

   Double-clicking on an **Emulation Key** or **Virtual Key** will apply that key function to the key definition.

   You can clear the macro by clicking the **Clear** button.
3. Test the function definition by clicking the **Play Macro** button.
4. Specify how the macro is to be processed by selecting one of the following options in the **Type** list box.

   - **Normal**

     The macro will be processed according to the current operating mode when the key or key combination is pressed.
   - **Remote**

     The macro will be transmitted to the host.
   - **Local**

     The macro will be actioned locally.
   - **Startup**

     The macro will be processed automatically on startup.
5. If you want to program another key using the current macro definition, click the **New Key** button.

   If you want to program another key with a different macro definition, click the **New Macro** button.

   You can delete a key definition by selecting it in the list of defined keys (top right) then clicking the **Delete Macro** button.
6. When you have finished defining key functions, click **OK**.
7. To save the key definitions, select **File > Save Session**.

Compose Character Sequences

Compose character sequences can be used to generate codes for characters not shown on your keyboard. The characters that can be composed depend on whether the terminal emulation is in National or Multinational character set mode. When the terminal emulation is in National character set mode, only characters found in the character set that corresponds to the selected keyboard nationality can be composed. When the terminal emulation is in Multinational character set mode, characters from all national keyboard layouts can be composed.

If a character is a diacritical symbol and this symbol does not appear on the keyboard, an equivalent character can be used in some cases. The diacritical symbols and the possible substitutes are shown below. There are no equivalents for the circumflex accent and tilde mark.

Diacritical Mark	Equivalent Character
´ Acute accent	' Apostrophe
¨ Umlaut	" Double quote
` Grave accent	' Single quote
° Ring mark	* Asterisk or degree sign

To compose a character, first find the character you wish to compose in the left hand column of the following tables. The two characters shown in the right hand column are the keys that are used to create it. Several alternatives may be given for generating the same character. A compose sequence is initiated by pressing the keys **Alt + C** together, followed by the key bearing the first character then the key bearing the second character.

NOTE: The compose character sequence can also be initiated by pressing a key defined with the **COMPOSE** virtual key name.

A compose character sequence may be abandoned before completion by pressing the **Delete** key. Pressing **Alt + C** (or the key defined with the **COMPOSE** virtual key name) again before completing a compose character sequence will cause it to be abandoned and a second sequence to be started. An invalid compose character sequence will cause the bell to sound.

The following tables use several conventions:

- The keys bearing the characters used to compose a special character may be pressed in any order unless (**in order**) is specified.
- **(DEC Multinat.)** indicates that the character can only be composed if the terminal emulation is in Multinational mode and the Character Set option is set to Multinational.
- **(Latin-1)** indicates that the character can only be composed if the terminal emulation is in Multinational mode and the **Character Set** option is set to **ISO Latin-1**.
- If a nationality is specified with the character description, for example **(Dutch)**, then the character can only be composed when the terminal emulation is in National mode and the system is configured for the relevant language.

Table 4-1 Compose Character Sequences

"	quotation mark	¨ space
#	number sign	+ +
'	apostrophe	' space
@	commercial at	a a or A A (Multinational) a a or A A or a A (National)
[	opening bracket	((
****	back slash	/ / or / <

Table 4-1 Compose Character Sequences (continued)

]	closing bracket	))
ˆ	circumflex accent	^ space
`	grave accent	` space
{	opening brace	(-
|	vertical line	/ ^
}	closing brace	)-
˜	tilde	~ space
¡	inverted !	! !
¢	cent sign	c / or C / or c | or C |
£	pound sign	l - or L - or l = or L =
¥	yen sign	y - or Y - or y = or Y =
§	section sign	s o or S O or s ! or S ! or s 0 or S 0 (National and Multinational) National includes s O or S o
¤	currency sign	x o or X O or x 0 or X 0
©	copyright sign	c o or C O or c 0 or C 0
ª	feminine ordinal indicator	a - or A _
«	double open angle brackets	< <
°	degree sign	0 ^ (Multinational) ° space (National)
±	plus or minus sign	+ -
²	superscript 2	2 ^
³	superscript 3	3 ^
µ	micro sign	/ u or / U (in order)
¶	paragraph sign	p ! or P !
·	middle dot	. ^
¹	superscript 1	1 ^
º	masculine ordinal indicator	o _ or O _
»	double closed angle brackets	> >
¼	fraction one-quarter	1 4 (in order)
½	fraction one-half	1 2 (in order)
¾	fraction three-quarters (Dutch)	3 4 (in order)
ƒ	Florin (Dutch)	f l (in order)

Table 4-1 Compose Character Sequences (continued)

	i j sign (Dutch)	i j (in order)
¿	inverted ?	? ?
À	A grave	A `
Á	A acute	A '
Â	A circumflex	A ^
Ã	A tilde	A ~
Ä	A umlaut	A " or ¨ A
Å	A ring	A * or A ° (degree sign)
Æ	A E dipthong	A E (in order)
Ç	C cedilla	/ u or / U (in order)
È	E grave	E `
É	E acute	E '
Ê	E circumflex	E ^
Ë	E umlaut	E " or ¨ E
Ì	I grave	I `
Í	I acute	I '
Î	I circumflex	I ^
Ï	I umlaut	I " or ¨ I
Ñ	N tilde	N ~
Ò	O grave	O `
Ó	O acute	O '
Ô	O circumflex	O ^
Õ	O tilde	O ~
Ö	O umlaut	O " or ¨ O
Œ	O E dipthong (DEC Multinational)	O E (in order)
Ø	O slash	O /
Ù	U grave	U `
Ú	U acute	U '
Û	U circumflex	U ^
Ü	U umlaut	U " or ¨ U
Ÿ	Y umlaut (DEC Multinational)	Y " or ¨ Y
ß	German small sharp s	s s
à	a grave	a `

Table 4-1 Compose Character Sequences (continued)

á	a acute	a '
â	a circumflex	a ^
ã	a tilde	a ~
ä	a umlaut	a " or ¨ a
å	a ring	a * or a ° (degree sign)
æ	a e dipthong	a e (in order)
ç	c cedilla	c , (comma)
è	e grave	e `
é	e acute	e '
ê	e circumflex	e ^
ë	e umlaut	e " or ¨ e
ì	i grave	i `
í	i acute	i '
î	i circumflex	i ^
ï	i umlaut	i " or ¨ i
ñ	n tilde	n ~
ò	o grave	o `
ó	o acute	o '
ô	o circumflex	o ^
õ	o tilde	o ~
ö	o umlaut	
œ	o e dipthong (DEC Multinational)	o E (in order)
ø	o slash	o /
ù	u grave	u `
ú	u acute	u '
û	u circumflex	u ^
ü	u umlaut	u " or ¨ u
ÿ	y umlaut	y ' or ¨ y
nbsp	non-breaking space	space space
¦	broken vertical bar (latin-1)	| | or ! ^
¬	logical not (Latin-1)	- , (in order)
	soft (syllable) hyphen (Latin-1)	- -
®	registered trade-mark (Latin-1)	R O

Table 4-1 Compose Character Sequences (continued)

¯	macron (Latin-1)	- ^ or _ ^
¾	three-quarters (Latin-1)	3 4
÷	division sign (Latin-1)	- :
×	multiplication sign (Latin-1)	x x
´	acute accent (Latin-1)	' '
¨	dieresis (umlaut) (Latin-1)	" " or " space
Ý	Y acute (Latin-1)	Y '
ý	y acute (Latin-1)	y '
Þ	capital Icelandic thorn (Latin-1)	T H (in order)
þ	small Icelandic thorn (Latin-1)	t h (in order)
Ð	capital Icelandic Eth (Latin-1)	- D
ð	small Icelandic Eth (Latin-1)	- d

5 Mouse Functions

Default Mouse Functions

You can assign up to sixteen functions to each of the mouse buttons when used in conjunction with modifier keys. The following functions are defined by default:

Button	Modifier Keys	Click	Double-Click
Left Button		Select	Move Cursor
	Shift+	Extend Selection	
	Control+	Paste	
	Shift+Control+	Copy Paste	
	Alt+	Select Rect	
Right Button		Copy	
	Shift+		Select Word
	Shift+Control+		Select Line
	Alt+	Send CR	
Middle Button		Paste	Move Cursor

Defining Mouse Functions

You can redefine the functions assigned to the mouse buttons using the **Mouse Action Settings** dialog. This enables you to specify the functions of the mouse buttons when single or double-clicked on their own or in conjunction with modifier keys.

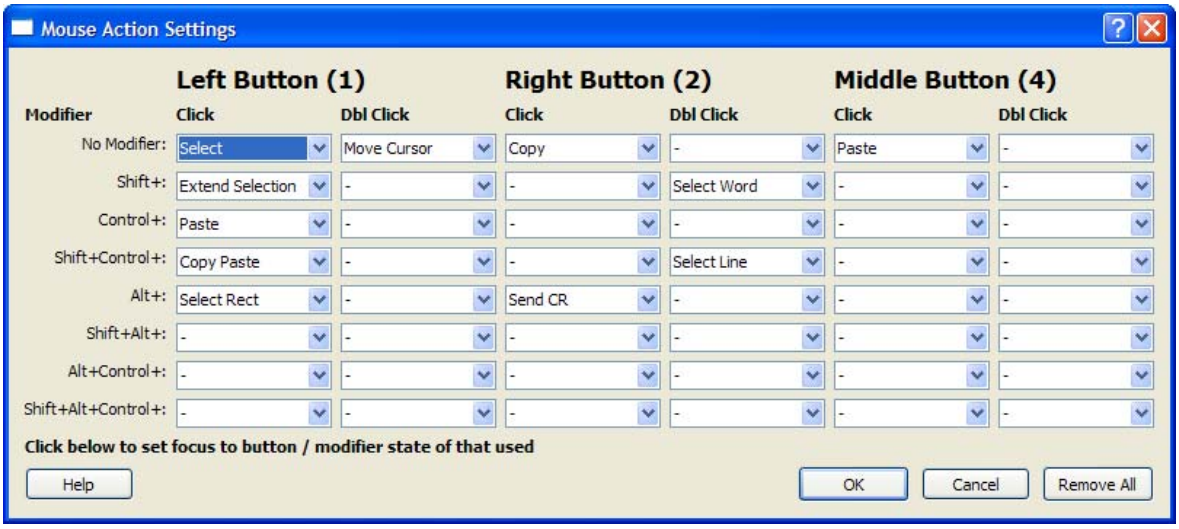
The **Mouse Action Settings** dialog can be displayed using one of the following methods:

Using the **Session Wizard**

- Click on the **Mouse Actions...** button in **Step 2**.

Using the **TeemTalk Window**

- Select **Mouse Actions...** on the **Tools** menu.



You can assign up to sixteen functions to each button by selecting from a list of standard functions described in the next section or defining macros as described in the section Defining a Macro on page 40.

Standard Mouse Functions

- **Select**

  This will select all text from the start position (mouse button held down) to the finish position (mouse button released), working left to right across the entire width of the display.

- **Extend Selection**

  Enables the current selection to be extended.

- **Copy**

  This will copy the current selection to the Clipboard.

- **Paste**

  This will paste the contents of the Clipboard at the current cursor position.

- **Move Cursor**

  When the emulator is in any of the local block modes you can use the mouse instead of the cursor keys to position the text cursor using this function.

- **Select Rect**

  This will only select text contained within the rectangular area defined by the start position (mouse button held down) which sets the top left corner, and the finish position (mouse button released) which sets the bottom right corner of the rectangular area.

- **Select Word**

  This will select the word under the mouse cursor.

- **Select Line**

  This will select the entire line under the mouse cursor

- **Copy Paste**

Copies the current selection and sends it to the host.

- **Macro**

  Actions a user-defined macro. See Defining a Macro on page 40.

- **Send CR**

  Sends a carriage return command.

- **Paste Rect**

  This will paste the contents of the Clipboard into the rectangular area selected by the Select Rect function.

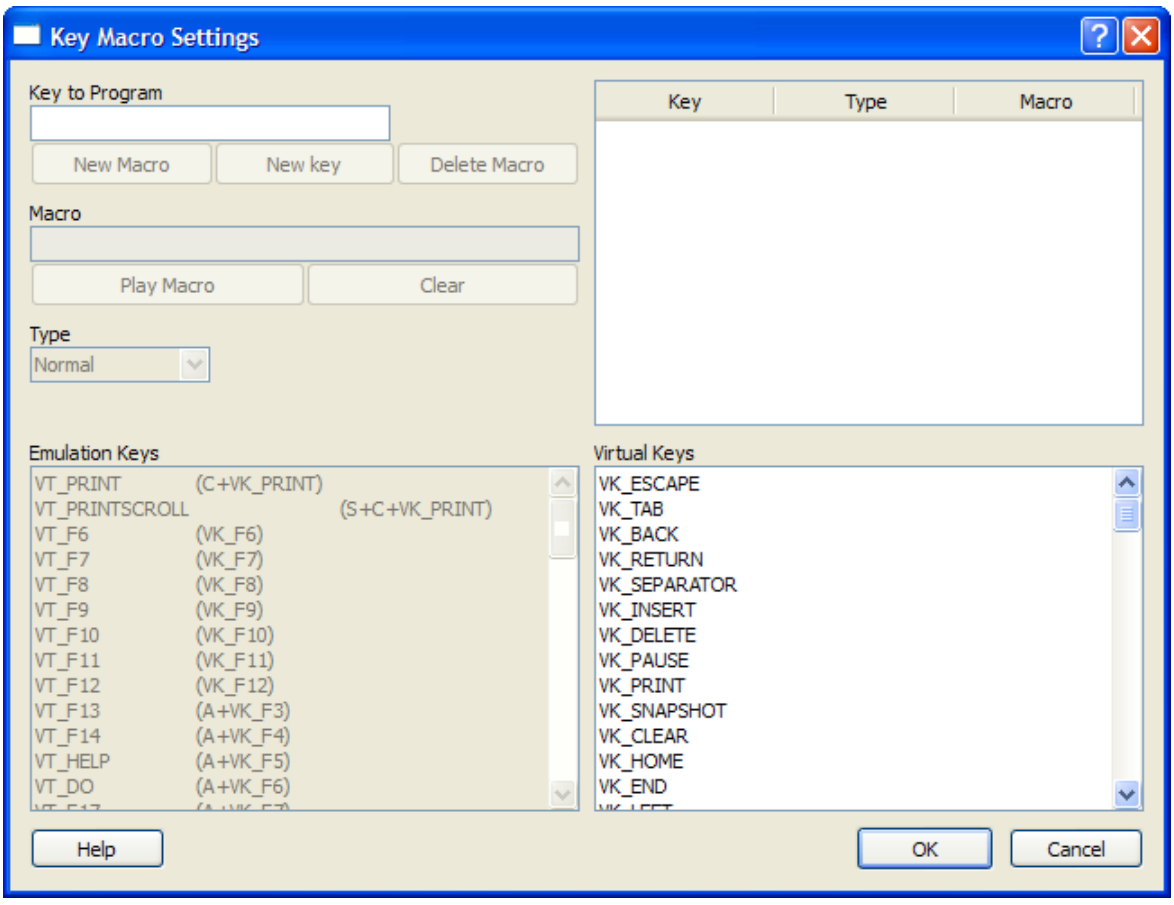
- **Cursor Select**

  This does the same as Move Cursor, but when running the IBM 3270 or IBM 5250 emulation it also performs a cursor select.

Defining a Macro

You can assign a macro to a mouse button or button and modifier key combination as follows:

1. In the **Mouse Action Settings** dialog select the **Macro** option from the drop-down list for the button or button and modifier key combination required. Click **OK** to close the dialog.
2. Display the **Key Macro Settings** dialog.



3. In the **Virtual Keys** box, scroll down to the bottom of the list and you will see six virtual key names for the three mouse buttons when clicked (**VK_MSE_B#_CLK**) or double-clicked (**VK_MSE_B#_DBL**). Note that the middle mouse button is number **4**.
4. If you are defining a button and modifier key combination, hold down the modifier key(s).
5. Double-click on the virtual key name of the button to be programmed (then release the modifier key(s) if pressed).

   The **Key to Program** field will display the virtual key name(s) of the button and modifier key(s) pressed.
6. Enter the macro definition in the **Macro** box, either by entering your own definition as described in the appendix Programming Keys and Buttons on page 243, or selecting standard key functions in the **Emulation Keys** and **Virtual Keys** list boxes.

TIP: For more information about using the **Key Macro Settings** dialog, refer to the section Defining Key Functions on page 30.

7. Click **OK** when you have finished.

6 Hotspots

This chapter describes the hotspot facility and how to use the **Hotspot Editor** to define hotspots.

Introduction

A hotspot facility is provided which enables you to invoke a function with a mouse click on a keyword displayed in the emulation workspace. For example, an application may display information relating to keys you can press to perform a particular function. Instead of pressing the key on the keyboard, you could invoke the function by clicking on the key name on the display using the mouse button or key + mouse button combination which was assigned to the Action Hostspot function.

Hotspots are supported in all terminal emulation modes. A set of default keywords is provided for each mode. These keywords relate to key functions specific to the emulation. For example, in VT500 mode you can click on the word **Help** displayed on the screen and the emulator will execute the function associated with the **Help** key.

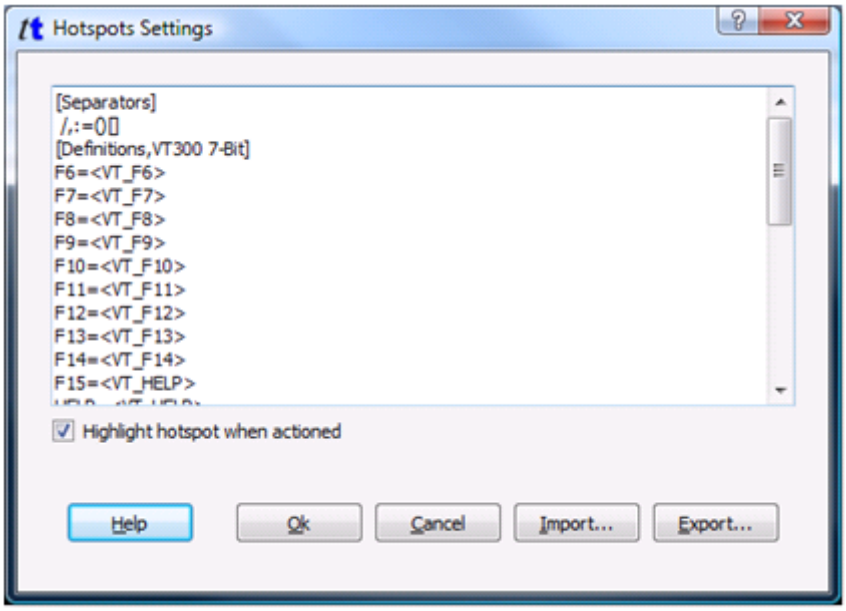
Using Hotspots

In order to use hotspots, you must first assign the Action Hotspot function to a mouse button or key + mouse button combination in the **Mouse Action Settings** dialog (refer to the chapter Mouse Functions on page 38 for details).

You can also identify hotspots that are currently present in display memory by assigning the Show Hotspots function to any mouse button or key + mouse button combination in the **Mouse Action Settings** dialog. When the assigned mouse button or key + mouse button combination is clicked, all color attributes will be temporarily removed from the display and the hotspot's text color will be changed to red. Releasing the mouse button or key + mouse button combination will return the display to its original state.

The Hotspot Editor

The **Hotspot Editor** enables you to customize the hotspots available for the current TeemTalk session. To display the **Hotspot Editor**, select **Hotspots...** from the **File** menu.



Defining a Hotspot

At the top of the **Hotspots Settings** dialog is an editable text box containing the hotspot details. The details are divided into two sections, the **[Separators]** and the **[Definitions,emulation]**, where *emulation* is the current selected emulation mode.

The **Separators** section specifies the displayed characters which delimit a hotspot definition.

NOTE: Delimiter characters include **SPACE** and **NULL** as well as the characters shown.

The start and end delimiter characters do not have to be the same character. Delimiters are necessary to prevent hotspots from occurring within words that happen to contain the same sequence of characters. For example, if you have a hotspot defined for the keyword *end*, the separators would prevent a hotspot from appearing in the word *append*.

The **Definitions** section lists the hotspot definitions. Each hotspot definition appears one per line in the form *Keyword=Action*, where *Keyword* is the display text that will form the hotspot, and *Action* is the function that will be performed when the hotspot is clicked with the mouse button or key + mouse button combination defined as Action Hotspot. The action for the hotspot definition can contain a single key function (virtual key name). Please refer to Virtual Key Names on page 245 for a list of valid keys for the selected emulation mode.

Saving the Hotspots

Hotspot definitions are saved with your sessions by selecting **Save Session** or **Save Session As** from the **File** menu. The hotspot definitions are stored in the session file along with other session details.

Exporting Hotspots

If you wish to use your hotspot definitions in another session or just want a backup of your hotspot definitions, you can export the current hotspot definitions by clicking **Export** in the **Hotspot Editor**. A standard Windows Save As dialog will assist you in specifying the path and file into which you wish to save the definitions. TeemTalk will save the definitions in XML format if the file name ends with

the **.xml** extension; otherwise the hotspot definitions will be exported in plain text format. When providing the file name, you must specify the extension. Enter the file name and click **Save**.

Importing Hotspots

You can import hotspot definitions from previous exported definitions or directly from another TeemTalk session file by clicking **Import** in the **Hotspot Editor**. Use the file browser to locate and select the file containing the hotspot definitions you want imported and then click **Open**.

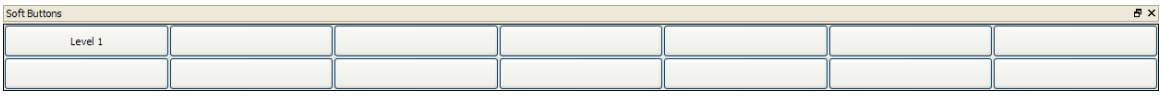
NOTE: Only definitions that match the currently selected emulation will be imported and the import will replace all current definitions.

7 Soft Buttons

This chapter describes how to use the soft buttons.

Introduction

A set of soft buttons are provided which can be programmed to perform a wide variety of functions when clicked. By default they are displayed at the bottom of the TeemTalk window.



There are four soft button levels. Each level consists of twelve buttons providing a combined total of 48 programmable buttons. You can display all four levels at the same time if required. All levels are accessible even if not all are displayed, levels stored off-screen can be 'scrolled' into view by clicking the **Level #** button.

The button below the **Level #** button on each level cannot be programmed, but it has two uses. It can be used to scroll through the available levels in reverse order, and you can specify text to be displayed on it as a label describing the buttons on that level.

You can detach the soft buttons so that they are displayed in a separate window either by clicking the **Restore Down** button above the top-right soft button, or by unchecking the Attached to the window option in the **Soft Button Settings** dialog.

To re-attach the soft buttons to the TeemTalk window, either double-click on the title bar of the **Soft Buttons** window, or select the **Attached to the window** option in the **Soft Button Settings** dialog.

You can remove the soft buttons from the display either by selecting **Windows** > **Soft Buttons** from the **View** menu so that it is unchecked, or in the **Soft Button Settings** dialog by setting the **Visible Levels** option to **0**.

To re-display the soft buttons, either select **Windows** > **Soft Buttons** from the **View** menu so that it is checked, or in the **Soft Button Settings** dialog, set the **Visible Levels** option to any number other than **0**.

Defining Soft Button Functions

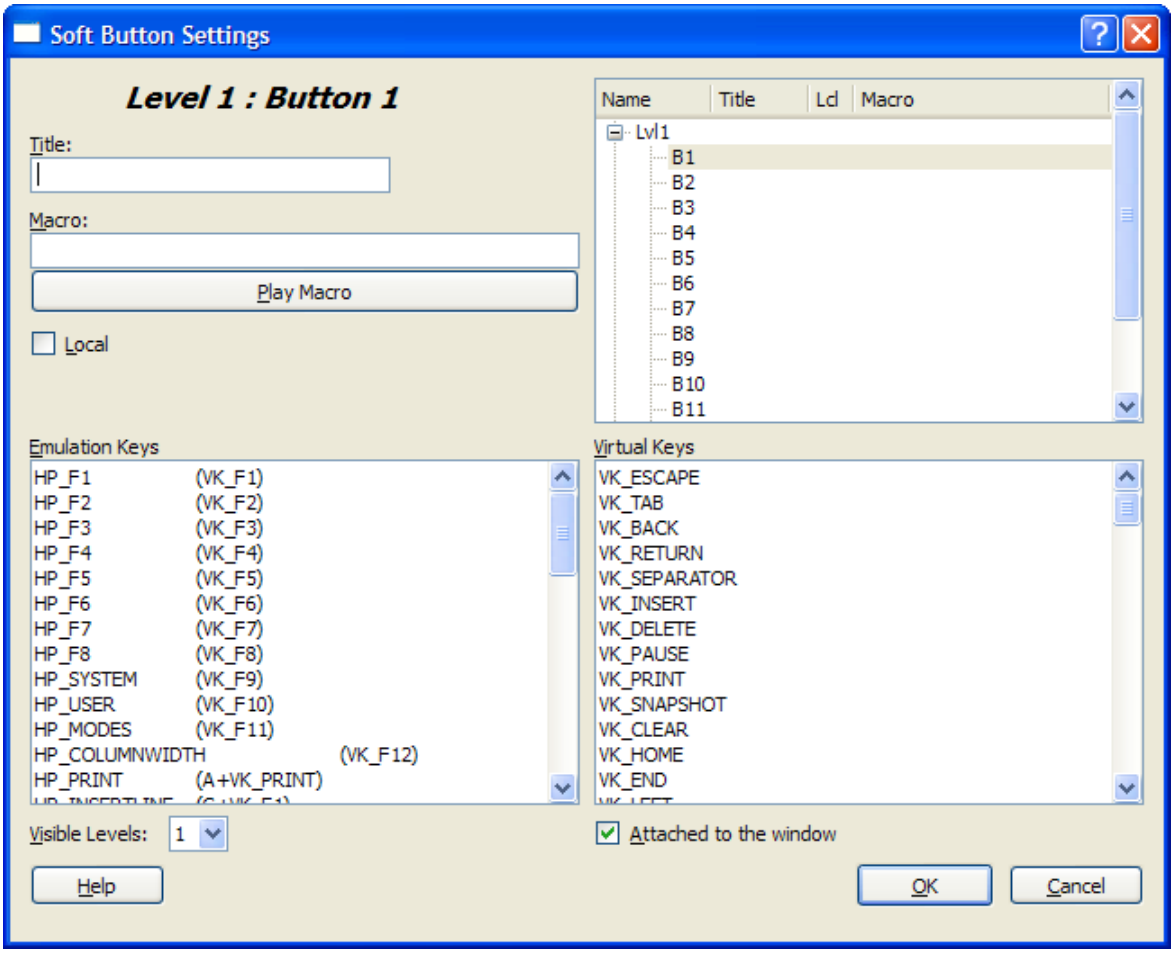
Soft button functions are defined using the Soft Button Settings dialog which can be displayed using one of the following methods:

Using the **Session Wizard**

- Click on **Soft Buttons...** in **Step 2**

Using the **TeemTalk Window**

- Select **Soft Buttons...** on the **Tools** menu.



The top right panel is used to display information about soft buttons that have been programmed and enables you to select them in order to edit or delete. The **Title** column displays the text that will appear on the soft button. An asterisk in the **Lcl** column indicates that the function will be actioned locally. The **Macro** column displays the function definition.

The **Emulation Keys** list box enables you to select from a list of standard key functions specific to the currently selected terminal emulation. The information in brackets in the right column indicates the default mapping of the key function by TeemTalk. For example:

WY_INSLINE (S+C+VK_INSERT)

indicates that the Wyse emulation **Insert Line** function is mapped to the key combination **Shift + Control + Insert** on a standard Enhanced AT keyboard.

The **Virtual Keys** list box enables you to select from a list of standard key functions available for all terminal emulations.

The procedure for defining a soft button is as follows:

1. In the top-right panel, select the button number (**B1** - **B12**) on the required level (**Lvl1** - **Lvl4**).

   Note that selecting one of the **Lvl#** button levels will enable you to specify a title for that group of buttons. The title will be displayed on the button immediately below the **Level #** button, but you cannot program this button.

2. In the **Title** box enter the text to be displayed on the button (up to twenty characters).

3. In the **Macro** box enter the function definition for the button.

   The definition can contain key functions and control characters to be actioned as well as normal text. Refer to the appendix Programming Keys and Buttons on page 243 for details.

   Double-clicking on an **Emulation Ke**y or **Virtual Key** will apply that key function to the button definition.

4. Test the function definition by clicking the **Play Macro** button.

5. If you want the function to be performed locally only, check the **Local** box.

6. Specify how many soft button levels you want to be displayed at any one time using the **Visible Level**s selection list. You can display up to four levels at a time with each level containing twelve programmable soft buttons. Selecting **0** will remove the soft buttons from the display.

7. If you want the soft buttons displayed in a separate window, uncheck the **Attached to the window** option.

8. When you have finished defining soft button functions, click **OK**.

9. To save the soft button settings, select **File** > **Save Session**.

8 Display Attributes

This chapter describes how to change the colors used in the emulation workspace and specify how text with attributes is displayed.

Introduction

TeemTalk provides a variety of options for you to customize how the display appears in the emulation workspace. You can change the color of the screen background and the foreground text. You can assign different colors to text with specific attributes or attribute combinations, and you can change the default text attributes.

Text with attributes can be displayed in various ways. For example, characters with the underline attribute can be displayed as standard (e.g. underlined only), as a particular color only (e.g. green without the underline), or with both attribute and a specific color (e.g. underlined and green).

This chapter describes how to use the **Attributes** dialog to specify the display settings you prefer.

The Attributes Dialog

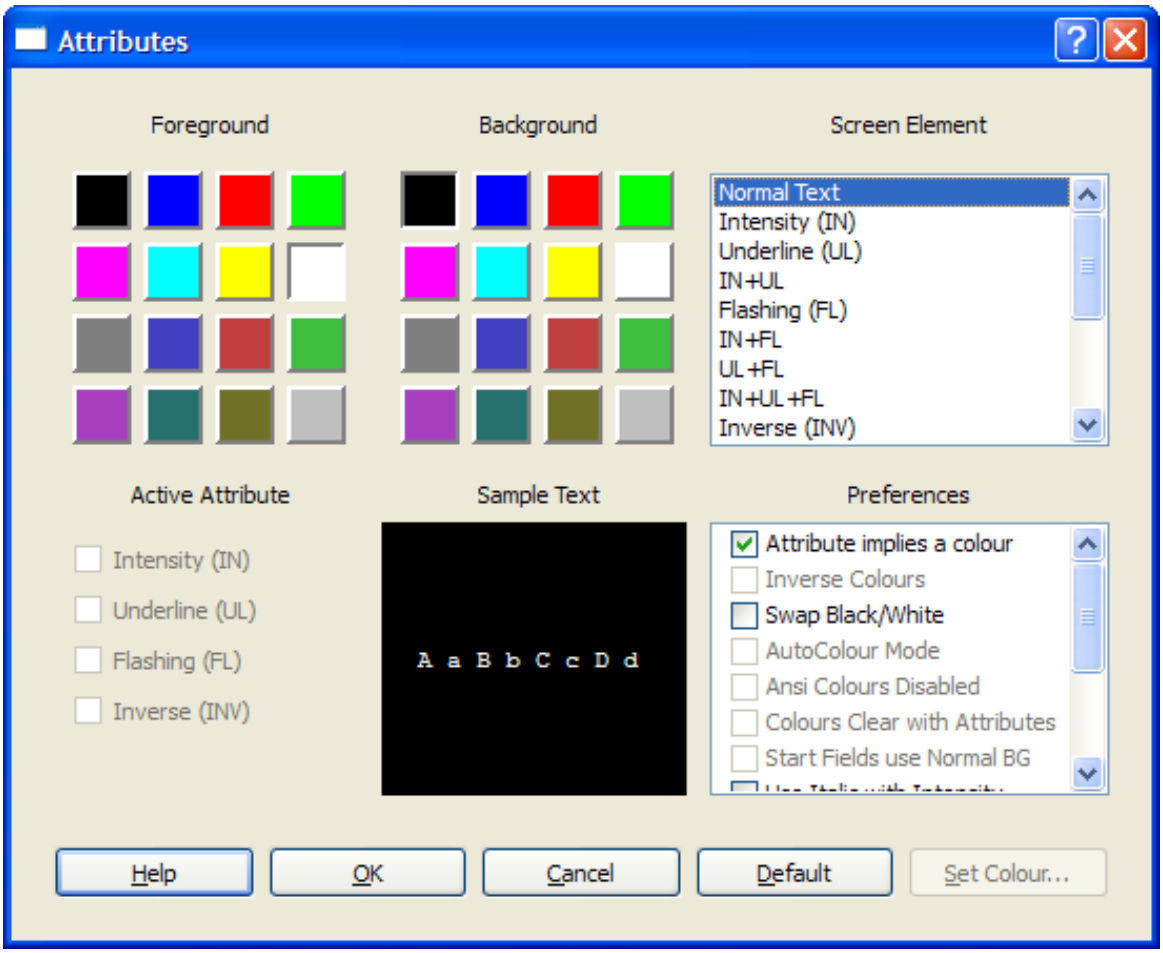
The Attributes dialog can be displayed using one of the following methods:

Using the **Session Wizard**

- Click on the **Attributes...** button in **Step 2**.

Using the **TeemTalk Window**

- Select **Attributes...** on the **Tools** menu.



The **Screen Element** list box enables you to select the display element you want to modify. This includes each character attribute (such as bold or underline) and attribute combination (such as bold +underline).

The **Foreground** and **Background** color palettes enable you to specify the colors for the selected **Screen Element**. You can select different colors for the palettes by clicking the **Set Colour** button.

The **Active Attribute** options allow you to enable or disable the attributes assigned to text by default. For example, if you want characters normally displayed with the underline attribute to be displayed without the underline, select the **Underline (UL)** option in the **Screen Element** list box then uncheck the **Underline (UL)** option under **Active Attribute**.

The **Sample Text** box is used to show how the attribute settings currently applied to the selected screen element will appear on the display.

The **Preferences** list box enables you to select additional display options, some of which are terminal emulation specific. For example, the **AutoColour Mode** option is only applicable to DEC VT terminal emulations and when selected will cause displayed characters to be color coded according to type (numeric, alphabetic, etc.).

Changing the Screen Background Color

To change the color of the screen background:

1. Select **Screen Background** in the **Screen Element** list box. The **Sample Text** box will show the current color assigned.
2. Click on the desired color in either the **Foreground** or **Background** color palettes. The **Sample Text** box will show the new color selection.

Changing Text Foreground and Background Colors

To change text foreground and background colors:

1. In the **Screen Element** list box, select **Normal Text** or one of the character with attributes(s) options such as **Underline (UL)** or **IN+UL** for inverse+underline (see note below). The **Sample Text** box will show the current colors assigned.
2. Click on the desired color for the text character in the **Foreground** color palette, and click on the desired color for the character cell background in the **Background** color palette. The **Sample Text** box will show the new color selection.

NOTE: Each character attribute and attribute combination has its own color foreground and background setting. The **Normal Text** option will only affect text with no attributes.

Disabling an Attribute

To disable an attribute assigned to text (e.g. turning off the blinking attribute):

1. In the **Screen Element** list box, select the text attribute or attribute combination containing the attribute you want to disable.
2. In the **Active Attribute** list, uncheck the box next to the attribute you want to disable.

Preferences

The **Preferences** options in the **Attributes** dialog enable you to select additional display options, some of which are terminal emulation specific.

- **Attribute implies a colour**

  Factory default: Unchecked

  This option allows you to enable or disable the color associated with an attribute.

- **Inverse Colours**

  Factory default: Unchecked

  When this option is checked, characters with the inverse attribute will have the text (foreground) color swapped with that of the text cell (background).

- **Swap Black/White**

  Factory default: Unchecked

  When checked, anything that has the white attribute will be displayed as black, and vice versa.

- **Autocolour Mode**

  Factory default: Unchecked

  This option is only applicable to the DEC VT terminal emulations. When checked, displayed characters are color coded according to type. For example, all numeric characters are displayed in one color while all alphabetic characters are displayed in another. Unchecking this option will cause characters to be displayed using the settings in this dialog.

- **Ansi Colours Disabled**

  Factory default: Unchecked

  Selecting this option will cause ANSI color commands to be ignored.

- **Colours Clear with Attributes**

  Factory default: Checked

  The setting of this option determines whether the foreground and background colors are cleared to the default colors when an ANSI clear attributes command is received.

- **Start Fields use Normal BG**

  Factory default: Unchecked

  This option only applies to the IBM 3270 Display emulation. If attribute indicators take up character positions on the screen, you can force those positions to display the normal background color instead of the attributes by selecting this option.

- **Use Italic with Intensity**

  Factory default: Unchecked

  Selecting this option will cause any characters that have the intensity (bold) attribute to be italicized.

- **Use Font with Intensity**

  Factory default: Unchecked

  Selecting this option will cause all characters to be displayed using a bold font.

- **Blink Underline**

  Factory default: Unchecked

  Selecting this option will cause characters with the underline attribute to blink.

- **Blink Column Separators**

  Factory default: Unchecked

  Selecting this option will cause column separators to blink.

- **Blink Foreground/Background**

  Factory default: Unchecked

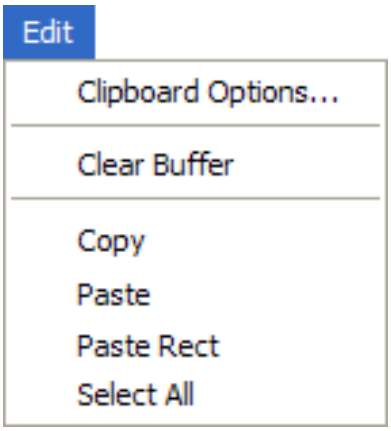
  Selecting this option will cause the foreground and background colors to alternate.

9 Editing Options

This chapter describes how to use the editing options provided on the **Edit** menu.

The Edit Menu

The **Edit** menu provides a range of editing options.



- **Clipboard Options**

  This displays the **Clipboard Options** dialog that enables you to specify how data is copied. The options in this dialog are described in the section Clipboard Options on page 53.

- **Clear Buffer**

  This will erase the contents of the window and the scroll buffer.

- **Copy**

  The Copy command becomes available when data has been selected. It will cause the currently selected text to be copied to the Clipboard in the format specified in the **Clipboard Options** dialog. The data can then be inserted in a different location using the **Paste** command. The next block of data that is copied will delete the previous block on the Clipboard.

- **Paste**

  This will cause data that has been copied to the Clipboard to be pasted at the current cursor position. The same block of data may be pasted repeatedly as the Clipboard stores it until the **Copy** command is used again.

- **Paste Rect**

  This will paste the contents of the Clipboard into the rectangular area selected by the **Select Rect** function.

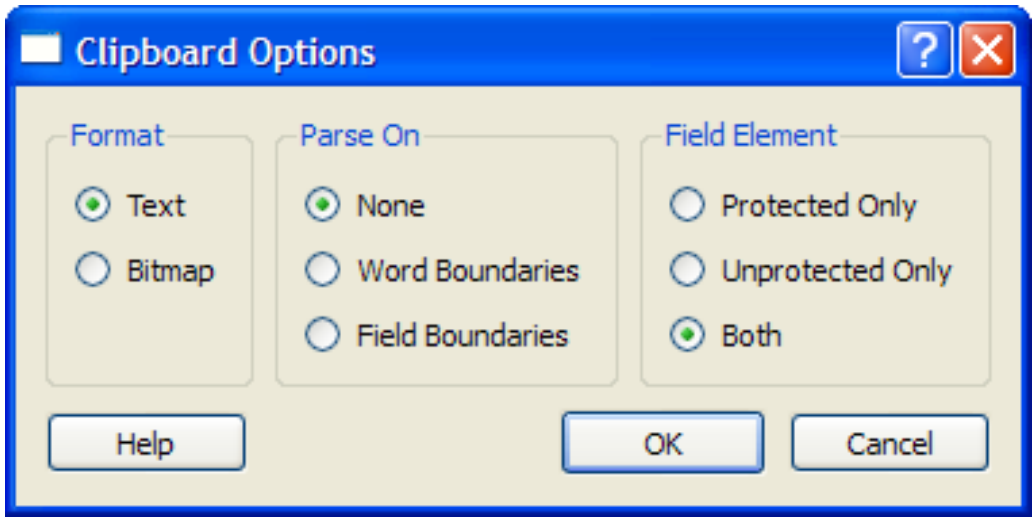
  By default the **Select Rect** function is actioned by holding down the **Alt** key and pressing the left mouse button. It will only select text contained within the rectangular area defined by the start position (mouse button held down) which sets the top left corner, and the finish position (mouse

button released) which sets the bottom right corner of the rectangular area. Refer to the chapter Mouse Functions on page 38 for more details.

- **Select All**

  This will select the contents of the window (not the entire buffer)

Clipboard Options



The **Clipboard Options** dialog is displayed by selecting **Clipboard Options...** on the **Edit** menu.

- **Format**

  Factory default: Text

  This setting determines the format in which data is copied.

  Selecting **Text** will enable a standard copy of selected text.

  Selecting **Bitmap** will enable graphics to be copied in device independent bitmap format.

- **Parse On**

  Factory default: None

  This option enables you to specify that copied text is tab delimited either at the end of each word or at the end of each field. This is useful when you want to paste data into cells.

- **Field Element**

  Factory default: Both

  This option enables you to specify that only text in protected fields is copied, only text in unprotected fields, or both.

10 Printing

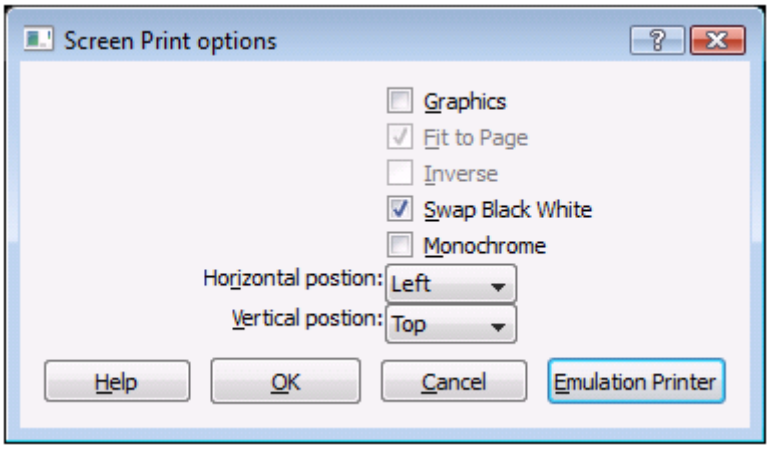
This chapter describes the printing options supported by TeemTalk.

File Menu Printing Options

This section describes the printing options available via the **File** menu.

Print Screen

Selecting **Print Screen...** in the **File** menu will display a dialog that enables you to produce a hardcopy of the current screen data.



The default printing options are to print plain text by default with the **Fit to Page** and **Inverse** options disabled.

- **Graphics**

  Factory default: Unchecked

  Causes all data in the emulation workspace to be printed as a bitmap image. The hardcopy output will be an almost exact representation of the emulation workspace. Note that a graphics print will take a lot longer than a text print.

- **Fit to Page**

  Factory default: Checked

  This option is enabled only when the **Graphics** print option is selected. Selecting this option will cause the emulator to print as large an image as possible on the printer's paper. When this option is not selected, a pixel-by-pixel print of the screen will be printed which will generally be smaller, depending on the printer's resolution.

- **Inverse**

  Factory default: Unchecked

This option is enabled only when the **Graphics** print option is selected. Selecting this option will cause the bitmap printed to be a negative image of the display.

- **Swap Black White**

  Factory default: Checked

  This option is enabled only when the **Graphics** option is not selected. Selecting this option will cause white to be printed as black and black to be printed as white. Other colors are unaffected by this option.

- **Monochrome**

  Factory default: Unchecked

  Printing will be in black and white only.

- **Horizontal position**

  Factory default: Left

  Causes the print output to be positioned on the left or right side of the page or to be centered on the page.

- **Vertical position**

  Factory default: Top

  Causes the print output to be positioned on the top or bottom of the page or to be centered on the page.

Clicking **OK** causes the screen printing to occur without using the emulation printer functionality. Clicking **Emulation Printer** will cause the print output to be processed through the Emulation Printer.

Print Buffer

Selecting **Print Buffer** in the **File** menu will send a copy of all the data contained in the window buffer to the currently selected printer.

Auto Print

Selecting **Auto Print** in the **File** menu will toggle auto print mode on and off, as indicated in the **File** menu when auto print mode is on. Auto print mode causes each line of data to be transmitted to the printer when the cursor moves to a new line as a result of a carriage return, line feed, vertical tab, or form feed.

Eject Page

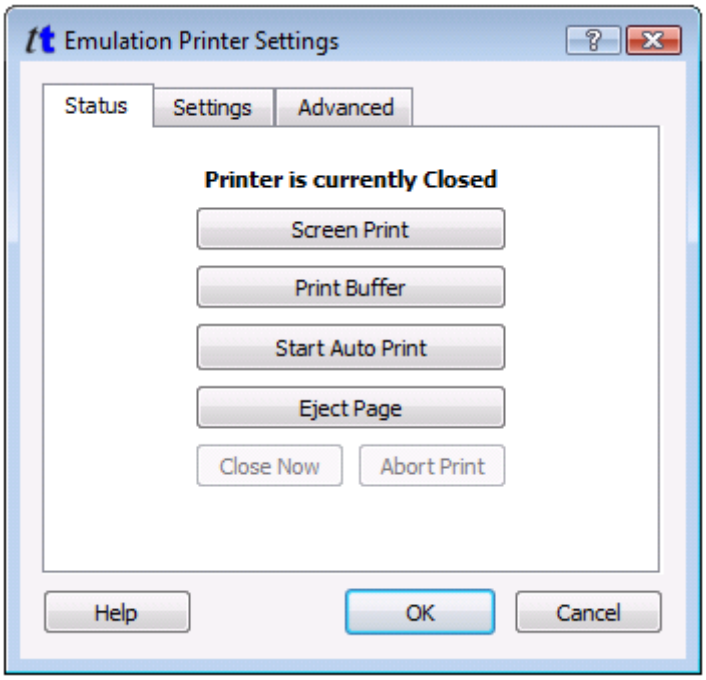
Selecting **Eject Page** in the **File** menu will enable data that has been spooled to the printer to be printed.

Emulation Printer Settings

The **Emulation Printer Settings** dialog is displayed by selecting **Emulation Printer...** in the **File** menu. The following sections describe the functions of the tabs that appear in the dialog.

Status

The **Status** tab will indicate the current status of the printer. This tab also provides buttons which allow you to perform several print operations.



- **Screen Print**

  Print a fast print of the screen using Unicode.

- **Print Buffer**

  Send a copy of all the data contained in the window buffer to the currently selected printer.

- **Start/End Auto Print**

  Ttoggle auto print mode on and off. Auto print mode causes each line of data to be transmitted to the printer when the cursor moves to a new line as a result of a carriage return, line feed, vertical tab, or form feed.

- **Eject Page**

  Cause data that has been spooled to the printer to be printed.

- **Close Now**

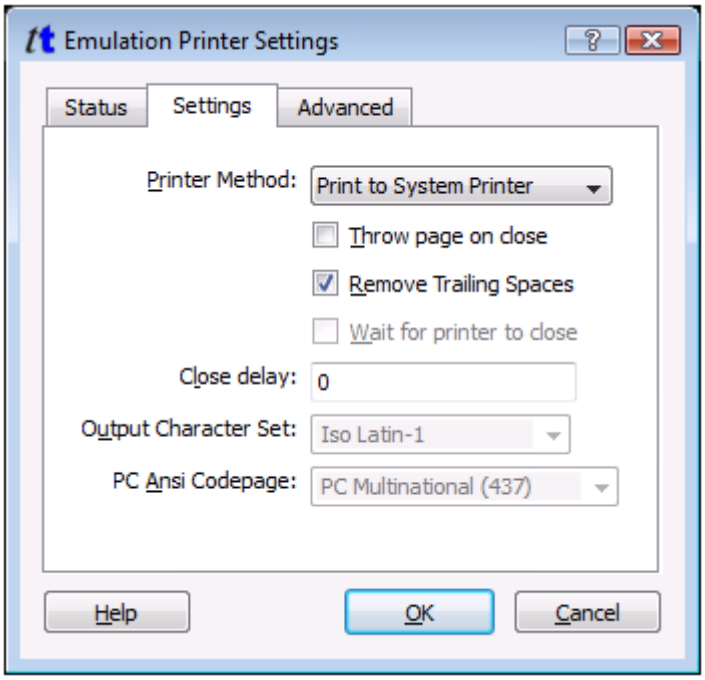
  Close the printer.

- **Abort Print**

  Cancel a **Print Screen** or **Print Buffer** function.

Settings

The **Settings** tab provides controls to adjust the details of how the data is sent to the printer.



- **Printer Method**

  Factory default: Print to System Printer

  - **Print to File** Send print data to a file.
  - **Print to System Printer** Send print data to the printer connected to your system.
  - **Print to Serial Device** Send print data to a serial device.
  - **Print to LinePrinter Device** Send print data to a line printer (LPT) device.
  - **Print to LPR** Send print data to a network printer.

- **Throw page on close**

  Factory default: Unchecked

  When this option is checked, a form feed will be issued when closing the printer. This is required for most page printers.

- **Remove Trailing Spaces**

  Factory default: Unchecked

  When this option is checked, any trailing spaces will be removed before the line is sent to the printer.

- **Wait for printer to close**

  Factory default: Unchecked

  This option is only available when either the **Print to Serial Device** or the **Print to LinePrinter Device** printer method is selected. When this option is checked, all other processing will be blocked during printing. Please note that the application will be locked during a close if the buffers require flushing.

- **Close delay**

Factory default: 0 (zero)

Specifies the time (in tenths of a second) to wait before closing. Note that the printer will not be closed if a new open is requested before time out. The application will be blocked during a close if the buffers require flushing. Specifying a large value can avoid blocking.

- **Output Character Set**

  Factory default: Iso Latin-1

  The character translation used by the printer.

- **PC Ansi Codepage**

  Factory default: PC Multinational (437)

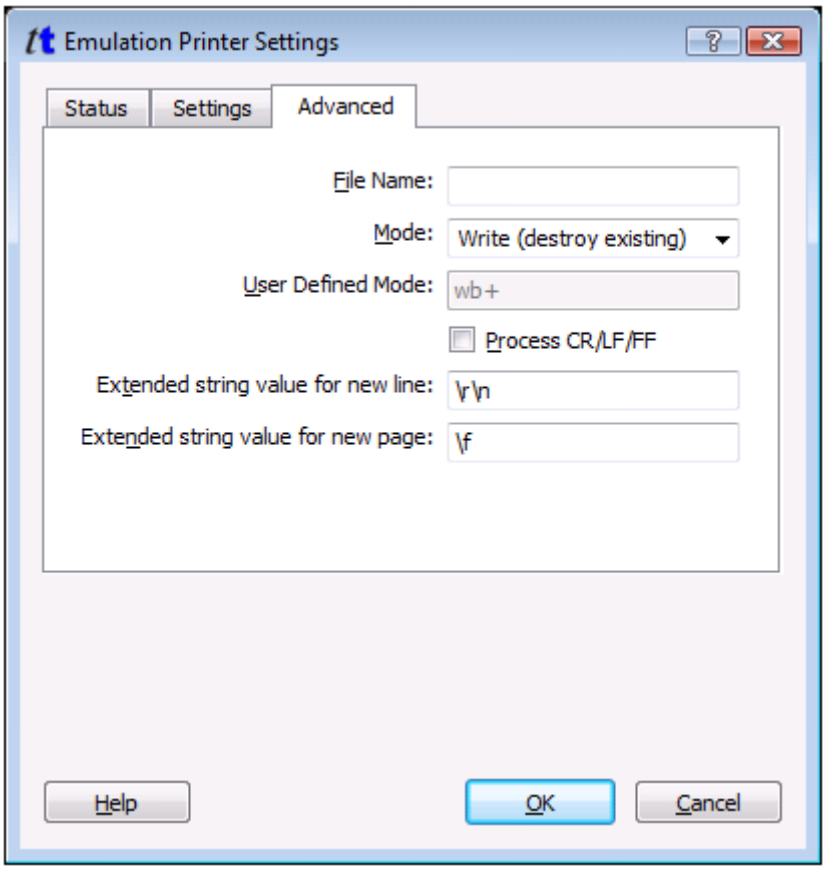
  The codepage value when the **Output Character Set** is set to **PC Ansi**.

Advanced

The following sections describe the options available in the **Advanced** tab of the **Emulation Printer Settings** dialog box. The options available vary depending on the current **Printer Method** setting in the Settings tab.

Print to File

The following are the options available when the **Printer Method** option on the **Settings** tab is set to **Print to File**.



- **File Name**

  Factory default: Unspecified

  The name of the file to which the print data should be sent.

- **Mode**

  Factory default: Write (destroy existing)

  The mode in which the file is opened.

  - **Write** Causes the contents of an existing file to be replaced with new print data.
  - **Append** Causes print data to be appended to existing file contents.
  - **User Defined Mode** Enables the **User Defined Mode** option.

- **User Defined Mode**

  Factory default: wb+

  When **Mode** is set to **User Defined**, this settings allows you to specify the mode in which the file is opened.

- **Process CR/LF/FF**

  Factory default: Unchecked

  When checked, a Carriage Return or Line Feed command will output a new line, and a Form Feed command will output a new page.

- **Extended string value for new line**

  Factory default: \r\n

  You can specify an extended string value for a new line using any of the following entries: **\a**, **\b**, **\f**, **\n**, **\r**, **\t**, **\v**, or **\(decimal)**, **\(0octal)**, **\(0xHexadecimal)**.

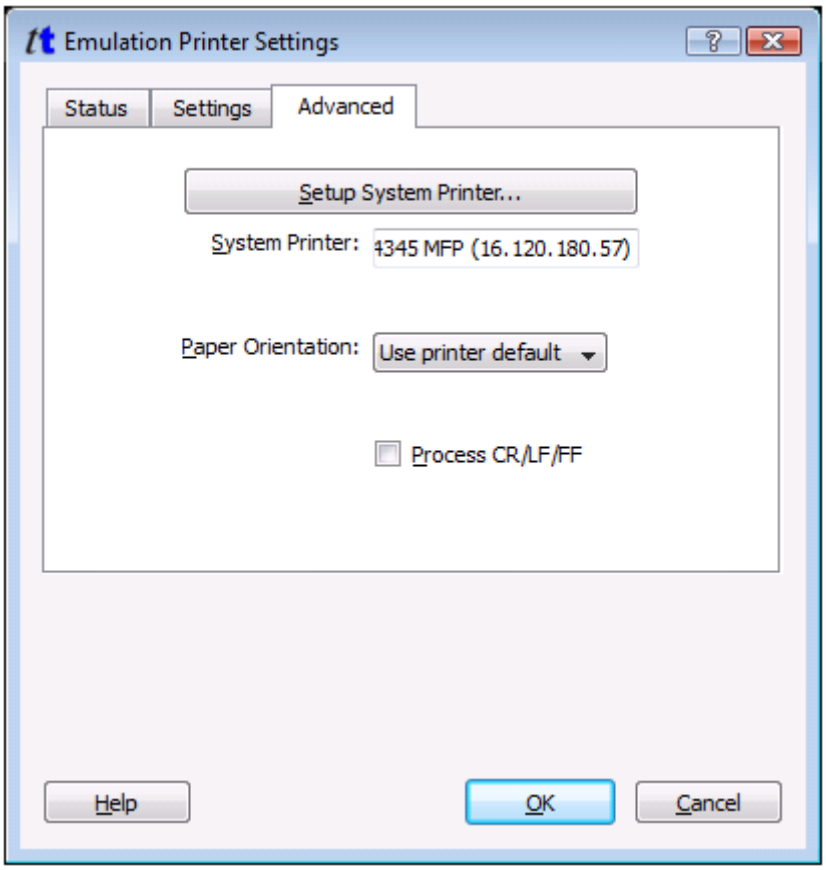
- **Extended string value for new page**

  Factory default: \f

  You can specify an extended string value for a new page using any of the following entries: **\a**, **\b**, **\f**, **\n**, **\r**, **\t**, **\v**, or **\(decimal)**, **\(0octal)**, **\(0xHexadecimal)**.

Print to System Printer

The following are the options available when the **Printer Method** option on the **Settings** tab is set to **Print to System Printer**.



- **Setup System Printer**

  Clicking this button will display the standard Windows **Print** dialog for specifying printer settings.

- **System Printer**

  Displays the name of the currently selected system printer.

- **Paper Orientation**

  Factory default: Use printer default

Determines the paper orientation of the print output.

- **Use printer default** the paper orientation is determined by the setting in the standard Windows **Print** dialog.
- **Landscape** Output prints in landscape mode.
- **Portrait**

  Output prints in portrait mode.

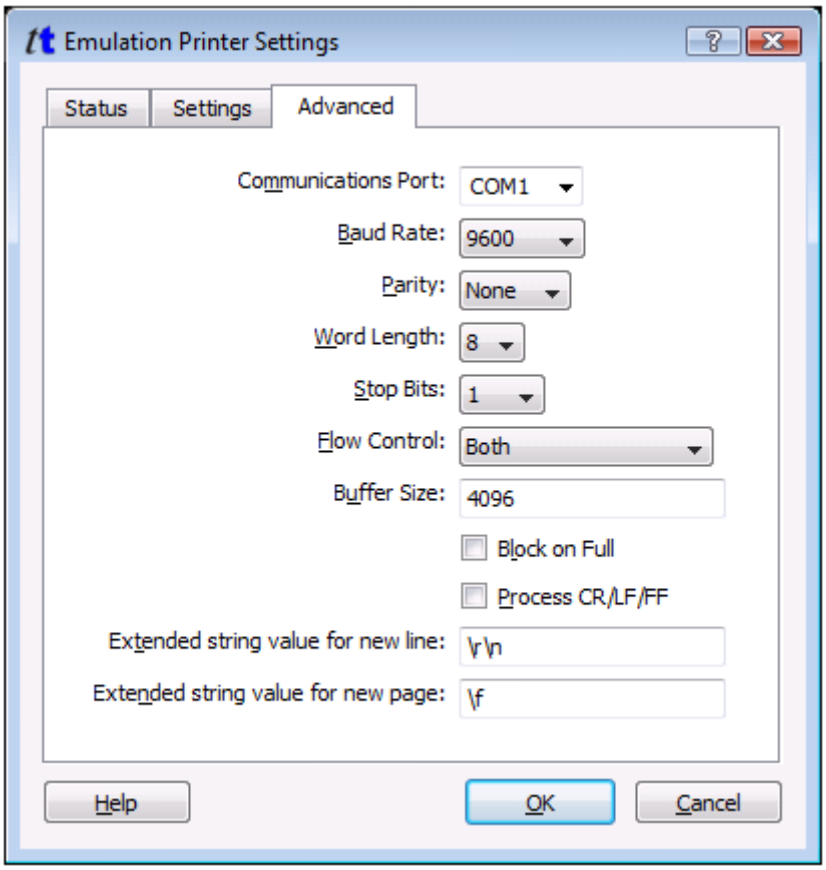
- **Process CR/LL/FF**

  Factory default: Unchecked

  When checked, a Carriage Return or Line Feed command will output a new line, and a Form Feed command will output a new page.

Print to Serial Device

The following are the options available when the **Printer Method** option on the **Settings** tab is set to **Print to Serial Device**.



- **Communications Port**

  Factory default: COM1

  Specifies the COM port to use for printer communication.

- **Baud Rate**

  Factory default: 9600

  Specifies the connection speed in the range 110 to 115200 baud.

- **Parity**

  Factory default: None

  This option specifies the parity mode for each transmitted character. If the number of data bits specified by **Word Length** is **8**, set this option to **None**.

  Selecting **Odd** will cause an eighth bit to be added with a value of 1 if the previous 7 bits add up to an even number, and 0 if the previous 7 bits add up to an odd number.

  Selecting **Even** will cause an eighth bit to be added with a value of 1 if the previous 7 bits add up to an odd number, and 0 if the previous 7 bits add up to an even number.

  Mark parity will set every eighth bit to 1.

  Space parity will set every bit to 0.

- **Word Length**

Factory default: 8

Specifies the number of data bits sent for each transmitted character.

- **Stop Bits**

  Factory default: 1

  Specifies the number of stop bits sent for each transmitted character.

- **Flow Control**

  Factory default: Both

  This option specifies the type of flow control used by the line port to communicate readiness to transmit or receive data from the host.

  - **None** No flow control.
  - **Input** XON/XOFF on received data.
  - **Output** XON/XOFF on transmitted data.
  - **Both** XON/XOFF on transmitted andreceived data.
  - **Hardware** RTS/CTS hardware flow control.

- **Buffer Size**

  Factory default: 4096

  Specifies the size of the buffer used for temporary storage of input and output data.

- **Block on Full**

  Factory default: Unchecked

  Determines the action to take when the print buffer becomes full. Checking this option will cause all actions to be blocked until the print buffer is ready to receive new data.

- **Process CR/LF/FF**

  Factory default: Unchecked

  When checked, a Carriage Return or Line Feed command will output a new line, and a Form Feed command will output a new page.

- **Extended string value for new line**

  Factory default: \r\n

  You can specify an extended string value for a new page using any of the following entries: **\a**, **\b**, **\f**, **\n**, **\r**, **\t**, **\v**, or **\(decimal)**, **\(0octal)**, **\(0xHexadecimal)**.

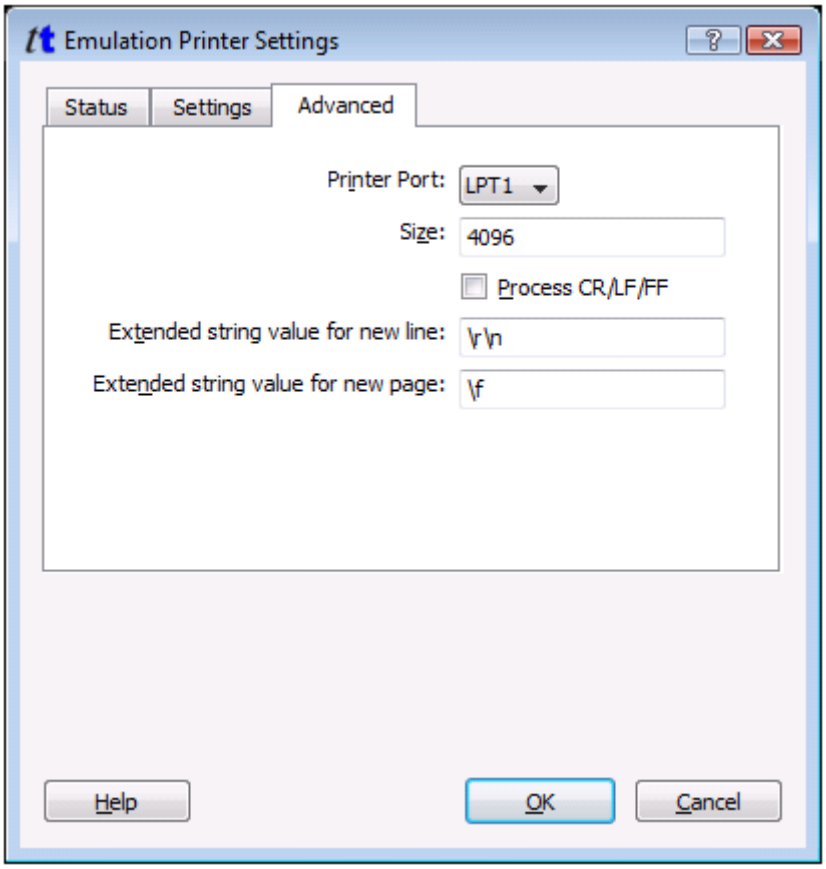
- **Extended string value for new page**

  Factory default: \f

  You can specify an extended string value for a new page using any of the following entries: **\a**, **\b**, **\f**, **\n**, **\r**, **\t**, **\v**, or **\(decimal)**, **\(0octal)**, **\(0xHexadecimal)**.

Print to LinePrinter Device

The following are the options available when the **Printer Method** option on the **Settings** tab is set to **Print to LinePrinter Device**.



- **Printer Port**

  Factory default: LPT1

  Specifies the LPT port to use for printer communication.

- **Size**

  Factory default: 4096

  Specifies the size of the buffer used for temporary storage of input and output data.

- **Process CR/LF/FF**

  Factory default: \r\n

  When checked, a Carriage Return or Line Feed command will output a new line, and a Form Feed command will output a new page.

- **Extended string value for new line**

  Factory default: \f

You can specify an extended string value for a new page using any of the following entries: **\a**, **\b**, **\f**, **\n**, **\r**, **\t**, **\v**, or **\(decimal)**, **\(0octal)**, **\(0xHexadecimal)**.

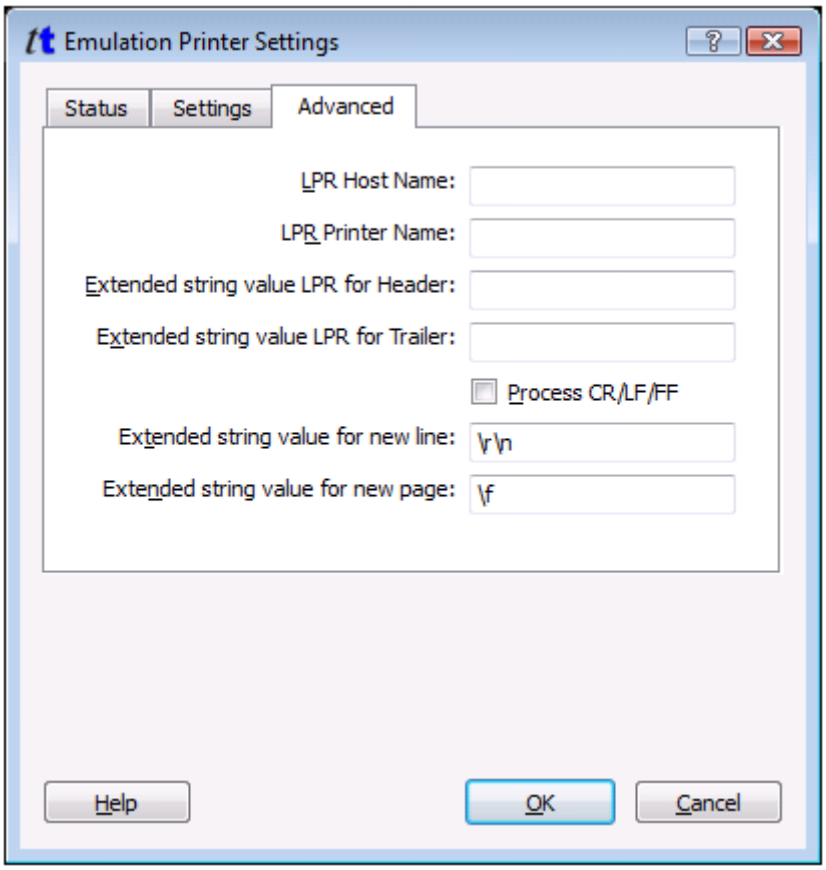
- **Extended string value for new line**

  Factory default: Unchecked

  You can specify an extended string value for a new page using any of the following entries: **\a**, **\b**, **\f**, **\n**, **\r**, **\t**, **\v**, or **\(decimal)**, **\(0octal)**, **\(0xHexadecimal)**.

Print to LPR

The following are the options available when the **Printer Method** option on the **Settings** tab is set to **Print to LPR**.



- **LPR Host Name**

  Factory default: Unspecified

  The name or IP address of the printer host.

- **LPR Printer Name**

  Factory default: Unspecified

  The name of the LPR printer.

- **Extended string value for LPR Header**

  Factory default: Unspecified

You can specify an extended string value to be sent to initialize LPR using any of the following entries: **\a**, **\b**, **\f**, **\n**, **\r**, **\t**, **\v**, or **\(decimal)**, **\(0octal)**, **\(0xHexadecimal)**.

- **Extended string value for LPR Trailer**

  Factory default: Unspecified

  You can specify an extended string value to be sent to trail LPR using any of the following entries: **\a**, **\b**, **\f**, **\n**, **\r**, **\t**, **\v**, or **\(decimal)**, **\(0octal)**, **\(0xHexadecimal)**.

- **Process CR/LF/FF**

  Factory default: Unchecked

  When checked, a Carriage Return or Line Feed command will output a new line, and a Form Feed command will output a new page.

- **Extended string value for new line**

  Factory default: \r\n

  You can specify an extended string value for a new page using any of the following entries: **\a**, **\b**, **\f**, **\n**, **\r**, **\t**, **\v**, or **\(decimal)**, **\(0octal)**, **\(0xHexadecimal)**.

- **Extended string value for new page**

  Factory default: \f

  You can specify an extended string value for a new page using any of the following entries: **\a**, **\b**, **\f**, **\n**, **\r**, **\t**, **\v**, or **\(decimal)**, **\(0octal)**, **\(0xHexadecimal)**.

11 VT Series Emulation

This chapter describes features of the Digital Equipment Corporation VT suite of terminal emulations.

Introduction

The VT Series suite of terminal emulations consists of the following emulations which can be selected using the **Emulation mode** option in the **VT Series Settings** dialog:

- **AIXTerm**

  Provides compatibility with software designed to drive an X terminal using X Windows.

- **Ansi BBS**

  This emulation is a derivative of the ANSI device driver ANSI.SYS supplied with all DOS based PCs and which provides the screen management for the DOS console screen. PC based UNIX systems and Bulletin Board Systems (BBS) often rely on the ANSI emulation when being accessed by a PC. In ANSI BBS mode the screen size is adjusted to 25 lines and the preferred character set is set to ANSI.

- **AT 386**

  Provides compatibility with software designed to drive the AT&T AT 386 terminal.

- **ATT4410**

  Provides compatibility with software designed to drive the AT&T Dataspeed 4410 terminal. Refer to the section AT&T 4410 Emulation on page 74 for details.

- **Sco Console**

  This is an emulation of the SCO UNIX box.

- **VT PCTerm**

  Provides compatibility with software designed for the PC Term mode supported by DEC.

- **VT52** and **VT100**

  These emulations enable you to run applications written for the DEC VT52 and VT100 terminals, respectively.

- **VT100+**

  This emulation is an enhanced version of the VT100 emulation that provides additional functionality such as colors. It is the same as the VT-UTF8 emulation except that it only supports ASCII characters 0-127 (decimal).

- **VT+HP220**

  This emulation is based on the VT500 terminal series and includes the HP function keys F1 - F8 (not user programmable). The terminal ID is set to VT220.

- **VT510 7-Bit** and **VT510 8-Bit**

  These emulations enable you to run applications written for the DEC VT320 terminal, the difference is in their treatment of 8-bit control codes. When VT510 7-Bit is selected, all 8-bit codes are converted to their 7-bit equivalents, whereas VT510 8- Bit leaves 8-bit codes unchanged. If you are using VT200 applications, select VT510 7-Bit.

- **VT-UTF8**

  This emulation is an enhanced version of the VT100 emulation that supports non-English and drawing characters. It supports localization of the single-byte and double-byte character sets and all other languages supported by Windows. Additional functionality, such as colours, is also provided.

Creating a VT Series Emulation Session

You can create a session either using the TeemTalk Session Wizard or while TeemTalk is running.

Using the TeemTalk Session Wizard

This section describes how to use the TeemTalk Session Wizard to create an VT Series emulation session.

1. To run the TeemTalk Session Wizard from the **Start** menu, select **All Programs > HP > HP TeemTalk Terminal Emulator > Session Wizard**.
2. In the **Session Name** field, enter a unique name that will identify this session configuration for future selection.
3. Select the **Transport** method then click the **Configure** button to specify settings.
4. Select the **Connection** type then click the **Configure** button to specify settings.
5. Select **VT Series** in the **Emulation** list box then click the **Configure** button to specify settings. (The options are described in the section Setup Options on page 76.)
6. Click **Next** to display the **Advanced Options** dialog.
7. Click **Next** to display the **Finalization** dialog.
8. If you want a shortcut icon for this session to be created on the desktop, click the checkbox **Create icon on desktop for session**.
9. Click **OK** to create the session and exit.
10. To run the session, either double-click on the desktop icon if one was created for the session, or run TeemTalk, display the **File** menu and select **Open Session**. Select the name of the required **.tts** session file then click **Open**.

Using the TeemTalk Emulator Window

This section describes the procedure for creating a VT Series emulation session from the TeemTalk emulator window.

1. Display the **Session** menu from the menu bar and select **Transport...** to set the transport method.
2. Display the **Session** menu and select **Connection...** to set the connection method.
3. Display the **Session** menu and select **Emulation...**. Set the emulation to **VT Series**.
4. You can configure the transport, connection and emulation settings by selecting the relevant **Configure** options in the **Session** menu. The options displayed by selecting **Configure emulation** are described in the section Setup Options on page 76.
5. To save the session, display the **File** menu and select **Save session as**. In the **File Name** field, enter a unique name that will identify this session configuration for future selection, then click **Save**. Note that session files have the filename extension **.tts**.
6. To run the session, display the **File** menu and select **Open Session**. Select the name of the **.tts** session file then click **Open**.

Keyboard Mapping

The functions of the computer keyboard are mapped as closely as possible to the terminal being emulated. The mapping of key functions can be determined by referring to the **Emulation Keys** list box in the **Key Macro Settings** dialog, which is displayed by selecting **Key Macros...** on the **Tools** menu.

The information in brackets in the right column indicates the default mapping of the key function named in the left column. In the list, **S**+ indicates the **Shift** key, **C**+ indicates the **Control** key and **A**+ indicates the **Alt** key. For example:

VT_F20 (A+VK_F10)

indicates that the **F20** function is mapped to the key combination **Alt + F10**.

The keyboard has operating two modes, Normal or DEC. You can toggle between the two modes by pressing the keys A**lt + Num Lock** together. The 9th item on the status bar will display **DEC** when the keyboard is in DEC mode.

Special key functions usually found on a DEC VT keyboard can be mapped to any key on your keyboard using the **VT** virtual key names listed in the **Key Macro Settings** dialog.

The illustrations on the following pages show where DEC VT510 keyboard functions are mapped to keys on a 101/102 key keyboard.

101/102 Keyboard Layout/Normal Mode

Figure 11-1 101/102 Key Keyboard Layout Normal Mode

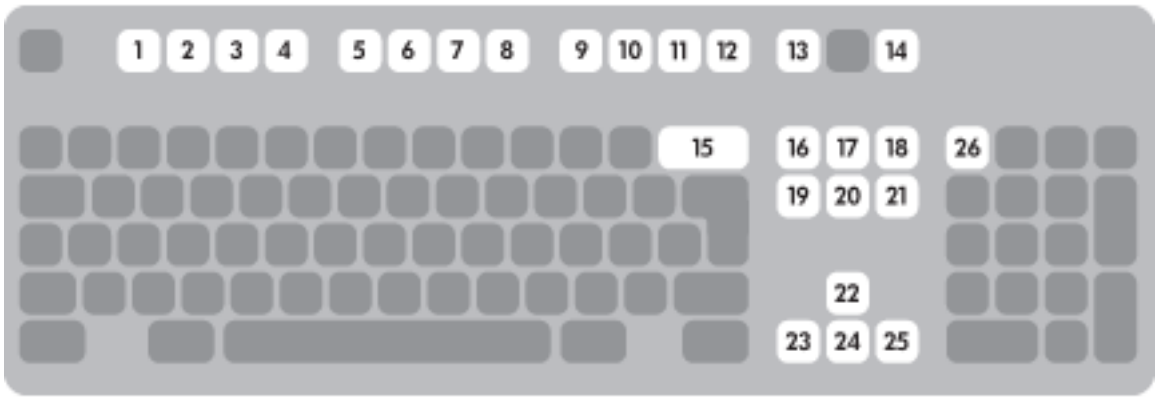


Table 11-1 **VT Series keyboard layout: Normal mode.**

Key	Key Modifier	Result	Key	Key Modifier	Result
1	*none*	PF1	14		BREAK
	Alt +	F11			
2	*none*	PF2	15	*none*	DELETE
	Alt +	F12		Shift +	BACKSPACE
3	*none*	PF3	16		FIND
	Alt +	F13			
4	*none*	PF4	17		INSERT HERE
	Alt +	F14			
5	Alt +	HELP	18		REMOVE
6	*none*	F6	19		SELECT
	Alt +	DO			
7	*none*	F7	20		PREVIOUS SCREEN
	Alt +	F17			
8	*none*	F8	21		NEXT SCREEN
	Alt +	F18			
9	*none*	F9	22	*none*	UP
	Alt +	F19		Alt +	COMPOSE CHARACTER
				Ctrl +	SCROLL UP
10	*none*	F10	23	*none*	LEFT
	Alt +	F20		Ctrl +	SCROLL LEFT

Table 11-1 VT Series keyboard layout: Normal mode. (continued)

Key	Key Modifier	Result	Key	Key Modifier	Result
11		F11	24	*none*	DOWN
				Alt +	DATATALK
				Ctrl +	SCROLL DOWN
12		F12	25	*none*	RIGHT
				Ctrl +	SCROLL RIGHT
13	Alt +	PRINT	26	*none*	NUMLOCK
	Shift + Alt +	PRINT SCROLLING REGION		Alt +	normal/DEC mode

NOTE: All unmarked keys function as indicated by the legends on the keycaps.

NOTE: Pressing **Alt** + **NumLock** toggles between normal and DEC mode.

101/102 Keyboard Layout/DEC Mode

Figure 11-2 101/102 Key Keyboard Layout DEC Mode

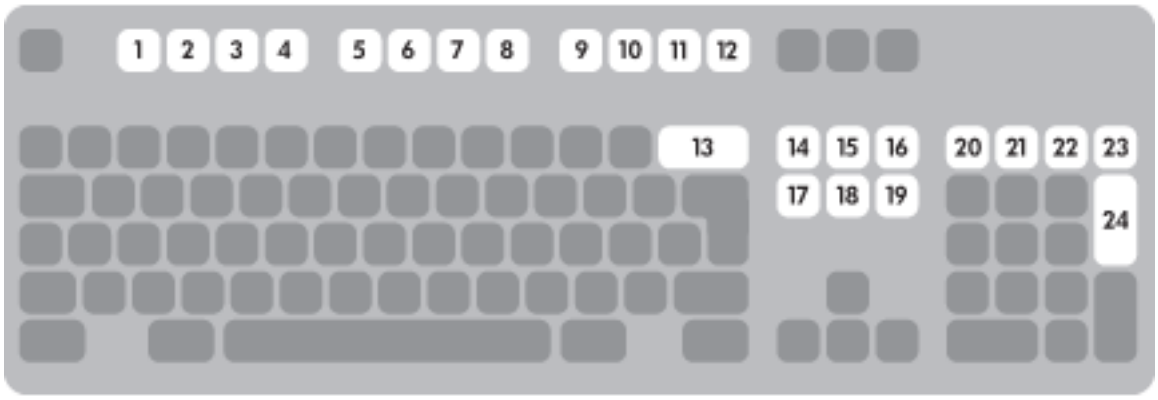


Table 11-2 VT Series keyboard layout in DEC mode.

Key	Key Modifier	Result	Key	Key Modifier	Result
1	*none*	PF1	13	*none*	BACKSPACE
	Alt +	F11		Alt +	DELETE
2	*none*	PF2	14		FIND
	Alt +	F12			
3	*none*	PF3	15		INSERT HERE
	Alt +	F13			
4	*none*	PF4	16		REMOVE
	Alt +	F14			
5	*none*	BREAK	17		SELECT
	Alt +	HELP			
6	*none*	F6	18		PREVIOUS SCREEN
	Alt +	DO			
7	*none*	F7	19		NEXT SCREEN
	Alt +	F17			
8	*none*	F8	20	*none*	PF1
	Alt +	F18		Alt +	Normal/DEC mode
9	*none*	F9	21		PF2
	Alt +	F19			

Table 11-2 VT Series keyboard layout in DEC mode. (continued)

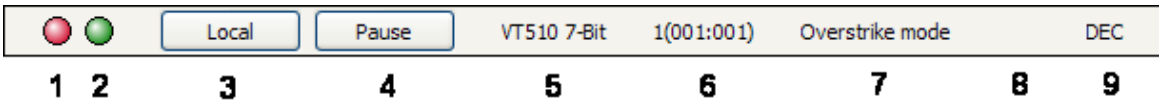
Key	Key Modifier	Result	Key	Key Modifier	Result
10	*none* Alt +	F10 F20	22		PF3
11		F11	23	*none* Alt +	PF4 -
12		F12	24	*none* Alt +	+ ,

NOTE: All unmarked keys function as indicated by the legends on the keycaps.

NOTE: Pressing **Alt** + **NumLock** toggles between normal and DEC mode.

The Status Bar

Below the emulation workspace in the TeemTalk window is a status bar that indicates the status of various operations and provides buttons for switching between modes. The information displayed in the status bar depends on the current terminal emulation.



Item	Description
1	This LED indicates whether you are connected to the host. It will appear red when not connected and green when you are connected.
2	This LED indicates whether data is being sent to or from the host. It will appear dull green when there is no activity, red when data is being sent to the host, and bright green when data is being received from the host.
3	This button enables you to switch between **Local** and **Online** mode. The label indicates the mode you will switch to when the button is clicked.
4	This button enables you to **Pause** or **Resume** scrolling data in the window. The label indicates the action that will be taken when the button is clicked.
5	Indicates the current terminal emulation.
6	Displays the active session and current page number (always **1**), and the **line:column** location of the text cursor.
7	This indicates whether **Overstrike mode** or **Insert mode** is currently active. In **Overstrike mode** (default), new characters will replace already existing characters at the cursor position. When **Insert mode** is active, new characters will be inserted at the cursor position without deleting existing characters, which will move to the right.

Item	Description
8	This will display the time in 24 hour format when in DEC VT500 mode if the VT525 set time command has been received from the host.
9	This indicates the current keyboard mode. It will be blank when the keyboard is in Normal mode, and display DEC when the keyboard is in DEC mode. You can toggle between Normal and **DEC** keyboard mode by pressing the keys **Alt** + **Num Lock**.

Scrolling the Display

You can scroll the display vertically by holding down the **Ctrl** key and pressing the **Up** or **Down Cursor** keys.

It is possible to make the width of display memory larger than the width of the window by changing the **Columns per page** setting in the **VT Series Settings** dialog. When you want to view columns stored off-screen, you can scroll horizontally by holding down the **Ctrl** key and pressing the **Left** or **Right Cursor** keys.

Typing Direction for Hebrew Language

When **ISO Hebrew** or **Ansi PC Hebrew 862** is selected as the **Preferred character set** in the **VT Series** settings dialog, the following key functions will be enabled:

- **Ctrl + Alt + F1**

  Select Multinational 8-bit mode and left-to-right typing.

- **Ctrl + Alt + F2**

  Select National 7-bit mode (lowercase English characters will be displayed as Hebrew) and right-to-left typing.

- **Ctrl + Alt + F3**

  Toggle between left-to-right and right-to-left typing.

TTY Print Mode

When the emulation is in TTY Print mode, all incoming screen data (but not control codes except **CR** and **LF**) are sent to the printer. TTY Print mode is toggled on and off by pressing the keys **Shift + F4** on an Enhanced AT Keyboard by default. The key function can be mapped to a different key using the virtual key name**VT_PRINTTTY**.

AT&T 4410 Emulation

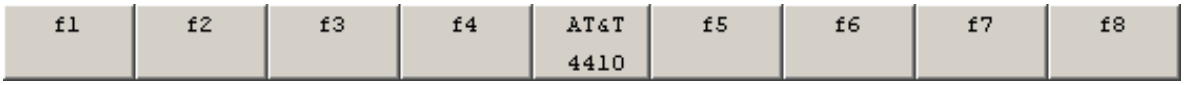
Keyboard Mapping

Special key functions normally found on the AT&T 4410 keyboard can be mapped to any key on your keyboard using the **AT** virtual key names listed in the **Key Macro Settings** dialog. This dialog is displayed by selecting **Key Macros...** on the **Tools** menu. Refer to the section Defining Key Functions on page 30 for details.

Display

When running the AT&T 4410 emulation, the display size is 80 (or 132) columns by 25 lines, with a scroll region of 24 lines.

A row of function buttons is displayed along the bottom of the window. These correspond to the function keys **F1** through **F8** on the keyboard.



You can action a programmed function either by pressing the function key, or clicking the equivalent button displayed on the screen. The middle button has no function when clicked.

Programming the Function Keys & Buttons

To program the function keys and buttons, hold down a Shift key and press any **F1** - **F8** key. The Program Function Keys menu will be displayed.

Each line relates to one particular function key and its button. The two fields following the f-key number allow you to enter a two line label of up to sixteen characters for the equivalent button on the display. These are followed by the definition line which contains an escape sequence by default. Each definition can contain up to 50 ASCII characters.

To program an f-key, press the **F1** key to move the cursor to the relevant line and use the cursor keys to move from one section of the line to another. You must press the **F1** key to end each definition line entry so that extra space characters are not sent to the host. Note that using the cursor keys to move to the next line will cause the remainder of the definition line to be sent as spaces.

When you have finished defining the f-keys, press **F7** to save the definitions and exit from the menu. If you want to exit without saving the settings, press **F8**.

Setup Options

The VT Series emulation is configured using setup options in the **VT Series Settings** dialog which can be displayed using one of the following three methods:

Using the **Session Wizard**:

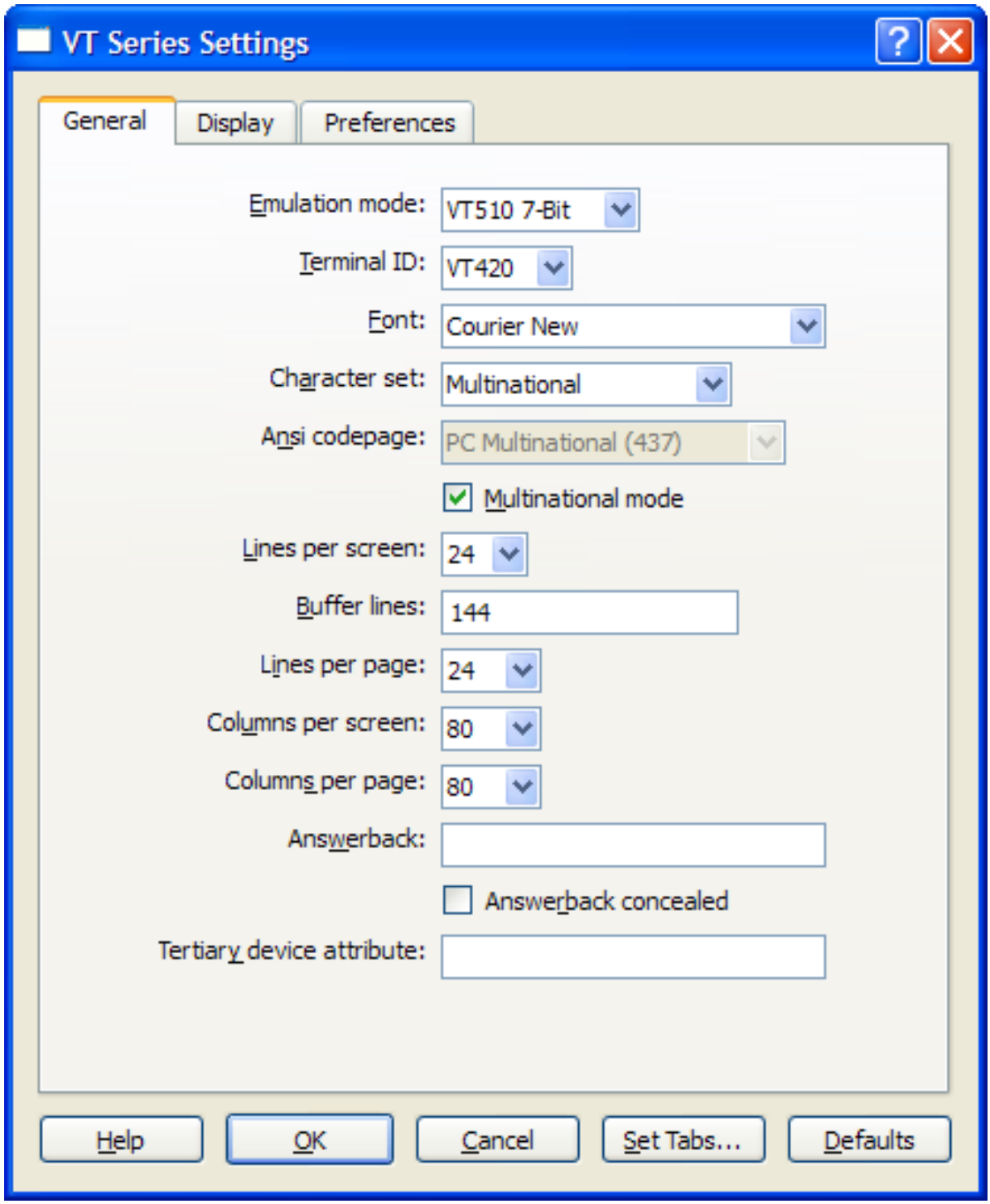
- In **Step 1** set **Emulation** to **VT Series** then click the **Configure** button.

Using the **TeemTalk Window:**

- On the **Session** menu, select **Emulation** > **VT Series** then select **Configure Emulation....**
- On the configuration bar, select **VT Series** in the **Emulation** list box then click **Configure Emulation**.

The setup options are grouped on three tabs labelled **General**, **Display** and **Preferences**.

General Settings



- **Emulation mode**

  Factory default: VT510 7-Bit

This specifies the particular VT Series terminal to emulate. Select from the following:

- **AIXTerm**

  Provides compatibility with software designed to drive an X terminal using X Windows.

- **Ansi BBS**

  This emulation is a derivative of the ANSI device driver ANSI.SYS supplied with all DOS based PCs and which provides the screen management for the DOS console screen. PC based UNIX systems and Bulletin Board Systems (BBS) often rely on the ANSI emulation when being accessed by a PC. In ANSI BBS mode the screen size is adjusted to 25 lines and the preferred character set is set to ANSI.

- **AT 386**

  Provides compatibility with software designed to drive the AT&T AT 386 terminal.

- **ATT4410**

  Provides compatibility with software designed to drive the AT&T Dataspeed 4410 terminal. Refer to the section AT&T 4410 Emulation on page 74 for details.

- **Sco Console**

  This is an emulation of the SCO UNIX box.

- **VT PCTerm**

  Provides compatibility with software designed for the PC Term mode supported by DEC.

- **VT52** and **VT100**

  These emulations enable you to run applications written for the DEC VT52 and VT100 terminals, respectively.

- **VT100+**

  This emulation is an enhanced version of the VT100 emulation that provides additional functionality such as colours. It is the same as the VT-UTF8 emulation except that it only supports ASCII characters 0-127 (decimal).

- **VT+HP220**

  This emulation is based on the VT500 terminal series and includes the HP function keys F1 - F8 (not user programmable). The terminal ID is set to VT220.

- **VT510 7-Bit** and **VT510 8-Bit**

  These emulations enable you to run applications written for the DEC VT320 terminal, the difference is in their treatment of 8-bit control codes. When **VT510 7-Bit** is selected, all 8-bit codes are converted to their 7-bit equivalents, whereas **VT510 8- Bit** leaves 8-bit codes unchanged. If you are using VT200 applications, select **VT510 7-Bit**.

- **VT-UTF8**

  This emulation is an enhanced version of the VT100 emulation that supports non-English and drawing characters. It supports localization of the single-byte and double-byte

character sets and all other languages supported by Windows. Additional functionality, such as colors, is also provided.

- **Terminal ID**

  Factory default: VT420

  This specifies what is reported back to the host in response to a terminal ID request. Note that not all features of the specified terminal may be supported.

- **Font**

  Factory default: Courier New

  This enables you to specify the font to use for displaying characters. The available settings depend on the fonts installed on your system.

- **Character set**

  Factory default: Multinational

  This specifies the character set used for displaying characters.

  When **Iso Hebrew** is selected, the following key functions will be enabled:

  - **Ctrl + Alt + F1**

    Select Multinational 8-bit mode and left-to-right typing.

  - **Ctrl + Alt + F2**

    Select National 7-bit mode (lowercase English characters will be displayed as Hebrew) and right-to-left typing.

  - **Ctrl + Alt + F3**

    Toggle between left-to-right and right-to-left typing.

- **Ansi codepage**

  Factory default: PC Multinational (437)

  This option specifies the character set used for display when the **Character set** option is set to **PC Ansi**. Note that selecting the ANSI BBS emulation will automatically set the preferred font to **PC Ansi**.

  Each code page consists of two tables of characters. The first table is the standard ASCII character set. The second table contains special characters which differ between the code pages.

  When **PC Hebrew (862)** is selected, the following key functions will be enabled:

  - **Ctrl + Alt + F1**

    Select Multinational 8-bit mode and left-to-right typing.

  - **Ctrl + Alt + F2**

    Select National 7-bit mode (lowercase English characters will be displayed as Hebrew) and right-to-left typing.

  - **Ctrl + Alt + F3**

Toggle between left-to-right and right-to-left typing.

- **Multinational mode**

  Factory default: Checked

  This option will only be available if the system is configured for a language that supports national replacement character sets.

  The setting of this option determines the type of character set used to generate characters. When unchecked, TeemTalk is in National mode in which a character set specific to the selected keyboard nationality is used. When checked (default) TeemTalk is in Multinational mode in which a character set consisting of two tables of characters is used. This enables characters from any keyboard nationality to be generated.

- **Lines per screen**

  Factory default: 24

  This specifies the number of text rows that can be viewed in the workspace at any one time out of the total number stored in memory. This can be set to a maximum of 64. Note that the number of rows stored in memory is specified by the **Buffer lines** option.

- **Buffer lines**

  Factory default: 144

  This option determines the number of text rows that are stored in memory. This can be set from 0 to 528 rows by default. The **Display Rows** option specifies the number of memory rows that can be viewed in the workspace at any one time.

- **Lines per page**

  Factory default: 24

  When TeemTalk is in VT420 mode, the display memory of 144 lines can be divided into several pages, up to a maximum of six pages of 24 lines each. The setting of this option determines the number of lines on a page and therefore how many pages are available. Note that the page size can be larger than the **Lines per screen** setting, in which case you can scroll the page up or down in the window by holding down the **Ctrl** key and pressing the **Up** or **Down Cursor** keys. When TeemTalk is in any mode other than VT420, the page size is the same as the **Lines per screen** setting.

- **Columns per screen**

  Factory default: 80

  This option enables you to specify a width of 80 or 132 columns for the workspace. When set to **132**, the setting of the **Use 80 Column Font** option determines whether all 132 columns are displayed using a narrow font, or only 80 columns at a time using the normal (80 column) font, with the ability to scroll horizontally to view the remaining columns.

- **Columns per page**

  Factory default: 80

  This option specifies the width of display memory for DEC VT modes, in the range 80 to 132 columns. When the number of **Columns per screen** is less than the page width specified here,

you can scroll horizontally to view the hidden columns by holding down the **Ctrl** key and pressing the **Left** or **Right Cursor** keys.

- **Answerback**

  Factory default: Unspecified

  This enables you to specify the Answerback string that is sent to the host in response to an ANSI mode enquiry command. The string can be up to 30 characters long.

- **Answerback concealed**

  Factory default: Unchecked

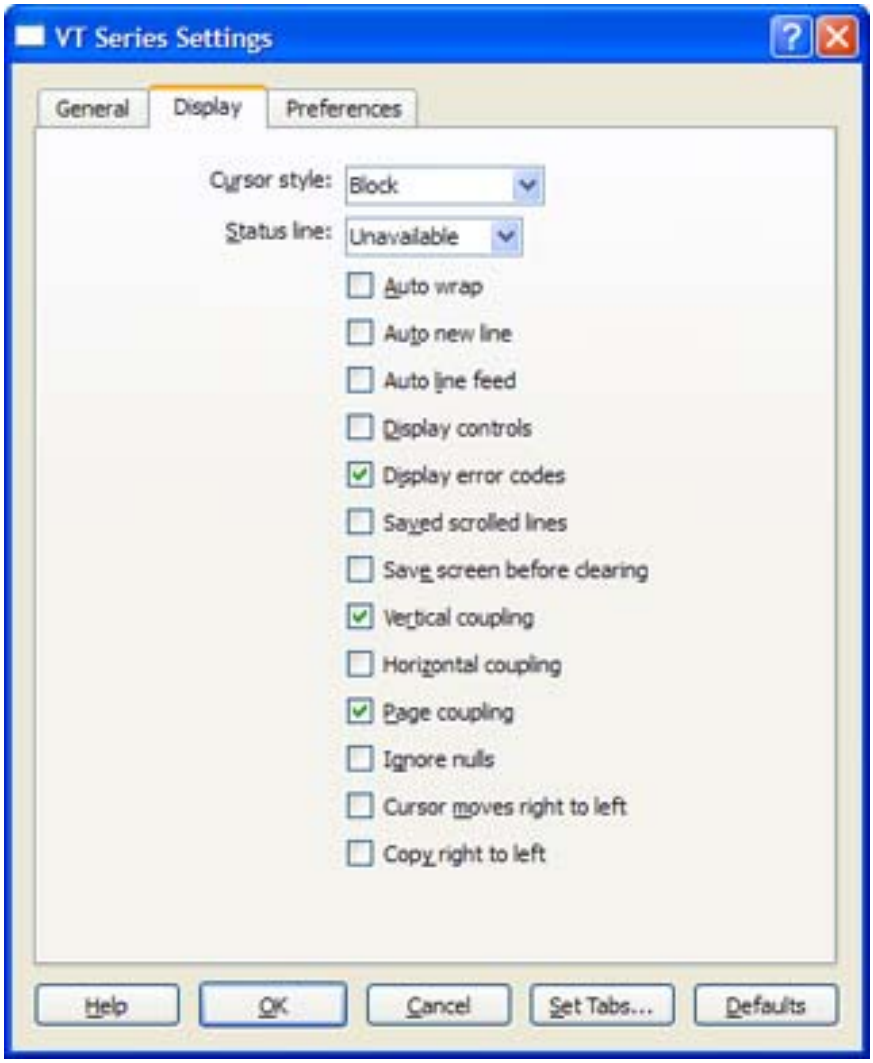
  Selecting this option will cause the Answerback string specified in the text box above to be locked from change and displayed as asterisks. Note that unchecking this option will cause the Answerback string to be deleted.

- **Tertiary device attribute**

  Factory default: Unspecified

  When TeemTalk is in VT420 mode (**Emulation mode** set to **VT510** and **Terminal ID** set to **VT420**), this option enables you to specify the tertiary device attribute report that is sent in response to a request from the host.

Display Settings



- **Cursor style**

  Factory default: Block

  This enables you to specify how the text cursor is displayed. Select from **Block**, **Underline**, **Static block**, **Static underline** or **None**.

- **Status line**

  Factory default: Unavailable

  This option determines whether or not the 25th screen line is used as a status line when TeemTalk is in any DEC VT terminal emulation mode. When **Unavailable** or **Host Writable** is selected, the host can write application-specific messages to the 25th line. Selecting **None** will prevent this.

- **Auto wrap**

  Factory default: Unchecked

The setting of this option determines whether characters wrap to the next line when the right margin is reached. When unchecked, on reaching the right margin, the last character position will be overwritten by every new character received.

- **Auto new line**

  Factory default: Unchecked

  When checked, this will cause a carriage return command to be appended to every line feed command received.

- **Auto line feed**

  Factory default: Unchecked

  When checked, this will cause a line feed command to be appended to every carriage return command received.

- **Display controls**

  Factory default: Unchecked

  The setting of this option determines whether received control codes are actioned or displayed. When checked, a representation of most control codes will be displayed on the screen.

- **Display error codes**

  Factory default: Checked

  This option determines whether a chequerboard symbol is displayed when the delete code is received.

- **Save scrolled lines**

  Factory default: Unchecked

  If a scroll region is set, selecting this option will cause data scrolled out of the region to be stored in a history buffer.

- **Save screen before clearing**

  Factory default: Unchecked

  This applies to all DEC VT emulations except VT340 and VT420. It determines the effect of a clear screen command received from the host. When unchecked, the contents of the current page will be cleared. When checked, the contents of the current page will be saved and the display will scroll to the next page.

- **Vertical coupling**

  Factory default: Checked

  The setting of this VT420 mode option determines what happens when the application moves the cursor to a line not currently displayed in the window when the number of displayed lines is less than the page size. When checked, the display will automatically scroll vertically to keep the cursor in view. When unchecked, the display will remain static and the cursor will move off-screen to the relevant line stored in memory. You can scroll the display to view the lines stored off-screen by holding down the **Ctrl** key and pressing the **Up** or **Down Cursor** keys.

- **Horizontal coupling**

Factory default: Unchecked

The setting of this DEC VT mode option determines what happens when the cursor moves beyond the last column displayed in the window when there are more columns stored off-screen. When checked, the display will automatically scroll horizontally to keep the cursor in view. When unchecked, the display will remain static and the cursor will move off-screen. To scroll horizontally to view the hidden columns, hold down the **Ctrl** key and press the **Left** or **Right Cursor** keys.

- **Page coupling**

  Factory default: Checked

  The setting of this VT420 mode option determines the effect of a remote command to move the cursor to another page. When checked, the page to which the cursor is moved is automatically displayed. When unchecked, the display remains unchanged and the cursor moves off-screen to the relevant page stored in memory.

- **Ignore nulls**

  Factory default: Unchecked

  The setting of this option determines whether Null characters received from the host are actioned or ignored.

- **Cursor moves right to left**

  Factory default: Unchecked

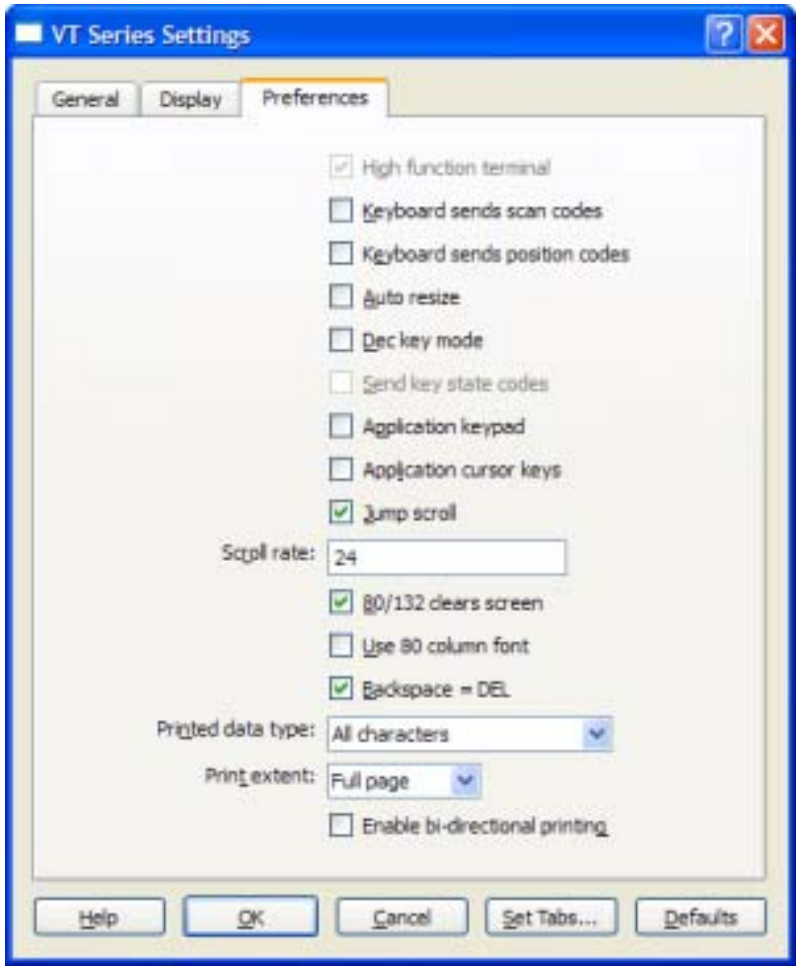
  This applies to the DEC VT, AIXTerm, Ansi BBS, AT 386 and Sco Console emulations. It enables you change the direction in which the text cursor moves across the display.

- **Copy right to left**

  Factory default: Unchecked

  This applies to the DEC VT, AIXTerm, Ansi BBS, AT 386 and Sco Console emulations. It enables the copy commands to function in right to left display mode.

Preferences



- **High function terminal**

  Factory default: Checked

  This applies to the AIXTerm emulation. It enables you to switch between HFT (High Function Terminal) mode (default) and VT100 mode.

- **Keyboard sends scan codes**

  Factory default: Unchecked

  This applies to the DEC VT520 and VT PC-Term emulations. It determines whether keyboard scan codes or ASCII codes are sent to the host on key press/release. Note that this cannot be selected at the same time as the **Keyboard sends position codes** option.

- **Keyboard sends position codes**

  Factory default: Unchecked

  This applies to the DEC VT520 and VT PC-Term emulations. It determines whether keyboard position codes or ASCII codes are sent to the host on key press/release. Note that this cannot be selected at the same time as the Keyboard sends scan codes option.

- **Auto resize**

Factory default: Unchecked

This applies to the DEC VT520 emulation only. When this option is checked, the window size will automatically be adjusted each time the buffer size is changed either by the host or through setup. The following table indicates the window size (lines per screen) that is used for the specified number of lines per page.

Lines per Page:	24	25	36	42	43	48	52	72
Lines per Screen:	26	26	43	43	43	52	52	52

- **Dec key mode**

  Factory default: Unchecked

  The keyboard can be used in one of two modes, Normal (default) or DEC. This option allows you to change its default mode. You can toggle between the two modes by pressing the keys **Alt + Num Lock** together. The 10th item on the status bar will display **DEC** when the keyboard is in DEC mode. The field will be blank when in normal mode.

- **Send key state codes**

  Factory default: Unchecked

  When this option is checked, escape sequences for modifier key presses will be sent to the host.

- **Application keypad**

  Factory default: Unchecked

  The setting of this option determines the effect of pressing keys in the keypad on the right side of the keyboard.

  When unchecked, the keypad is in numeric mode and keys will generate the characters shown on the key caps. When checked, the keypad is in application mode and keys will generate control functions when pressed. The top row of four keys act as the equivalent DEC function keys PF1 through PF4.

- **Application cursor keys**

  Factory default: Unchecked

  When this option is checked the cursor keys will generate application program codes when pressed. unchecked, the keys will generate normal cursor movement commands.

- **Jump scroll**

  Factory default: Checked

  The setting of this option determines whether data is scrolled one or several lines at a time when the window becomes full.

  When checked, data will scroll up several lines at a time as determined by the **Scroll rate** setting below.

- **Scroll rate**

  Factory default: 24

This determines the number of lines that are scrolled when the Jump scroll option above is selected.

- **80/132 clears screen**

  Factory default: Checked

  This option determines whether or not data is cleared from the display when the number of columns is changed.

- **Use 80 column font**

  Factory default: Unchecked

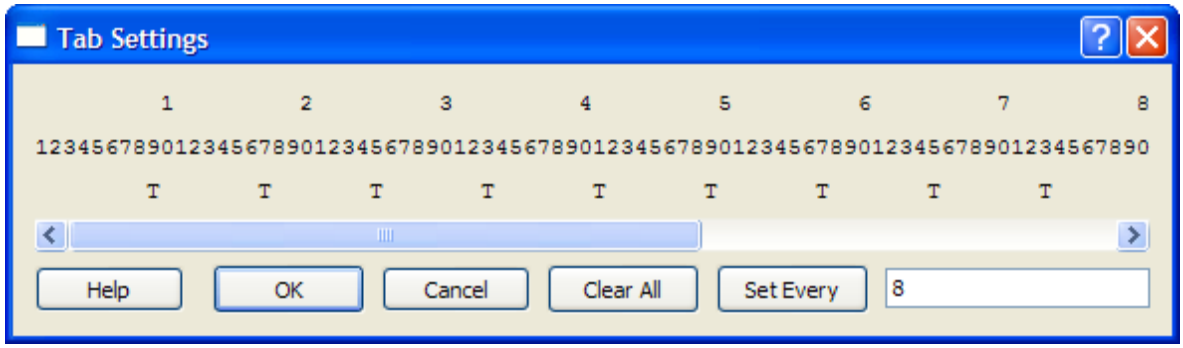
  When this option is checked, the font used in 132 column writing mode will be the same as that used in 80 column mode.

- **Backspace = DEL**

  Factory default: Unchecked

  The setting of this option determines whether or not a backspace command performs a delete.

Tab Settings



Clicking the **Set Tabs...** button at the bottom of the **VT Series Settings** dialog will display the **Tab Settings** dialog which enables you to set tab stops for the DEC VT, ANSI and SCO Console emulations.

Tab stops are set every eight columns by default, as indicated by the **T** character below the relevant column numbers. If you want tab stops to be set at regular intervals other than every 8th column, enter the number of columns required between each tab stop in the box next to the **Set Every** button, then click the button.

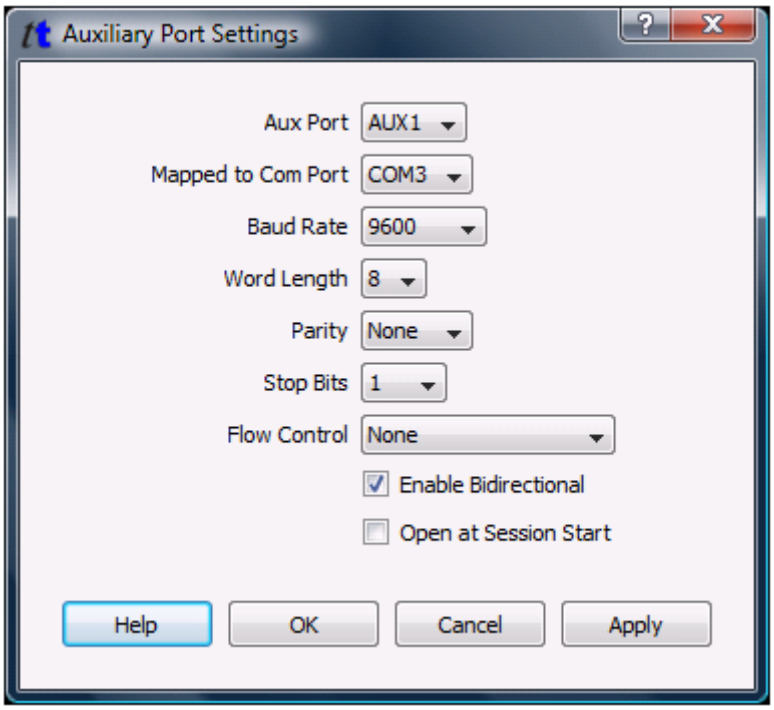
Individual tab stops can be toggled on or off by clicking the mouse pointer above or below the relevant column number.

To remove all the tab stops, click **Clear All**.

To save the current tab stops, select **Save Session** in the **File** menu.

Auxiliary Port Setup

This dialog is only available when VT Series emulation mode is selected and can be displayed by selecting **Auxiliary Ports...**from the**File** menu. It enables you to specify a COM or LPT port for bidirectional output when in any VT Series emulation.



Specify the settings required by the auxiliary port device using the options described below and click **OK**.

- **Aux Port**

  Factory default: AUX1

  This specifies the auxiliary port device used for which to apply settings. This drop list will only show configured Auxiliary ports with at least 1 showing. Clicking on the **Apply** button will save the shown parameters to the currently selected Aux port and advance to the next available Aux port for configuration. A maximum of 16 Aux ports can be configured.

- **Mapped to Com Port**

  Factory default: COM3

  This specifies the port used to communicate with the auxiliary port device.

- **Baud Rate**

  Factory default: 9600

  Specifies the connection speed in the range 110 to 115200 baud.

- **Word Length**

  Factory default: 8

  This option specifies the number of data bits sent for each transmitted character.

- **Parity**

  Factory default: None

  This option specifies the parity mode for each transmitted character. If the number of data bits specified by **Word Length** is 8, set this option to **None**.

Selecting **Odd** will cause an eighth bit to be added with a value of 1 if the previous 7 bits add up to an even number, and 0 if the previous 7 bits add up to an odd number.

Selecting **Even** will cause an eighth bit to be added with a value of 1 if the previous 7 bits add up to an odd number, and 0 if the previous 7 bits add up to an even number.

Mark parity will set every eighth bit to 1 and **Space** parity every bit to 0.

- **Stop Bits**

  Factory default: 1

  This specifies the number of stop bits sent for each transmitted character.

- **Flow Control**

  Factory default: Both

  This option specifies the type of flow control used by the line port to communicate readiness to transmit or receive data from the auxiliary port device.

  - **None**

    No flow control.

  - **Input**

    XON/XOFF on received data.

  - **Output**

    XON/XOFF on transmitted data.

  - **Both**

    XON/XOFF on transmitted and received data.

  - **Hardware**

    RTS/CTS hardware flow control.

- **Enable Bidirectional**

  Factory default: Checked

  The setting of this option determines whether data from the auxiliary port device can be transmitted to the host as well as received from the host through the TeemTalk session.

- **Open at Session Startup**

  Factory default: Unchecked

  Selecting this option will cause the Aux port to be opened as soon as the TeemTalk session is started.

12 HP 700-92/96 Emulation

This chapter describes features of the Hewlett-Packard 700-92/96 terminal emulation.

Creating a HP 700-92/96 Emulation Session

You can create a session either using the TeemTalk Session Wizard or while TeemTalk is running.

Using the TeemTalk Session Wizard

This section describes how to use the TeemTalk Session Wizard to create an HP 700-92/96 emulation session.

1. To run the TeemTalk Session Wizard from the **Start** menu, select **All Programs > HP > HP TeemTalk Terminal Emulator > Session Wizard**.
2. In the **Session Name** field, enter a unique name that will identify this session configuration for future selection.
3. Select the **Transport** method then click the **Configure** button to specify settings.
4. Select the **Connection** type then click the **Configure** button to specify settings.
5. Select **HP70092** in the **Emulation** list box then click the **Configure** button to specify settings. (The options are described in the section Setup Options on page 103.)
6. Click **Next** to display the **Advanced Options** dialog.
7. Click **Next** to display the **Finalization** dialog.
8. If you want a shortcut icon for this session to be created on the desktop, click the checkbox **Create icon on desktop for session**.
9. Click **OK** to create the session and exit.
10. To run the session, either double-click on the desktop icon if one was created for the session, or run TeemTalk, display the **File** menu and select **Open Session**. Select the name of the required **.tts** session file then click **Open**.

Using the TeemTalk Emulator Window

This section describes the procedure for creating a HP 700-92/96 emulation session from the TeemTalk emulator window.

1. Display the **Session** menu from the menu bar and select **Transport...** to set the transport method.
2. Display the **Session** menu and select **Connection...** to set the connection method.
3. Display the **Session** menu and select **Emulation...**. Set the emulation to **HP70092**.

4. You can configure the transport, connection and emulation settings by selecting the relevant **Configure** options in the **Session** menu. The options displayed by selecting **Configure emulation** are described in the section Setup Options on page 103.
5. To save the session, display the **File** menu and select **Save session as**. In the **File Name** field, enter a unique name that will identify this session configuration for future selection, then click **Save**. Note that session files have the filename extension **.tts**.
6. To run the session, display the **File** menu and select **Open Session**. Select the name of the **.tts** session file then click **Open**.

Keyboard Mapping

The functions of the computer keyboard are mapped as closely as possible to the terminal being emulated. The mapping of key functions can be determined by referring to the **Emulation Keys** list box in the **Key Macro Settings** dialog, which is displayed by selecting **Key Macros...** on the **Tools** menu.

The information in brackets in the right column indicates the default mapping of the key function named in the left column. In the list, **S**+ indicates the **Shift** key, **C**+ indicates the **Control** key and **A**+ indicates the **Alt** key. For example:

HP_SOFTRESET (C+VK_F7)

indicates that the **Soft Reset** function is mapped to the key combination **Control + F7**.

Special key functions usually found on an HP 700-92/96 keyboard can be mapped to any key on your keyboard using the HP virtual key names listed in the **Key Macro Settings** dialog.

The illustrations on the following pages show where HP 700-92/96 keyboard functions are mapped to keys on a 101/102 key keyboard.

Figure 12-1 101/102 Key Keyboard Layout for the HP 700-92/96 Emaulation

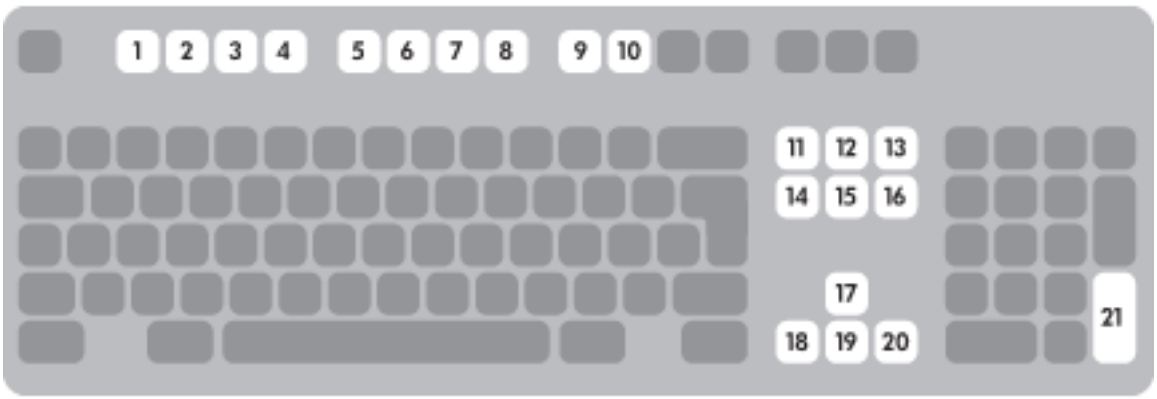


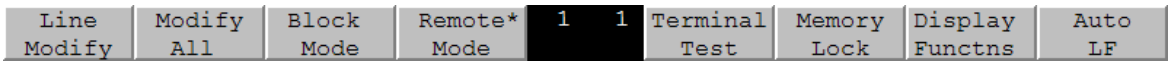
Table 12-1 HP 700-92/96 Keyboard Mapping

Key	Key Modifier	Result	Key	Result
1	Ctrl + *none*	F1 INSERT LINE	11	INSERT MODE
2	*none* Ctrl +	F2 DELETE LINE	12	HOME UP
3	*none* Ctrl +	F3 CLEAR LINE	13	PREVIOUS PAGE
4	*none* Ctrl +	F4 CLEAR DISPLAY	14	DELETE CHAR
5	*none* Ctrl +	F5 SELECT	15	HOME DOWN
6		F6	16	NEXT PAGE
7	*none* Ctrl +	F7 SOFT RESET	17	CURSOR UP
8	*none* Ctrl +	F8 HARD RESET	18	CURSOR LEFT
9	*none* Shift +	USER SYSTEM MENU	19	CURSOR DOWN
10	*none* Shift +	USER KEYS MODE USER KEY DEF. MODE	20	CURSOR RIGHT
			21	ENTER

NOTE: All unmarked keys function as indicated by the legends on the keycaps.

Display Configuration

When you run the HP 700-92/96 emulation a row of buttons will be displayed along the bottom of the TeemTalk window.



The buttons indicate the current function of keys **F1** through **F8** on the keyboard and these functions are described in the next section. The two numbers in the middle indicate the current line and column position of the cursor.

The display area is 80 columns by 24 lines by default, and 168 lines are stored off-screen. You can toggle between 80 and 132 column display by pressing the function key **F12**. The display memory

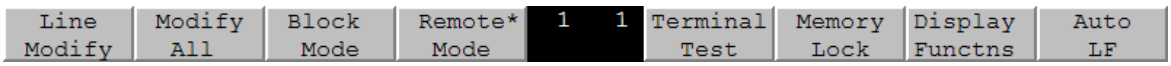
can be divided into 2, 4, 6 or 8 pages using the **Display pages** option in the **HP70092 Settings** dialog (see Setup Options on page 103).

Function Keys & Buttons

The buttons along the bottom of the HP 700-92/96 window indicate the current function of keys **F1** through **F8** on the keyboard. The buttons and equivalent function keys enable selection of various operating modes and display configurations. Clicking a button has the same effect as pressing the equivalent **F#** key. When a key or button is attributed an on/off toggle action, the button will display an asterisk when the function is selected.

When you run the HP 700-92/96 emulation, the initial configuration of the buttons and function keys enable various operating modes to be selected. The buttons will show the **Mode Selection** configuration.

Mode Selection



The **Mode Selection** functions are assigned to the buttons and function keys when you first run the HP 700-92/96 emulation. If the functions are changed while using the emulation, you can reassert them by pressing the **F9** key (equivalent to the **User System** key), then **F4**.

- **Line Modify - F1**

  This function enables you to edit and retransmit an incorrectly entered command string when the emulation is in Remote mode and Character mode and you are communicating interactively with the host. This saves you having to retype the entire string again.

  NOTE: This will not function when the emulation is in Block or Format mode.

  When the host causes an error message to be displayed indicating that the string has been incorrectly entered, press the **F1** key or click the equivalent button. An asterisk will appear on the button indicating that the function is selected. Move the cursor to the line containing the error, edit the line then press **Return** or **Enter**. This will cause the edited string to be transmitted and Line Modify mode to be exited.

  If after activating Line Modify mode you wish to cancel it, just press **F1** or click the button again.

- **Modify All - F2**

  This is similar to the Line Modify **F1** function described previously, the only difference being that the editing mode is not exited when **Return** or **Enter** is pressed. **F2** and its equivalent button acts as a toggle key, switching the mode on or off. The setting may be saved by selecting **Save Session** in the **File** menu.

  The **F2** Modify All key and button enables you to edit and retransmit an incorrectly entered command string when the emulation is in Character mode. This saves you having to retype the entire string again.

  NOTE: This will not function when the emulation is in Block or Format mode.

  When the host causes an error message to be displayed indicating that the string has been incorrectly entered, press the **F2** key. An asterisk will appear on the button indicating that the function is selected. Move the cursor to the line containing the error, edit the line then press **Return** or **Enter**. This will cause the edited string to be transmitted. To exit Modify All mode, press **F2** or click the button again.

  NOTE: Even though this function is a special form of Block mode it is completely separate from it and you do not need to enable Block mode before using the Modify All function.

- **Block Mode - F3**

  Data may be transmitted to the host a character at a time or as a block of characters. The **F3** key and equivalent button toggles the form of data transmission between Character mode and Block mode. The setting may be saved by selecting **Save Session** in the **File** menu.

  The emulation is in Character mode when the button does not display an asterisk. Each character will be sent to the host as it is entered at the keyboard.

  When Block mode is activated (as indicated by an asterisk), data entered at the keyboard will not be sent to the host until the **Enter** key is pressed. In this mode, displayed text may be edited locally before it is transmitted to the host. Control codes such as **CR** (carriage return) and **LF** (line feed) are acted upon locally and are not transmitted to the host when **Enter** is pressed.

- **Remote Mode - F4**

The current setting of this button determines whether pressing an alphanumeric key causes a character to be sent to the host (remote) or only to the display (local). The button and **F4** key toggles between Remote mode and Local mode. The setting may be saved by selecting **Save Session** in the **File** menu.

The emulation is in Local mode when the button does not display an asterisk. Pressing alphanumeric keys will cause characters to be sent to the display only.

When Remote mode is activated (as indicated by an asterisk), pressing alphanumeric keys will cause characters to be sent to the host.

- **Terminal Test - F5**

  When this button or **F5** key is pressed, the HP 700-92/96 emulation will perform a self-test and display a test screen showing all the displayable characters.

- **Memory Lock - F6**

  This enables data to be locked on the display so that it is not scrolled off the top of the window when display memory is full. Once enabled, it can only be disabled if this button or **F6** key is pressed again, a reset is performed, or the emulation is exited.

  Placing the cursor on the first line and enabling Memory Lock will prevent data from automatically scrolling off the top of the display when display memory is full. Instead, the message 'MEMORY FULL Press RETURN to clear' will be displayed. You may use the cursor keys to edit data already displayed. To disable the Memory Lock and continue entering new data, press **F6** or click the button again and position the cursor immediately below the last line.

  The Memory Lock function may also be used to lock a specific number of lines from the top of the display, leaving the remaining lines to scroll past them. This is useful when you want column headings or instructions to remain on the display. To lock a specific number of lines, place the cursor on the last line to be locked and press **F6** or click the button. The lines from the top of the display down to the cursor line will now be locked.

  NOTE: You can edit data contained in locked lines but if new data is inserted it may cause data on the last line of the locked region to be pushed down into the scrolling region.

- **Display Functions - F7**

  This button and the **F7** key toggles the Display Functions mode on or off. The effect of activating Display Functions mode depends on whether the emulation is in Local or Remote mode. In Local mode, activating Display Functions mode will cause subsequently received control codes and escape sequences to be displayed on the screen but not actioned. Exceptions to this rule are the commands issued when the button or **F7** key is pressed and the carriage return and line feed commands, which will be executed.

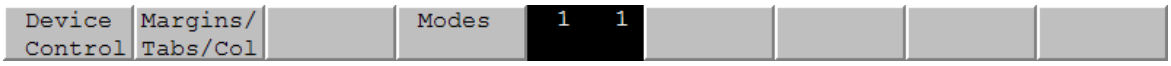
  In Remote mode, activating Display Functions mode will cause subsequently received control codes and escape sequences to be transmitted to the host but not actioned locally. Exceptions to this rule are the commands issued when the button or **F7** key is pressed and the carriage return and line feed commands, which will be executed. If the **Local Echo** option is enabled in the **HP70092 Settings** dialog, commands will be displayed on the screen as well as transmitted to the host.

NOTE: If the **XmitFnctn (A)** option is selected in the **HP70092 Settings** dialog (see Setup Options on page 103 for details), the button and **F7** key will not deactivate Display Functions mode.

- **Auto LF - F8**

  This button and the **F8** key enables or disables Auto Line Feed mode. When enabled, a line feed command is automatically appended to every carriage return command generated from the keyboard. The setting may be saved by selecting **Save Session** in the **File** menu.

Configuration Selection



This set of functions is asserted by pressing the **F9** key (equivalent to the **User System** key). This enables you to access three sets of function configurations.

- **Device Control - F1**

  Clicking this button or pressing **F1** will cause the **Device Control** functions to be asserted. The buttons and keys **F1** through **F8** will function as described in the section Device Control on page 96.

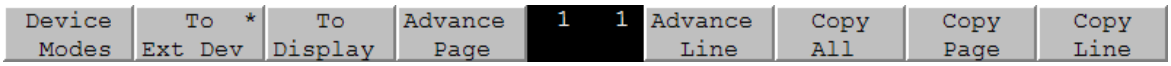
- **Margins/Tabs/Col - F2**

  Clicking this button or pressing **F2** will cause the **Margins/Tabs/Col** functions to be asserted. The buttons and keys **F1** through **F8** will function as described in the section Margins, Tabs & Start Column on page 98.

- **Modes - F4**

  Clicking this button or pressing **F4** will cause the **Mode Selection** functions to be asserted. The buttons and keys **F1** through **F8** will function as described in the section Mode Selection on page 93.

Device Control



This set of functions is asserted by pressing the **F9** key (equivalent to the **User System** key) then **F1**. These functions enable you to select the device(s) to which data is sent and also to copy portions of data from display memory to the printer.

- **Device Modes - F1**

  Clicking this button or pressing **F1** will cause the Device Modes functions to be asserted. The keys **F1** through **F8** will function as described in the section Device Modes on page 97.

- **To Ext Dev - F2**

  This toggle function determines whether data is sent to the printer or not. Data will be sent to the printer when an asterisk is displayed on this button.

- **To Display - F3**

  This toggle function determines whether data is sent to the display or not. Data will be sent to the display when an asterisk is displayed on this button.

- **Advance Page - F4**

  When a printer is connected and enabled by the **To Ext Dev** function, clicking this button or pressing **F4** will cause paper in the printer to be advanced to the top of the next page.

- **Advance Line - F5**

  When a printer is connected and enabled by the **To Ext Dev** function, clicking this button or pressing **F5** will cause paper in the printer to be advanced by one line.

- **Copy All - F6**

  When a printer is connected and enabled by the **To Ext Dev** function, clicking this button or pressing **F6** will cause a copy of all lines from and including the cursor line to the last line in display memory to be sent to the printer.

  The cursor will move to the leftmost column on the next line when the current line has been printed. You can cancel printing at the end of the current line by pressing **Return**.

NOTE: If the cursor is positioned on a line below the last displayable line of data, nothing will be sent to the printer.

- **Copy Page - F7**

  When a printer is connected and enabled by the **To Ext Dev** function, clicking this button or pressing **F7** will cause a copy of all lines from and including the cursor line to the last line displayed on the screen to be sent to the printer.

  The cursor will move to the leftmost column on the next line when the current line has been printed. You can cancel printing at the end of the current line by pressing **Return**.

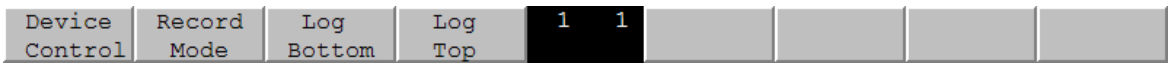
NOTE: If the cursor is positioned on a line below the last displayable line of data, nothing will be sent to the printer.

- **Copy Line - F8**

  When a printer is connected and enabled by the **To Ext Dev** function, clicking this button or pressing **F8** will cause a copy of the line containing the cursor to be sent to the printer. The cursor will move to the leftmost column on the next line when the line has been printed.

NOTE: If the cursor is positioned on a line below the last displayable line of data, nothing will be sent to the printer. If the cursor is positioned on an empty line between two blocks of data, the printer will perform a carriage return and line feed.

Device Modes



This set of functions is asserted by pressing the **F9** key (equivalent to the **User System** key) then **F1** and **F1** again.

- **Device Control - F1**

  Clicking this button or pressing **F1** will cause the Device Control functions to be asserted. These enable you to select the device(s) to which data is sent and also to copy portions of data from display memory to the printer. The buttons and keys **F1** through **F8** will function as described in the section Device Control on page 96.

- **Record Mode - F2**

  This is used to copy data received from the host to the printer and/or display, depending on the setting of the **To Ext Dev** and **To Display** labels in the **Device Control** menu.

NOTE: This function does not take effect when the emulation is in Local mode. In Remote mode, received data is sent directly to the selected device(s).

The keyboard will be disabled when Record mode is activated except for the **F2** key which is used to exit the mode.

- **Log Bottom - F3**

  When the cursor moves to the next line as a result of an explicit line feed or end-of-line wraparound, the line of data which the cursor has just moved from will be sent to the printer when this function is activated. This enables you to create a hardcopy of all the lines in the order in which they were entered via the keyboard or received from the host.

NOTE: The terminal emulation and the host must both be using the ENQ/ACK or Xon/Xoff handshakes, or a baud rate that is no higher than the rate supported by the printer.

Log Bottom remains activated until either this button or **F3** is pressed again, **Log Top** is activated, a reset is performed, or the emulation is exited.

- **Log Top - F4**

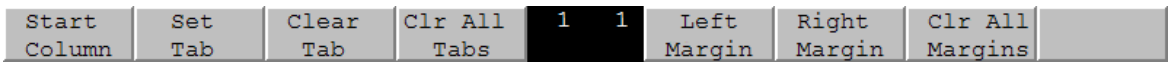
  When the display memory becomes full and more data is received from the host or keyboard, lines of data from the top of the display are deleted to make way for the new data. The Log Top function enables the data that is removed from the top of the display to be sent to the printer when the **To Ext Dev** function is activated in the **Device Contro**l menu.

NOTE: The terminal emulation and the host must both be using the ENQ/ACK or Xon/Xoff handshakes, or a baud rate that is no higher than the rate supported by the printer.

Log Top remains activated until either this button or **F4** is pressed again, **Log Bottom** is activated, a reset is performed, or the emulation is exited.

NOTE: This function does not take effect when **Memory Lock** is activated.

Margins, Tabs & Start Column



This set of functions is asserted by pressing the **F9** key (equivalent to the **User System** key) then **F2**. These functions enable you to redefine the start column, set tabs, and specify the left and right margins.

- **Start Column - F1**

  This function is used to temporarily redefine the start column for transmitted data when no logical start-of-text pointer is present and the **Return** or **Enter** keys are pressed in **Modify Line** or **Modify All** mode.

  NOTE: The default start column is specified in the **HP70092 Settings** dialog (see Setup Options on page 103).

  Usually a start-of-text pointer is automatically generated to designate the leftmost character in the current line if it is the last line of data in display memory. The pointer will remain in display memory until the line is deleted. If the line has no start-of-text pointer, data transmission will begin at the start column specified by this option. The column range that can be specified is from 1 to 80, inclusive.

  To change the current start column, move the cursor to the new starting point and click this button or press the **F1** key. The start column will revert to that specified within setup when the emulation is reset or re-entered.

- **Set Tab - F2**

  This function enables tab stops to be defined. To define a tab stop, move the cursor to the column to contain the tab then click this button or press **F2**.

  NOTE: Tab stops that do not lie within the left and right margins will be ignored when the **Tab** key is pressed. All tab stops will be ignored when the emulation is in Format mode.

- **Clear Tab - F3**

  This function enables an individual tab stop to be cleared. To clear a tab stop, move the cursor to the column containing it then click this button or press **F3**.

- **Clr All Tabs - F4**

  Clicking this button or pressing F4 will cause all defined tab stops to be cleared (except the left margin which is an implicit tab stop).

- **Left Margin - F5**

  This function enables you to define the left margin. Margins determine the boundary for certain cursor movement commands (such as carriage return and cursor home), and insert character and delete character functions. Data to the left of this margin will still be accessible. The left margin is an implicit tab stop.

  When data received from the host or entered through the keyboard reaches the right margin, the cursor will move to the specified left margin on the next line down (as long as **InhEolWrp** is not selected in the **HP70092 Settings** dialog (see Setup Options on page 103), and, in the case of keyboard-entered data, auto line feed mode is enabled).

  To specify the left margin, place the cursor in the column for the margin location and click this button or press **F5**. The left margin can be reset to column 1 by pressing **F7** (this will also reset the right margin to column 80).

NOTE: Margins are disregarded when data is transferred from display memory to the host. The margins will be cleared when Format mode is enabled.

- **Right Margin - F6**

  This function enables you to define the right margin. Margins determine the boundary for certain cursor movement commands (such as carriage return and cursor home), and insert character and delete character functions. Data to the right of this margin will still be accessible.

  When data received from the host or entered through the keyboard reaches the specified right margin, the cursor will move to the left margin on the next line down (as long as **InhEolWrp** is not selected in the **HP70092 Settings** dialog (see Setup Options on page 103), and, in the case of keyboard-entered data, auto line feed mode is enabled).

  To specify the right margin, place the cursor in the column for the margin location and click this button or press **F6**. The right margin can be reset to column 80 by pressing F7 (this will also reset the left margin to column 1).

NOTE: Margins are disregarded when data is transferred from display memory to the host. The margins will be cleared when Format mode is enabled.

- **Clr All Margins - F7**

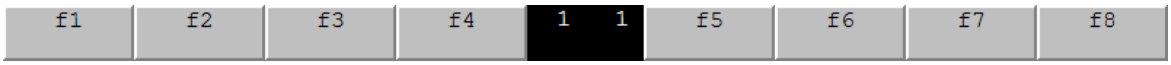
  This function will reset both left and right margin settings so that the left margin is in column 1 and the right margin in column 80.

Programming Function Keys & Buttons

The keys **F1** through **F8** and their equivalent buttons can be programmed by the host or user to perform additional functions to those described earlier. The keys may be assigned a string of alphanumeric characters and/or control codes, and you can define whether the key string is executed locally or transmitted to the host, or both. The buttons can also be programmed to display the new functions when in User Keys mode.

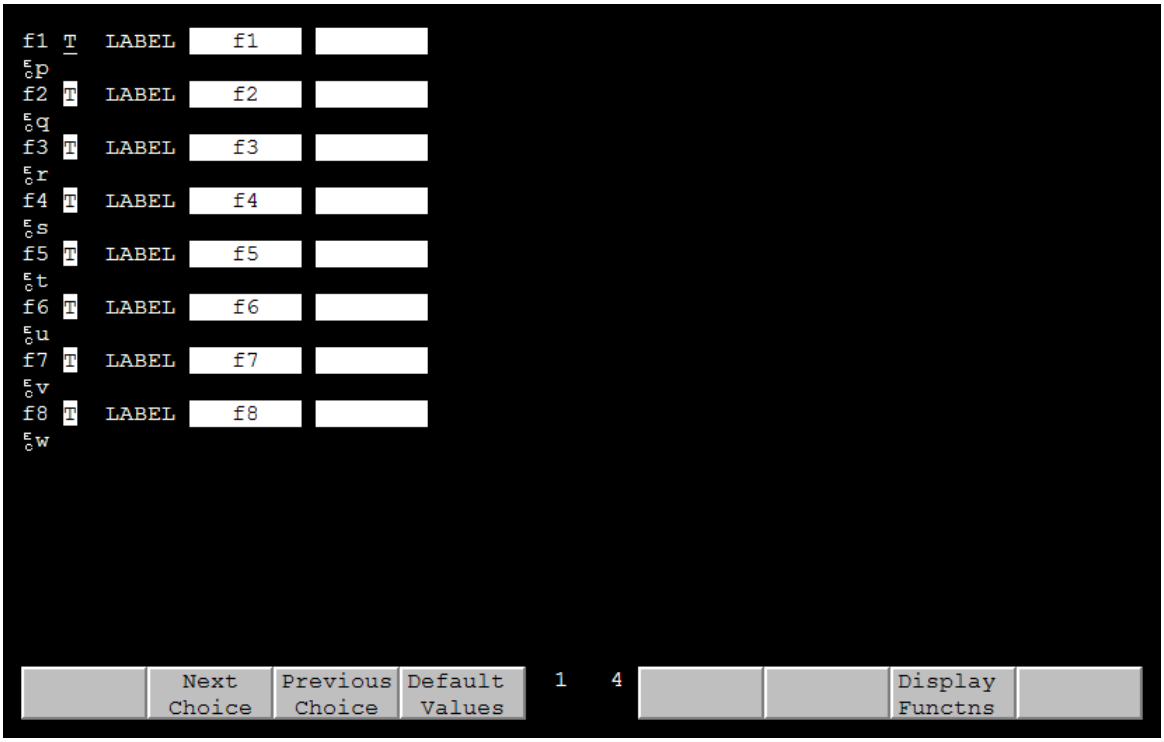
User Keys Mode

User Keys mode is entered by pressing the **F10** key. The f-key buttons displayed on the screen will change to display the current User Key definitions. If no definitions have been assigned, either by you or the host, the buttons will just display the legends of each f-key.



User Key Definitions

To define the function of an f-key or equivalent button locally, press the keys **Shift + F10** to display the User Key Definition screen. The screen can be exited by pressing **F9**.



Default Definitions

While this screen is displayed the f-keys and equivalent buttons have the functions shown by the buttons at the bottom of the TeemTalk window, so pressing **F4** or the **Default Values** button will cause the default key and button definitions to be asserted. The default definitions will take effect when the User Key Definition screen is exited.

Key String Treatment

Each f-key and button definition displayed in the User Key Definition screen consists of two lines. The first line begins with the f-key number followed by space then a one-character attribute field. This field will contain either an uppercase **L**, **T** or **N**. These characters indicate the following:

- **L** The key string is executed locally.
- **T** The key string is transmitted to the host only.
- **N** The key string is treated as keyboard-entered data.

The default selection is **T** for all f-keys. To change this setting, use the **Tab** or **Shift + Tab** keys to move the cursor over the field then press **F2** (**Next Choice** button) or **F3** (**Previous Choice** button) to cycle through the options until the one required is displayed.

Function Indicator

The remainder of the first line is used to specify what is displayed on the screen button to indicate its function. The default display shows the numbers of the f-keys.

The two fields following **LABEL** represent the upper and lower lines that can be displayed on the button. To change the current definition, use the **Tab** or **Shift + Tab** keys to move the cursor into the

relevant field and type in the new definition which can consist of a maximum of 16 characters, eight characters per field.

Key String Definition

The second line of each f-key definition contains the character string that is to be displayed, executed, and/or transmitted to the host when the key or button is pressed. The string may contain alphanumeric characters, control characters, and explicit escape sequence characters entered when Display Functions mode is enabled by pressing **F7** or the **Display Functions** button.

The default f-key string begins with the characters **EC** which represent the escape code that is used to begin each escape sequence. The **EC** characters are displayed in the key definition line by pressing the **Esc** key or the keys **Ctrl + [** together when Display Functions mode is enabled. Note that you must enter the entire escape sequence before disabling Display Functions mode (by pressing **F7** again).

When Display Functions is enabled, the **Return** key may be used to insert carriage return codes (**CR**) in the string. If **Auto LF** mode is selected in the **Mode Selection** function menu, **Return** will generate a line feed (**LF**) code as well as carriage return.

To change an f-key/button string definition, use the **Tab** or **Shift + Tab** keys to move the cursor onto the second line (the line following LABEL definition for that key/button) and type in the new definition which can consist of a maximum of 80 characters.

When you have finished defining f-key/button strings, press the **F9** key to exit the menu. To enable the new definitions and display the relevant functions on the buttons, press the **F10** key.

NOTE: The host may reset the f-key definitions to their default values if required by the application.

Character Display Attributes

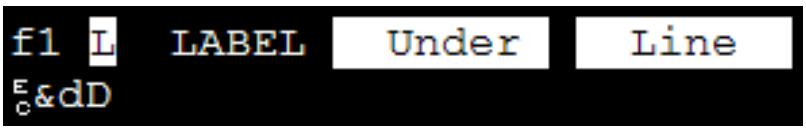
The HP 700-92/96 emulation incorporates various display attributes that can be enabled either by host commands, or from the keyboard by the user. When an attribute or set of attributes are enabled, they affect all subsequently displayed characters until an end attribute command or another attribute command is received, or the end of the line is reached. Attributes remain at the display location where they were enabled and will not move when characters are inserted or deleted.

You can configure the f-keys and buttons so that they will enable these attributes when pressed. The procedure is as follows.

1. Display the User Key Definition screen by pressing the keys **Shift + F10** together.
2. Press the **Tab** or **Shift + Tab** keys to position the cursor in the first field next to the number of the f-key to be defined.
3. Press **F2** until the letter **L** for Local is displayed.
4. Press **Tab** and type in the text that will appear in the display label for the key, for example, **Under** in the first field and **Line** in the second for **Under Line**. Press **Tab** to move down to the next line.
5. Press **F7** to enable Display Functions mode

6. Press **Ctrl + [** together or the **Esc** key, followed by the characters **&d** and the attribute character, which for underline is **D**.

   The key definition should look like this if the **F1** key was defined to enable the underline attribute:



   For any other attribute or combination of attributes, substitute the last character in the second line (**D** in the example above) with the relevant character from the following table.

	@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	S
Half-Brightness									●	●	●	●	●	●	●	●	
Underline					●	●	●	●					●	●	●	●	
Inverse Video			●	●			●	●			●	●			●	●	
Flashing		●		●		●		●		●		●		●		●	
Invisible																	●
End Attribute	●																

7. When you have finished, press **F9** to exit from the User Key Definition menu, then F10 to enable the User Keys and display the defined attribute labels.

Setup Options

The HP 700-92/96 emulation is configured using setup options in the **HP70092 Settings** dialog which can be displayed using one of the following three methods:

Using the **Session Wizard**:

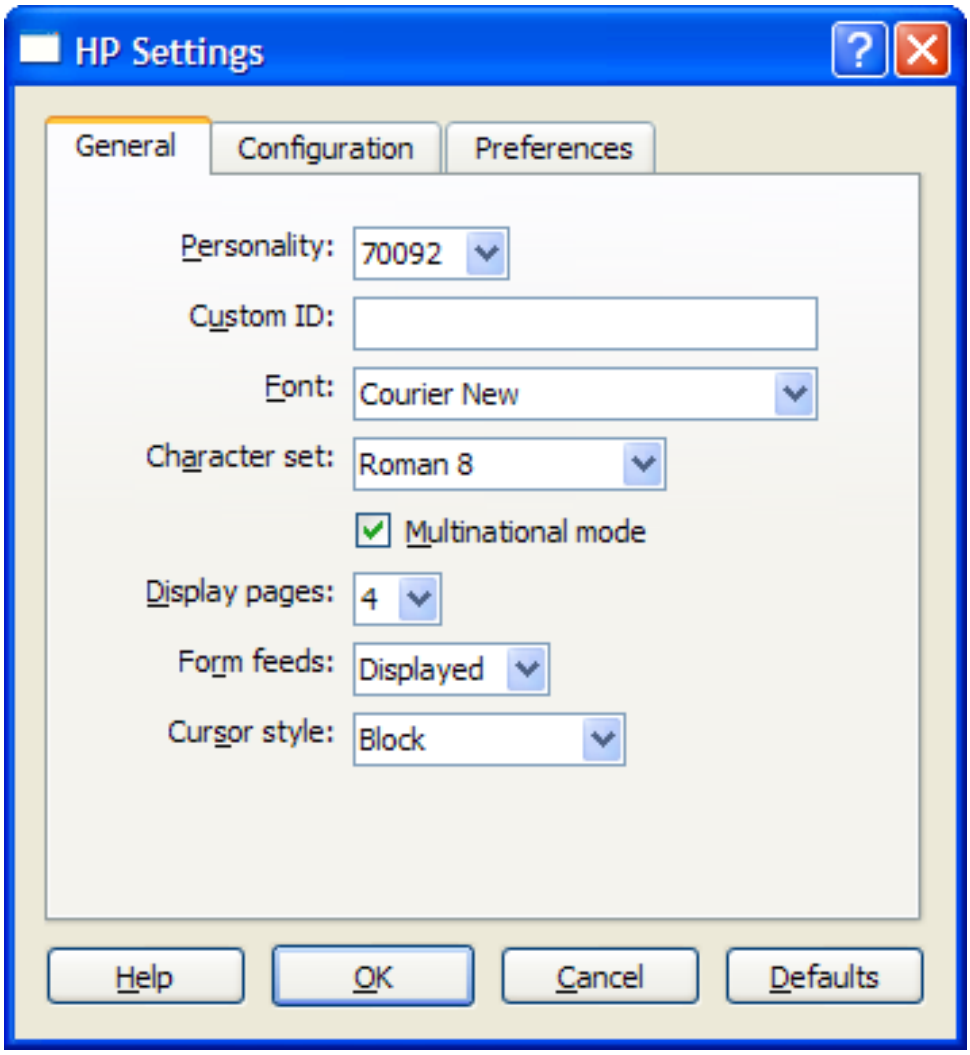
- In **Step 1** set **Emulation** to **HP 700-92/96** then click the **Configure** button.

Using the **TeemTalk Window:**

- On the **Session** menu, select **Emulation** > **HP 700-92/96** then select **Configure Emulation....**
- On the configuration bar, select **HP 700-92/96** in the **Emulation** list box then click **Configure Emulation**.

The setup options are grouped on three tabs labelled **General**, **Configuration** and **Preferences**.

General Settings



- **Personality**

  Factory default: 70092

  This specifies what is reported back to the host in response to a terminal identification request. (Note that not all features of the specified terminal may be supported.)

  The available personalities are **2392A**, **2622A**, **70092**, **70094** or **70096**. You can either select from this list or enter a custom terminal identity in the **Custom ID** text box below.

- **Custom ID**

  Factory default: Unspecified

  This enables you to specify a custom terminal identity which will be reported back to the host in response to a terminal identification request.

- **Font**

  Factory default: Courier New

This enables you to specify the font to use for displaying characters. The available settings depend on the fonts installed on your system.

- **Character set**

  Factory default: Roman 8

  This specifies the character set used for displaying characters.

- **Multinational mode**

  Factory default: Checked

  This option will only be available if the system is configured for a language that supports national replacement character sets.

  The setting of this option determines the type of character set used to generate characters. When unchecked, TeemTalk is in National mode in which a character set specific to the selected keyboard nationality is used. When checked (default) TeemTalk is in Multinational mode in which a character set consisting of two tables of characters is used. This enables characters from any keyboard nationality to be generated.

- **Display pages**

  Factory default: 4

  In HP 700-92/96 mode the display area is 80 or 132 columns by 24 lines with 168 lines stored off-screen, giving a total display memory of 192 lines. This option enables you to specify whether display memory is divided into **2**, **4**, **6** or **8** pages.

- **Form feeds**

  Factory default: Displayed

  This determines whether form feeds are **Displayed**, **Actioned** or **Ignored**.

  Selecting **Displayed** will cause form feeds to be represented on the display as **FF** characters.

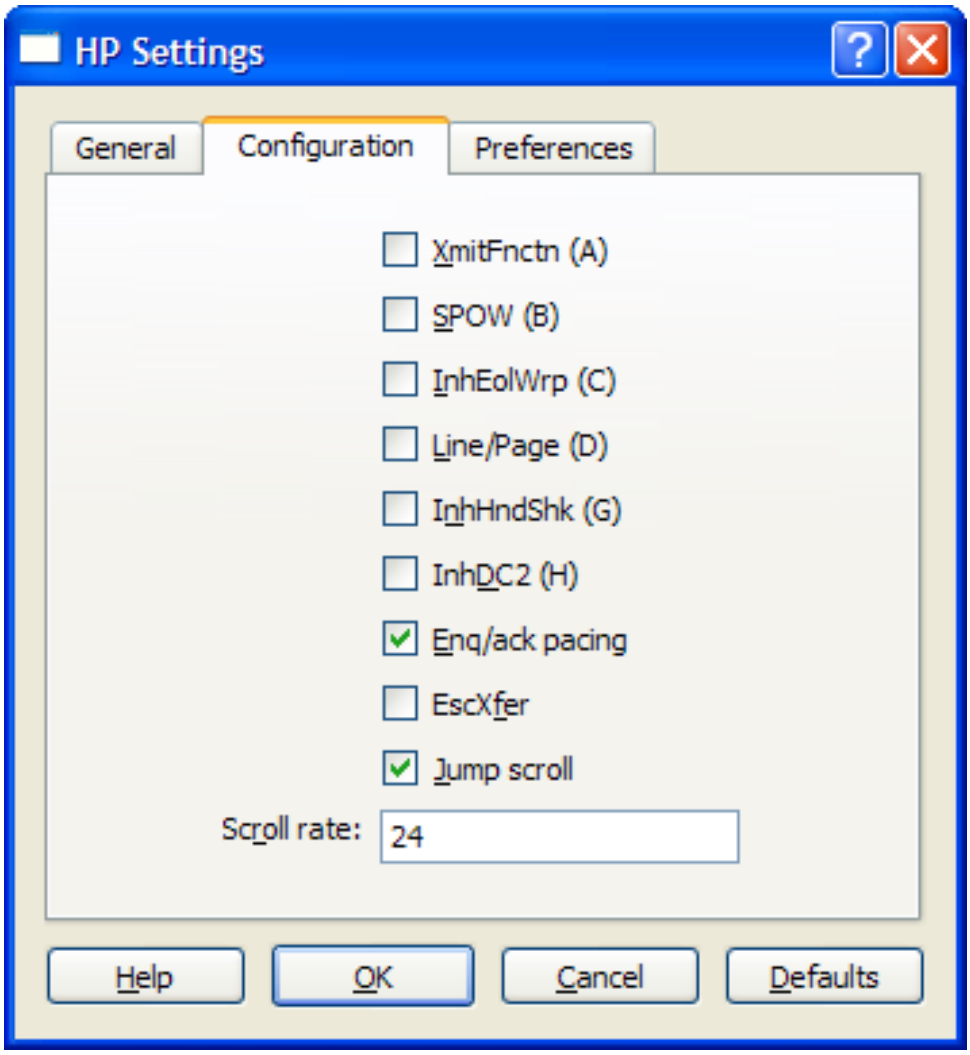
  When TeemTalk receives a form feed command from the host it normally results in a line feed on the display. Selecting **Ignored** will cause TeemTalk to ignore all form feed commands.

- **Cursor style**

  Factory default: Block

  This enables you to specify how the text cursor is displayed. Select from **Block**, **Underline**, **Static block**, **Static underline** or **None**.

Configuration Settings



- **XmitFnctn (A)**

  Factory default: Unchecked

  This option determines whether escape sequences generated by control and function keys are sent to the host or only to the terminal emulation.

  When unchecked, escape sequences are only sent to the terminal emulation. When checked, escape sequences are sent to the host. If the **Local Echo** option is checked, the sequences will also be sent to the terminal emulation.

- **SPOW (B)**

  Factory default: Unchecked

  The setting of the **SP**ace **O**ver**W**rite option determines whether or not keyboard entered spaces overwrite existing characters. When unchecked, keyboard entered spaces will overwrite existing characters.

  Checking this option will cause the SPOW latch to be enabled. The latch can then be activated by a carriage return. When activated, keyboard entered spaces will cause the cursor to move forward without deleting characters that already exist. The latch can be deactivated by a tab, line feed or home-up command. This will cause spaces to overwrite existing characters as normal.

- **InhEolWrp (C)**

  Factory default: Unchecked

  The **Inh**ibit **E**nd **o**f **l**ine **W**rap option determines whether characters wrap to the next line when the right margin is reached. When checked (i.e. inhibited), on reaching the right margin, the last character position will be overwritten with every new character received until a carriage return or other cursor movement command is issued.

- **Line/Page (D)**

  Factory default: Unchecked

  The setting of this option determines whether data is sent a line or a page at a time when in Edit mode.

  When this option is checked, data will be transmitted a line at a time.

  When unchecked, data will be transmitted a page at a time. Page data will either be from the beginning of display memory or from the current cursor position.

- **InhHndShk (G) InhDC2 (H)**

  Factory default: Unchecked

  The combined setting of these two options determine the type of handshaking used when blocks of data are transmitted to the host.

  One of three types of handshake may be used:

  - No handshake. Blocks of data are sent immediately when the relevant transmit key is pressed.
  - DC1 handshake. Data is only sent to the host when the host sends an ASCII **DC1** control code to request it.
  - DC1/DC2/DC1 handshake. The host sends an ASCII **DC1** control code, to which TeemTalk replies by sending a **DC2** code if ready to transmit. The host sends the **DC1** code again to cause the data block to be transmitted.

  The type of handshake used for block transfers is determined by the type of block transfer to be performed, the mode that the HP70092 emulation currently operating in (character, block line, block page, or modify mode), and the setting of these two options.

  The setting of these two options will have the following general effect:

  - **InhHndShk** only selected: The DC1/DC2/DC1 handshake or no handshake will be used.
  - **InhDC2** only selected: The DC1 handshake or no handshake will be used.
  - **InhHndShk** and **InhDC2** selected: No handshake will be used.

- **Enq/ack pacing**

  Factory default: Checked

  The setting of this option determines whether the Hewlett Packard **ENQ ACK** handshake is used.

  When checked, the host can send an ASCII **ENQ** (enquiry) control code at the end of transmission asking if the data has been processed, to which TeemTalk will reply by sending an

ACK (acknowledge) code when it has. Note that this form of handshaking has tthe lowest priority after hardware and **XON/XOFF** handshaking.

- **EscXfer**

  Factory default: Unchecked

  This option determines whether escape sequences relating to the display are sent when the display memory is transferred to the printer.

  When unchecked, escape sequences relating to the display are not sent to the printer.

  When checked, each line transferred to the printer will begin with an escape sequence to select the primary character set and stop any character enhancements. When escape sequences relating to the display are encountered within the data (for example, to change the character set), they will be sent to the printer.

- **Jump scroll**

  Factory default: Checked

  The setting of this option determines whether data is scrolled one or several lines at a time when the window becomes full.

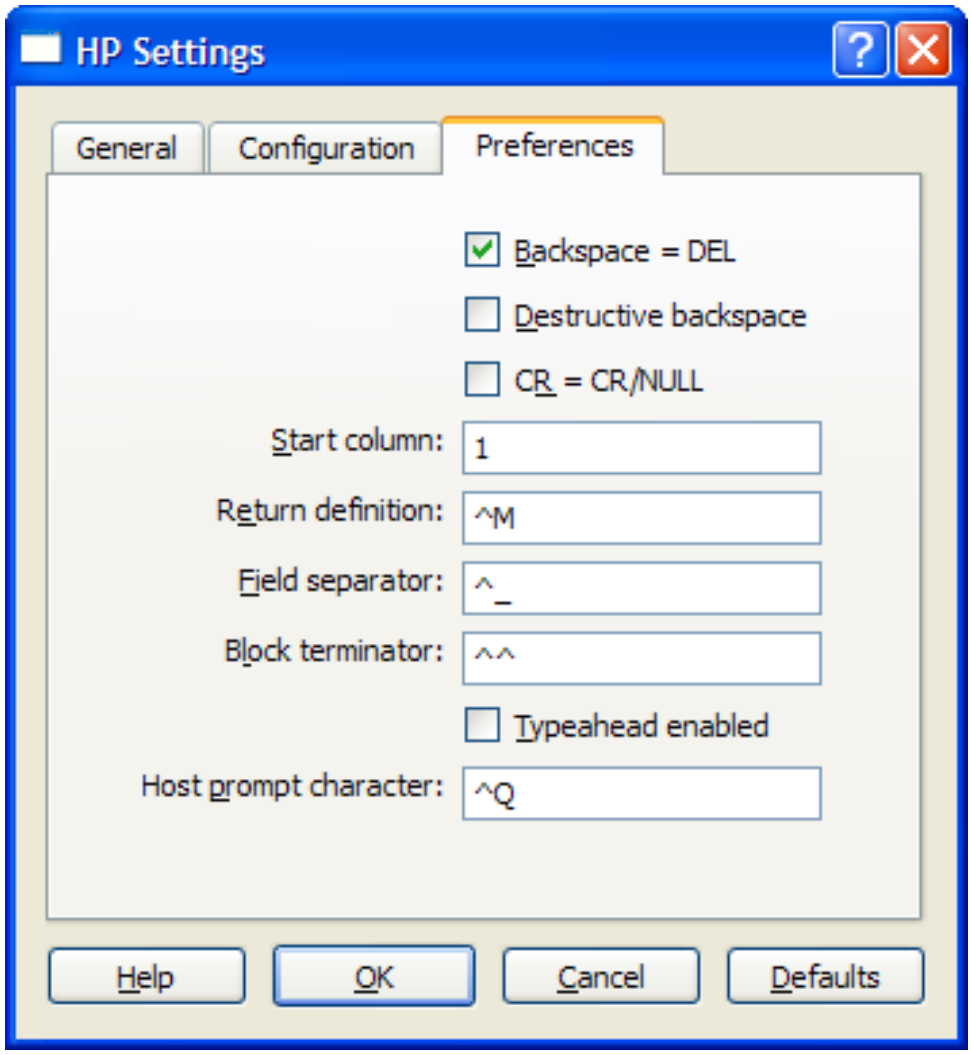
  When checked, data will scroll up several lines at a time as determined by the **Scroll rate** setting below.

- **Scroll rate**

  Factory default: 24

  This determines the number of lines that are scrolled when the **Jump scrol**l option above is selected.

Preferences



- **Backspace = DEL**

  Factory default: Checked

  The setting of this option determines whether a backspace command also performs a delete.

- **Destructive backspace**

  Factory default: Unchecked

  The setting of this option determines whether pressing the **Backspace** key will cause characters to be deleted.

- **CR = CR/NULL**

  Factory default: Unchecked

  This option must only be selected if you are going to use the **QEDIT** application. It overcomes a bug within **QEDIT** that ignores the **LF** character if the terminal transmits **CR/LF**. Inserting a **NULL** after the **CR** character cures the problem.

- **Start column**

Factory default: 1

This enables you to specify the start column for transmitted data when no logical start-of-text pointer is present and the **Return** or **Enter** keys are pressed in **Modify Line** or **Modify All** mode.

Usually a start-of-text pointer is automatically generated to designate the leftmost character in the current line if it is the last line of data in display memory. This pointer will remain in display memory until the line is deleted. If the line has no start-of-text pointer, data transmission will begin at the start column specified by this option. The column range is from 1 to 80 inclusive.

NOTE: The setting of this option may be temporarily redefined using one of the **Margin/Tab/Col** function keys. Refer to the section Margins, Tabs & Start Column on page 98 for details.

- **Return definition**

  Factory default: ^M (i.e. CR)

  This enables you to define the function of the **Return** key. Up to two characters may be used to define the key. If a second character is a space, it will be ignored.

  To change the current definition, delete the definition displayed in the text box and type in the new one, either as the control key character equivalent or the decimal value of the ASCII character.

  For example, the default code for the **Return** key function, **CR** (carriage return), can be entered by typing the characters **^** and **M**, representing the keys **Ctrl + M** which, when pressed together would generate the **CR** code.

  Decimal values are entered as three-digit numbers immediately preceded by an underscore character. Values with only two digits must be preceded by a zero. For example, the decimal value of **CR** is 13, so this would be entered as **_013**.

- **Field separator**

  Factory default: ^_ (i.e. US)

  This specifies the ASCII character used to indicate the end of each protected field (except the last) that is sent in Edit mode.

  To change the current definition, delete the definition displayed in the text box and type in the new one, either as the control key character equivalent or the decimal value of the ASCII character. For example, the default ASCII character **US** can be entered by typing the characters **^** and **_**, representing the keys **Ctrl + _** which, when pressed together would generate the **US** code.

  Decimal values are entered as three-digit numbers immediately preceded by an underscore character. Values with only two digits must be preceded by a zero. For example, the decimal value of **US** is 31, so this would be entered as **_031**.

- **Block terminator**

  Factory default: ^^ (i.e. RS)

  This specifies the ASCII character sent to the host to indicate the end of a data block transmission.

  To change the current definition, delete the definition displayed in the text box and type in the new one, either as the control key character equivalent or the decimal value of the ASCII

character. For example, the default ASCII character **RS** can be entered by typing the character **^** twice, representing the keys **Ctrl + ^** which, when pressed together would generate the **RS** code.

Decimal values are entered as three-digit numbers immediately preceded by an underscore character. Values with only two digits must be preceded by a zero. For example, the decimal value of **RS** is 30, so this would be entered as **_030**.

- **Typeahead enabled**

  Factory default: Unchecked

  When TeemTalk is connected to an HP 3000, you normally have to wait for the host to send a prompt before you can enter new data at the keyboard, otherwise the data is ignored. Selecting this option will enable you to type continuously without waiting for the prompt. Data is stored in the keyboard buffer and each time TeemTalk receives a prompt it will send a line of data to the host. Block mode also supports typeahead.

- **Host prompt character**

  Factory default: ^Q (i.e. DC1)

  Some hosts send a prompt character to the terminal to indicate that they are ready to receive the next line or block of data. This option enables you to specify the prompt character for your particular host. Most hosts either use the **DC1** (**^Q**) character (e.g. HP 3000) or no prompt (**^@**) character.

  When the **Typeahead enabled** option is checked, TeemTalk will wait for the specified prompt character from the host before transmitting the next line from the keyboard buffer.

13 IBM 3151 Emulation

This chapter describes features of the IBM 3151 terminal emulation.

Creating a IBM 3151 Emulation Session

You can create a session either using the TeemTalk Session Wizard or while TeemTalk is running.

Using the TeemTalk Session Wizard

This section describes how to use the TeemTalk Session Wizard to create an IBM 3151 emulation session.

1. To run the TeemTalk Session Wizard from the **Start** menu, select **All Programs > HP > HP TeemTalk Terminal Emulator > Session Wizard**.
2. In the **Session Name** field, enter a unique name that will identify this session configuration for future selection.
3. Select the **Transport** method then click the **Configure** button to specify settings.
4. Select the **Connection** type then click the **Configure** button to specify settings.
5. Select **IBM 3151** in the **Emulation** list box then click the **Configure** button to specify settings. (The options are described in the section Setup Options on page 118.)
6. Click **Next** to display the **Advanced Options** dialog.
7. Click **Next** to display the **Finalization** dialog.
8. If you want a shortcut icon for this session to be created on the desktop, click the checkbox **Create icon on desktop for session**.
9. Click **OK** to create the session and exit.
10. To run the session, either double-click on the desktop icon if one was created for the session, or run TeemTalk, display the **File** menu and select **Open Session**. Select the name of the required **.tts** session file then click **Open**.

Using the TeemTalk Emulator Window

This section describes the procedure for creating a IBM 3151 emulation session from the TeemTalk emulator window.

1. Display the **Session** menu from the menu bar and select **Transport...** to set the transport method.
2. Display the **Session** menu and select **Connection...** to set the connection method.
3. Display the **Session** menu and select **Emulation...**. Set the emulation to **IBM 3151**.

4. You can configure the transport, connection and emulation settings by selecting the relevant **Configure** options in the **Session** menu. The options displayed by selecting **Configure emulation** are described in the section Setup Options on page 118.
5. To save the session, display the **File** menu and select **Save session as**. In the **File Name** field, enter a unique name that will identify this session configuration for future selection, then click **Save**. Note that session files have the filename extension **.tts**.
6. To run the session, display the **File** menu and select **Open Session**. Select the name of the **.tts** session file then click **Open**.

Keyboard Mapping

The functions of the computer keyboard are mapped as closely as possible to the terminal being emulated. The mapping of key functions can be determined by referring to the **Emulation Keys** list box in the **Key Macro Settings** dialog, which is displayed by selecting **Key Macros...** on the **Tools** menu.

The information in brackets in the right column indicates the default mapping of the key function named in the left column. In the list, **S**+ indicates the **Shift** key, **C**+ indicates the **Control** key and **A**+ indicates the **Alt** key. For example:

I51_TRACE (C+VK_F1)

indicates that the **Trace** function is mapped to the key combination **Control + F1**.

Special key functions usually found on an IBM 3151 keyboard can be mapped to any key on your keyboard using the **I51** virtual key names listed in the **Key Macro Settings** dialog.

The illustrations on the following pages show where IBM 3151 keyboard functions are mapped to keys on a 101/102 key keyboard.

Figure 13-1 101/102 Key Keyboard Layout for the IBM 3151 Emulation

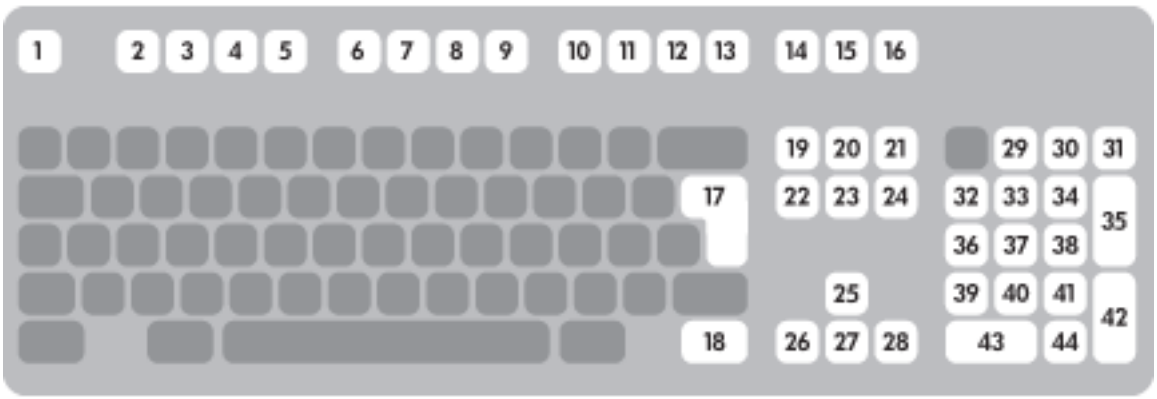


Table 13-1 IBM 3151 Keyboard Mapping

Key	Key Modifier	Result	Key	Key Modifier	Result
1	*none*	ESC	23	*none*	BACK TAB
	Shift +	F13		Ctrl +	LOCAL
2	*none*	F1	24	*none*	ERASE EOF
	Shift +	F14		Ctrl +	ERASE EOP
	Ctrl +	RESET			
3	*none*	F2	25		CURSOR UP
	Shift +	F15			
	Ctrl +	PRINT MESSAGE			
4	*none*	F3	26		CURSOR LEFT
	Shift +	F16			
	Ctrl +	BREAK			
5	*none*	F4	27		CURSOR DOWN
	Shift +	F17			
	Ctrl +	Setup			
6	*none*	F5	28		CURSOR RIGHT
	Shift +	F18			
	Ctrl +	JUMP			
7	*none*	F6	29	*none*	/
	Shift +	F19		Ctrl +	JUMP
	Ctrl +	PRINT SCREEN			
8	*none*	F7	30	*none*	SEND LINE
	Shift +	F20		Ctrl +	SEND MESSAGE
	Ctrl +	SEND MESSAGE			
9	*none*	F8	31	*none*	-
	Shift +	F21		Ctrl +	SETUP
	Ctrl +	SEND LINE			
10	*none*	F9	32	*none*	7
	Shift +	F22		Ctrl +	SUP
	Ctrl +	CURSOR SELECT			
11	*none*	F10	33	*none*	8
	Shift +	F23		Ctrl +	CURSOR SELECT
	Ctrl +	DISPLAY MESSAGE			

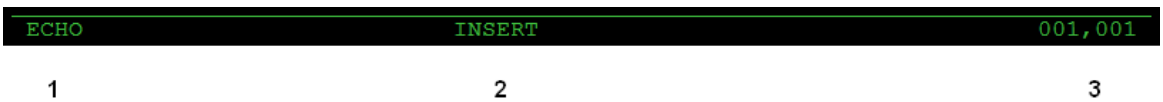
Table 13-1 IBM 3151 Keyboard Mapping (continued)

Key	Key Modifier	Result	Key	Key Modifier	Result
12	*none* Ctrl +	F11 ALRM UP	34	*none* Ctrl +	9 DISPLAY MESSAGE
13	*none* Ctrl +	F12 ALRM DOWN	35	*none* Ctrl + Alt +	- LOCAL ,
14		PRINT VIEW	36	*none* Ctrl +	4 SUB
15		PRINT LINE	37		5
16		HOLD	38		6
17	*none* Ctrl +	RETURN LINE FEED	39	*none* Ctrl +	1 PA1
18		SEND	40	*none* Ctrl +	2 PA2
19	*none* Ctrl + Shift +	INSERT INSERT LINE Define PF Key	41	*none* Ctrl +	3 PA3
20	*none* Ctrl +	HOME DEL	42	*none* Ctrl +	ENTER SEND
21	*none* Ctrl +	CLEAR ERASE INPUT	43		0
22	*none* Ctrl +	DELETE DELETE LINE	44		.

NOTE: All unmarked keys function as indicated by the legends on the keycaps.

The Status Line

The last line of the emulation display is used as a status line which indicates the status of various operations.



Field	Description
1	Indicates the current operating mode. • **BLOCK** Data entered on the keyboard is displayed and processed locally, allowing you to edit it before a block of data is sent to the host. • **CHAR** Data entered on the keyboard is sent simultaneously to the host and the display. • **ECHO** Data entered on the keyboard is sent only to the host. The host is then responsible for returning the data to the display.
2	**INSERT** indicates that Insert mode is active when the **Insert** key is pressed or when the Insert Character command is received. Note that the message will not be displayed if the **Insert character** option in the **IBM 3151 Settings** dialog is not set to **Mode**. Insert mode is exited by pressing the **Insert** or **Reset** key.

Field	Description
3	• **HOLD SCREEN** Indicates that the **Hold Screen** key has been pressed to suspend screen update. Press **Hold Screen** again to enable screen update. • **INVALID KEY** Indicates that you have pressed an invalid key. • **KEYS LOCKED** Indicates that the keyboard is locked. The keys will be unlocked when the Keyboard Unlock command is received or when the **Cancel** key is pressed. • **NUMERIC** Indicates that the cursor is located in an unprotected numeric field. • **PRINTING** Indicates that data is being sent to the printer. • **SENDING** Indicates that data is being sent to the host • **WRONG PLACE** Indicates that you have pressed an invalid key in a protected field or field attribute character position. It is also displayed when you try to insert a character or line in a screen already full when the **Forcing insert** option in the **IBM 3151 Settings** dialog is set to **Off**. If two or more messages are sent to a particular field, then the message with the highest priority will be displayed. Messages are displayed in the following order: HOLD SCREEN SENDING PRINTING KEYS LOCKED INVALID KEY WRONG PLACE NUMERIC
4	**(rrr,ccc)** indicates the current row and column position of the cursor.

Defining Function Keys

The keys mapped as **F1** through **F12** can be redefined from the keyboard or by the host. The function keys can store up to 128 characters between them and can include escape sequences and ASCII

control characters in addition to character strings. Here we describe how to define a function key from the keyboard.

1. Press the keys **Shift** + **Esc**. to display the Define F key line along the bottom of the screen.

The line has two user-entry fields. The small first field specifies the F key to be defined, and the second field is where the programmed contents is entered and displayed.

2. Specify the function key to be defined by entering a two-digit number in the first field, for example, **01** for **F1**, **12** for **F12**, then press **Enter**. The second field will display the current definition of the function key.

3. In the second field, enter the new definition for the function key. This can include a character string, escape sequence or control characters.

A control character is entered by typing its keyboard equivalent. For example, the **CR** (carriage return) character is entered by pressing **Ctrl** + **M**.

You can erase the character at the current cursor position by pressing the keys **Ctrl** + **2**. If you want to restore the default definition, press the **Clear** key.

4. Press the **Send** key to store the key definition. The Define F key line will be cleared to allow you to enter the next key definition. If you do not want to save the definition, press **Shift + Esc** instead of **Enter**.

NOTE: The function keys can store a maximum of 128 characters between them. When this number is reached or exceeded, field **A** will start blinking and any characters following the 128th character will be discarded.

5. Repeat steps **2** to **4** until you have finished defining function keys.

6. To exit from the Define F key display, press **Shift + Esc**.

Setup Options

The IBM 3151 emulation is configured using setup options in the **IBM 3151 Settings** dialog which can be displayed using one of the following three methods:

Using the **Session Wizard**:

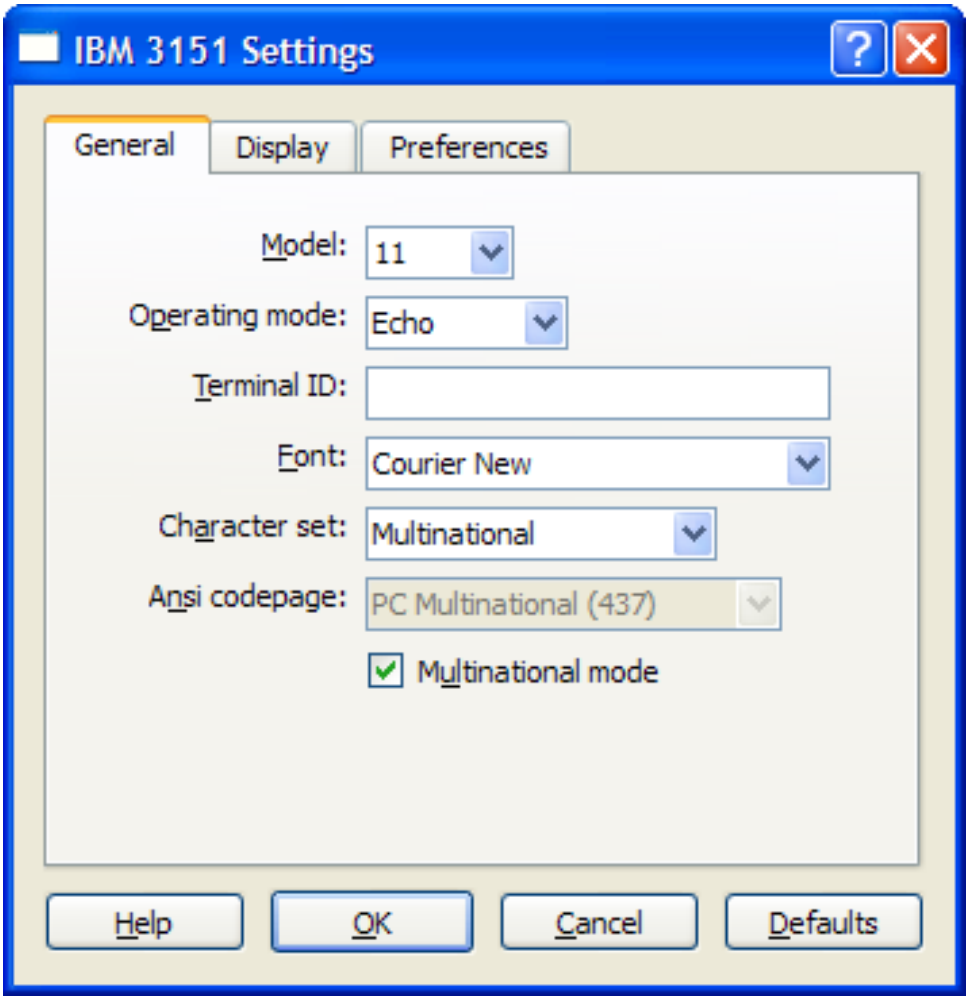
- In **Step 1** set **Emulation** to **IBM 3151** then click the **Configure** button.

Using the **TeemTalk Window:**

- On the **Session** menu, select **Emulation** > **IBM 3151** then select **Configure Emulation....**
- On the configuration bar, select **IBM 3151** in the **Emulation** list box then click **Configure Emulation**.

The setup options are grouped on three tabs labelled **General**, **Display** and **Preferences**.

General Settings



- **Model**

  Factory default: 11

  This option identifies the terminal model being emulated in response to a terminal identification request from the host. **Model 11** supports only one viewport containing 24 or 25 rows and 80 columns. **Model 31** supports up to three viewports (80 or 132 columns wide) and pass-through printing.

- **Operating Mode**

  Factory default: Echo

  The setting of this option determines how keyboard entered data is sent to the host and displayed on the screen.

  - **Echo** mode, keyboard entered data is sent only to the host. The host is then responsible for returning the data to the display.
  - **Character** mode, keyboard entered data is sent simultaneously to the host and the display.
  - **Block** mode, keyboard entered data is displayed and processed locally, allowing you to edit it before a block of data is sent to the host.

- **Terminal ID**

  Factory default: Unspecified

  This specifies what is reported back to the host in response to a terminal identification request. The terminal ID can be up to 20 characters long. Note that not all features of the specified terminal may be supported.

- **Font**

  Factory default: Courier New

  This enables you to specify the font to be used for displaying characters. The available settings depend on the fonts installed.

- **Character set**

  Factory default: Multinational

  This enables you to specify the character set to be used for displaying characters.

  The **PC Ansi** setting will use the PC (ANSI) character set specified by the **Ansi codepage** option.

  When **ISO Hebrew** is selected, the following key functions will be enabled:

  - **Ctrl + Alt + F1** Select Multinational 8-bit mode and left-to-right typing.
  - **Ctrl + Alt + F2** Select National 7-bit mode (lowercase English characters will be displayed as Hebrew) and right-to-left typing.
  - **Ctrl + Alt + F3** Toggle between left-to-right and right-to-left typing.

- **Ansi codepage**

  Factory default: PC Multinational (437)

  This option specifies the character set used for display when the **Character set** option is set to **PC Ansi**.

  Each code page consists of two tables of characters. The first table is the standard ASCII character set. The second table contains special characters which differ between the code pages.

  When **PC Hebrew (862)** is selected, the following key functions will be enabled:

  - **Ctrl + Alt + F1** Select Multinational 8-bit mode and left-to-right typing.
  - **Ctrl + Alt + F2** Select National 7-bit mode (lowercase English characters will be displayed as Hebrew) and right-to-left typing.
  - **Ctrl + Alt + F3** Toggle between left-to-right and right-to-left typing.

- **Multinational mode**

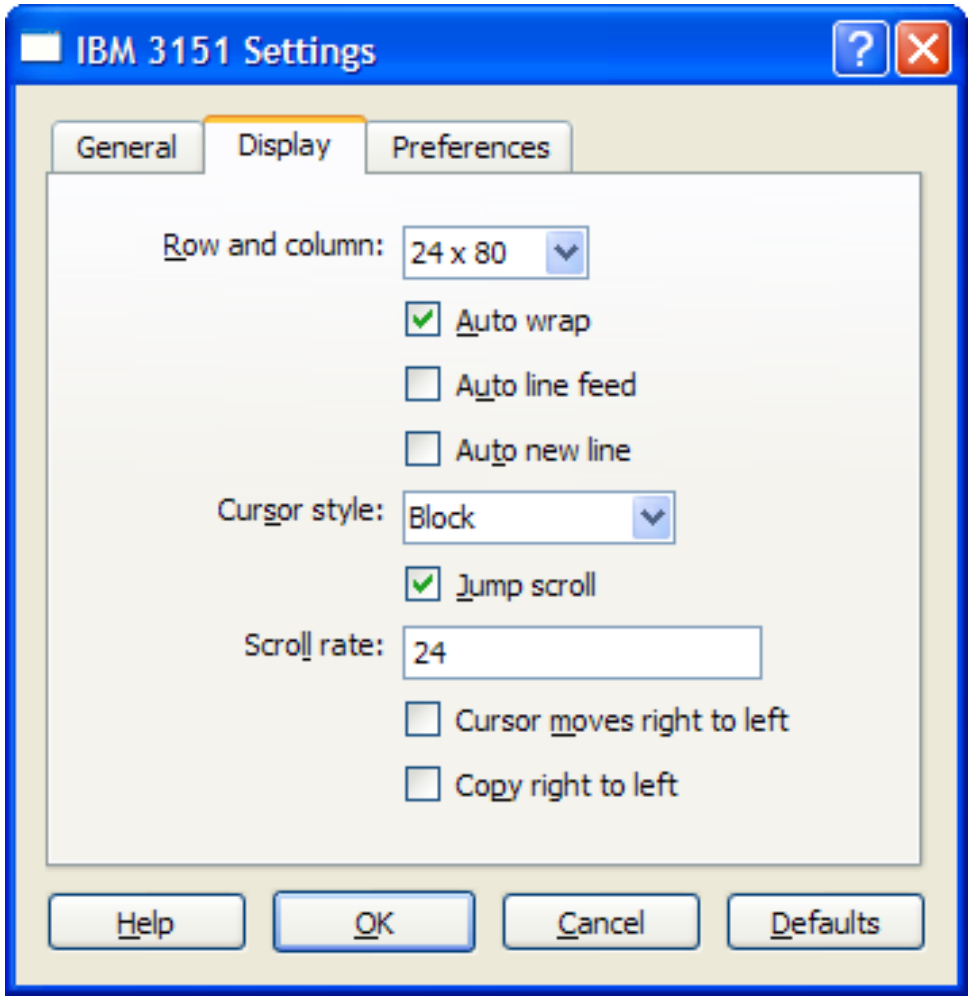
  Factory default: Checked

  The setting of this option determines the type of character set used to generate characters.

  When unchecked, **National** mode is active in which a character set specific to the selected keyboard nationality is used.

When checked (default), **Multinational** mode is active in which a character set consisting of two tables of characters is used. This enables characters from any keyboard nationality to be generated.

Display Settings



- **Row and column**

  Factory default: 24 x 80

  This option enables you to select one of several display formats:

Row and column setting	Effect on display
24 x 80	24 rows x 80 columns
24 x 80	25 rows x 80 columns
28 x 80	28 rows x 80 columns
24 x 132	24 rows x 132 columns
25 x 132	25 rows x 132 columns
28 x 132	28 rows x 132 columns

NOTE: The contents of the display will be cleared when you change the display format.

- **Auto wrap**

  Factory default: Checked

  The setting of this option determines what happens to the cursor and data sent to the display when the end of the current line is reached.

  When checked, the cursor will automatically move to the beginning of the next line. Note that this will always be the case in block mode or in a formatted page regardless of the setting of this option.

  When unchecked, the cursor will remain at the end of the current line and each new character sent to the display will overwrite the character already occupying the cursor position.

- **Auto line feed**

  Factory default: Unchecked

  The setting of this option in conjunction with that of the **Auto new line** option determines the destination of the cursor when the **Return** key is pressed or the **CR** character is received.

  When both this and the **Auto new line** options are unchecked, the cursor will move to the first position of the current line when the **Return** key is pressed or the **CR** character is received.

  When this is unchecked and A**uto new line** is checked, the cursor will move to the first position of the next line when the **Return** key is pressed.

  When this is checked and **Auto new line** is unchecked, the cursor will move to the first position of the next line when the **Return** key is pressed or the **CR** character is received.

  When both this and the **Auto new line** options are checked, the cursor will move to the first position of the line after the next line when the **Return** key is pressed.

- **Auto new line**

  Factory default: Unchecked

  The setting of this option determines the effect of pressing the **Return** key.

  When unchecked, the **Return** key will generate a **CR** (carriage return) character.

  When checked, the **Return** key will generate a **CR** and an **LF** (line feed) character.

- **Cursor style**

  Factory default: Block

  This enables you to specify how the text cursor is displayed. Select from **Block**, **Underline**, **Static block**, **Static underlin**e or **None**.

- **Jump scroll**

  Factory default: Checked

  The setting of this option determines whether data is scrolled one or several lines at a time when the window becomes full.

  When checked, data will scroll up several lines at a time as determined by the **Scroll rate** setting below.

- **Scroll rate**

  Factory default: 24

  This determines the number of lines that are scrolled when the **Jump scroll** option above is selected.

- **Cursor moves right to left**

  Factory default: Unchecked

  This enables you change the direction in which the text cursor moves across the display.

- **Copy right to left**

  Factory default: Unchecked

  This enables the copy commands to function in right to left display mode.

Preferences

- **Turnaround char**

  Factory default: CR

  This option specifies the line turnaround character (LTC) that is generated when a Read command is received or one of the block data transmission keys is pressed. Note that selecting **DC3** will disable the **XON/XOFF** inbound and outbound pacing characters.

- **Forcing insert**

  Factory default: Both

  This option specifies how an insert command affects displayed data when the screen is full.

  When set to **Off**, you will not be able to perform an insert operation.

  When set to **Line**, you will be able to insert one or more lines, using the **Ins Ln** key for example. The contents of the current and all following lines will move down the number of lines inserted, causing the lines originally at the bottom of the display to be discarded.

  When set to **Character**, you will be able to insert one or more characters in the current line. Characters to the right of the cursor position will move along. If the **Auto Wrap** option is set to **No**, then characters originally at the end of the current line will be discarded. If set to **Yes**, characters on all following lines will move along, forcing characters at the end of the last line to be discarded.

  When set to **Both**, the function of the **Line** and **Character** settings will be enabled.

- **Insert character**

Factory default: Space

The setting of this option determines the effect of pressing the **Insert** key.

When set to **Space**, a space character will be inserted after the current cursor position.

When set to **Mode**, the emulation will enter Insert mode when the **Insert** key is pressed.

- **Tab operation**

  Factory default: Field

  The setting of this option determines whether tab stops are according to field attribute characters or column-tab definitions.

  When set to **Field**, tab stops in a formatted page are provided by field attribute characters. Column-tab definitions are ignored.

  When set to **Column**, tab stops are provided by column-tab definitions. Field attribute characters are ignored.

  When this is selected and **Auto new line** is unchecked, the cursor will move to the first position of the next line when the **Return** key is pressed or the **CR** character is received.

  When both this and the **Auto new line** options are selected, the cursor will move to the first position of the line after the next line when the **Return** key is pressed.

- **Enter key**

  Factory default: Return

  This option enables you to specify whether the **Enter** key performs the same function as the **Return** key or the **Send** key.

- **Return key**

  Factory default: Field

  This option specifies whether or not the cursor can enter a line within a protected field when the **Return** key is pressed.

  When set to **Field**, the result of pressing the **Return** key is determined by the setting of the **Auto new line** option and the cursor will move to the next unprotected line.

  When set to **New Line**, the result of pressing the **Return** key is determined by the setting of the **Auto new line** option.

- **Send operation**

  Factory default: Page

  The setting of this option determines the effect of pressing the **Send** and **Send Line** keys.

  When set to **Page**, the contents of the current page will be sent to the host when **Send** is pressed, or the current line if **Send Line** is pressed.

  When set to **Line**, the contents of the current line will be sent to the host when **Send** is pressed, or the current page if **Send Line** is pressed.

14 IBM 3270 Display Emulation

This chapter describes features of the IBM 3270 display emulation.

Creating a IBM 3270 Display Emulation Session

You can create a session either using the TeemTalk Session Wizard or while TeemTalk is running.

Using the TeemTalk Session Wizard

This section describes how to use the TeemTalk Session Wizard to create an IBM 3270 Display emulation session.

1. To run the TeemTalk Session Wizard from the **Start** menu, select **All Programs > HP > HP TeemTalk Terminal Emulator > Session Wizard**.
2. In the **Session Name** field, enter a unique name that will identify this session configuration for future selection.
3. Select the **Transport** method then click the **Configure** button to specify settings.
4. Select the **Connection** type then click the **Configure** button to specify settings.
5. Select **IBM3270 Display** in the **Emulation** list box then click the **Configure** button to specify settings. (The options are described in the section Setup Options on page 138.)
6. Click **Next** to display the **Advanced Options** dialog.
7. Click **Next** to display the **Finalization** dialog.
8. If you want a shortcut icon for this session to be created on the desktop, click the checkbox **Create icon on desktop for session**.
9. Click **OK** to create the session and exit.
10. To run the session, either double-click on the desktop icon if one was created for the session, or run TeemTalk, display the **File** menu and select **Open Session**. Select the name of the required **.tts** session file then click **Open**.

Using the TeemTalk Emulator Window

This section describes the procedure for creating a IBM 3270 Display emulation session from the TeemTalk emulator window.

1. Display the **Session** menu from the menu bar and select **Transport...** to set the transport method.
2. Display the **Session** menu and select **Connection...** to set the connection method.
3. Display the **Session** menu and select **Emulation...**. Set the emulation to **IBM3270 Display**.

4. You can configure the transport, connection and emulation settings by selecting the relevant **Configure** options in the **Session** menu. The options displayed by selecting **Configure emulation** are described in the section Setup Options on page 138.
5. To save the session, display the **File** menu and select **Save session as**. In the **File Name** field, enter a unique name that will identify this session configuration for future selection, then click **Save**. Note that session files have the filename extension **.tts**.
6. To run the session, display the **File** menu and select **Open Session**. Select the name of the **.tts** session file then click **Open**.

IBM 3270 Display Emulation Capabilities

The IBM 3270 terminal emulation supports Extended Attribute mode which allows different representation of highlighted fields and permits host definition of text colors. (Note that you can modify colors using the **Attribute Settings** dialog, but they cannot be saved as colors are mapped differently in this mode.) The emulation also includes typeahead capability so that you can continue to enter data without waiting for a prompt from the host.

Keyboard Mapping

The functions of the computer keyboard are mapped as closely as possible to the terminal being emulated. The mapping of key functions can be determined by referring to the **Emulation Keys** list box in the **Key Macro Settings** dialog, which is displayed by selecting **Key Macros...** on the **Tools** menu.

The information in brackets in the right column indicates the default mapping of the key function named in the left column. In the list, **S**+ indicates the **Shift** key, **C**+ indicates the **Control** key and **A**+ indicates the **Alt** key. For example:

IB_ERASEINPUT (S+VK_PAUSE)

indicates that the **Erase Input** function is mapped to the key combination **Shift + Pause**.

Special key functions usually found on an IBM 3270 keyboard can be mapped to any key on your keyboard using the **IB** virtual key names listed in the **Key Macro Settings** dialog.

The illustrations on the following pages show where IBM 3270 keyboard functions are mapped to keys on a 101/102 key keyboard.

Figure 14-1 101/102 Key Keyboard Layout for the IBM 3270 Display Emaulation

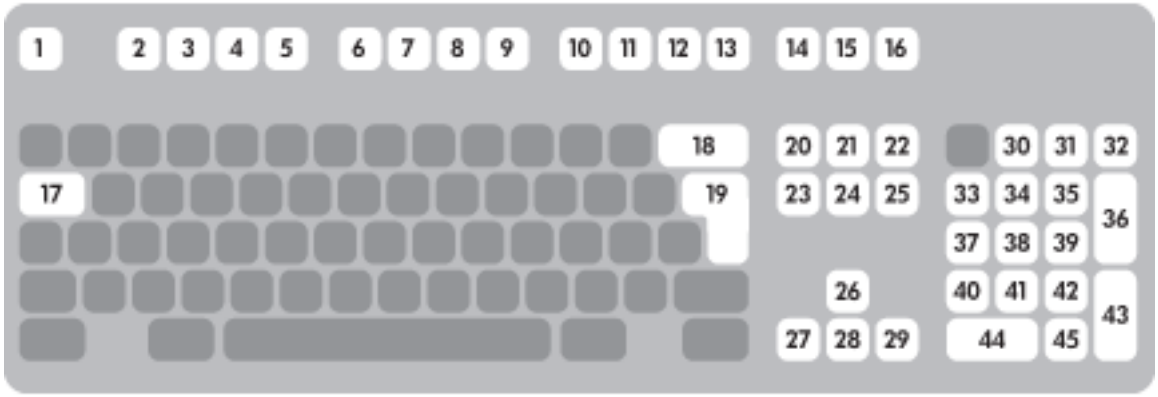


Table 14-1 IBM 3270 Display Keyboard Mapping

Key	Key Modifier	Result	Key	Key Modifier	Result
1	*none*	RESET	24	*none*	ERASE EOF
	Shift +	ATTN		Shift +	GO TO END OF LINE
	Alt +	QUIT		Alt +	ERASE INPUT
2	*none*	F1	25	*none*	PA2
	Shift +	F13		Shift +	COPY
				Alt +	RULE DISPLAY
3	*none*	F2	26		CURSOR UP
	Shift +	F14			
	Alt +	NOTICE BOARD SETUP			
4	*none*	F3	27	*none*	CURSOR LEFT
	Shift +	F15		Alt +	PREVIOUS WORD
	Alt +	FN EDIT			
5	*none*	F4	28		CURSOR DOWN
	Shift +	F16			
	Ctrl +	MONO CASE			
6	*none*	F5	29	*none*	CURSOR RIGHT
	Shift +	F17		Alt +	NEXT WORD
7	*none*	F6	30	*none*	/
	Shift +	F18		Shift +	REVERSE INPUT DIRECTION

Table 14-1 IBM 3270 Display Keyboard Mapping (continued)

Key	Key Modifier	Result	Key	Key Modifier	Result
8	*none* Shift + Alt +	F7 F19 RECORD	31	*none* Shift +	* CLOSE (DELETE SPACE)
9	*none* Shift + Alt +	F8 F20 PLAY	32	*none* Shift + Shift + Ctrl + Shift + Ctrl + Alt +	SELECTABLE FIELD TAB LOCAL NATIONAL MAP PUSH MODE ON/OFF ALTERNATE CODE PAGE
10	*none* Shift + Shift + Alt +	F9 F21 CURSOR SELECT	33	*none* Alt +	7 HOME
11	*none* Shift + Shift + Ctrl + Alt +	F10 F22 CURSOR FLASH ON/OFF DISPLAY ATTRIBUTES	34	*none* Alt +	8 CURSOR UP
12	*none* Shift + Shift + Ctrl +	F11 F23 CURSOR LINE/BLOCK	35	*none* Alt +	9 PA1
13	*none* Shift +	F12 F24	36		+
14	*none* Alt +	PRINT SYSREQ	37	*none* Alt +	4 CURSOR LEFT
15	Alt +	TEST KEY TO HOST	38		5
16	*none* Shift + Alt + Shift + Alt + Ctrl +	CLEAR ERASE INPUT PAUSE DELAY 1 SECOND	39	*none* Alt +	6 CURSOR RIGHT
17	*none* Shift + Ctrl +	TAB BACK TAB FIELD TAB	40	*none* Alt +	1 E EOF
18	*none* Shift +	BACKSPACE REVERSE SCREEN	41	*none* Alt +	2 CURSOR DOWN
19		RETURN	42	*none* Alt +	3 PA2

Table 14-1 IBM 3270 Display Keyboard Mapping (continued)

Key	Key Modifier	Result	Key	Key Modifier	Result
20	*none*	INSERT	43		ENTER
	Shift +	DUPLICATE			
21	*none*	HOME	44	*none*	0
	Shift +	FIELD MARK		Alt +	INSERT
	Ctrl +	JUMP			
22	*none*	PA1	45		.
	Shift +	PA3			
	Shift + Ctrl +	NOTICE BOARD COPY			
	Ctrl +	NOTICE BOARD JUMP			
	Alt +	NOTICE BOARD ZOOM			
23	*none*	DELETE CHARACTER			
	Alt +	DELETE WORD			

NOTE: All unmarked keys function as indicated by the legends on the keycaps.

SysReq Key Support

When the **SysReq** option in the **Telnet Options** dialog is selected, the key mapped with the **SysReq** function enables you to toggle the display and keyboard entries between the host operating system and the application. This enables you to switch to the operating system and issue a LOGOFF command.

The status line will display the following symbol when communicating with the operating system:

NOTE: Not all TN3270E servers provide full support of the **SysReq** key.

Network Virtual Terminal Mode

Network Virtual Terminal (NVT) mode allows the operator to communicate in ASCII format with a network gateway for routing, logon etc, before the full IBM terminal emulation protocol is established.

The following symbol is displayed on the status line when in NVT mode:

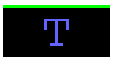
NVT mode displays an unformatted screen for data entry, allowing most of the keyboard functionality for local editing. However, when the **Enter** key is pressed, the line that the cursor is positioned on will be sent over Telnet as an ASCII string with **CR/LF** terminators. The cursor will then be positioned at the start of the next line. ASCII data received over Telnet will also be displayed at the current cursor position. A **CR** character will be actioned as a 'new line' character, causing the cursor to move to the start of the next line, scrolling the display if necessary.

Once the appropriate details have been entered to establish an IBM host session (which may be automatic), the screen is cleared and switched into full IBM 3270 terminal emulation mode, as indicated by the following status line symbol:

The Status Line

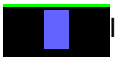
The last line of the IBM 3270 screen is used to display status information in the form of symbols and alphanumeric characters.

Operating Mode & Communication

 Indicates that a Telnet session is running.

 Indicates that you are online but the communication protocol is not System Network Architecture (SNA).

 Indicates that the current screen is a Network Virtual Terminal screen. This screen is displayed when IBM 3270 mode is entered before a telnet session has been initiated with the remote host. It enables you to enter login text in ASCII format. You will be returned to this screen when you log off.

 Indicates that the current screen is an IBM 3270 screen. This screen will be displayed when you have initiated a Telnet session with the host.

 Indicates that you are currently communicating with the host operating system, not the application.

Do Not Enter

A cross symbol will appear when input from the keyboard or mouse will not be accepted by the host (except **Reset** and **SysReq**). Symbols to the right of this will indicate the reason. Pressing the **Reset** key will remove some of these symbols from the status line.

Note that the emulation includes typeahead capability so that in most cases you can continue to enter data without waiting for the Do Not Enter message to clear as the data will be stored until the host is ready.

 Indicates that a programming error in the data from the host has been detected, possibly due to incompatible application software. Press the **Reset** or **SysReq** key to remove this indicator and unlock the keyboard.

 Indicates that you must wait while the requested function is performed.

 Indicates that you tried to enter an invalid character into a numeric field when the numeric-lock feature was active. The keyboard numeric-lock feature can be overridden by using a **Shift** key. The keyboard can be unlocked and the indicator removed by pressing the **Reset** key.

 Indicates that you tried to enter data in the wrong location. This will occur when you attempt to do any of the following:

- Enter, insert, erase, or delete a character when the cursor is in a protected field or at a field attribute location.
- Perform a cursor-select operation when the cursor is not in a valid cursor-select field.

The keyboard can be unlocked and the indicator removed by pressing the **Reset** key.

 Indicates that you cannot enter any data because the application program has disabled the keyboard following an entry.

 Indicates that you attempted to insert characters into an unprotected field when the cursor was at the end of the field, or you attempted to word wrap to the next line when there was not enough space to enable a word wrap.

The keyboard can be unlocked and the indicator removed by pressing the **Reset** key.

Typing Direction

 Indicates the direction in which characters are displayed on the screen when typed. The direction is toggled between left-to-right (normal) and right-to-left by pressing the keys **Shift + /** on the keypad.

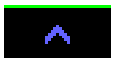
Bilingual Keyboard Mode

 Indicates whether the National (**N**) or Latin (**L**) character set is active when a code page that supports a bilingual keyboard is selected. Pressing the keys **Shift + -** on the keypad will toggle between the two character sets.

Numeric Lock

 Indicates that the numeric lock function is enabled and the current cursor is in a numeric field. When the numeric lock function is on, the current cursor is in an unprotected field and the keyboard is in lowercase shift, you can only use the **0** to **9**, decimal sign (**.**), minus (**-**), and **Dup** keys.

Insert Mode

 Indicates that the keyboard is in Insert mode. Existing characters to the right of the cursor will move to make room for new characters that are entered. Insert mode can be disabled by pressing the **Reset** or **SysReq** key, or by performing any action that sends data to the host, such as pressing the **Enter**, **Clear**, **PA**, or **PF** keys.

Display Direction

 Indicates the orientation of the screen display. A right arrow indicates normal left-to-right display, a left arrow indicates a right-to-left mirror image display. The display can be toggled between the two directions by pressing the keys **Shift + Backspace**.

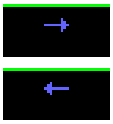
Cursor Position

Indicates the row and column position of the text cursor.

Text Display Options

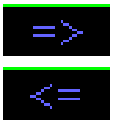
Display Right-to-Left

The contents of the screen can be displayed in reverse, i.e. as a right-to- left mirror image, by pressing the keys **Shift + Backspace**. This is a toggle function, so pressing the keys again will revert to normal left-to-right display. An arrow will be displayed on the status line (next to the row/column number) to indicate normal (right arrow) or mirror (left arrow) display.



Typing Direction

The direction in which characters are displayed on the screen when typed can be toggled between normal left-to-right and right-to-left by pressing the keys **Shift + /** on the keypad. The following symbols will be displayed on the status line to indicate the current typing direction:



Selecting the **Symbol Swap** option on the **Display** tab of the **3270 Display Settings** dialog will cause text symbols such as round or angle brackets to be displayedin the correct orientation when typing right-to-left.

Close Key

If text has been typed using both typing direction modes in the same line or field, you can force the right-hand text to join the left-hand text by pressing the keys **Shift + *** on the keypad.

Push Mode

Push mode allows you to edit text whose direction is opposite the screen orientation. In this mode the cursor orientation is reversed and a Push segment is created. Push mode is toggled on/off by pressing the keys **Ctrl + Shift + -** (keypad minus).

Push mode has two secondary modes, Boundary mode and Edit mode.

Boundary mode is activated when Push mode is entered. The cursor will remain at its current position while you type additional characters, and text will be pushed in the opposite direction of the screen orientation.

Edit mode is activated when the cursor is moved from its Boundary position into the Push segment area. In this mode, text can be edited within the Push segment while typing in the field's natural direction.

Bilingual Keyboard Support

When a code page that supports a bilingual keyboard is selected, you can toggle between the National and Latin character set by pressing the keys **Shift + -** on the keypad. The character **N** or **L** will be displayed on the status line to indicate which character set is currently active.

Selecting the **Numeral Swap** option in the **3270 Display Settings** dialog will cause all numbers to be displayed using the National character set when in Latin character set mode.

Alternate Code Page

If a language supports two code pages (e.g. Hebrew New Code and Hebrew Old Code), you can switch between the two by pressing the keys **Ctrl + Shift + Alt + -** on the numeric keypad. This function can be assigned to a different key or key combination by using the **IB_ALTCP** virtual key name.

Record & Playback Keystrokes Facility

The record/playback keystrokes facility enables you to eliminate repetitive operations by using the **Fn** keys to store, retrieve and display data. The **Fn** keys can store a total of 1500 keystrokes. A sequence of recorded keystrokes may be interrupted so that keystrokes can be entered manually before continuing with the recording or playback. Note that local **Fn** key functions cannot be recorded.

The keys used to initiate recording and playback are shown below together with the equivalent virtual key names that can be used to assign the functions to any key on the keyboard:

	101/102 Key Keyboard	Virtual Key Names
Record:	Alt + F7	IB_RECORD
Pause:	Shift + Pause	IB_PAUSE
Quit:	Alt + Escape	IB_QUIT
Play:	Alt + F8	IB_PLAY
Edit:	Alt + F3	IB_FEDIT

Recording Keystrokes

The following procedure describes how to record keystrokes.

1. Press **Record** to enter Record mode.

The status line will display **RECRD** and a number from **0-1500** indicating the number of new keystrokes that may be stored. A series of boxes displayed to the right represent the **Fn** keys. A solid box indicates that the **Fn** key in that position is currently storing recorded keystrokes.

2. Press the **Fn** key that will store the keystrokes. (On 101/102 keyboards you can also use **Shift + Fn**.)

The status line will display **R**** F*** where **R** indicates you are in Record mode, ******** is the number of keystrokes that may be stored, and **F*** is the number of the **Fn** key pressed.

NOTE: If you press a pre-recorded **Fn** key, its contents will be replaced with the following keystrokes. You can also remove the contents of the **Fn** key before recording by pressing the **Delete** key.

3. Enter the keystrokes to be recorded.

You may pause recording at any time to allow keystrokes to be entered manually when played back by pressing **Pause**. To continue recording, press **Pause** again.

NOTE: You can cancel the newly recorded keystrokes by pressing the **Quit** key. This cancellation does not affect the previously recorded keystrokes.

4. To finish and save the recording, press the **Record** key.

Playback Keystrokes

You can play back the contents of an **Fn** key as normal or one keystroke at a time. The following procedure describes normal playback. For one keystroke playback, select **Single Step Macros** on the **Notice Board Settings** tab of the **3270 Display Settings** dialog.

1. Position the text cursor where the playback is to start.
2. Press the **Play** key to enter Play mode.

The status line will display **PLAY** and a series of boxes representing the **Fn** keys. A solid box indicates that the **Fn** key in that position is currently storing recorded keystrokes.

3. Press the **Fn** key storing the recorded data to playback.

   Playback will begin immediately, as indicated by a **P** on the status line. All the recorded keystrokes will be played back automatically. When playback is completed the **P** will disappear.

   If the recorded keystrokes included **Pause**, then playback will halt at that point to allow you to enter keystrokes manually. Press **Play** to resume playback from where you stopped typing.

   If you want to cancel during the playback operation, press the **Quit** key.

Editing Macros

1. Press **Alt + F3**.

2. Press the **Fn** key containing the macro to be edited.

The status line will display information about the **Fn** key macro as follows:

- Displays **EDIT** or **INSERT** depending on the current mode.
- Number of new keystrokes that may be stored.
- Current **Fn** key number.
- Cursor position within the macro (i.e. the number of keystrokes from the start of the macro).
- Contents of the macro.

3. Use the **Left** or **Right** cursor keys to move the cursor one character position at a time through the macro, or the **Up** or **Down** cursor keys to move 20 character positions at a time.
4. If required, press the **Insert** key to toggle between Insert and Edit mode, as indicated in the status line.
5. Make the required changes to the macro.
6. To save the edit, press **Alt + F3**.
7. Press **Quit** to exit.

Error Codes

The following error codes may appear on the status line if an error occurs during recording or playback.

Table 14-2 Recording/Playback Error Codes

9001	Exceeded the maximum number of allowed keystrokes. Remedy: Press the **Record** key to exit Record mode. To record a new keystroke sequence, either: • Press the **Record** key and the target **Fn** key that has erasable data, then enter the new data, or: • Press the **Record** key and the target **Fn** key that has erasable data, then press the **Delete** key to erase the recorded data for that key.
9003	You pressed an invalid **Fn** key while performing the Record or Play function. Remedy: Press the **Reset** key.
9007	You pressed an invalid sequence key (e.g. Play) while performing the Record function. Remedy: Press the **Reset** key.
9010	While performing the Play function, you pressed an **Fn** key that does not have a keystroke assigned to it. Remedy: Press the **Reset** key.
9015	In communication mode, you pressed either the **Quit** or **Pause** key. Remedy: Press the **Reset** key.
9019	In Record or Play mode. While the Record/play pause indicator was displayed on the status line you pressed an invalid key (e.g. Play key in Record mode, or Record key in Play mode). Remedy: Press the **Reset** key.

Notice Board Facility

Introduction

The Notice Board is an area of the display in which copied data can be stored and manipulated. You can display the Notice Board either by pressing the keys **Alt + F2**, or by selecting the **Notice Board Enabled** option on the **Notice Board Settings** tab of the **3270 Display Settings** dialog (see Notice Board Settings on page 147).

When the Notice Board is enabled, pressing the **Zoom** key will toggle the display between full screen (i.e. the screen currently containing the cursor) and split screen (host screen and Notice Board) mode. The **Zoom Settings** options on the **Notice Board Settings** tab of the **3270 Display Settings** dialog determine which screen is displayed above the other. When viewing the display, pointers at each end of the dividing line between the two screens indicate which is the host screen.

Key Functions

The keys used by default for Notice Board functions are shown below together with the equivalent virtual key names that can be used to assign the functions to any key on the keyboard.

	101/102 Key Keyboard	Virtual Key Names
NB Setup:	Alt + F2	IB_NB_SETUP
Zoom:	Alt + Page Up	IB_NB_ZOOM
Jump:	Ctrl + Page Up	IB_NB_JUMP
NB Copy:	Ctrl + Shift + Page Up	IB_NB_COPY
Copy:	Shift + Page Down	IB_COPY

Copying Screen Data to the Display

1. Position the text cursor at the start of the area to be copied.
2. Press the **Copy** key to start the Copy function. Note that the status line will display the key functions available.
3. Use the cursor keys to move the text cursor to the diagonally opposite corner of the display area to be copied. The currently selected area will be highlighted in green. Note that you can toggle the position of the text cursor between the two diagonally-opposite corners of the selected area by pressing the **Return** key.
4. Press **F13** to copy the selected area. The copied area (i.e. the target) will be highlighted in red.
5. Use the cursor keys to move the red target area to the required position on the display. You can also use the **Jump** key to move the target area to the host screen or Notice Board.
6. Press **Enter** on the numeric keypad to save the copied area at the current position on the display.

Copying Screen Data to a Function Key

The following procedure describes how to copy screen data to a function key. Note that the **3270 Display Settings** dialog has several options that determine whether this facility is enabled and whether all screen data in the selected area is copied, or only data in user entry fields. See Notice Board Settings on page 147 for details.

1. Position the text cursor at the start of the area to be copied.
2. Press the **Copy** key to start the Copy function. Note that the status line will display the key functions available.
3. Use the cursor keys to move the text cursor to the diagonally opposite corner of the display area to be copied. The currently selected area will be highlighted in green. Note that you can toggle the position of the text cursor between the two diagonally-opposite corners of the selected area by pressing the **Return** key.
4. Press **F14** to copy the selected area.
5. Press the function key required to store the copied data.
6. Press **Enter** on the numeric keypad to store the copied data in the chosen function key.

Setup Options

The IBM 3270 Display emulation is configured using setup options in the **3270 Display Settings** dialog which can be displayed using one of the following three methods:

Using the **Session Wizard**:

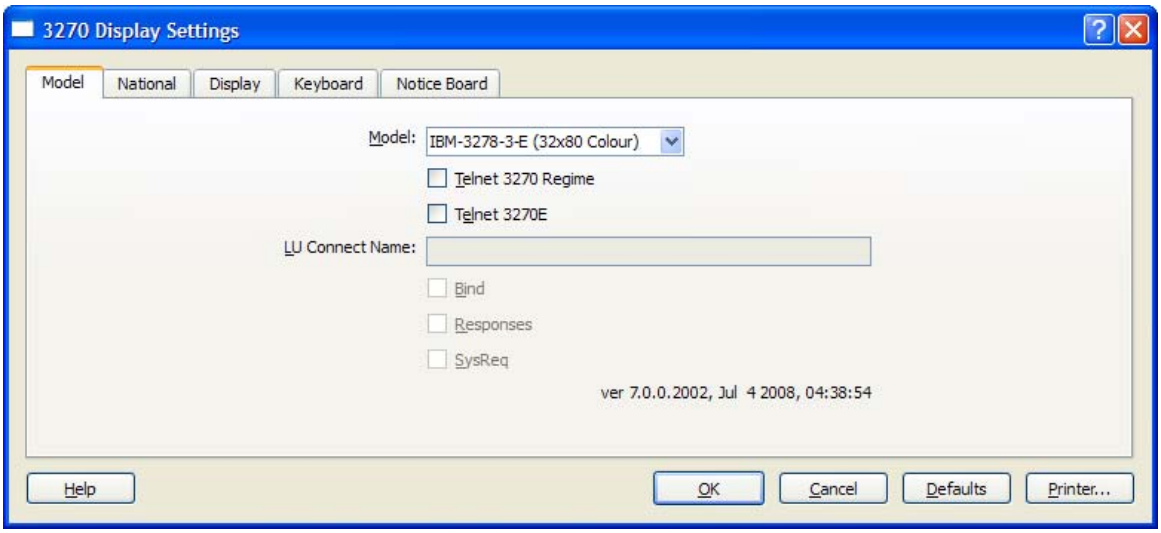
- In **Step 1** set **Emulation** to **IBM 3270 Display** then click the **Configure** button.

Using the **TeemTalk Window:**

- On the **Session** menu, select **Emulation** > **IBM 3270 Display** then select **Configure Emulation....**
- On the configuration bar, select **IBM 3270 Display** in the **Emulation** list box then click **Configure Emulation**.

The setup options are grouped on five tabs labelled **Model**, **National**, **Display**, **Keyboard** and **Notice Board**.

Model Settings



- **Model**

  Factory default: IBM-3278-3-E (32x80 Colour)

  This specifies what is reported back to the host in response to a terminal identification request. Note that not all features of the specified terminal may be supported.

  One of four display sizes can be selected:

3278/9-2	24 rows by 80 columns
3278/9-3	32 rows by 80 columns
3278/9-4	43 rows by 80 columns
3278/9-5	27 rows by 132 columns

  3278 settings with the **E** extension provide support for the following extended attributes (these are supported by the **3279** as standard):

  - 3270 Field Attributes
  - Extended Highlighting
  - Foreground Color
  - Query Reply Inbound Structured Fields

- **Telnet 3270 Regime**

  Factory default: Unchecked

  Check this box to enable support for the Telnet 3270 regime, otherwise it will be suppressed.

- **Telnet 3270E**

  Factory default: Unchecked

  Check this box to enable support for the Telnet 3270E regime, otherwise it will be suppressed.

- **LU Connect Name**

  This specifies the name of the device which the server will be requested to assign to the Telnet session.

  You can return the local host name by entering **%s** after the device name. To return the user name, enter **%u** after the device name. You can specify how many characters of the name is returned in each case. For example, **%.3s** will return the first three characters of the local host name, and **%-.3s** will return the last three characters.

  To automatically assign a new device name for each successive connection, either enter **%dN%** after the name, where N is a decimal value, or **%xN%**, where **N** is a hexadecimal value. Each time the host requests the device name a counter will be substituted into the device name. If the host rejects the device name as in use the counter will be incremented modulus **N** and the name retried until all possibilities have been tried, at which point the emulation will report a device name rejected error.

  For example, **TEST%d4%** will give **TEST1** on all connections until the host rejects the name as in use, in which case **TEST2** will be used. If this is already in use then **TEST3** is used, or if already in use then **TEST0**. These values are preserved over power off, so the first connection of any given power on may not be **TEST1**. Assume that the start point is random.

  When you achieve a TN3270E connection, the LU device name that you are connected as will be displayed on the status line. If the specified device is rejected by the server or host, then an error message box will be displayed indicating the reason.

- **Bind**

  Factory default: Unchecked

  When this option is checked the server is allowed to send the SNA Bind image and Unbind notification to the emulator.

- **Responses**

  Factory default: Unchecked

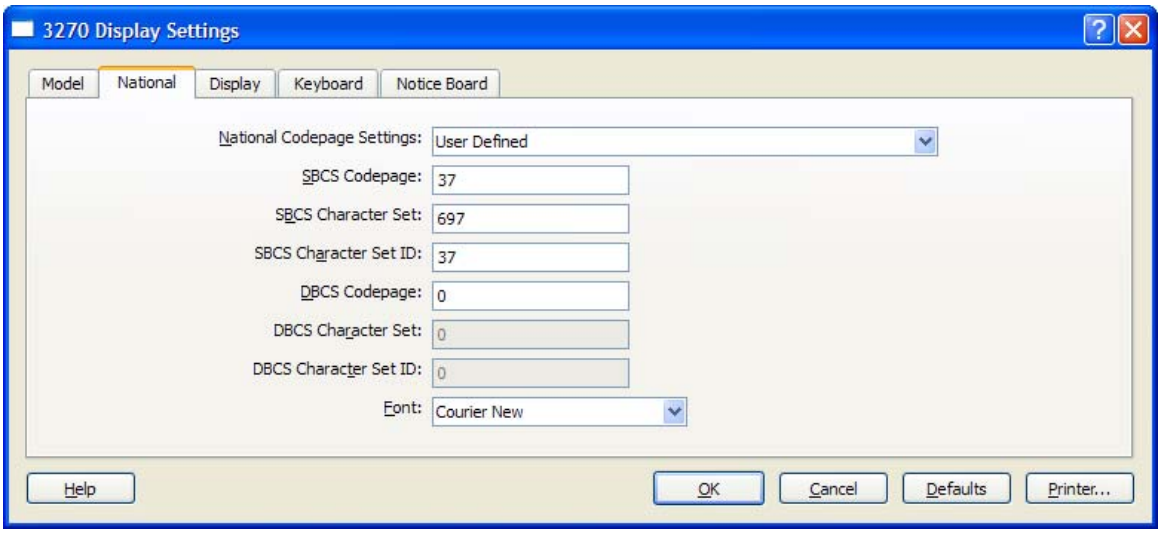
  Check this option to support positive and negative response handling. This allows the server to reflect to the emulator any and all definite, exception, and no response requests sent by the host application.

- **SysReq**

  Factory default: Unchecked

  Checking this option will enable the functions of the **SysReq** key. As some servers may not support, or may only partially support **SysReq**, the level at which the SysReq key will function will depend on the server.

National Settings



These options enable you to select the character set to be used. There are separate entries for the Single Byte Character Set (**SBCS**) and (if supported) Double Byte Character Set (**DBCS**). These should only be changed by the System Administrator. If they have been changed and you wish to restore the default settings, click the **Defaults** button at the bottom of the dialog. The table at the end of this section shows the default settings.

- **National Codepage Settings**

  Factory default: User Defined

  This specifies the type of national codepage to be used. Selecting **User Defined** will enable manual selection of the **Codepage**, **Character Set** and **Character Set ID** using the following options.

- **SBCS / DBCS Codepage**

  Factory default: SBCS 37 - DBCS 0

  This is a numeric value specifying the codepage to use.

- **SBCS / DBCS Character Set**

  Factory default: SBCS 697 - DBCS 0

  This is a numeric value specifying the character set to use.

- **SBCS / DBCS Character Set ID**

  Factory default: SBCS 37 - DBCS 0

  This specifies character set ID.

- **Font**

  Factory default: Courier New

  This enables you to specify the font to be used for displaying characters. The available settings depend on the fonts installed.

Table 14-3 Default Language, Codepage & Character Set Settings

Language	Type	Codepage	Char Set	CCSID
English (US)	SBCS	37	697	37
English (UK)	SBCS	285	697	285
Belgian	SBCS	500	697	500
Canadian French	SBCS	37	697	37
Danish	SBCS	277	697	277
Finnish	SBCS	278	697	278
German	SBCS	273	697	273
Dutch	SBCS	37	697	37
Italian	SBCS	280	697	280
Swiss French	SBCS	500	697	500
Swiss German	SBCS	500	697	500
Swedish	SBCS	278	697	278
Norwegian	SBCS	277	697	277
French	SBCS	297	697	297
Spanish	SBCS	284	697	284
Portuguese	SBCS	37	697	37
Japanese Kanji + Katakana	SBCS	290	1172	290
	DBCS	300	1001	930
Korean	SBCS	833	1173	833
	DBCS	834	934	933
Simplified Chinese	SBCS	836	1174	836
	DBCS	837	937	937
Traditional Chinese	SBCS	37	1175	37
	DBCS	835	935	935
Hebrew New Code	SBCS	424	941	424
Hebrew Old Code	SBCS	803	941	424
Thai	SBCS	838	1176	838
Greek	SBCS	875	925	875
Cyrillic	SBCS	880	960	880
Turkish	SBCS	1026	1152	1026
Russian	SBCS	1025	1150	1025

Table 14-3 Default Language, Codepage & Character Set Settings (continued)

Language	Type	Codepage	Char Set	CCSID
Czech	SBCS	870	959	870
Slovak	SBCS	870	959	870
Polish	SBCS	870	959	870
Icelandic	SBCS	871	697	871
Arabic	SBCS	420	697	285

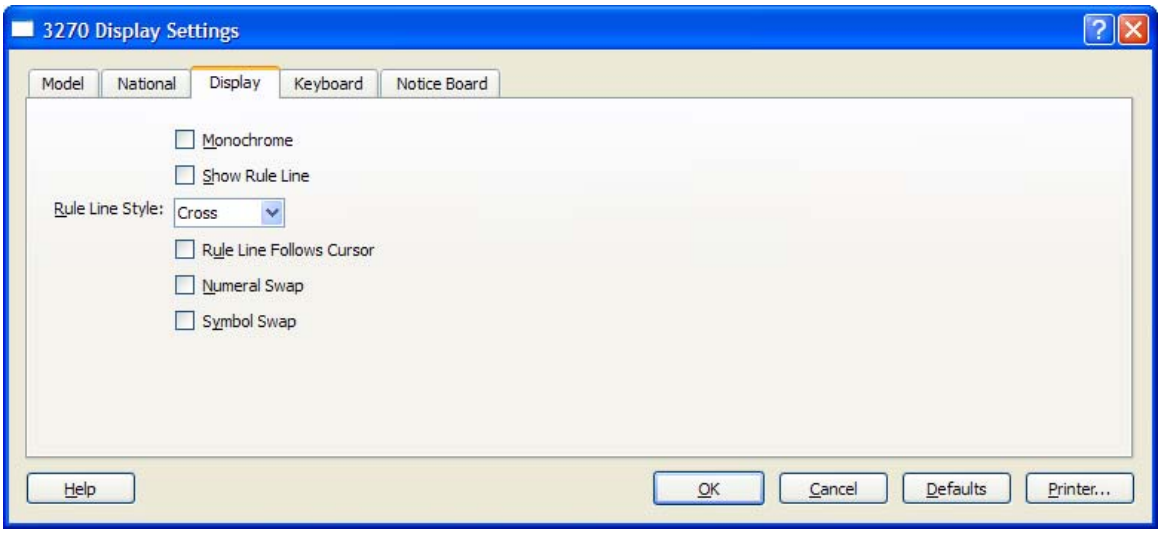
Table 14-4 IBM EBCDIC Codepages Supplied

Codepage	Type	Countries
37	SBCS	USA, Canada, Netherlands, Portugal, Brazil
273	SBCS	Austria, Germany
274	SBCS	Belgium (old)
277	SBCS	Denmark, Norway
278	SBCS	Finland, Sweden
280	SBCS	Italy
284	SBCS	Spain, Latin America (Spanish)
285	SBCS	UK
290	SBCS	Japanese - Katakana
297	SBCS	France
300	DBCS	Japanese - Kanji
420	SBCS	Arabic
424	SBCS	Hebrew New Code
500	SBCS	(Latin 1) Belgium, Canada, Switzerland
803	SBCS	Hebrew Old Code
833	SBCS	Korean
834	DBCS	Korean
835	SBCS	Traditional Chinese
836	SBCS	Simplified Chinese
837	DBCS	Simplified Chinese
838	SBCS	Thai
870	SBCS	(Latin 2) Czech, Slovak, Polish
871	SBCS	Icelandic

Table 14-4 IBM EBCDIC Codepages Supplied (continued)

Codepage	Type	Countries
875	SBCS	Greek
880	SBCS	Cyrillic
905	SBCS	(Latin 3) Turkish (old)
1025	SBCS	Russian Cyrillic
1026	SBCS	(Latin 5) Turkish
1027	SBCS	Japanese - Latin extended
1140	SBCS	[EURO] USA, Canada, Netherlands, Portugal, Brazil
1141	SBCS	[EURO] Austria, Germany
1142	SBCS	[EURO] Denmark, Norway
1143	SBCS	[EURO] Finland, Sweden
1144	SBCS	[EURO] Italy
1145	SBCS	[EURO] Spain, Latin America
1146	SBCS	[EURO] UK
1147	SBCS	[EURO] France
1148	SBCS	[EURO] Belgium, Canada, Switzerland
1149	SBCS	[EURO] Icelandic

Display Settings



- **Monochrome**

  Factory default: Depends on the terminal type

  By default the setting of this option will match the normal display characteristic of the particular IBM 3270 model selected. In TeemTalk, all terminal types support both monochrome and color display.

  When monochrome is selected, characters will be displayed in green and intense fields will be displayed in white. When monochrome is not selected, the settings specified in the **Attributes** dialog will be used for the display. Refer to the chapter Display Attributes on page 48 for details.

- **Show Rule Line**

  Factory default: Unchecked

  This determines whether a rule line is displayed across the emulation workspace at the cursor position. The setting of the **Rule Line Style** option determines whether it is displayed as a horizontal rule, vertical rule or a cross.

  NOTE: You can also toggle display of the rule line on and off by pressing the keys **Alt + Page Down**.

- **Rule Line Style**

  Factory default: Cross

  The setting of this option determines whether the rule line is displayed as a horizontal rule, vertical rule or a cross.

- **Rule Line Follows Cursor**

  Factory default: Unchecked

  When the rule is displayed in the emulation workspace, the setting of this option determines whether or not the rule follows the cursor when it moves.

- **Numeral Swap**

  Factory default: Unchecked

When using a code page that supports a bilingual keyboard, this will cause all numbers to be displayed using the National character set when in Latin mode.

- **Symbol Swap**

  Factory default: Unchecked

  Selecting this option will cause symbols such as brackets to be displayed the correct way round when typing in right-to-left mode.

Keyboard Settings

- **Keyboard Unlock Delay**

  Factory default: 0

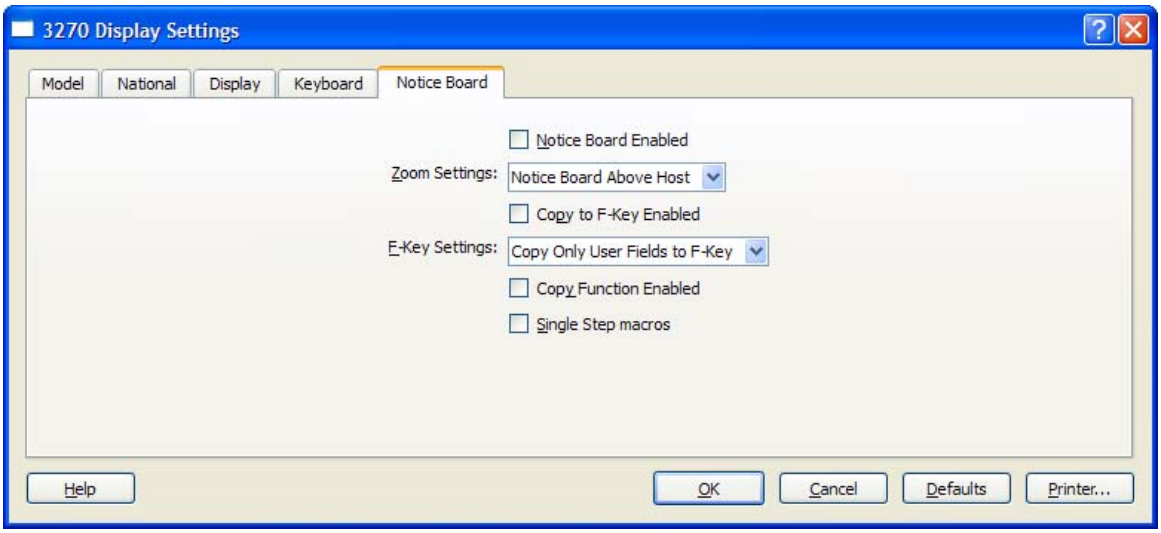
  When the keyboard is unlocked by the host, this specifies a delay in milliseconds before characters are sent.

- **Auto-repeat AID Keys**

  Factory default: Unchecked

  This allows you to disable the auto-repeat key function just for AID keys.

Notice Board Settings



- **Notice Board Enabled**

  Factory default: Checked

  When this option is checked, pressing the **Zoom** key will toggle the display between full screen (i.e. the screen currently containing the cursor) and split screen (host screen and Notice Board) mode. The following **Zoom Settings** options determine which is displayed above the other. Note that the host screen contains the same number of rows and columns whether displayed full screen or in split screen.

- **Zoom Settings**

  Factory default: Notice Board Above Host

  This determines whether the Notice Board is displayed above or below the host screen. When viewing the display, pointers at each end of the dividing line between the two screens indicate which is the host screen.

- **Copy to F-Key Enabled**

  Factory default: Unchecked

  This enables the facility for copying screen data to a function key. Refer to the section Copying Screen Data to a Function Key on page 138 for details.

- **F-Key Settings**

  Factory default: Copy Only User Fields to F-Key

  Selecting **Copy Only User Fields to F-Key** will enable only data contained in user entry fields in the selected area to be copied to a function key.

  Selecting **Copy All Data to F-Key** will enable all screen data in the selected area (protected and unprotected) to be copied.

  Refer to the section Copying Screen Data to a Function Key on page 138 for details.

- **Copy Function Enabled**

Factory default: Unchecked

This determines whether the copy functions are available for copying selected data to another area of the display or to a function key.

- **Single Step Macros**

  Factory default: Unchecked

  Selecting this option will enable an **Fn** key macro to be played one keystroke at a time by pressing the spacebar for each keystroke after issuing a play **Fn** key command. The status line will display the contents of the macro and the cursor position in the status line indicates the point that has been reached in the macro play back. Refer to the section Playback Keystrokes on page 135 for details.

15 IBM 3270 Printer Emulation

This chapter describes features of the IBM 3270 printer emulation.

Creating a IBM 3270 Printer Emulation Session

You can create a session either using the TeemTalk Session Wizard or while TeemTalk is running.

Using the TeemTalk Session Wizard

This section describes how to use the TeemTalk Session Wizard to create an IBM 3270 Printer emulation session.

1. To run the TeemTalk Session Wizard from the **Start** menu, select **All Programs > HP > HP TeemTalk Terminal Emulator > Session Wizard**.
2. In the **Session Name** field, enter a unique name that will identify this session configuration for future selection.
3. Select the **Transport** method then click the **Configure** button to specify settings.
4. Select the **Connection** type then click the **Configure** button to specify settings.
5. Select **IBM3270 Printer** in the **Emulation** list box then click the **Configure** button to specify settings. (The options are described in the section Setup Options on page 150.)
6. Click **Next** to display the **Advanced Options** dialog.
7. Click **Next** to display the **Finalization** dialog.
8. If you want a shortcut icon for this session to be created on the desktop, click the checkbox **Create icon on desktop for session**.
9. Click **OK** to create the session and exit.
10. To run the session, either double-click on the desktop icon if one was created for the session, or run TeemTalk, display the **File** menu and select **Open Session**. Select the name of the required **.tts** session file then click **Open**.

Using the TeemTalk Emulator Window

This section describes the procedure for creating a IBM 3270 Printer emulation session from the TeemTalk emulator window.

1. Display the **Session** menu from the menu bar and select **Transport...** to set the transport method.
2. Display the **Session** menu and select **Connection...** to set the connection method.
3. Display the **Session** menu and select **Emulation...**. Set the emulation to **IBM3270 Printer**.

4. You can configure the transport, connection and emulation settings by selecting the relevant **Configure** options in the **Session** menu. The options displayed by selecting **Configure emulation** are described in the section Setup Options on page 150.
5. To save the session, display the **File** menu and select **Save session as**. In the **File Name** field, enter a unique name that will identify this session configuration for future selection, then click **Save**. Note that session files have the filename extension **.tts**.
6. To run the session, display the **File** menu and select **Open Session**. Select the name of the **.tts** session file then click **Open**.

IBM 3287-1 Printer Support

TN3287 printing is supported by setting the **Model** option in the **3270 Printer Settings** dialog to **IBM-3287-1**. When a new Telnet connection is made, the screen will display a message box indicating the current printer status.

A **Print Abort** box will be displayed once printing commences, enabling you to cancel the print job. Note that this will stop print data being sent but will not disconnect you from the host.

Setup Options

The IBM 3270 Printer emulation is configured using setup options in the **3270 Printer Settings** dialog which can be displayed using one of the following three methods:

Using the **Session Wizard**:

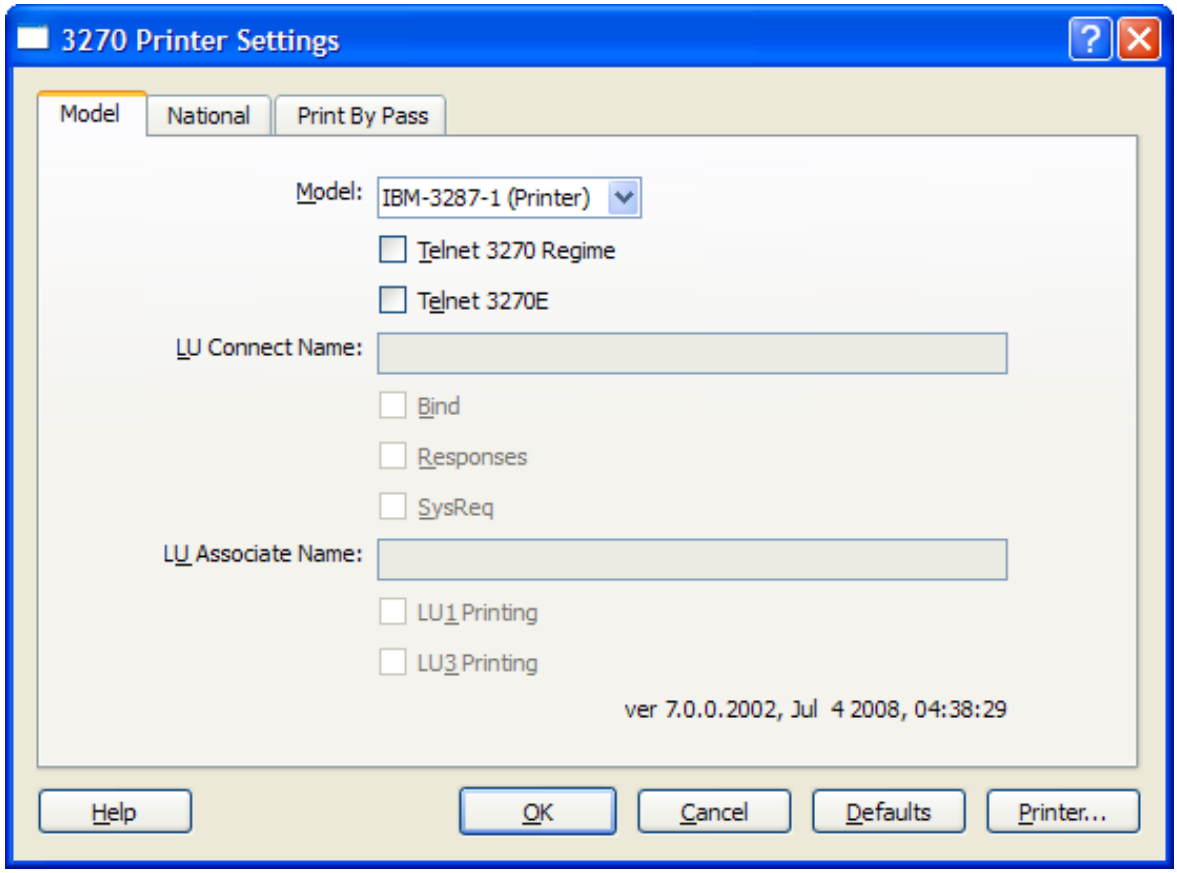
- In **Step 1** set **Emulation** to **IBM 3270 Printer** then click the **Configure** button.

Using the **TeemTalk Window:**

- On the **Session** menu, select **Emulation** > **IBM 3270 Printer** then select **Configure Emulation....**
- On the configuration bar, select **IBM 3270 Printer** in the **Emulation** list box then click **Configure Emulation**.

The setup options are grouped on three tabs labelled **Model**, **National** and **Print By Pass**.

Model Settings



- **Model**

  Factory default: IBM-3287-1 (Printer)

  This enables you to specify the particular printer model to emulate.

- **Telnet 3270 Regime**

  Factory default: Unchecked

  Selecting this option will suppress Telnet 3270 regime support.

- **Telnet 3270E**

  Factory default: Unchecked

  Selecting this option will suppress TN3270E support.

- **LU Connect Name**

  Factory default: Unspecified

  This specifies the name of the device which the server will be requested to assign to the Telnet session. It may be used when requesting either a terminal or a printer session.

  You can return the local host name by entering **%s** after the device name. To return the user name, enter **%u** after the device name. You can specify how many characters of the name is returned in each case. For example, **%.3s** will return the first three characters of the local host name, and **%-.3s** will return the last three characters.

To automatically assign a new device name for each successive connection, either enter **%dN%** after the name, where **N** is a decimal value, or **%xN%**, where **N** is a hexadecimal value. Each time the host requests the device name a counter will be substituted into the device name. If the host rejects the device name as in use the counter will be incremented modulus **N** and the name retried until all possibilities have been tried, at which point the emulation will report a device name rejected error.

For example, **TEST%d4%** will give **TEST1** on all connections until the host rejects the name as in use, in which case **TEST2** will be used. If this is already in use then **TEST3** is used, or if already in use then **TEST0**. These values are preserved over power off, so the first connection of any given power on may not be **TEST1**. Assume that the start point is random.

When you achieve a TN3270E connection, the LU device name that you are connected as will be displayed on the status line. If the specified device is rejected by the server or host, then an error message box will be displayed indicating the reason.

- **Bind**

  Factory default: Unchecked

  This determines whether the server is allowed to send the SNA Bind image and Unbind notification to the emulator.

- **Responses**

  Factory default: Unchecked

  When this is selected, positive and negative response handling is supported. It allows the server to reflect to the emulator any and all definite, exception, and no response requests sent by the host application.

- **SysReq**

  Factory default: Unchecked

  When this is selected, some (or all, depending on the server) of the functions of the **SysReq** key will be emulated and the server in an SNA environment.

- **LU Associate Name**

  Factory default: Unspecified

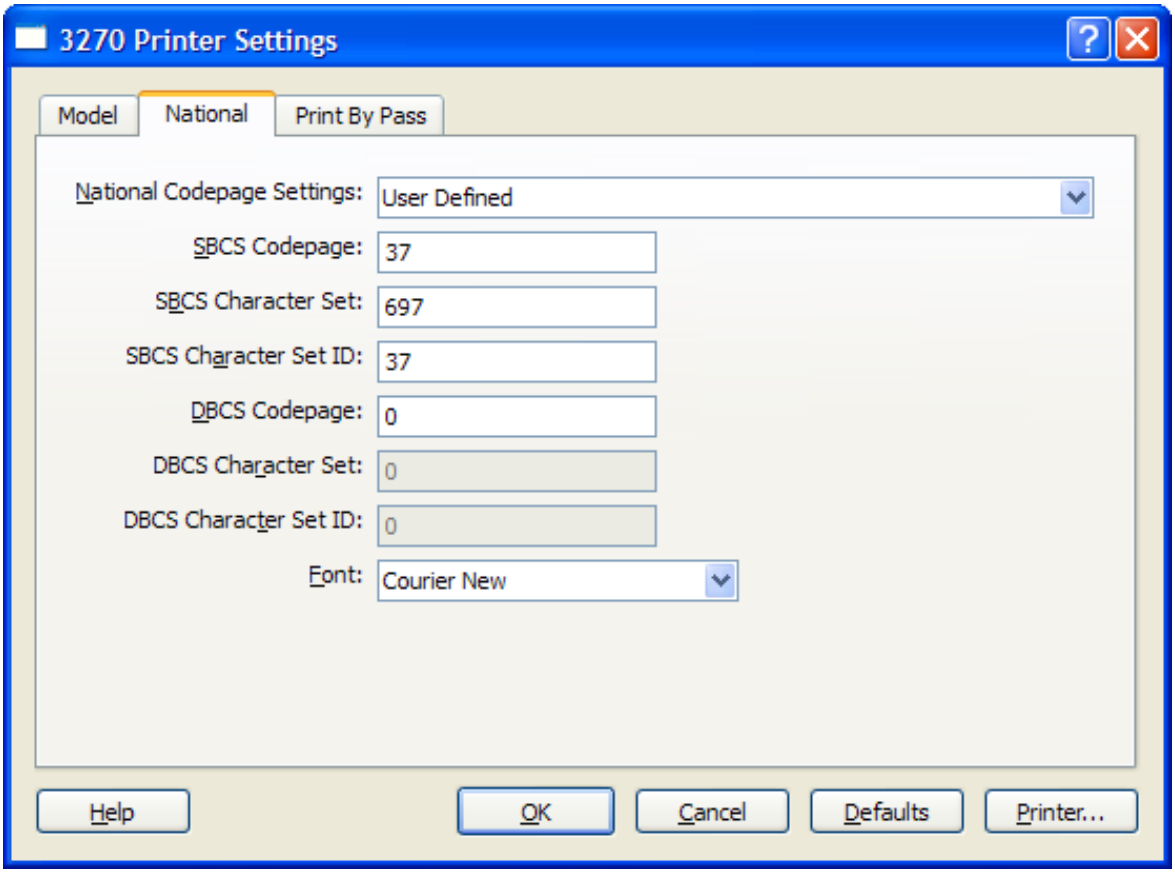
  This enables you to specify the name of the terminal with which a printer is associated so that its printer device name is assigned to this Telnet session.

- **LU1 & LU3 Printing**

  Factory default: Unchecked

  These options apply when the 3287-1 printer is selected and they enable you to specify which printer type(s) to support.

National Settings



These options enable you to select the character set to be used. There are separate entries for the Single Byte Character Set (**SBCS**) and (if supported) Double Byte Character Set (**DBCS**). These should only be changed by the System Administrator. If they have been changed and you wish to restore the default settings, click the **Defaults** button at the bottom of the dialog. The table at the end of this section shows the default settings.

- **National Codepage Settings**

  Factory default: User Defined

  This specifies the type of national codepage to be used. Selecting **User Defined** will enable manual selection of the **Codepage**, **Character Set** and **Character Set ID** using the following options.

- **SBCS / DBCS Codepage**

  Factory default: SBCS 37 - DBCS 0

  This is a numeric value specifying the codepage to use.

- **SBCS / DBCS Character Set**

  Factory default: SBCS 697 - DBCS 0

  This is a numeric value specifying the character set to use.

- **SBCS / DBCS Character Set ID**

Factory default: SBCS 37 - DBCS 0

This specifies character set ID.

- **Font**

  Factory default: Courier New

  This enables you to specify the font to be used for displaying characters. The available settings depend on the fonts installed.

Table 15-1 Default Language, Codepage & Character Set Settings

Language	Type	Codepage	Char Set	CCSID
English (US)	SBCS	37	697	37
English (UK)	SBCS	285	697	285
Belgian	SBCS	500	697	500
Canadian French	SBCS	37	697	37
Danish	SBCS	277	697	277
Finnish	SBCS	278	697	278
German	SBCS	273	697	273
Dutch	SBCS	37	697	37
Italian	SBCS	280	697	280
Swiss French	SBCS	500	697	500
Swiss German	SBCS	500	697	500
Swedish	SBCS	278	697	278
Norwegian	SBCS	277	697	277
French	SBCS	297	697	297
Spanish	SBCS	284	697	284
Portuguese	SBCS	37	697	37
Japanese Kanji + Katakana	SBCS	290	1172	290
	DBCS	300	1001	930
Korean	SBCS	833	1173	833
	DBCS	834	934	933
Simplified Chinese	SBCS	836	1174	836
	DBCS	837	937	937
Traditional Chinese	SBCS	37	1175	37
	DBCS	835	935	935
Hebrew New Code	SBCS	424	941	424
Hebrew Old Code	SBCS	803	941	424

Table 15-1 Default Language, Codepage & Character Set Settings (continued)

Language	Type	Codepage	Char Set	CCSID
Thai	SBCS	838	1176	838
Greek	SBCS	875	925	875
Cyrillic	SBCS	880	960	880
Turkish	SBCS	1026	1152	1026
Russian	SBCS	1025	1150	1025
Czech	SBCS	870	959	870
Slovak	SBCS	870	959	870
Polish	SBCS	870	959	870
Icelandic	SBCS	871	697	871
Arabic	SBCS	420	697	285

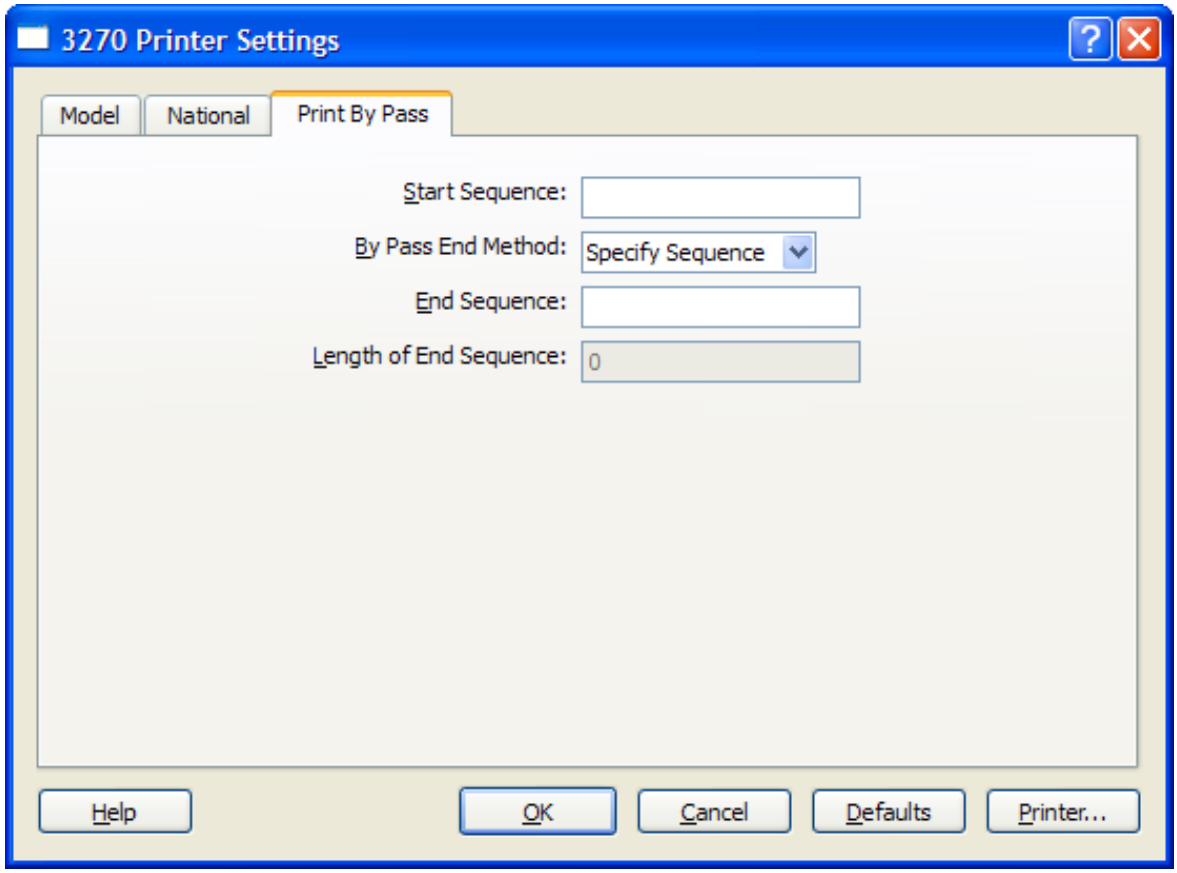
Table 15-2 IBM EBCDIC Codepages Supplied

Codepage	Type	Countries
37	SBCS	USA, Canada, Netherlands, Portugal, Brazil
273	SBCS	Austria, Germany
274	SBCS	Belgium (old)
277	SBCS	Denmark, Norway
278	SBCS	Finland, Sweden
280	SBCS	Italy
284	SBCS	Spain, Latin America (Spanish)
285	SBCS	UK
290	SBCS	Japanese - Katakana
297	SBCS	France
300	DBCS	Japanese - Kanji
420	SBCS	Arabic
424	SBCS	Hebrew New Code
500	SBCS	(Latin 1) Belgium, Canada, Switzerland
803	SBCS	Hebrew Old Code
833	SBCS	Korean
834	DBCS	Korean
835	SBCS	Traditional Chinese

Table 15-2 IBM EBCDIC Codepages Supplied (continued)

Codepage	Type	Countries
836	SBCS	Simplified Chinese
837	DBCS	Simplified Chinese
838	SBCS	Thai
870	SBCS	(Latin 2) Czech, Slovak, Polish
871	SBCS	Icelandic
875	SBCS	Greek
880	SBCS	Cyrillic
905	SBCS	(Latin 3) Turkish (old)
1025	SBCS	Russian Cyrillic
1026	SBCS	(Latin 5) Turkish
1027	SBCS	Japanese - Latin extended
1140	SBCS	[EURO] USA, Canada, Netherlands, Portugal, Brazil
1141	SBCS	[EURO] Austria, Germany
1142	SBCS	[EURO] Denmark, Norway
1143	SBCS	[EURO] Finland, Sweden
1144	SBCS	[EURO] Italy
1145	SBCS	[EURO] Spain, Latin America
1146	SBCS	[EURO] UK
1147	SBCS	[EURO] France
1148	SBCS	[EURO] Belgium, Canada, Switzerland
1149	SBCS	[EURO] Icelandic

Print By Pass Settings



- **Start Sequence**

  Factory default: Unspecified

  This enables you to enter the character or sequence of characters that initiate a print bypass.

  Characters can be entered in several ways. For example, to specify the ASCII escape character, you can enter either **_027**, **\u001B**, **\e**, **\033**, or even **^[**.

- **By Pass End Method**

  Factory default: Specify Sequence

  You can select from the following print bypass methods: **Specify Sequence**, **Count in Header** or **End on Non-Hex**.

- **End Sequence**

  Factory default: Unspecified

  When the print bypass method is set to **Specify Sequence**, this enables you to specify the end sequence.

  End sequence characters can be entered in several ways. For example, to specify the ASCII escape character, you can enter either **_027**, **\u001B**, **\e**, **\033**, or even **^[**.

  When an end sequence is specified, characters in the data stream between the start and end are interpreted as encoded ASCII. For example, *1B0A* becomes ASCII 27 10 (**ESC LF**).

If no end sequence is specified, the bypass is assumed to be for a single pair of characters only.

- **Length of End Sequence**

  Sequence

  When the print bypass method is set to **End on Non-Hex**, this enables you to specify the number of characters in the end sequence. The bypass will terminate as soon as a non-hexadecimal character is received (any character except in the range 0 through 9 and A through F) followed by the end sequence.

16 IBM 5250 Display Emulation

This chapter describes features of the IBM 5250 display emulation.

Creating a IBM 5250 Display Emulation Session

You can create a session either using the TeemTalk Session Wizard or while TeemTalk is running.

Using the TeemTalk Session Wizard

This section describes how to use the TeemTalk Session Wizard to create an IBM 5250 Display emulation session.

1. To run the TeemTalk Session Wizard from the **Start** menu, select **All Programs > HP > HP TeemTalk Terminal Emulator > Session Wizard**.
2. In the **Session Name** field, enter a unique name that will identify this session configuration for future selection.
3. Select the **Transport** method then click the **Configure** button to specify settings.
4. Select the **Connection** type then click the **Configure** button to specify settings.
5. Select **IBM5250 Display** in the **Emulation** list box then click the **Configure** button to specify settings. (The options are described in the section Setup Options on page 169.)
6. Click **Next** to display the **Advanced Options** dialog.
7. Click **Next** to display the **Finalization** dialog.
8. If you want a shortcut icon for this session to be created on the desktop, click the checkbox **Create icon on desktop for session**.
9. Click **OK** to create the session and exit.
10. To run the session, either double-click on the desktop icon if one was created for the session, or run TeemTalk, display the **File** menu and select **Open Session**. Select the name of the required **.tts** session file then click **Open**.

Using the TeemTalk Emulator Window

This section describes the procedure for creating a IBM 5250 Display emulation session from the TeemTalk emulator window.

1. Display the **Session** menu from the menu bar and select **Transport...** to set the transport method.
2. Display the **Session** menu and select **Connection...** to set the connection method.
3. Display the **Session** menu and select **Emulation...**. Set the emulation to **IBM5250 Display**.

4. You can configure the transport, connection and emulation settings by selecting the relevant **Configure** options in the **Session** menu. The options displayed by selecting **Configure emulation** are described in the section Setup Options on page 169.
5. To save the session, display the **File** menu and select **Save session as**. In the **File Name** field, enter a unique name that will identify this session configuration for future selection, then click **Save**. Note that session files have the filename extension **.tts**.
6. To run the session, display the **File** menu and select **Open Session**. Select the name of the **.tts** session file then click **Open**.

IBM 5250 Emulation Capabilities

The IBM 5250 terminal emulation provides emulation of 5250 type alphanumeric terminals, for connection to an IBM AS/400, System/ 36 or System/38.

Monochrome (green/white plus attributes) and color is supported. Colors may be modified using the **Attribute Settings** dialog.

A typeahead capability is provided so that you can continue to enter data without waiting for a prompt from the host.

Keyboard Mapping

The functions of the computer keyboard are mapped as closely as possible to the terminal being emulated. The mapping of key functions can be determined by referring to the **Emulation Keys** list box in the **Key Macro Settings** dialog, which is displayed by selecting **Key Macros...** on the **Tools** menu.

The information in brackets in the right column indicates the default mapping of the key function named in the left column. In the list, **S**+ indicates the **Shift** key, **C**+ indicates the **Control** key and **A**+ indicates the **Alt** key. For example:

AS_ERASEINPUT (A+VK_PAUSE)

indicates that the **Erase Input** function is mapped to the key combination **Alt + Pause**.

Special key functions usually found on an IBM 5250 keyboard can be mapped to any key on your keyboard using the **AS** virtual key names listed in the **Key Macro Settings** dialog.

The illustrations on the following pages show where IBM 5250 keyboard functions are mapped to keys on a 101/102 key keyboard.

Figure 16-1 101/102 Key Keyboard Layout for the IBM 5250 Display Emulation

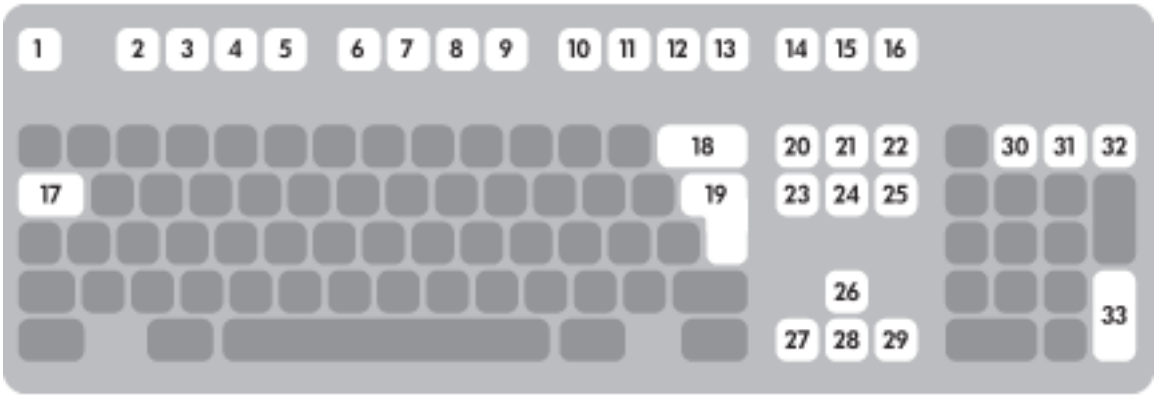


Table 16-1 IBM 5250 Display Keyboard Mapping

Key	Key Modifiers	Result	Key	Key Modifiers	Result
1	*none*	RESET	17	*none*	TAB
	Shift +	ATTN		Shift +	BACK TAB
	Alt +	QUIT			
2	*none*	F1	18	*none*	BACKSPACE
	Shift +	F13		Shift +	REVERSE DISP
				Alt +	BACKSPACE (Non destruct)
3	*none*	F2	19	*none*	FIELD EXIT
	Shift +	F14		Shift +	NEWLINE
4	*none*	F3	20	*none*	INSERT MODE
	Shift +	F15		Shift +	DUPLICATE
				Alt +	PA1
5	*none*	F4	21	*none*	HOME
	Shift +	F16		Shift +	FIELD MARK
	Alt +	RECORD KEYSTROKES		Alt +	PA2
	Ctrl +	MONO (Monochrome)			
6	*none*	F5	22	*none*	ROLL DOWN
	Shift +	F17		Alt +	PA3
	Alt +	PLAY KEYSTROKES			
7	*none*	F6	23		DELETE
	Shift +	F18			

Table 16-1 IBM 5250 Display Keyboard Mapping (continued)

Key	Key Modifiers	Result	Key	Key Modifiers	Result
8	*none* Shift +	F7 F19	24	*none* Shift + Alt +	ERASE EOF END OF LINE ERASE INPUT
9	*none* Shift +	F8 F20	25	*none* Alt +	ROLL UP RULE DISPLAY
10	*none* Shift + Ctrl +	F9 F21 CURSOR SELECT	26		CURSOR UP
11	*none* Shift +	F10 F22	27	*none* Shift +	CURSOR LEFT CURSOR FAST LEFT
12	*none* Shift +	F11 F23	28		CURSOR DOWN
13	*none* Shift +	F12 F24	29	*none* Shift +	CURSOR RIGHT CURSOR FAST RIGHT
14	*none* Shift + Ctrl +	PRINT SYSREQ LOCAL PRINT	30	*none* Shift +	/ REVERSE/NORMAL TOGGLE
15	Alt +	TEST	31	*none* Shift +	HELP REVERSE CLOSE TEXT
16	*none* Shift + Shift + Ctrl + Alt +	CLEAR PAUSE DELAY 1 SECOND	32	*none* Shift + Shift + Ctrl + Shift + Ctrl + Alt +	FIELD MINUS LOCAL/GENERAL KEYBOARD PUSH MODE ON/OFF ALTERNATE CODE PAGE
			33	*none* Shift +	ENTER FIELD PLUS

NOTE: All unmarked keys function as indicated by the legends on the keycaps.

Network Virtual Terminal Mode

Network Virtual Terminal (NVT) mode allows the operator to communicate with a network gateway (in ASCII) for routing, logon etc, before the full IBM terminal emulation protocol is established. NVT mode is indicated by the absence of the following symbol on the status line:

NVT mode displays an unformatted screen for data entry, allowing basic keyboard functionality as a simple ASCII terminal. In addition to data keys, other recognized keys are:

- **Clear**

  clears the screen

- **Enter**

  sends **CR** to the host

- **Newline**

  sends **CR** to the host

- **Backspace**

  sends **BS** to the host

- **Tab**

  sends **HT** to the host

Once the appropriate details have been entered to establish an IBM host session (which may be automatic), the screen is cleared and switched into full IBM 5250 terminal emulation mode, as indicated by the following symbol on the status line:

The Status Line

The last line of the IBM 5250 screen is used to display status information in the form of symbols and alphanumeric characters.

Operating Mode & Communication


Indicates that a Telnet session is running.


Indicates that the current screen is an IBM 5250 screen. This screen will be displayed when you have initiated a Telnet session with the host.


Indicates that the system has one or more messages waiting for you.

Do Not Enter


Indicates when input from the keyboard or mouse will not be accepted by the host. When this is because an error has occured, as shown in the error line, pressing the **Reset** key will remove the error. Alternatively, more information can be obtained by pressing the **Help** key. The only other keys available are **Attn**, **SysReq** and **Print**. Note that the emulation includes typeahead capability so that in most cases you can continue to enter data without waiting for the Do Not Enter message to clear as the data will be stored until the host is ready.

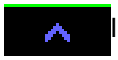
Typing Direction

Indicates the direction in which characters are displayed on the screen when typed. The direction is toggled between left-to-right (normal) and right-to-left by pressing the keys **Shift + /** on the keypad.

Bilingual Keyboard Mode

Indicates whether the National (**N**) or Latin (**L**) character set is active when a code page that supports a bilingual keyboard is selected. Pressing the keys **Shift + -** on the keypad will toggle between the two character sets.

Insert Mode


Indicates that the keyboard is in Insert mode. Already existing characters to the right of the cursor will move to make room for new characters that are entered. Insert mode can be disabled by pressing the **Insert** key again, pressing the **Reset** key, or by performing any action that sends data to the host, such as pressing the **Enter**, **Clear**, or **PF** keys.

Display Direction


Indicates the orientation of the screen display. A right arrow indicates normal left-to-right display, a left arrow indicates a right-to-left mirror image display. The display can be toggled between the two directions by pressing the keys **Shift + Backspace**.

Cursor Position

Indicates the row and column position of the text cursor.

Fax Image Support

- **Scrollbars**

  These are displayed if the image is larger than the screen area allocated to it.

- **EasyScroll**

  IBM term for scrolling by dragging the image with the mouse.

- **Zoom**

  Enables you to highlight an area of the image to magnify it so that it fills the allocated space (the aspect ratio is preserved).

Additional functions such as rotation and coloring are controlled by the host.

Word Processing Mode

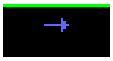
The following keyboard functions are available when the IBM 5250 emulation is in Word Processing mode:

Symbols Command	**Alt + A**
Begin Bold	**Alt + B**
Centre Text	**Alt + C**
Next Text Column	**Alt + D**
Half-Index Down	**Alt + H**
Required Tab	**Alt + I**
End Attribute	**Alt + J**
Find Stop Code	**Alt + N**
Start New Page	**Alt + P**
Required Page End	**Alt + R**
Insert Stop Code	**Alt + S**
Begin Underline	**Alt + U**
Word Underline	**Alt + W**
Half-Index Up	**Alt + Y**
Beginning of Line	**Alt + Cursor Left**
End of Line	**Alt + Cursor Right**
Top of Page	**Alt + Cursor Up**
End of Page	**Alt + Cursor Down**
Insert Carrier Return	**Alt + Field Exit**
Required Space	**Alt + Space**

Text Display Options

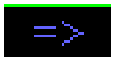
Display Right-to-Left

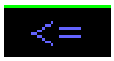
The contents of the screen can be displayed in reverse, i.e. as a right-to- left mirror image, by pressing the keys **Shift + Backspace**. This is a toggle function, so pressing the keys again will revert to normal left-to-right display. An arrow will be displayed on the status line (next to the row/column number) to indicate normal (right arrow) or mirror (left arrow) display.



Typing Direction

The direction in which characters are displayed on the screen when typed can be toggled between normal left-to-right and right-to-left by pressing the keys **Shift + /** on the keypad. The following symbols will be displayed on the status line to indicate the current typing direction:





Selecting the Symbol Swap option on the Display tab of the 5250 Display Settings dialog will cause text symbols such as round or angle brackets to be displayed the correct way round when typing right-to-left.

Close Key

If text has been typed using both typing direction modes in the same line or field, you can force the right-hand text to join the left-hand text by pressing the keys **Shift + *** on the keypad.

Push Mode

Push mode allows you to edit text whose direction is opposite the screen orientation. In this mode the cursor orientation is reversed and a Push segment is created. Push mode is toggled on/off by pressing the keys **Ctrl + Shift + -** (keypad minus).

Push mode has two secondary modes, Boundary mode and Edit mode.

Boundary mode is activated when Push mode is entered. The cursor will remain at its current position while you type additional characters, and text will be pushed in the opposite direction of the screen orientation.

Edit mode is activated when the cursor is moved from its Boundary position into the Push segment area. In this mode, text can be edited within the Push segment while typing in the field's natural direction.

Bilingual Keyboard Support

When a code page that supports a bilingual keyboard is selected, you can toggle between the National and Latin character set by pressing the keys **Shift + -** on the keypad. The character **N** or **L** will be displayed on the status line to indicate which character set is currently active.

Selecting the **Numeral Swap** option on the **Display Settings** tab of the **5250 Display Settings** dialog will cause all numbers to be displayed using the National character set when in Latin character set mode.

Alternate Code Page

If a language supports two code pages (e.g. Hebrew New Code and Hebrew Old Code), you can switch between the two by pressing the keys **Ctrl + Shift + Alt + -** on the numeric keypad. This function can be assigned to a different key or key combination by using the **AS_ALTCP** virtual key name.

Record & Playback Keystrokes Facility

The record/playback keystrokes facility enables you to eliminate repetitive operations by using the **Fn** keys to store, retrieve and display data. The **Fn** keys can store a total of 1500 keystrokes. A sequence of recorded keystrokes may be interrupted so that keystrokes can be entered manually before continuing with the recording or playback. Note that local **Fn** key functions cannot be recorded.

The keys used to initiate recording and playback are shown below together with the equivalent virtual key names that can be used to assign the functions to any key on the keyboard:

	101/102 Key Keyboard	Virtual Key Names
Record:	Alt + F4	AS_RECORD
Pause:	Shift + Pause	AS_PAUSE
Quit:	Alt + LControl	AS_QUIT
Play:	Alt + F5	AS_PLAY

NOTE: **Quit** is **Alt + Left Contro**l if **Left Control** is defined as the **Reset** key.

Recording Keystrokes

The following procedure describes how to record keystrokes.

1. Press **Record** to enter Record mode.

The status line will display **RECRD** and a number from **0-1500** indicating the number of new keystrokes that may be stored. A series of boxes displayed to the right represent the **Fn** keys. A solid box indicates that the **Fn** key in that position is currently storing recorded keystrokes.

2. Press the **Fn** key that will store the keystrokes. (On 101/102 keyboards you can also use **Shift + Fn**.)

The status line will display **R**** **F*** where **R** indicates you are in Record mode, **** is the number of keystrokes that may be stored, and **F*** is the number of the **Fn** key pressed.

NOTE: If you press a pre-recorded **Fn** key, its contents will be replaced with the following keystrokes. You can also remove the contents of the **Fn** key before recording by pressing the **Delete** key.

3. Enter the keystrokes to be recorded.

You may pause recording at any time to allow keystrokes to be entered manually when played back by pressing **Pause**. Pause mode is indicated by the following symbols on the status line. To continue recording, press Pause again.

NOTE: You can cancel the newly recorded keystrokes by pressing the **Quit** key. This cancellation does not affect the previously recorded keystrokes.

4. To finish and save the recording, press the **Record** key.

Playback Keystrokes

1. Position the text cursor where the playback is to start.
2. Press the **Play** key to enter Play mode.

The status line will display **PLAY** and a series of boxes representing the **Fn** keys. A solid box indicates that the **Fn** key in that position is currently storing recorded keystrokes.

3. Press the **Fn** key storing the recorded data to play back.

   Playback will begin immediately, as indicated by a **P** on the status line. All the recorded keystrokes will be played back automatically. When playback is completed the **P** will disappear.

   If the recorded keystrokes included **Pause**, then playback will halt at that point to allow you to enter keystrokes manually. Press **Play** to resume playback from where you stopped typing.

   If you want to cancel during the playback operation, press the **Quit** key.

Error Codes

The following error codes may appear on the status line if an error occurs during recording or playback.

9001	Exceeded the maximum number of allowed keystrokes. Remedy: Press the **Record** key to exit Record mode. To record a new keystroke sequence, either: • Press the **Record** key and the target **Fn** key that has erasable data, then enter the new data, or: • Press the **Record** key and the target **Fn** key that has erasable data, then press the **Delete** key to erase the recorded data for that key.
9003	You pressed an invalid **Fn** key while performing the Record or Play function.
9007	You pressed an invalid sequence key (e.g. **Play**) while performing the Record function. Remedy: Press the **Reset** key.

9010	While performing the **Play** function, you pressed an **Fn** key that does not have a keystroke assigned to it. Remedy: Press the **Reset** key.
9015	In communication mode, you pressed either the **Quit** or **Pause** key. Remedy: Press the **Reset** key.
9019	In Record or Play mode. While the Record/play pause indicator was displayed on the status line you pressed an invalid key (e.g. **Play** key in Record mode, or **Record** key in Play mode). Remedy: Remedy: Press the **Reset** key.

Setup Options

The IBM 5250 Display emulation is configured using setup options in the **5250 Display Settings** dialog which can be displayed using one of the following three methods:

Using the **Session Wizard**:

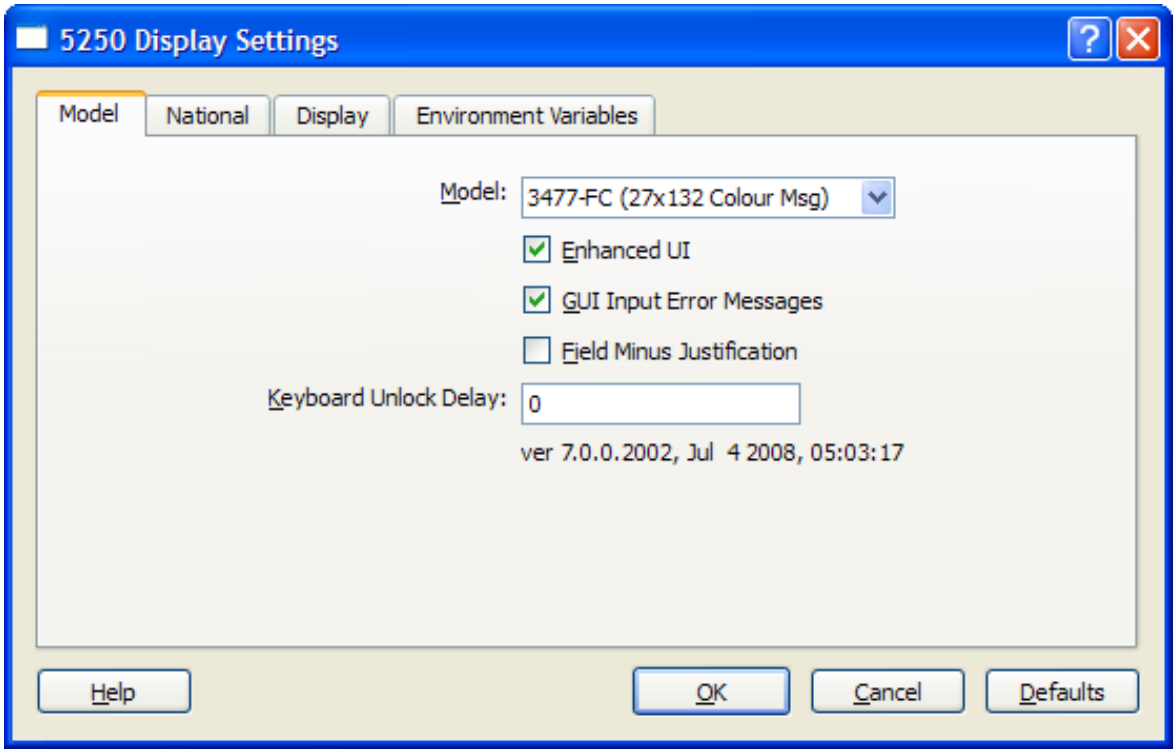
- In **Step 1** set **Emulation** to **IBM 5250 Display** then click the **Configure** button.

Using the **TeemTalk Window:**

- On the **Session** menu, select **Emulation** > **IBM 5250 Display** then select **Configure Emulation....**
- On the configuration bar, select **IBM 5250 Display** in the **Emulation** list box then click **Configure Emulation**.

The setup options are grouped on four tabs labelled **Model**, **National**, **Display** and **Environment Variables**.

Model Settings



- **Model**

  Factory default: 3477-FC (27x132 Colour Msg)

  This specifies what is reported back to the host in response to a terminal identification request. Note that not all features of the specified terminal may be supported.

  The terminal models and their display characteristics are as follows:

5291_1	Monochrome	24 x 80
5292_2	Color	24 x 80
5251_11	Monochrome	24 x 80
3179_2	Color	24 x 80 (default)
3196_A1	Monochrome	24 x 80
3180_2	Monochrome	24 x 80 and 27 x 132
3477_FC	Color	24 x 80 and 27 x 132
3477_FG	Monochrome	24 x 80 and 27 x 132
3486_BA	Monochrome	24 x 80
3487_HA	Monochrome	24 x 80
3487_HC	Color	24 x 80
5555_B01	Monochrome	24 x 80
5555_C01	Color	24 x 80

If double byte character sets (e.g. Japanese) are supported and you wish to use them, then select either **5555_B01** (monochrome) or **5555_C01** (color).

- **Enhanced UI**

  Factory default: Unchecked

  Selecting this option will enable support of the IBM 5250 Extended User Interface for generating windows on the screen. Note that menus and scroll bars are not supported.

- **GUI Input Error Messages**

  Factory default: Unchecked

  The setting of this option determines whether error messages sent from the host are displayed on line 24 or in a pop-up error message box. Select this option to enable host error messages to be displayed in a pop-up message box when line 24 is not visible on the display.

- **Field Minus Justification**

  Factory default: Unchecked

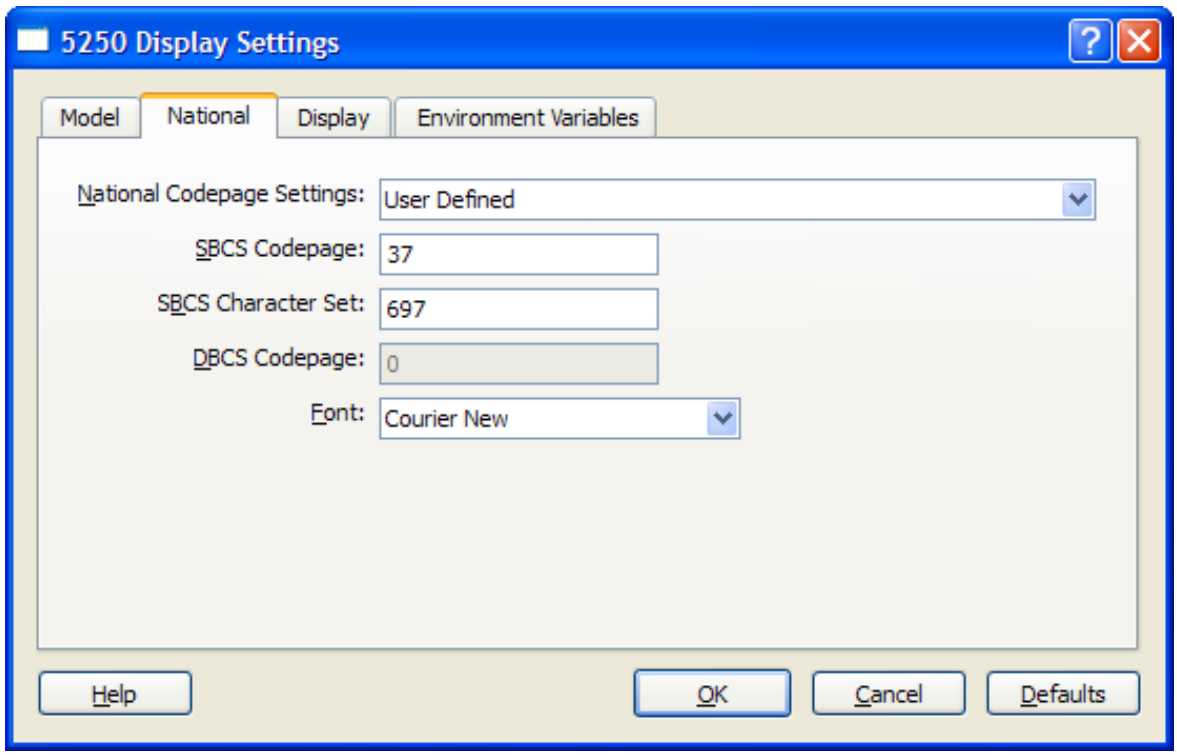
  The setting of this option determines whether pressing the **Field Minus** key affects the last digit (unchecked) or the space following the last digit (selected).

- **Keyboard Unlock Delay**

  Factory default: 0

  When the keyboard is unlocked by the host, this specifies a delay in milliseconds before characters are sent.

National Settings



These options enable you to select the character set to be used. There are separate entries for the Single Byte Character Set (**SBCS**) and (if supported) Double Byte Character Set (**DBCS**). These should only be changed by the System Administrator. If they have been changed and you wish to restore the default settings, click the **Defaults** button at the bottom of the dialog. The table at the end of this section shows the default settings.

- **National Codepage Settings**

  Factory default: User Defined

  This specifies the type of national codepage to be used. Selecting **User Defined** will enable manual selection of the **Codepage** and **Character Set** using the following options.

- **SBCS Codepage**

  Factory default: 37

  This is a numeric value specifying the single-byte character set codepage to use.

- **SBCS Character Set**

  Factory default: 697

  This is a numeric value specifying the single-byte character set to use.

- **DBCS Codepage**

  Factory default: 0

  This is a numeric value specifying the double-byte character set codepage to use.

- **Font**

  Factory default: Courier New

  This enables you to specify the font to be used for displaying characters. The available settings depend on the fonts installed.

Table 16-2 Default Language, Character Set & Codepage Settings

Language	KBDTYPE	CHARSET	SBCS CODEPAGE	DBCS CODEPAGE
English (US)	USB	697	37	
English (UK)	UKB	697	285	
Belgian	BLI	697	500	
Canadian French	CAI	697	500	
Danish	DMB	697	277	
Finnish	FNB	697	278	
German	AGB	697	273	
Dutch	NEB	697	37	
Italian	ITB	697	280	
Swiss French	SFI	697	500	
Swiss German	SGI	697	500	

Table 16-2 Default Language, Character Set & Codepage Settings (continued)

Language	KBDTYPE	CHARSET	SBCS CODEPAGE	DBCS CODEPAGE
Swedish	SWB	697	278	
Norwegian	NWB	697	277	
French	FAB	697	297	
Spanish	SPB	697	284	
Portuguese	PRB	697	37	
Japanese Kanji + Katakana	JKB	1172	290	300
Korean	KOB	1173	833	834
Simplified Chinese	RCB	1174	836	837
Traditional Chinese	TAB	1175	37	835
Hebrew New Code	NCB	941	424	
Hebrew Old Code		941	803	
Thai	THB	1176	838	
Greek	GNB	925	875	
Cyrillic	CYB	960	880	
Turkish	TRB	1152	1026	
Russian	RUB	1150	1025	
Czech	CSB	959	870	
Slovak	SKB	959	870	
Polish	POB	959	870	
Icelandic	ICB	697	871	
Arabic		697	420	

Table 16-3 IBM EBCDIC Codepages Supplied

Codepage	Type	Countries
37	SBCS	USA, Canada, Netherlands, Portugal, Brazil
273	SBCS	Austria, Germany
274	SBCS	Belgium (old)
277	SBCS	Denmark, Norway
278	SBCS	Finland, Sweden
280	SBCS	Italy

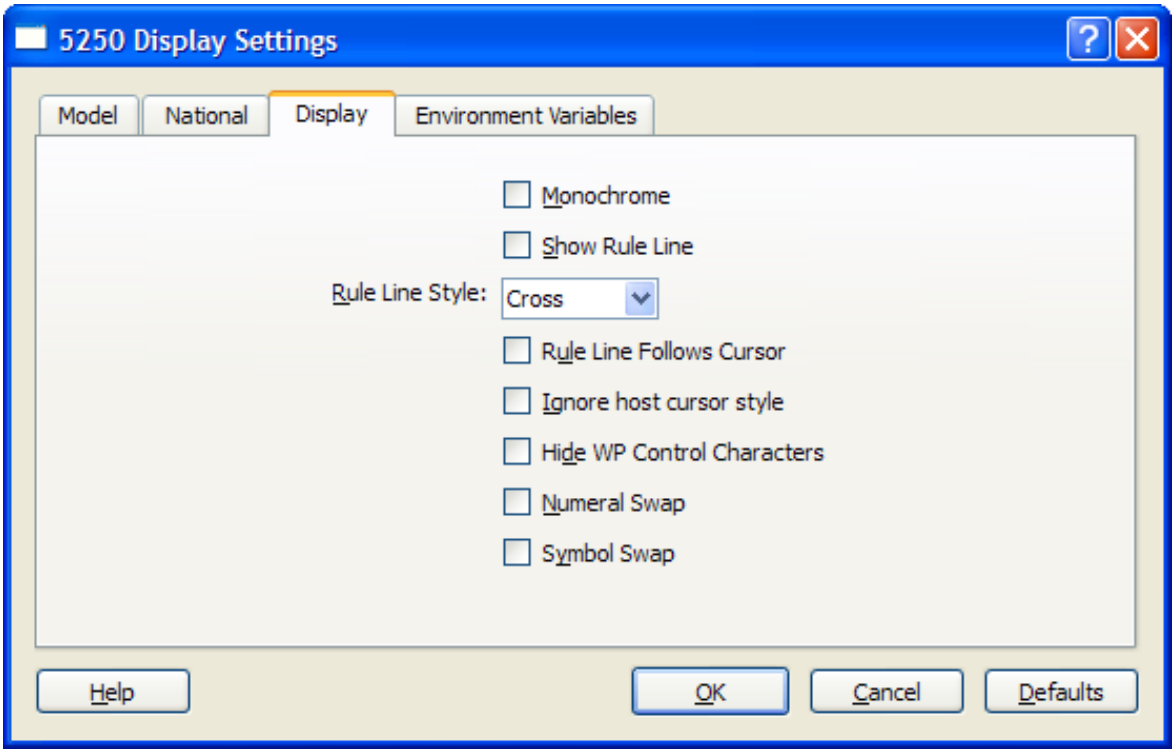
Table 16-3 IBM EBCDIC Codepages Supplied (continued)

Codepage	Type	Countries
284	SBCS	Spain, Latin America (Spanish)
285	SBCS	UK
290	SBCS	Japanese - Katakana
297	SBCS	France
300	DBCS	Japanese - Kanji
420	SBCS	Arabic
424	SBCS	hebrew New Code
500	SBCS	(Latin 1) Belgium, Canada, Switzerland
803	SBCS	hebrew Old Code
833	SBCS	Korean
834	DBCS	Korean
835	DBCS	Tradational Chinese
836	SBCS	Simplified Chinese
837	DBCS	Simplified Chinese
838	SBCS	Thai
870	SBCS	(Latin 2) Czech, Slovak, Polish
871	SBCS	Icelandic
875	SBCS	Greek
880	SBCS	Cyrillic
905	SBCS	(Latin 3) Turkish (old)
1025	SBCS	Russian Cyrillic
1026	SBCS	(Latin 5) Turkish
1027	SBCS	Japanese - Latin extended
1140	SBCS	[EURO] USA, Canada, Netherlands, Portugal, Brazil
1141	SBCS	[EURO] Austria, Germany
1142	SBCS	[EURO] Denmark, Norway
1143	SBCS	[EURO] Finland, Sweden
1144	SBCS	[EURO] Italy
1145	SBCS	[EURO] Spain, Latin America
1146	SBCS	[EURO] UK
1147	SBCS	[EURO] France

Table 16-3 **IBM EBCDIC Codepages Supplied (continued)**

Codepage	Type	Countries
1148	SBCS	[EURO] Belgium, Canada, Switzerland
1149	SBCS	[EURO] Icelandic

Display Settings



- **Monochrome**

  Factory default: Depends on the terminal type

  By default the setting of this option will match the normal display characteristic of the particular IBM 5250 model selected. In TeemTalk, all terminal types support both monochrome and color display.

  When monochrome is selected, characters will be displayed in green and intense fields will be displayed in white. When monochrome is not selected, the settings specified in the Attributes dialog will be used for the display. Refer to the chapter Display Attributes on page 48 for details.

- **Show Rule Line**

  Factory default: Unchecked5

  This determines whether a rule line is displayed across the emulation workspace at the cursor position. The setting of the **Rule Line Style** option determines whether it is displayed as a horizontal rule, vertical rule or a cross.

NOTE: You can also toggle display of the rule line on and off by pressing the keys **Alt + Page Down**.

- **Rule Line Style**

  Factory default: Cross

  The setting of this option determines whether the rule line is displayed as a horizontal rule, vertical rule or a cross.

- **Rule Line Follows Cursor**

  Factory default: Unchecked

  When the rule is displayed in the emulation workspace, the setting of this option determines whether or not the rule follows the cursor when it moves.

- **Ignore Host Cursor Style**

  Factory default: Unchecked

  Selecting this option will cause TeemTalk to ignore any commands from the host to change the cursor style.

- **Hide WP Control Characters**

  Factory default: Unchecked

  This enables you to toggle the display of word processing characters on and off.

- **Numeral Swap**

  Factory default: Unchecked

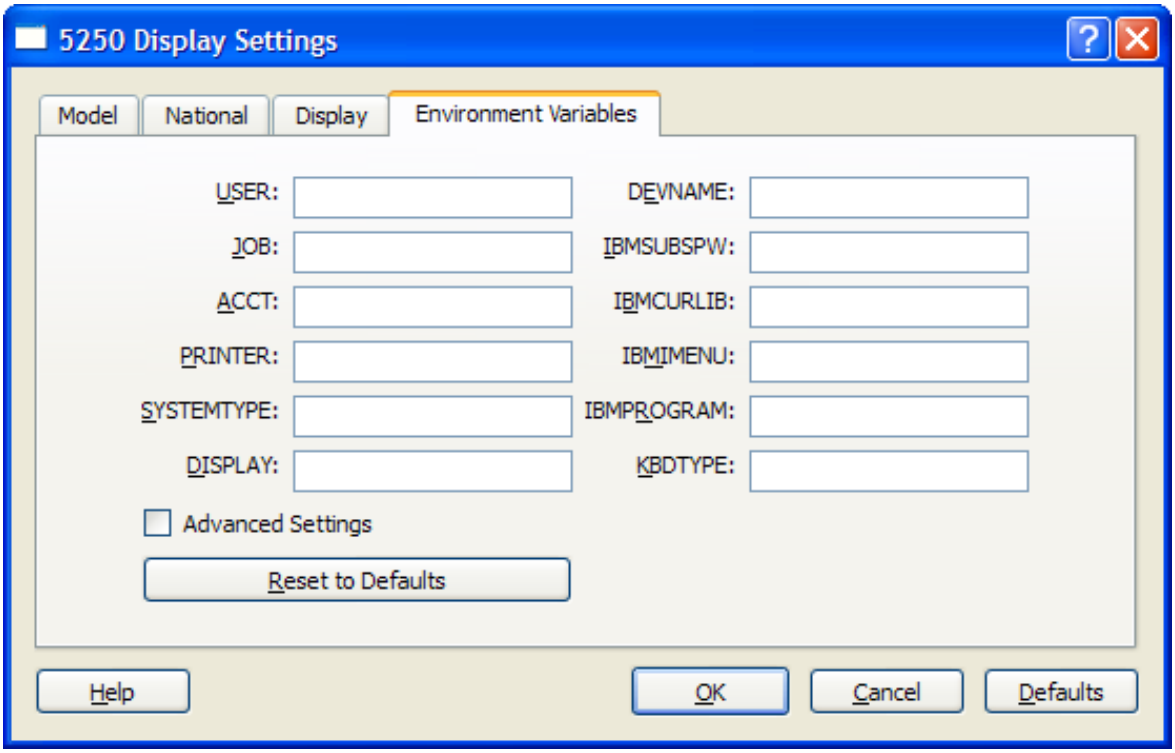
  When using a code page that supports a bilingual keyboard, this will cause all numbers to be displayed using the National character set when in Latin mode.

- **Symbol Swap**

  Factory default: Unchecked

  Selecting this option will cause symbols such as brackets to be displayed the correct way round when typing in right-to-left mode.

Environment Variables



- **USER**

  Specifies the user or account name to use to log on to the remote system.t

- **JOB**

  Specifies the job ID to use when logging into the remote system.

- **ACCT**

  Specifies the account ID to use when logging into the remote system.

- **PRINTER**

  Specifies the default location for printer output.\

- **SYSTEMTYPE**

  Specifies the type of operating system used by the system sending this variable.

- **DISPLAY**

  Specifies the X display location of the client.

- **DEVNAME**

  This enables you to enter the name of the device which the server will be requested to assign to this Telnet session.

  You can return the local host name by entering **%s** after the device name. To return the user name, enter **%u** after the device name. You can specify how many characters of the name is returned in each case. For example, **%.3s** will return the first three characters of the local host name, and **%-.3s** will return the last three characters.

To automatically assign a new device name for each successive connection, either enter **%dN%** after the name, where N is a decimal value, or **%xN%**, where N is a hexadecimal value. Each time the host requests the device name a counter will be incremented modulus N and substituted into the device name.o

For example, **TEST%d4%** will give **TEST1** on first connect, **TEST2** on second, **TEST3** on third, **TEST0** on fourth, **TEST1** on fifth and so on.

TEST%d100% will give **TEST1** on first connect, **TEST2** on second, ... **TEST99** on 99th, **TEST0** on 100th, **TEST1** on 101st and so on.

These values are preserved over power off, so the first connection of any given power on may not be **TEST1**. Assume that the start point is random. In addition there is a single counter for the unit so concurrent sessions will start from subsequent values. For example, if session one uses **TEST1** then session two will use **TEST2**.

Where a device name collision occurs (i.e. the device name is already in use on the host) the host will ask again for the device name during the same connection. In this case **TEST1**, **TEST2**, ... may all be tried in one connection until the host accepts one, or all possibilities have been tried. In the latter case the same name is sent twice in succession to indicate to the host all names have been tried.

If concurrent 5250 sessions are started before a previous session has negotiated an acceptable device name, it is possible that the two sessions will access the counter simultaneously and not all possible names will be tried by each session. This should not cause a problem unless the separate sessions use different modulo values (for example, session one device name **TEST %d4%** and session two device name **ANOTHER%d100%**) or are connecting to different hosts.

- **IBMSUBSPW**

  This enables you to specify the initial Password entry required on the standard startup screen so that it can be bypassed. The entry can be a maximum of ten characters.

- **IBMCURLIB**

  This enables you to specify the initial Library entry required on the standard startup screen so that it can be bypassed. The entry can be a maximum of ten characters.

- **IBMMENU**

  This enables you to specify the initial Menu entry required on the standard startup screen so that it can be bypassed. The entry can be a maximum of ten characters.

- **IBMPROGRAM**

  This enables you to specify the name of the initial program to run. The entry can be a maximum of ten characters.

- **KBDTYPE**

  This specifies the type of keyboard being used.

- **Advanced Settings**

  Factory default: Unchecked

  Displays a **Refresh** button and **Value for Do Not Report** option when checked.

- **Value for Do Not Report**

Factory default: [!

This specifies the character string used to indicate that the Environment Variable is not to be reported.

17 IBM 5250 Printer Emulation

This chapter describes features of the IBM 5250 printer emulation.

Creating a IBM 5250 Printer Emulation Session

You can create a session either using the TeemTalk Session Wizard or while TeemTalk is running.

Using the TeemTalk Session Wizard

This section describes how to use the TeemTalk Session Wizard to create an IBM 5250 Printer emulation session.

1. To run the TeemTalk Session Wizard from the **Start** menu, select **All Programs > HP > HP TeemTalk Terminal Emulator > Session Wizard**.
2. In the **Session Name** field, enter a unique name that will identify this session configuration for future selection.
3. Select the **Transport** method then click the **Configure** button to specify settings.
4. Select the **Connection** type then click the **Configure** button to specify settings.
5. Select **IBM5250 Printer** in the **Emulation** list box then click the **Configure** button to specify settings. (The options are described in the section Setup Options on page 181.)
6. Click **Next** to display the **Advanced Options** dialog.
7. Click **Next** to display the **Finalization** dialog.
8. If you want a shortcut icon for this session to be created on the desktop, click the checkbox **Create icon on desktop for session**.
9. Click **OK** to create the session and exit.
10. To run the session, either double-click on the desktop icon if one was created for the session, or run TeemTalk, display the **File** menu and select **Open Session**. Select the name of the required **.tts** session file then click **Open**.

Using the TeemTalk Emulator Window

This section describes the procedure for creating a IBM 5250 Printer emulation session from the TeemTalk emulator window.

1. Display the **Session** menu from the menu bar and select **Transport...** to set the transport method.
2. Display the **Session** menu and select **Connection...** to set the connection method.
3. Display the **Session** menu and select **Emulation...**. Set the emulation to **IBM5250 Printer**.

4. You can configure the transport, connection and emulation settings by selecting the relevant **Configure** options in the **Session** menu. The options displayed by selecting **Configure emulation** are described in the section Setup Options on page 181.
5. To save the session, display the **File** menu and select **Save session as**. In the **File Name** field, enter a unique name that will identify this session configuration for future selection, then click **Save**. Note that session files have the filename extension **.tts**.
6. To run the session, display the **File** menu and select **Open Session**. Select the name of the **.tts** session file then click **Open**.

Setup Options

The IBM 5250 Printer emulation is configured using setup options in the **5250 Printer Settings** dialog which can be displayed using one of the following three methods:

Using the **Session Wizard**:

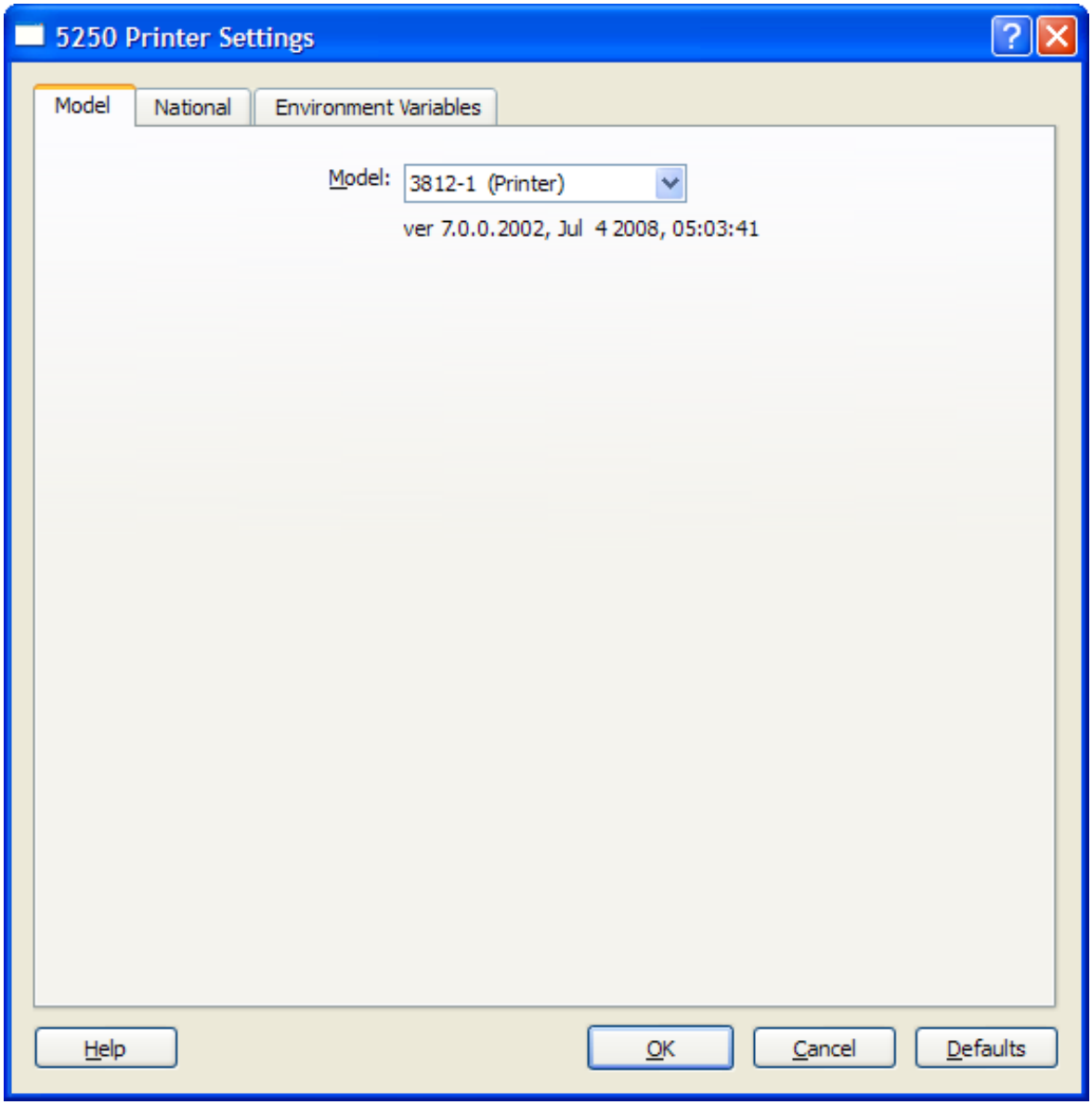
- In **Step 1** set **Emulation** to **IBM 5250 Printer** then click the **Configure** button.

Using the **TeemTalk Window:**

- On the **Session** menu, select **Emulation** > **IBM 5250 Printer** then select **Configure Emulation....**
- On the configuration bar, select **IBM 5250 Printer** in the **Emulation** list box then click **Configure Emulation**.

The setup options are grouped on three tabs labelled **Model**, **National** and **Print By Pass**.

Model Settings



- **Model**

  Factory default: 3812-1 (Printer)

  This enables you to specify the printer model to emulate. There are two options:

  - **3812-14**

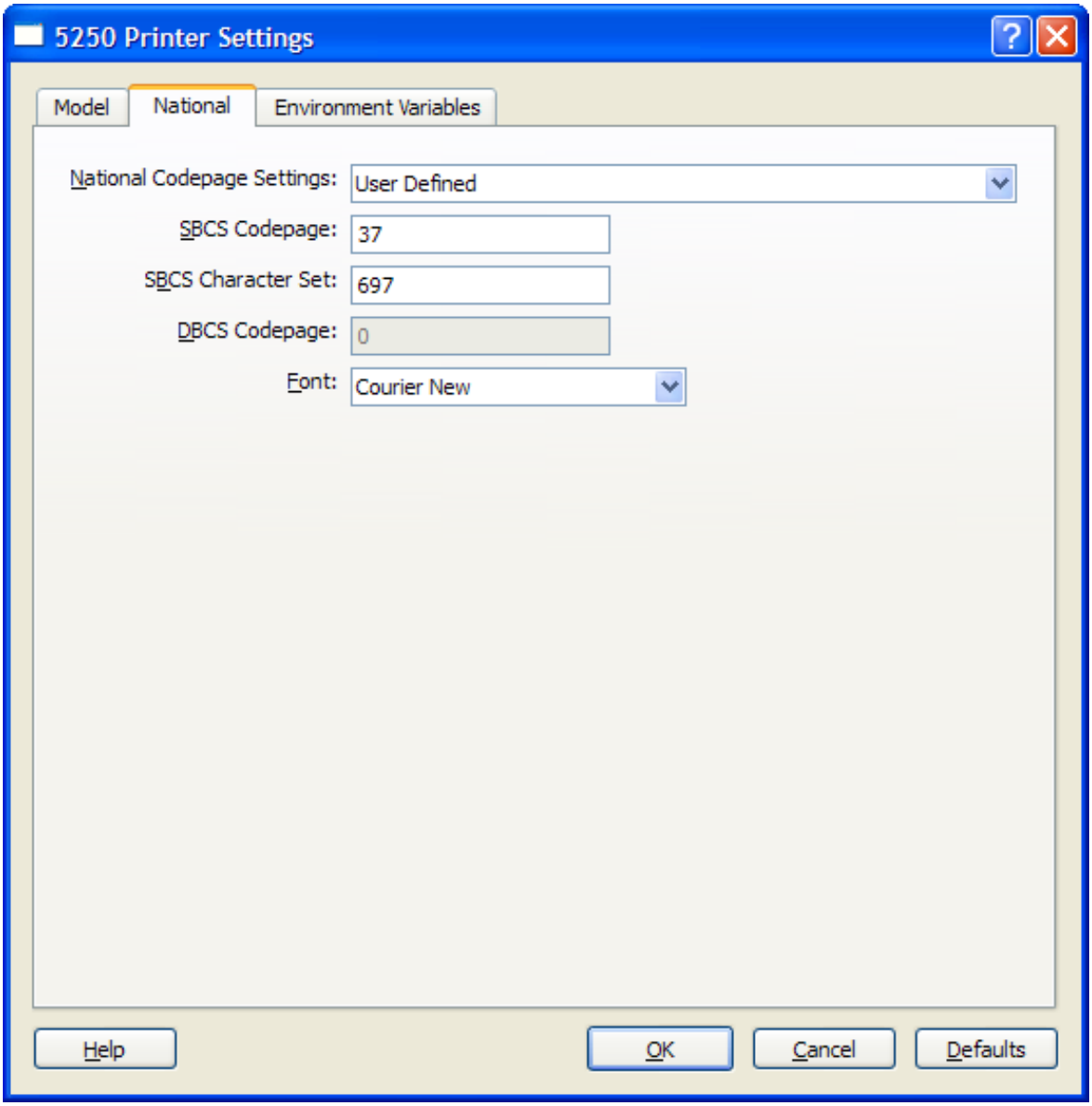
    Single-byte printer.

  - **5553-B01**

    Double-byte printer.

  Select the double-byte printer when using double-byte character sets such as Japanese.

National Settings



These options enable you to select the character set to be used. There are separate entries for the Single Byte Character Set (**SBCS**) and (if supported) Double Byte Character Set (**DBCS**). These should only be changed by the System Administrator. If they have been changed and you wish to

restore the default settings, click the **Defaults** button at the bottom of the dialog. The table at the end of this section shows the default settings.

- **National Codepage Settings**

  Factory default: User Defined

  This specifies the type of national codepage to be used. Selecting **User Defined** will enable manual selection of the **Codepage** and **Character Set** using the following options.

- **SBCS Codepage**

  Factory default: 37

  This is a numeric value specifying the single-byte character set codepage to use.

- **SBCS Character Set**

  Factory default: 697

  This is a numeric value specifying the single-byte character set to use.

- **DBCS Codepage**

  Factory default: 0

  This is a numeric value specifying the double-byte character set codepage to use.

- **Font**

  Factory default: Courier New

  This enables you to specify the font to be used for displaying characters. The available settings depend on the fonts installed.

Table 17-1 Default Language, Character Set & Codepage Settings

Language	KBDTYPE	CHARSET	SBCS CODEPAGE	DBCS CODEPAGE
English (US)	USB	697	37	
English (UK)	UKB	697	285	
Belgian	BLI	697	500	
Canadian French	CAI	697	500	
Danish	DMB	697	277	
Finnish	FNB	697	278	
German	AGB	697	273	
Dutch	NEB	697	37	
Italian	ITB	697	280	
Swiss French	SFI	697	500	
Swiss German	SGI	697	500	
Swedish	SWB	697	278	
Norwegian	NWB	697	277	

Table 17-1 Default Language, Character Set & Codepage Settings (continued)

Language	KBDTYPE	CHARSET	SBCS CODEPAGE	DBCS CODEPAGE
French	FAB	697	297	
Spanish	SPB	697	284	
Portuguese	PRB	697	37	
Japanese Kanji + Katakana	JKB	1172	290	300
Korean	KOB	1173	833	834
Simplified Chinese	RCB	1174	836	837
Traditional Chinese	TAB	1175	37	835
Hebrew New Code	NCB	941	424	
Hebrew Old Code		941	803	
Thai	THB	1176	838	
Greek	GNB	925	875	
Cyrillic	CYB	960	880	
Turkish	TRB	1152	1026	
Russian	RUB	1150	1025	
Czech	CSB	959	870	
Slovak	SKB	959	870	
Polish	POB	959	870	
Icelandic	ICB	697	871	
Arabic		697	420	

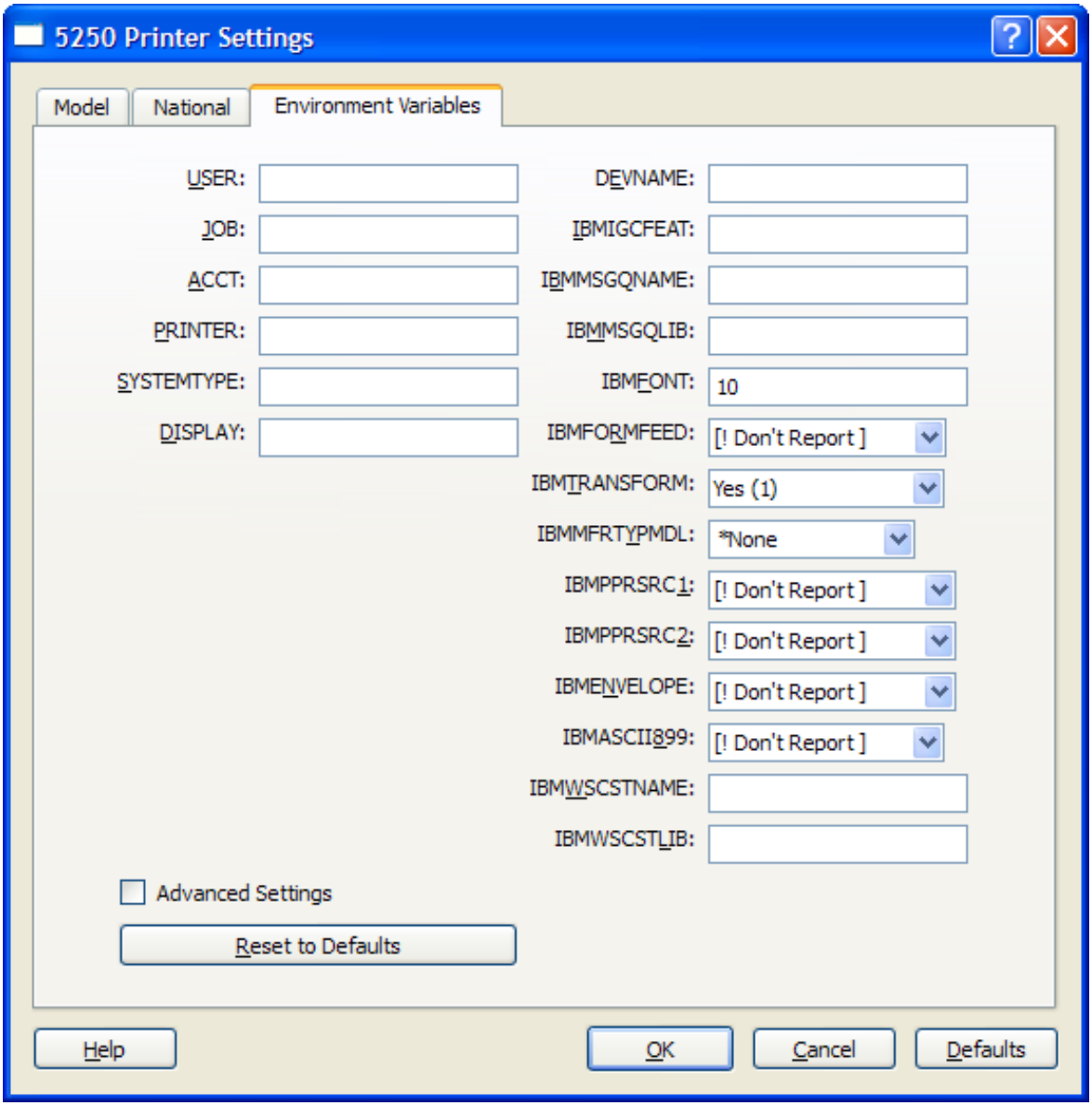
Table 17-2 IBM EBCDIC Codepages Supplied

Codepage	Type	Countries
37	SBCS	USA, Canada, Netherlands, Portugal, Brazil
273	SBCS	Austria, Germany
274	SBCS	Belgium (old)
277	SBCS	Denmark, Norway
278	SBCS	Finland, Sweden
280	SBCS	Italy
284	SBCS	Spain, Latin America (Spanish)
285	SBCS	UK

Table 17-2 IBM EBCDIC Codepages Supplied (continued)

Codepage	Type	Countries
290	SBCS	Japanese - Katakana
297	SBCS	France
300	DBCS	Japanese - Kanji
420	SBCS	Arabic
424	SBCS	hebrew New Code
500	SBCS	(Latin 1) Belgium, Canada, Switzerland
803	SBCS	hebrew Old Code
833	SBCS	Korean
834	DBCS	Korean
835	DBCS	Tradational Chinese
836	SBCS	Simplified Chinese
837	DBCS	Simplified Chinese
838	SBCS	Thai
870	SBCS	(Latin 2) Czech, Slovak, Polish
871	SBCS	Icelandic
875	SBCS	Greek
880	SBCS	Cyrillic
905	SBCS	(Latin 3) Turkish (old)
1025	SBCS	Russian Cyrillic
1026	SBCS	(Latin 5) Turkish
1027	SBCS	Japanese - Latin extended
1140	SBCS	[EURO] USA, Canada, Netherlands, Portugal, Brazil
1141	SBCS	[EURO] Austria, Germany
1142	SBCS	[EURO] Denmark, Norway
1143	SBCS	[EURO] Finland, Sweden
1144	SBCS	[EURO] Italy
1145	SBCS	[EURO] Spain, Latin America
1146	SBCS	[EURO] UK
1147	SBCS	[EURO] France
1148	SBCS	[EURO] Belgium, Canada, Switzerland
1149	SBCS	[EURO] Icelandic

Environment Variables



The options on this tab specify Environment Variables and values passed as part of the Telnet 5250E protocol.

Note the following rules for entering values:

- A value of "," deletes the variable.
- A value of CURRENTVALUE,NAME=VALUE adds a new variable NAME with value VALUE.
- Use ",," to enter a ",".
- Use "==" to enter a "=".
- Values started [! are not reported (this is the default *do not report* string which can be changed).

The following is a list of the Environment Variables and explanations of their values:

- **USER**

  Specifies the user or account name to use to log on to the remote system.

- **JOB**

  Specifies the job ID to use when logging into the remote system.

- **ACCT**

  Specifies the account ID to use when logging into the remote system.

- **PRINTER**

  Specifies the default location for printer output.

- **SYSTEMTYPE**

  Specifies the type of operating system used by the system sending this variable.

- **DISPLAY**

  Specifies the X display location of the client.

- **DEVNAME**

  Specifies the name of the printer device.

- **IBMIGCFEAT**

  This is always set to **Don't Report**.

- **IBMMSGQNAME**

  Specifies the name of the message queue to which operational messages for the printer are to be sent.

- **IBMMSGQLIB**

  Specifies the message queue library.

- **IBMFONT**

  Factory default: 10

  Specifies the font identifier and point size used by the single-byte printer.

- **IBMFORMFEED**

  Factory default: [! Don't Report]

  This is always set to **Don't Report**. The **IBMPPRSRC1** option is used to specify the paper format to be used.

- **IBMTRANSFORM**

  Factory default: Yes (1)

  Specifies whether the printer will use the host print transform function to generate ASCII printer data. This is always set to **Yes**. The **IBMMFRTYPMDL** option must specify the printer manufacturer, type and model.

- **IBMMFRTYPMDL**

  Factory default: *None

  Specifies the printer manufacturer, type and model. The entry must exactly match an AS400 printer type string, including the * (asterisk) character. The following valid entries are for the IBM AS/400 V3R1. Note that the list can change depending on AS/400 settings.

Table 17-3 IBM 5250 Printer Manufacturer, Type and Model Values

*IBM2380	*IBM2381	*IBM2390	*IBM2391	*IBM3812
*IBM3816	*IBM3912HP	*IBM3916HP	*IBM39302	*IBM39303
*IBM4019	*IBM4019HP	*IBM4029	*IBM4029HP	*IBM4037
*IBM4039HP	*IBM4070	*IBM4070EP	*IBM4072	*IBM4076
*IBM42011	*IBM42012	*IBM42013	*IBM42021	*IBM42022
*IBM42023	*IBM42071	*IBM42072	*IBM42081	*IBM42082
*IBM4212	*IBM4216	*IBM4226	*IBM4230	*IBM4232
*IBM47121	*IBM47122	*IBM47221	*IBM47222	*IBM4770
*IBM5152	*IBM5201	*IBM5202	*IBM5204	*IBM5216
*IBM6404	*IBM6404EP	*IBM6408	*IBM6408EP	*IBM6412
*IBM6412EP	*HPII	*HPIID	*HPIIP	*HPIII
*HPIIID	*HPIIIP	*HPIIISI	*HP4	*HP310
*HP500	*HP520	*HP550C	*HP560C	*HPPAINT
*CPQPM15	*CPQPM20	*EPAP2250	*EPAP3250	*EPAP5000
*EPAP5500	*EPDFX5000	*EPDFX8000	*EPFX850	*EPFX870
*EPFX1170	*EPLX810	*EPLQ510	*EPLQ570	*EPLQ860
*EPLQ870	*EPLQ1070	*EPLQ1170	*EPLQ2550	*EPSQ870
*EPSQ1170	*EPEPL7000	*EPEPL8000	*NECP2	*NECP2200
*NECP2200XE	*NECP5200	*NECP5300	*NECP6200	*NECP6300
*OKI184IBM	*OKI320IBM	*OKI321IBM	*OKI390IBM	*OKI391IBM
*OKI393IBM	*OKI590IBM	*OKI591IBM	*OKI400	*OKI800
*OKI810	*OKI820	*OKI3410	*PAN1123EP	*PAN1124EP
*PAN1124IEP	*PAN1180EP	*PAN1180IEP	*PAN1191EP	*PAN1624EP
*PAN1654EP	*PAN1695EP	*PAN2123EP	*PAN2124EP	*PAN2180EP
*PAN2624EP	*PAN4410HP	*PAN4420HP	*PAN4430HP	*PAN4450IHP
*PAN4451HP				

- **IBMPPRSRC1 / IBMPPRSRC2**

  Factory default: [! Don't Report]

These options specify the paper format to be used. The possible settings are:

Table 17-4 IBM 5250 Printer Paper Format

Don't Report	No value returned.
***NONE**	No paper source is defined
***MFR**	The system determines the paper type used based on the manufacturer, type and model of the printer
***LET**	Letter-sized paper (8.5 x 11 inches)
***LEGL**	Legal-sized paper (8.5 x 14 inches)
***EXE**	Executive-sized paper (7.25 x 10.5 inches)
***A4**	A4-sized paper (210 mm x 297 mm)
***A5**	A5-sized paper (148 mm x 210 mm)
***B5**	B5-sized paper (182 mm x 257 mm)
***C80**	Continuous-form paper, 8.0 inches wide (IBMPPRSRC1 only)
***C132**	Continuous-form paper, 13.2 inches wide (IBMPPRSRC1 only)
***A3**	A3-sized paper (297 mm x 420 mm)
***B4**	B4-sized paper (257 mm x 364 mm)
***LEDG**	Ledger-sized paper (11 inches x 17 inches)

- **IBMENVELOPE**

  Factory default: [! Dont' Report]

  This specifies the envelope format to be used. The possible settings are:

Table 17-5 IBM 5250 Printer Envelope Format Values

Don't Report	No value returned
***NONE**	No envelope source is defined
***MFR**	The system determines the envelope type used based on the manufacturer, type and model of the printer
***B5**	B5-sized envelopes (176mm x 250mm)
***MON**	Monarch-sized envelopes (3.875 X 7.5 inches)
***N9**	Number 9-sized envelopes (3.875 x 8.875 inches)
***N10**	Number 10-sized envelopes (4.125 x 9.5 inches)
***C5**	C5-sized envelopes (162mm x 229mm)
***DL**	DL-sized envelopes (110mm x 220mm)

- **IBMASCII899**

  Factory default: [! Don't Report]

Specifies whether the single-byte printer has ASCII code page 899 installed. Selecting **Don't Report** will cause no value to be returned.

- **IBMWSCSTNMAME**

  Specifies the name of the object containing pointers to the work station customizing tables.

- **IBMWSCSTLIB**

  Specifies the library name of the object containing pointers to the work station customizing tables.

- **Advanced Settings**

  Factory default: Unchecked

  Displays a **Refresh** button and Value for **Do Not Report** option when checked.

- **Value for Do Not Report**

  Factory default: [!

  This specifies the character string used to indicate that the Environment Variable is not to be reported.

18 TA6530 Emulation

This chapter describes features of the Tandem 6530 terminal emulation.

Creating a TA6530 Emulation Session

You can create a session either using the TeemTalk Session Wizard or while TeemTalk is running.

Using the TeemTalk Session Wizard

This section describes how to use the TeemTalk Session Wizard to create an TA6530 emulation session.

1. To run the TeemTalk Session Wizard from the **Start** menu, select **All Programs > HP > HP TeemTalk Terminal Emulator > Session Wizard**.
2. In the **Session Name** field, enter a unique name that will identify this session configuration for future selection.
3. Select the **Transport** method then click the **Configure** button to specify settings.
4. Select the **Connection** type then click the **Configure** button to specify settings.
5. Select **TA6530** in the **Emulation** list box then click the **Configure** button to specify settings. (The options are described in the section Setup Options on page 197.)
6. Click **Next** to display the **Advanced Options** dialog.
7. Click **Next** to display the **Finalization** dialog.
8. If you want a shortcut icon for this session to be created on the desktop, click the checkbox **Create icon on desktop for session**.
9. Click **OK** to create the session and exit.
10. To run the session, either double-click on the desktop icon if one was created for the session, or run TeemTalk, display the **File** menu and select **Open Session**. Select the name of the required **.tts** session file then click **Open**.

Using the TeemTalk Emulator Window

This section describes the procedure for creating a TA6530 emulation session from the TeemTalk emulator window.

1. Display the **Session** menu from the menu bar and select **Transport...** to set the transport method.
2. Display the **Session** menu and select **Connection...** to set the connection method.
3. Display the **Session** menu and select **Emulation...**. Set the emulation to **TA6530**.

4. You can configure the transport, connection and emulation settings by selecting the relevant **Configure** options in the **Session** menu. The options displayed by selecting **Configure emulation** are described in the section Setup Options on page 197.
5. To save the session, display the **File** menu and select **Save session as**. In the **File Name** field, enter a unique name that will identify this session configuration for future selection, then click **Save**. Note that session files have the filename extension **.tts**.
6. To run the session, display the **File** menu and select **Open Session**. Select the name of the **.tts** session file then click **Open**.

Operating Modes

The Tandem 6530 emulation operates in one of three main modes: Conversational, Block, or ANSI. Conversational and Block modes are normally used for applications running on a NonStop host system. ANSI mode is for applications running on the LXN host system.

Conversational mode

In Conversational mode, characters are sent to the host as you type them. This is useful when applications need to interact with you on a character, word or line-by-line basis.

Display memory is treated as one long page consisting of 400 lines, of which 24 lines may be viewed at any one time. Lines above or below those currently displayed may be scrolled into view using cursor or display control keys. Once all the display memory has been used, new data will force all previous lines of data up one line so that the first line is erased, ensuring that the oldest data is erased first.

The status line will display **CONV** when you are in Conversational mode.

Block Mode

In Block mode, characters are stored in a communications buffer and are not transmitted to the host until the application requests them. The characters are then sent as a block. This enables you to enter a large amount of data and edit it locally before it is transmitted.

Block mode has two sub-modes: Block Nonprotect and Block Protect. In Block Nonprotect mode you can enter any type of character at any position on the screen (except on the 25th line). In Block Protect mode the application divides the screen into protected and nonprotected areas called fields. The cursor cannot be moved into protected fields, which may contain prompts or information or be empty. The cursor can only be moved into unprotected fields, which may also define the type of characters that can be entered.

In Block mode, display memory is divided into pages, the number of pages being determined by the application.

The status line will display **BLOCK** when you are in Block mode, and **PROT** when in Block Protect mode.

ANSI Mode

In ANSI mode, characters are sent to the host as you type them, and standard ANSI (American National Standard Institute) functions are executed. Applications that run on the LXN host system generally recognize and use these functions.

The status line will display **ANSI** when you are in ANSI mode.

The Rule Cursor

A cross-hair rule cursor can be displayed by pressing the keys **Alt + Page Up**. To return to the normal cursor, press **Alt + Page Down**.

Keyboard Mapping

The functions of the computer keyboard are mapped as closely as possible to the terminal being emulated. The mapping of key functions can be determined by referring to the **Emulation Keys** list box in the **Key Macro Settings** dialog, which is displayed by selecting **Key Macros...** on the **Tools** menu.

The information in brackets in the right column indicates the default mapping of the key function named in the left column. In the list, **S**+ indicates the **Shift** key, **C**+ indicates the **Control** key and **A**+ indicates the **Alt** key. For example:

TA_LINEINS (C+VK_INSERT)

indicates that the **Insert Line** function is mapped to the key combination **Control + Insert**.

Special key functions usually found on a TA6530 keyboard can be mapped to any key on your keyboard using the **TA** virtual key names listed in the **Key Macro Settings** dialog.

The illustrations on the following pages show where TA6530 keyboard functions are mapped to keys on a 101/102 key keyboard.

Figure 18-1 101/102 Key Keyboard Layout for the TA6530 Emulation

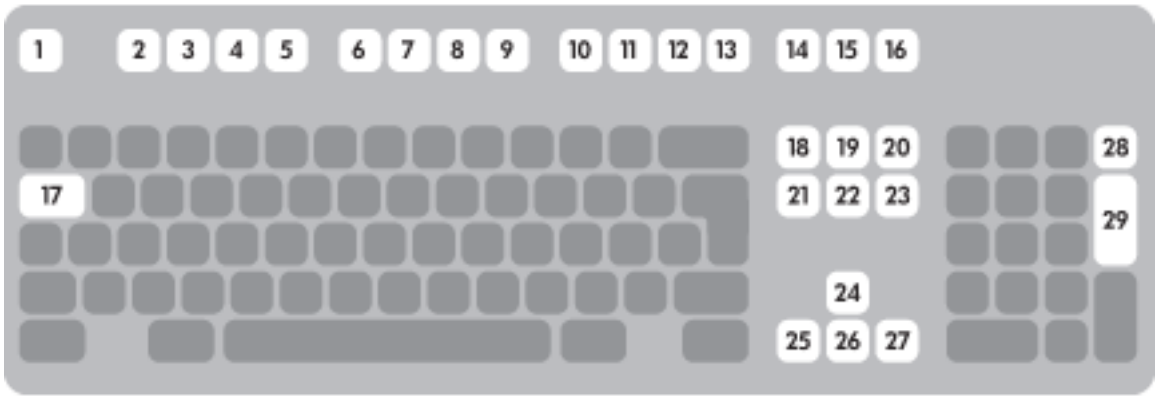


Table 18-1 TA6530 Keyboard Mapping

Key	Key Modifier	Result	Key	Key Modifier	Result
1	*none*	ESCAPE	15	Ctrl +	ERASE LINE
	Shift +	DELETE		Shift + Ctrl +	ERASE PAGE

Table 18-1 TA6530 Keyboard Mapping (continued)

Key	Key Modifier	Result	Key	Key Modifier	Result
2	*none*	F1	16	*none*	BREAK
	Shift +	F1 (Shifted)		Shift +	BREAK (Shifted)
	Alt +	F13			
	Shift + Alt +	F13 (Shifted)			
3	*none*	F2	17	*none*	TAB
	Shift +	F2 (Shifted)		Shift +	BACKTAB
	Alt +	F14			
	Shift + Alt +	F14 (Shifted)			
4	*none*	F3	18	*none*	CHARACTER INSERT
	Shift +	F3 (Shifted)		Shift +	INSERT
	Alt +	F15		Ctrl +	LINE INSERT
	Shift + Alt +	F15 (Shifted)			
5	*none*	F4	19	*none*	HOME
	Shift +	F4 (Shifted)		Ctrl +	HOME + CONTROL
	Alt +	F16			
	Shift + Alt +	F16 (Shifted)			
6	*none*	F5	20	*none*	PAGE UP
	Shift +	F5 (Shifted)		Shift +	PAGE UP (Shifted)
7	*none*	F6	21	*none*	CHARACTER DELETE
	Shift +	F6 (Shifted)		Ctrl +	LINE DELETE
8	*none*	F7	22		END
	Shift +	F7 (Shifted)			
9	*none*	F8	23	*none*	PAGE DOWN
	Shift +	F8 (Shifted)		Shift +	PAGE DOWN (Shifted)
10	*none*	F9	24	*none*	CURSOR UP
	Shift +	F9 (Shifted)		Alt +	ROLL UP
				Shift + Alt +	ROLL UP (Shifted)
11	*none*	F10	25		CURSOR LEFT
	Shift +	F10 (Shifted)			

Table 18-1 TA6530 Keyboard Mapping (continued)

Key	Key Modifier	Result	Key	Key Modifier	Result
12	*none*	F11	26	*none*	CURSOR DOWN
	Shift +	F11 (Shifted)		Alt +	ROLL DOWN
				Shift + Alt +	ROLL DOWN (Shifted)
13	*none*	F12	27		CURSOR RIGHT
	Shift +	F12 (Shifted)			
14	*none*	PRINT SCREEN	28	*none*	-
	Shift +	PRINT SCREEN (Shifted)		Alt +	TAB SET
				Shift + Alt +	TAB CLEAR
				Ctrl + Alt +	TAB CLEAR ALL
			29	*none*	+
				Alt +	,

NOTE: All unmarked keys function as indicated by the legends on the keycaps.

The Status Line

The last (25th) line on the TA6530 emulation screen is used to display messages and status information. You can enable or disable display of a border that separates this line from the lines above it. This is achieved using the **Status border** option in the **TA6530 Settings** dialog.

The status line is divided into two fields. The first and leftmost field is used to display messages of up to 64 characters in length. The second field displays the current operating status and will usually display at least one of the following status indicators:

- **ANSI**

  The emulation is operating in ANSI mode.

- **BLOCK**

  The emulation is operating in Block mode.

- **CNTRL**

  Display controls mode activated. In this mode, received control codes will be displayed but not actioned.

- **CONV**

  The emulation is operating in Conversational mode.

- **HOLD**

  Hold screen is activated. The emulation stops processing incoming data when the **Ctrl + S** keys are presse in ANSI mode. To release the hold state and continue normal processing, press **Ctrl + Q**.

- **INS**

  Insert mode is activated. In Block mode, keyboard entered characters are inserted at the cursor position without overwriting already existing characters.

- **LOCKED**

  The keyboard has been temporarily locked by the application.

- **NUM**

  Num lock is activated. Num lock is toggled on and off by pressing the keys **Alt + Num Lock**.

- **PROT**

  Block Protect mode enabled. Refer to Block Mode on page 193 for details.

When the emulation detects an error, the status line will be temporarily replaced by an error line which will display one of the following messages:

- **INVALID LANGUAGE SET REQUESTED**

  You tried to use an invalid national character set.

- **INVALID DATA**

  You tried to enter an invalid character in the current field when in Block protect mode.

Setup Options

The TA6530 emulation is configured using setup options in the **Tandem Settings** dialog which can be displayed using one of the following three methods:

Using the **Session Wizard**:

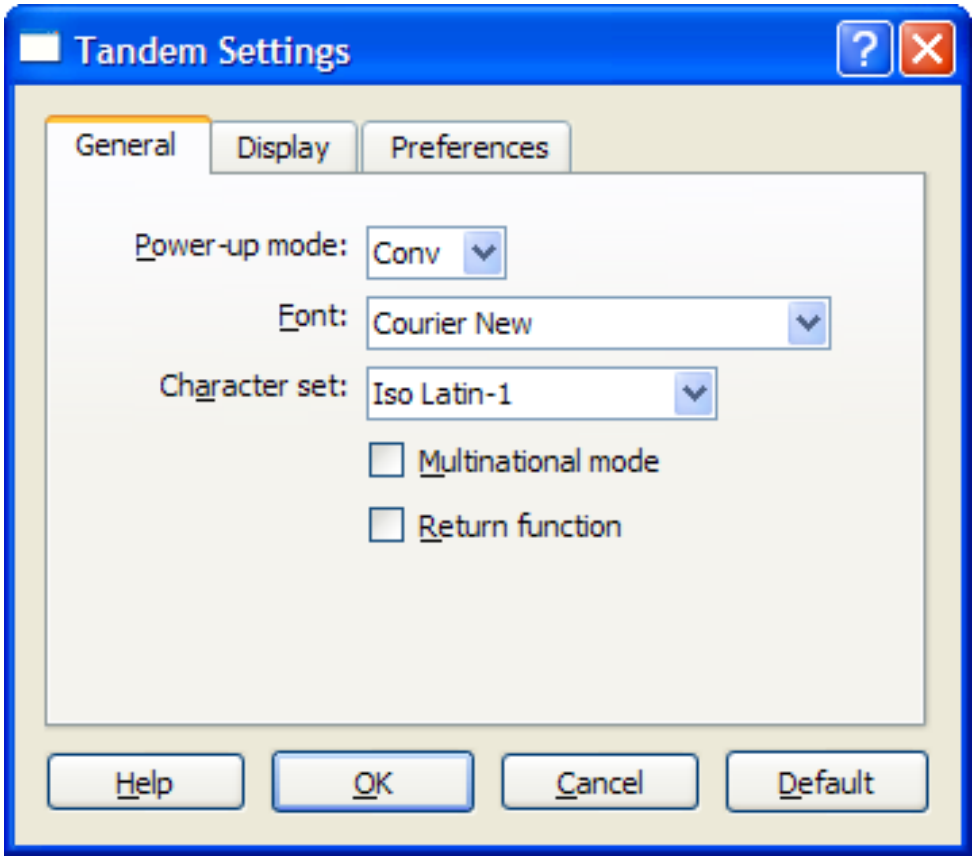
- In **Step 1** set **Emulation** to **TA6530** then click the **Configure** button.

Using the **TeemTalk Window:**

- On the **Session** menu, select **Emulation** > **TA6530** then select **Configure Emulation....**
- On the configuration bar, select **TA6530** in the **Emulation** list box then click **Configure Emulation**.

The setup options are grouped on three tabs labelled **General**, **Display** and **Preferences**.

General Settings



- **Power-up mode**

  Factory default: Conversational

  This option determines the operating mode that is in effect when the TA6530 emulation is started.

  NOTE: Changing the current setting will not take effect until you restart TeemTalk, so you will need to save the new setting before exiting TeemTalk.

  Conversational and Block modes are normally used for applications running on a NonStop host system, and ANSI mode for applications running on an LXN host system. Save the new setting before exiting the emulation by selecting **Save session** in the **File** menu.

- **Font**

  Factory default: Courier New

  This enables you to specify the font to use for displaying characters. The available settings depend on the fonts installed on your system.

- **Character set**

  Factory default: Iso Latin-1

  This specifies the character set used for displaying characters.

- **Multinational mode**

Factory default: Unchecked

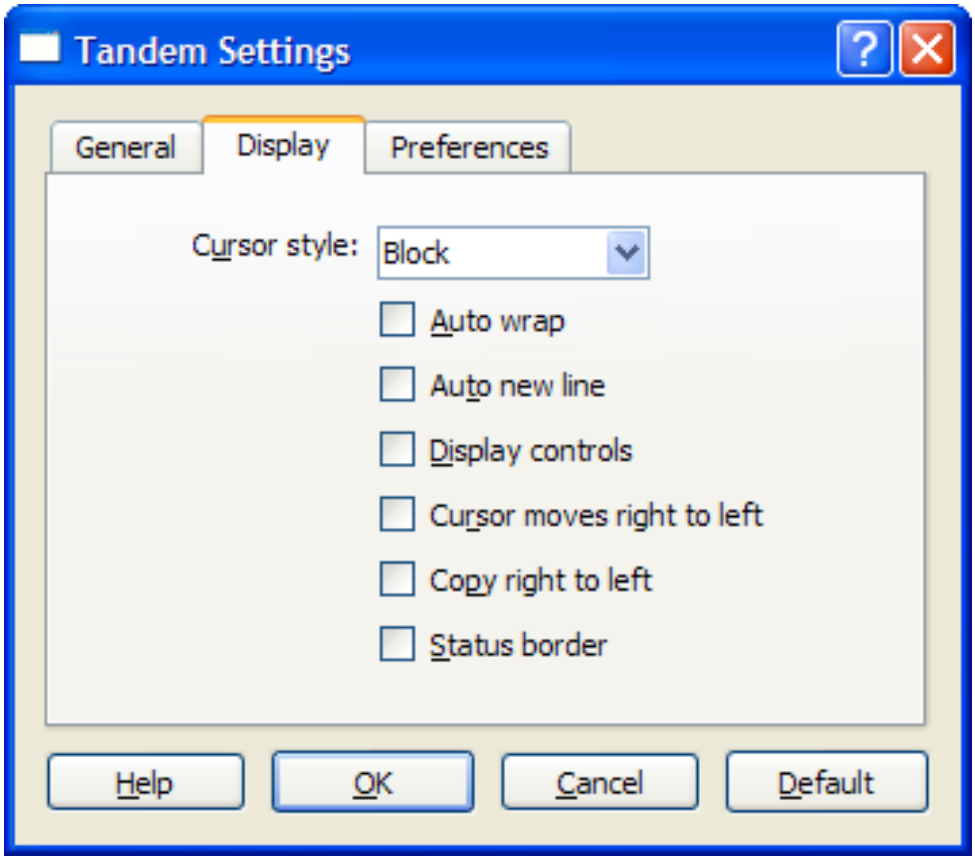
This option will only be available if the system is configured for a language that supports national replacement character sets. It determines the type of character set used to generate characters. When unchecked, TeemTalk is in National mode in which a character set specific to the selected keyboard nationality is used. When checked TeemTalk is in Multinational mode in which a character set consisting of two tables of characters is used. This enables characters from any keyboard nationality to be generated.

- **Return function**

  Factory default: Unchecked

  This option specifies whether or not the function of the **Enter** key is defined by the application when in Block mode. When checked, the key is regarded as an application specific function key. Normally this should be unchecked.

Display Settings



- **Cursor style**

  Factory default: Block

  This enables you to specify how the text cursor is displayed. Select from **Block**, **Underline**, **Static block**, **Static underline** or **None**.

- **Auto wrap**

  Factory default: Unchecked

  The setting of this option determines whether characters wrap to the next line when the right margin is reached. When unchecked, on reaching the right margin, the last character position will be overwritten by every new character received.

- **Auto new line**

  Factory default: Unchecked

  When checked, this will cause a carriage return command to be appended to every line feed command received.

- **Display controls**

  Factory default: Unchecked

  The setting of this option determines whether received control codes are actioned or displayed. When checked, a representation of most control codes will be displayed on the screen.

- **Cursor moves right to left**

  Factory default: Unchecked

  This enables you change the direction in which the text cursor moves across the display.

- **Copy right to left**

  Factory default: Unchecked

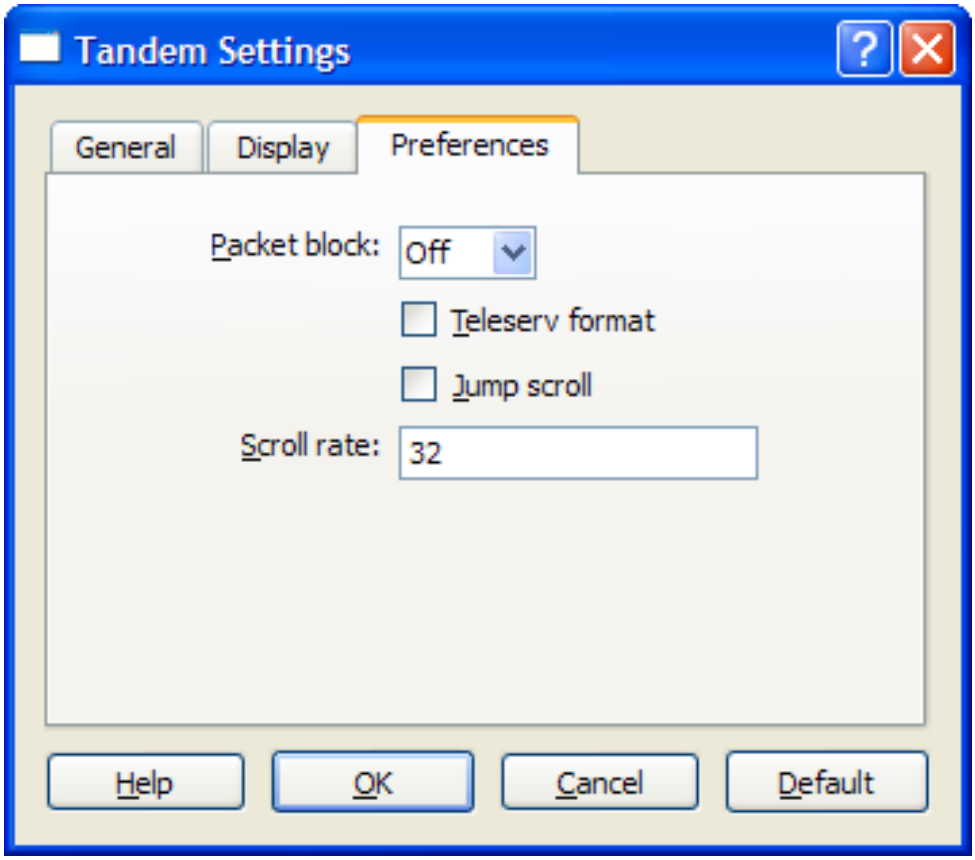
  This enables the copy commands to function in right to left display mode.

- **Status border**

  Factory default: Checked

  This option enables you to display a thin border which separates the status line from the rest of the lines on the display.

Preferences



- **Packet block**

  Factory default: Off

  This option specifies whether you want to use packet blocking for X.25 communications line support, and if so, the size of the packet block. The size may be set to any of the listed 128-byte increments, or, by setting this option to **Off**, the default size of 260 bytes.

- **Telserv format**

  Factory default: Unchecked

  The setting of this option determines how network data is treated. When checked, data will be treated in Tandem network server (Telserv) format. When unchecked, data will be treated in serial format.

- **Jump scroll**

  Factory default: Unchecked

  The setting of this option determines whether data is scrolled one or several lines at a time when the window becomes full.

  When checked, data will scroll up several lines at a time as determined by the **Scroll rate** setting below.

- **Scroll rate**

  Factory default: 32

This determines the number of lines that are scrolled when the **Jump scroll** option above is selected.

19 Wyse Emulations

This chapter describes features of the Wyse terminal emulations.

Introduction

The Wyse suite of terminal emulations consists of the following emulations which can be selected using the **Emulation mode** option in the **Wyse Settings** dialog:

- **ADDS A2**

  Provides compatibility with software designed to drive the ADDS Viewpoint A2 terminal, as emulated by the Wyse WY-50/50+/60 terminals.

- **HZ 1500**

  Provides compatibility with software designed to drive the Hazeltine 1500 terminal, as emulated by the Wyse WY-50/50+/60 terminals.

- **Stratus V102**

  Provides compatibility with software designed to drive the Stratus V102 terminal.

- **TVI910**, **TVI920** and **TVI925**

  Provide compatibility with software designed to drive the TeleVideo 910+, 920 and 925 terminals, respectively, as emulated by the Wyse WY-50/ 50+/60 terminals.

- **TVI950** and **TVI955**

  Provide compatibility with software designed to drive the TeleVideo 950 and 955 terminals, respectively.

- **WY50**, **WY50+** and **WY60**

  Provide compatibility with software designed to drive the Wyse WY-50, WY-50+ and WY-60 terminals, respectively.

- **Wyse PCTerm**

  Provides compatibility with software designed for the PC Term personality supported by Wyse.

Creating a Wyse Emulation Session

You can create a session either using the TeemTalk Session Wizard or while TeemTalk is running.

Using the TeemTalk Session Wizard

This section describes how to use the TeemTalk Session Wizard to create an Wyse emulation session.

1. To run the TeemTalk Session Wizard from the **Start** menu, select **All Programs > HP > HP TeemTalk Terminal Emulator > Session Wizard**.
2. In the **Session Name** field, enter a unique name that will identify this session configuration for future selection.
3. Select the **Transport** method then click the **Configure** button to specify settings.
4. Select the **Connection** type then click the **Configure** button to specify settings.
5. Select **Wyse** in the **Emulation** list box then click the **Configure** button to specify settings. (The options are described in the section Setup Options on page 210.)
6. Click **Next** to display the **Advanced Options** dialog.
7. Click **Next** to display the **Finalization** dialog.
8. If you want a shortcut icon for this session to be created on the desktop, click the checkbox **Create icon on desktop for session**.
9. Click **OK** to create the session and exit.
10. To run the session, either double-click on the desktop icon if one was created for the session, or run TeemTalk, display the **File** menu and select **Open Session**. Select the name of the required **.tts** session file then click **Open**.

Using the TeemTalk Emulator Window

This section describes the procedure for creating a Wyse emulation session from the TeemTalk emulator window.

1. Display the **Session** menu from the menu bar and select **Transport...** to set the transport method.
2. Display the **Session** menu and select **Connection...** to set the connection method.
3. Display the **Session** menu and select **Emulation...**. Set the emulation to **Wyse**.
4. You can configure the transport, connection and emulation settings by selecting the relevant **Configure** options in the **Session** menu. The options displayed by selecting **Configure emulation** are described in the section Setup Options on page 210.
5. To save the session, display the **File** menu and select **Save session as**. In the **File Name** field, enter a unique name that will identify this session configuration for future selection, then click **Save**. Note that session files have the filename extension **.tts**.
6. To run the session, display the **File** menu and select **Open Session**. Select the name of the **.tts** session file then click **Open**.

Display Format

The display is divided into three areas by default: the status line, the data area, and the label line. The status line which is used to display information relating to the emulation and messages from the

application. The section Status Line on page 208 describes the status messages that can be displayed by the emulation.

The data area is where data entered from the keyboard or the application is displayed. The data area is set to 24 lines by 80 columns by default.

The label line is displayed at the bottom of the screen when the data area is set to 24 or 42 lines. This is can be used to display messages or function key labels defined by the host.

Keyboard Mapping

The functions of the computer keyboard are mapped as closely as possible to the terminal being emulated. The mapping of key functions can be determined by referring to the **Emulation Keys** list box in the **Key Macro Settings** dialog, which is displayed by selecting **Key Macros...** on the **Tools** menu.

The information in brackets in the right column indicates the default mapping of the key function named in the left column. In the list, **S**+ indicates the **Shift** key, **C**+ indicates the **Control** key and **A**+ indicates the **Alt** key. For example:

WY_INSLINE (S+C+VK_INSERT)

indicates that the **Insert Line** function is mapped to the key combination **Shift** + **Control** + **Insert**.

Special key functions usually found on a Wyse keyboard can be mapped to any key on your keyboard using the **WY** virtual key names listed in the **Key Macro Settings** dialog.

The illustrations on the following pages show where Wyse keyboard functions are mapped to keys on a 101/102 key keyboard.

Figure 19-1 101/102 Key Keyboard Layout for the Wyse Emulations

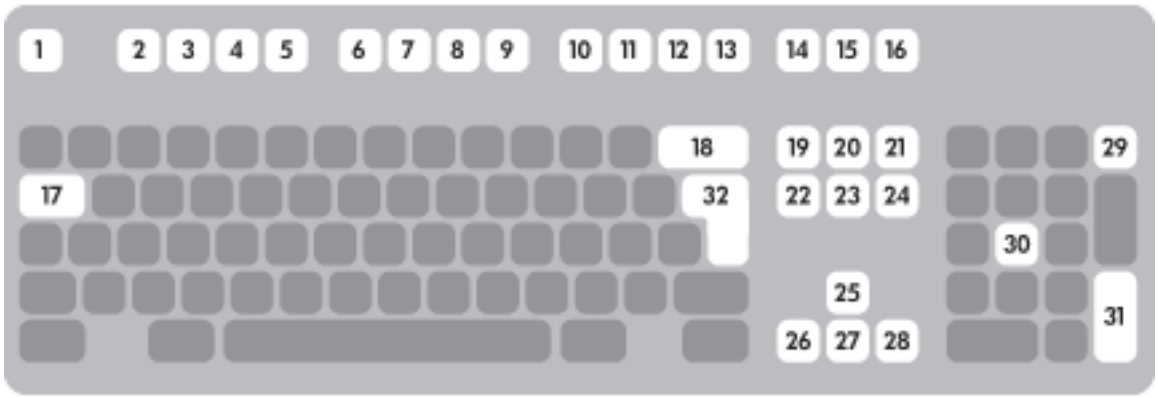


Table 19-1 Wyse Series Keyboard Mapping

Key	Key Modifier	Result	Key	Key Modifier	Result
1	*none*	ESCAPE	17	*none*	TAB
	Shift +	ESCAPE (Shifted)		Shift +	TAB (Shifted)

Table 19-1 Wyse Series Keyboard Mapping (continued)

Key	Key Modifier	Result	Key	Key Modifier	Result
2	*none*	F1	18	*none*	BACKSPACE
	Shift +	F1 (Shifted)		Shift +	BACKSPACE (Shifted)
	Alt +	F11		Ctrl + Alt +	DEL KEY
	Shift + Alt +	F11 (Shifted)		Shift + Alt +	DEL KEY (Shifted)
3	*none*	F2	19	*none*	INSERT
	Shift +	F2 (Shifted)		Shift +	REPLACE
	Alt +	F12		Alt +	INSERT CHARACTER
	Shift + Alt +	F12 (Shifted)		Ctrl +	INSERT LINE
4	*none*	F3	20	*none*	HOME
	Shift +	F3 (Shifted)		Shift +	HOME (Shifted)
	Alt +	F13			
	Shift + Alt +	F14 (Shifted)			
5	*none*	F4	21	*none*	PAGE UP
	Shift +	F4 (Shifted)		Shift +	PAGE UP (Shifted)
	Alt +	F14			
	Shift + Alt +	F14 (Shifted)			
6	*none*	F5	22	*none*	DELETE
	Shift +	F5 (Shifted)		Shift +	DELETE (Shifted)
	Alt +	F15		Ctrl +	DELETE CHARACTER
	Shift + Alt +	F15 (Shifted)		Shift + Ctrl +	DELETE LINE
7	*none*	F6	23	*none*	CLEAR LINE
	Shift +	F6 (Shifted)		Shift +	CLEAR SCREEN
	Alt +	F16		Alt +	END
	Shift + Alt +	F16 (Shifted)		Shift + Ctrl +	END (Shifted)
8	*none*	F7	24	*none*	PAGE DOWN
	Shift +	F7 (Shifted)		Shift +	PAGE DOWN (Shifted)
9	*none*	F8	25	*none*	CURSOR UP
	Shift +	F8 (Shifted)		Shift +	CURSOR UP (Shifted)
				Alt +	COMPOSE CHARACTER
				Shift + Alt +	CHARACTER SET
10	*none*	F9	26	*none*	CURSOR LEFT
	Shift +	F9 (Shifted)		Shift +	CURSOR LEFT (Shifted)

Table 19-1 Wyse Series Keyboard Mapping (continued)

Key	Key Modifier	Result	Key	Key Modifier	Result
11	*none*	F10	27	*none*	CURSOR DOWN
	Shift +	F10 (Shifted)		Shift +	CURSOR DOWN (Shifted)
12	*none*	F11	28	*none*	CURSOR RIGHT
	Shift +	F11 (Shifted)		Shift +	CURSOR RIGHT (Shifted)
13	*none*	F12	29	Shift + Ctrl +	SPLIT
	Shift +	F12 (Shifted)			
14	*none*	PRINT	30	*none*	Keypad 5
	Shift + Ctrl +	PRINT (Shifted)		Shift +	Keypad 5 (Shifted)
	Shift +	SEND			
15	Shift + Ctrl +	FUNCTION	31	*none*	ENTER
	Alt +	PAUSE		Shift +	ENTER (Shifted)
16	*none*	BREAK	32	*none*	RETURN
	Shift +	ANSWERBACK		Shift +	RETURN (Shifted)
	Shift + Ctrl +	FDXBLK			

NOTE: All unmarked keys function as indicated by the legends on the keycaps.

Status Line

The status line is divided into two sections. The left section displays messages relating to the emulation and the right section is used to display messages from the host. The type of status line displayed is determined by the setting of the **Status line** option in the **Wyse settings** dialog. The **Extended** status line provides similar information to the **Standard** status line but with additional fields for displaying information on local editing mode.

The emulation status messages are displayed in one of six or eight fields along the first section of the status line, depending on whether the Standard or Extended status line is displayed. The messages and their meanings are listed below.

Table 19-2 Wyse Terminal Status Line Messages

Field 1	Both	Indicates the current keyboard mode. **CAPS** indicates that Caps Lock is on. Press the **Caps Lock** key to toggle the mode on and off. **LOCK** indicates that the keyboard is locked. This takes precedence over the **CAPS** and **NUM** messages. **NUM** indicates that Num Lock is on. Press the **Num Lock** key to toggle the mode on and off.
Field 2	Both	Indicates the number of the page that is currently displayed. No message is displayed when the current page is 0.
Field 3	Both	***** indicates that Monitor mode is on. In this mode, received codes are not actioned but displayed as symbolic representations.
Field 4	Both	Indicates the current operating mode. **FDX** indicates full-duplex mode. **HDX** indicates half-duplex mode. **LCL** indicates local mode. **BLK** indicates block mode. **HBLK** indicates half-duplex block mode. **HLD** indicates that display update has been suspended. Pressing the **Hold** key will toggle display update on and off.
Field 5	Both	**>AUX** indicates that the emulation is in auxiliary print or transparent print mode. **<AUX** indicates that the emulation is in auxiliary receive mode. **=AUX** indicates that the emulation is in auxiliary receive mode and auxiliary print mode. **%AUX** indicates that a print screen operation is in progress.
Field 6	Standard	**rrr-ccc** indicates the current row and column position of the cursor.
Field 6	Extended	**PROT** indicates that Protect mode is on.
Field 7	Extended	**WPRT** indicates that Write-protect mode is on when in Protect mode.
Field 8	Extended	**INS** indicates that Insert mode is on.

Setup Options

The Wyse emulation is configured using setup options in the **Wyse Settings** dialog which can be displayed using one of the following three methods:

Using the **Session Wizard**:

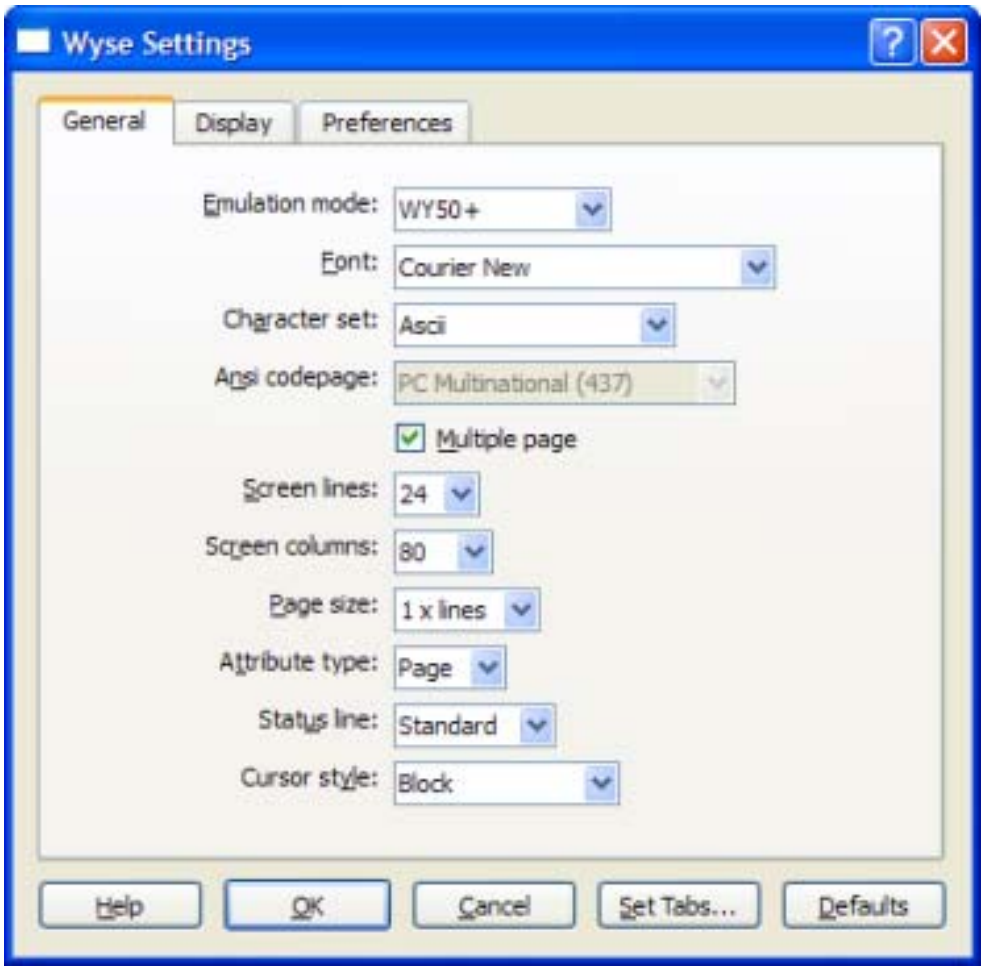
- In **Step 1** set **Emulation** to **Wyse** then click the **Configure** button.

Using the **TeemTalk Window:**

- On the **Session** menu, select **Emulation** > **Wyse** then select **Configure Emulation....**
- On the configuration bar, select **Wyse** in the **Emulation** list box then click **Configure Emulation**.

The setup options are grouped on three tabs labelled **General**, **Display** and **Preferences**.

General Settings



- **Emulation mode**

  Factory default: WY50+

This specifies the particular terminal to emulate, as supported by Wyse WY-50/50+/60 terminals. Select from the following:

- **ADDS A2**

  Provides compatibility with software designed to drive the ADDS Viewpoint A2 terminal, as emulated by the Wyse WY-50/50+/60 terminals.

- **HZ 1500**

  Provides compatibility with software designed to drive the Hazeltine 1500 terminal, as emulated by the Wyse WY-50/50+/60 terminals.

- **Stratus V102**

  Provides compatibility with software designed to drive the Stratus V102 terminal.

- **TVI910**, **TVI920** and **TVI925**

  Provide compatibility with software designed to drive the TeleVideo 910+, 920 and 925 terminals, respectively, as emulated by the Wyse WY-50/ 50+/60 terminals.

- **TVI950** and **TVI955**

  Provide compatibility with software designed to drive the TeleVideo 950 and 955 terminals, respectively.

- **WY50**, **WY50+** and **WY60**

  Provide compatibility with software designed to drive the Wyse WY-50, WY-50+ and WY-60 terminals, respectively.

- **Wyse PCTerm**

  Provides compatibility with software designed for the PC Term personality supported by Wyse.

- **Font**

  Factory default: Courier New

  This enables you to specify the font to use for displaying characters. The available settings depend on the fonts installed on your system.

- **Character set**

  Factory default: Ascii

  This specifies the character set used for displaying characters.

- **Ansi codepage**

  Factory default: PC Multinational (437)

  This option determines the set of characters that form the second half of the multinational character set when in multinational mode.

- **Multiple page**

  Factory default: Checked

This option applies to the WY-50+, WY-60 and all the TVI emulations. It determines whether or not more than one page of display memory can be accessed. When checked, all pages will be accessible. See also the **Auto page** option.

Note that the TVI emulations support two pages of 24 lines each when this and the **Auto page** options are selected, regardless of the **Screen lines** and **Page size** settings.

- **Screen lines**

  Factory default: 24

  This option applies to the WY-50+ and WY-60 emulations and specifies the number of data lines displayed on the screen below the status line. Note that the other emulations only support 24 lines and a label line.

Screen lines	Effect on display
24	24 data lines and a label line at the bottom
25	25 data lines but no label line
42	42 data lines and a label line at the bottom
43	43 data lines but no label line

- **Screen columns**

  Factory default: 80

  This option enables you to specify a display width of 80 or 132 columns.

- **Page size**

  Factory default: 1 x Lines

  This option applies to the WY-50+ and WY-60 emulations and specifies the size of a page in display memory in multiples of the **Lines** setting. Note that the other emulations only support **1 x Lines**.

  The **1 + Rest** setting will divide the display memory into two pages, the first containing the number of lines specified by the **Lines** option, the second containing all the remaining lines.

NOTE: Changing the page format will cause the entire display memory to be cleared, the cursor will move to the home position and the scroll margin will be reset.

- **Attribute type**

  Factory default: Page

  The setting of this option determines whether display attributes are active to the end of the line or the end of the page. The **Character** setting only applies to the WY-60 emulation and causes attributes to only apply to characters written to the screen. The WY-50, ADDS A2 and HZ 1500 emulations only support the **Page** setting.

- **Status line**

  Factory default: Standard

  This option applies to all emulations and enables you to specify the type of status line displayed at the top of the screen, or remove it from the display.

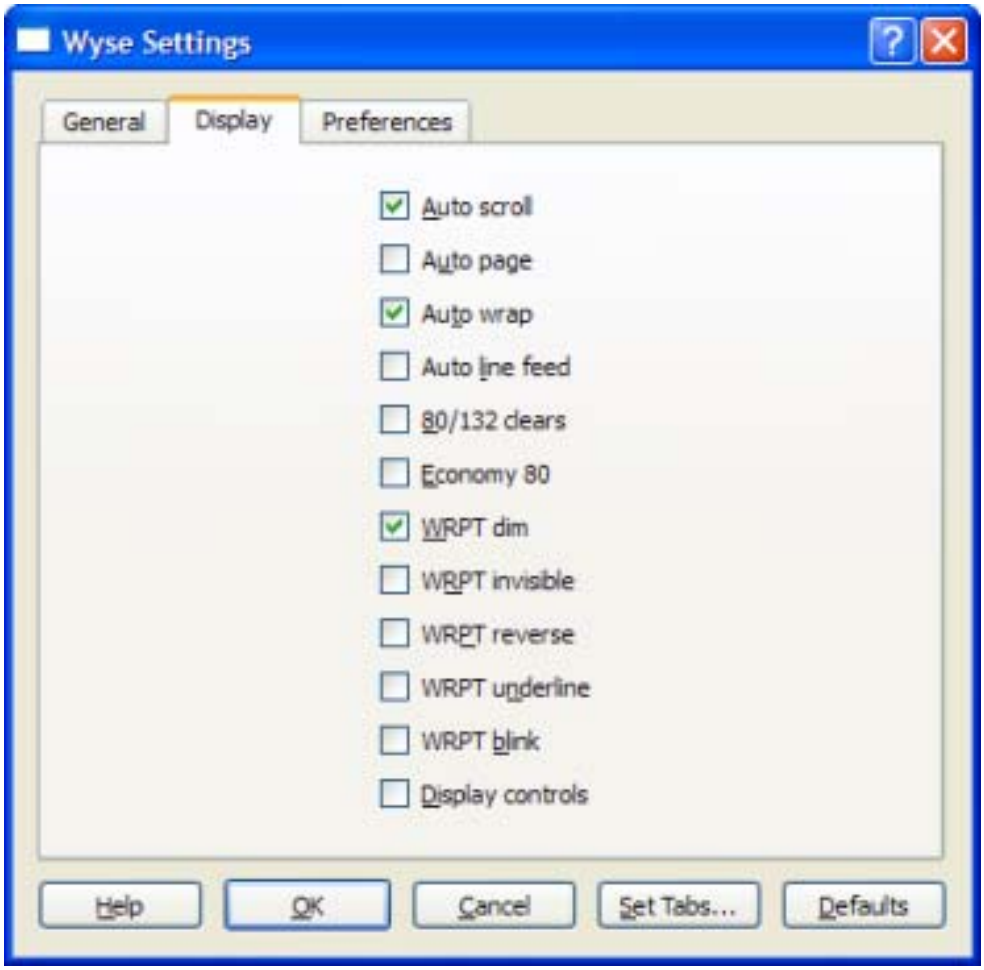
Both the **Standard** and **Extended** status lines display messages about the state of the emulation or application. The **Extended** status line displays additional editing status messages. Refer to the section Status Line on page 208 for details.

- **Cursor style**

  Factory default: Block

  This enables you to specify how the text cursor is displayed. Select from **Block**, **Underline**, **Static block**, **Static underline** or **None**.

Display



- **Auto scroll**

  Factory default: Checked

  This option applies to all emulations and determines what happens when the cursor is moved beyond the last line of the current page. When checked, the displayed data scrolls up and the cursor remains on the last line. When unchecked, the cursor moves to the top of the same page.

- **Auto page**

  Factory default: Unchecked

  This option applies to the WY-50+, WY-60 and all the TVI emulations. It determines what happens when the cursor reaches the top or bottom of the page.

  When unchecked, the cursor either moves to the top of the same page or data scrolls up from the bottom, as determined by the setting of the **Auto Scroll** option. When checked, a new page of memory will be displayed.

  NOTE: The other emulations will always display a new page of memory.

- **Auto wrap**

  Factory default: Checked

The setting of this option determines whether characters wrap to the next line when the right margin is reached. When unchecked, on reaching the right margin, the last character position will be overwritten by every new character received.

- **Auto line feed**

  Factory default: Unchecked

  When checked, a line feed command will be appended to every received carriage return command.

- **80/132 clears**

  Factory default: Unchecked

  This option applies to the WY-50+ and WY-60 emulations and determines whether or not data is cleared from the display when the number of columns is changed. The screen is always cleared when the number of columns is changed in the other emulations.

- **Economy 80**

  Factory default: Unchecked

  This option applies to the WY-50+ and WY-60 emulations and enables 80 column display with more lines of display memory.

- **WPRT dim**

  Factory default: Checked

  This option applies to all emulations and enables you to specify the appearance of write-protected characters on the display. Checking this option will cause the characters to be dimmed.

- **WPRT invisible**

  Factory default: Unchecked

  This option applies to all emulations and enables you to specify the appearance of write-protected characters on the display. Checking this option will cause the characters to be invisible. Note that the WY-50+ and WY-60 emulations also support the invisible attribute.

- **WPRT reverse**

  Factory default: Unchecked

  This option applies to all emulations and enables you to specify the appearance of write-protected characters on the display. Checking this option will cause the characters to be displayed in reverse video.

- **WPRT underline**

  Factory default: Unchecked

  This option applies to all emulations and enables you to specify the appearance of write-protected characters on the display. Checking this option will cause the characters to be underlined. Note that the WY-50+ and WY-60 emulations also support the underline attribute.

- **WPRT blink**

  Factory default: Unchecked

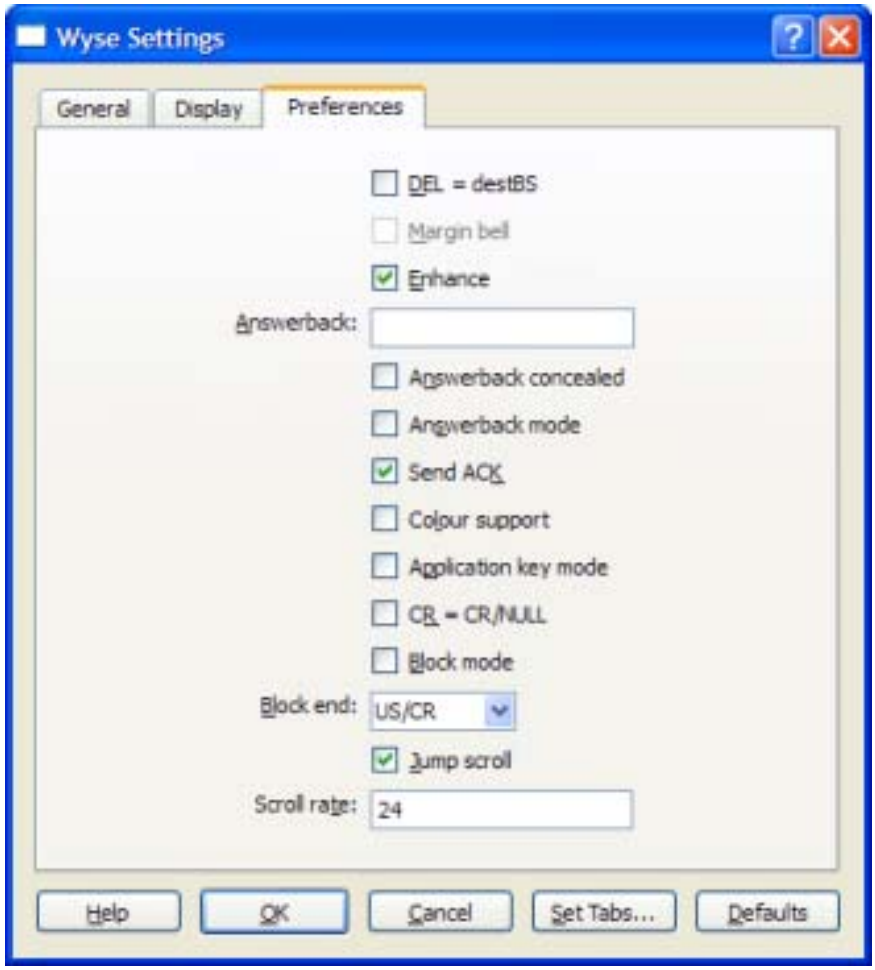
This option applies to all emulations and enables you to specify the appearance of write-protected characters on the display. Checking this option will cause the characters to blink.

- **Display controls**

  Factory default: Unchecked

  This option determines whether received control codes are actioned or displayed.

Preferences



- **DEL = DestBS**

  Factory default: Unchecked

  This option applies to the WY-50+ and WY-60 emulations and determines what effect an ASCII **DEL** character has on displayed characters. The other emulations ignore the **DEL** character.

  When unchecked, the **DEL** character is ignored. When checked, the **DEL** character is interpreted as a destructive backspace, causing the character to the left of the cursor to be deleted and the cursor to move into that position.

- **Margin bell**

  Factory default: Unchecked

  This option applies to all emulations and it determines whether or not an audible warning sounds when the cursor reaches a specified column. The default bell column number is 72 in 80 column mode and 124 in 132 column mode.

- **Enhance**

  Factory default: Checked

  When this option is checked, TeemTalk will recognize an additional set of Wyse codes which are not normally supported by specific non-Wyse terminals.

- **Answerback**

  Factory default: Unspecified

  This enables you to specify the Answerback string that is sent to the host in response to an ANSI mode enquiry command. The string may be up to 30 characters long.

- **Answerback concealed**

  Factory default: Unchecked

  Checking this option will cause the Answerback string specified in the text box above to be locked from change and displayed as asterisks. Note that unchecking this option will cause the Answerback string to be deleted.

- **Answerback mode**

  Factory default: Unchecked

  This option applies to all emulations and specifies whether or not an answerback message is automatically sent to the host in response to an ASCII **ENQ** character.

- **Send ACK**

  Factory default: Checked

  This option applies to all emulations and specifies whether or not an ASCII ACK character is sent to the host port after certain commands have been executed.

- **Colour support**

  Factory default: Unchecked

  When this option is checked, an additional set of host commands will be recognized to determine the colors used for the display. Wyse 350 color commands will be recognized in all modes except Wyse 60, which will use Wyse 60 color commands.

- **Application key mode**

  Factory default: Unchecked

  When application key mode is selected, the function keys and certain editing keys will send application codes when pressed, regardless of whether or not the keys have been redefined. When this option is not selected, the keys will send their programmed definitions.

- **CR = CR/NULL**

  Factory default: Checked

  This option allows you to disable the **NULL** being automatically sent on **CR**.

- **Block mode**

  Factory default: Unchecked

  This option applies to all emulations. In Block mode, keyboard entered data is displayed and processed locally, allowing you to edit it before a block of data is sent to the host. When Block mode is disabled, data is sent to the host as it is entered at the keyboard.

- **Block end**

  Factory default: US/CR

This option applies to all emulations and specifies the ASCII characters used to indicate the end of a line and a block when a block of data is sent to the host.

When set to **US/CR**, the line terminator is a **US** character and the block terminator is a **CR** character. When set to **CRLF/ETX**, the line terminators are the **CR** and **LF** characters, and the block terminator is an **ETX** character.

- **Jump scroll**

  Factory default: Checked

  The setting of this option determines whether data is scrolled one or several lines at a time when the window becomes full.

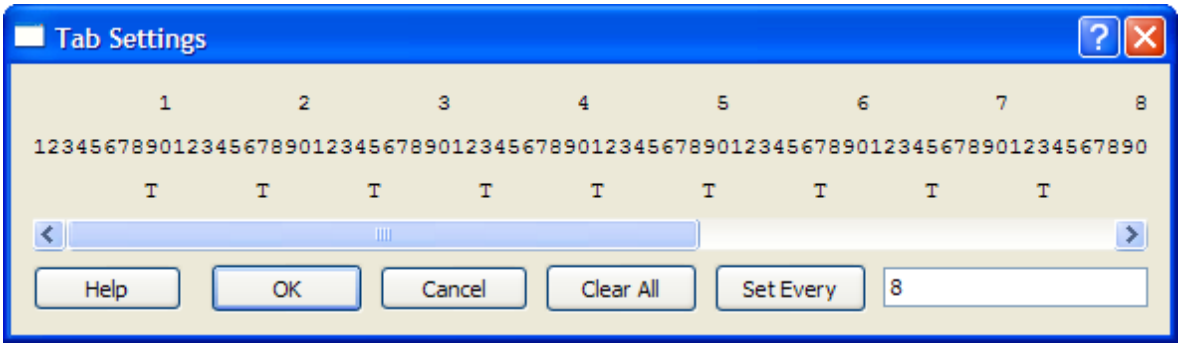
  When checked, data will scroll up several lines at a time as determined by the **Scroll rate** setting below.

- **Scroll rate**

  Factory default: 24

  This determines the number of lines that are scrolled when the **Jump Scroll** option above is selected.

Tab Settings



Clicking the **Set Tabs...** button at the bottom of the **Wyse Settings** dialog will display the **Tab Settings** dialog which enables you to set tab stops.

Tab stops are set every eight columns by default, as indicated by the **T** character below the relevant column numbers. If you want tab stops to be set at regular intervals other than every 8th column, enter the number of columns required between each tab stop in the box next to the **Set Every** button, then click the button.

Individual tab stops can be toggled on or off by clicking the mouse pointer above or below the relevant column number.

To remove all the tab stops, click the **Clear All** button.

To save the current tab stops, select **Save Session** in the **File** menu.

20 MDIS Prism Emulations

This chapter describes the features of the MDIS (McDonnell Douglas Information Systems) Prism terminal emulations..

Introduction

The MD Prism Series suite of terminal emulations consists of the following personalities which can be selected using the **Personality** option in the **General** tab of the **MD Prism Settings** dialog:

Prism 8/12

Provides compatibility with software designed to drive the MDIS Prism 8 or Prism 12 terminals.

Prism 9

Provides compatibility with software designed to drive the MDIS Prism 9 terminals.

Creating a MD Prism Emulation Session

You can create a session either using the TeemTalk Session Wizard or while TeemTalk is running.

Using the TeemTalk Session Wizard

This section describes how to use the TeemTalk Session Wizard to create an MD Prism emulation session.

1. To run the TeemTalk Session Wizard from the **Start** menu, select **All Programs > HP > HP TeemTalk Terminal Emulator > Session Wizard**.
2. In the **Session Name** field, enter a unique name that will identify this session configuration for future selection.
3. Select the **Transport** method then click the **Configure** button to specify settings.
4. Select the **Connection** type then click the **Configure** button to specify settings.
5. Select **MD Prism** in the **Emulation** list box then click the **Configure** button to specify settings. (The options are described in the section Setup Options on page 224.)
6. Click **Next** to display the **Advanced Options** dialog.
7. Click **Next** to display the **Finalization** dialog.
8. If you want a shortcut icon for this session to be created on the desktop, click the checkbox **Create icon on desktop for session**.
9. Click **OK** to create the session and exit.
10. To run the session, either double-click on the desktop icon if one was created for the session, or run TeemTalk, display the **File** menu and select **Open Session**. Select the name of the required **.tts** session file then click **Open**.

Using the TeemTalk Emulator Window

This section describes the procedure for creating a MD Prism emulation session from the TeemTalk emulator window.

1. Display the **Session** menu from the menu bar and select **Transport...** to set the transport method.
2. Display the **Session** menu and select **Connection...** to set the connection method.
3. Display the **Session** menu and select **Emulation...**. Set the emulation to **MD Prism**.
4. You can configure the transport, connection and emulation settings by selecting the relevant **Configure** options in the **Session** menu. The options displayed by selecting **Configure emulation** are described in the section Setup Options on page 224.
5. To save the session, display the **File** menu and select **Save session as**. In the **File Name** field, enter a unique name that will identify this session configuration for future selection, then click **Save**. Note that session files have the filename extension **.tts**.
6. To run the session, display the **File** menu and select **Open Session**. Select the name of the **.tts** session file then click **Open**.

Keyboard Mapping

The functions of the computer keyboard are mapped as closely as possible to the terminal being emulated. The mapping of key functions can be determined by referring to the **Emulation Keys** list box in the **Key Macro Settings** dialog, which is displayed by selecting **Key Macros...** on the **Tools** menu.

The information in brackets in the right column indicates the default mapping of the key function named in the left column. In the list, **S**+ indicates the **Shift** key, **C**+ indicates the **Control** key and **A**+ indicates the **Alt** key. For example:

MD_F20 (A+VK_F10)

indicates that the **F20** function is mapped to the key combination **Alt** + **F10**.

Special key functions usually found on a MDIS Prism keyboard can be mapped to any key on your keyboard using the **MD** virtual key names listed in the **Key Macro Settings** dialog.

The illustrations on the following pages show where MDIS keyboard functions are mapped to keys on a 101/102 key keyboard.

Figure 20-1 101/102 Key Keyboard Layout for the MDIS Prism Emulation

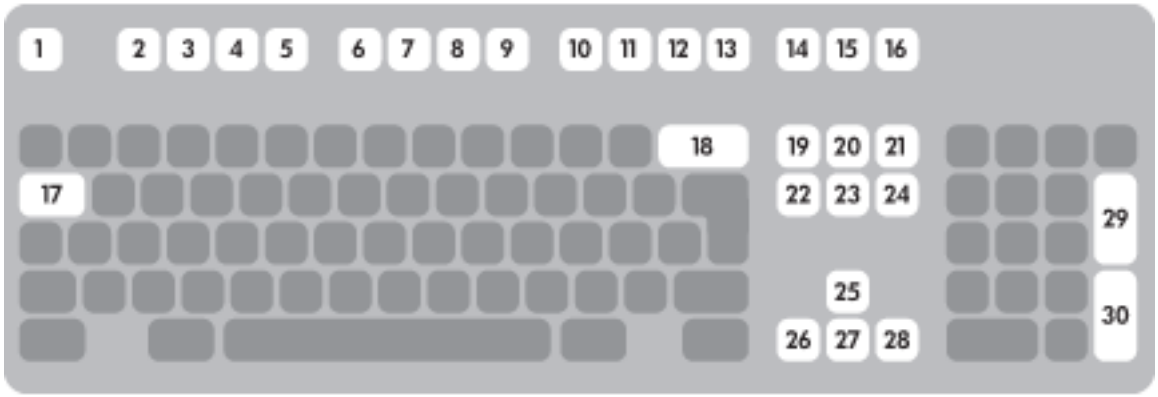


Table 20-1 **MD Prism Keyboard Mapping**

Key	Key Modifier	Result	Key	Key Modifier	Result
1		ESC	16		BREAK
2	*none*	PF1	17	*none* Shift +	TAB BACKTAB
3	*none*	PF2	18	*none* Shift +	DELETE BACKSPACE
4	*none* Alt +	PF3 F13	19		FIND
5	*none* Shift + Alt +	PF4 PRINT TTY MODE F14	20		INSERT
6	Alt +	HELP (F15)	21		REMOVE
7	Alt +	DO (F16)	22		SELECT
8	*none* Alt +	F7 F17	23		PREVIOUS PAGE
9	*none* Alt +	F8 F18	24		NEXT PAGE
10	*none* Alt +	F9 F19	25	*none* Ctrl + Alt + Shift + Ctrl +	CURSOR UP SCROLL UP COMPOSE CHARACTER SETUP

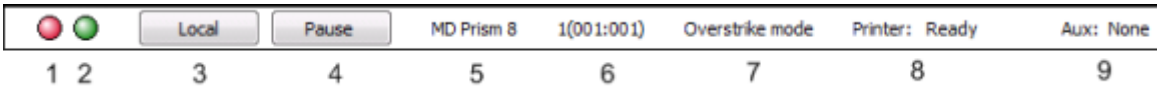
Table 20-1 MD Prism Keyboard Mapping (continued)

Key	Key Modifier	Result	Key	Key Modifier	Result
11	*none*	F10	26	*none*	CURSOR LEFT
	Alt +	F20		Ctrl +	SCROLL LEFT
12		F11	27	*none*	CURSOR DOWN
				Ctrl +	SCROLL DOWN
				Alt +	DATATALK
13		F12	28	*none*	CURSOR RIGHT
				Ctrl +	SCROLL RIGHT
14	Ctrl +	PRINT SCREEN	29	*none*	,
	Shift + Ctrl +	PRINT SCROLLING REGION		Alt +	-
15		HOLD SCREEN	30		ENTER

NOTE: All unmarked keys function as indicated by the legends on the keycaps.

The Status Bar

Below the emulation workspace in the TeemTalk window is a status bar that indicates the status of various operations and provides buttons for switching between modes. The information displayed in the status bar depends on the current terminal emulation.



Item	Description
1	This LED indicates whether you are connected to the host. It will appear red when not connected and green when you are connected.
2	This LED indicates whether data is being sent to or from the host. It will appear dull green when there is no activity, red when data is being sent to the host, and bright green when data is being received from the host.
3	This button enables you to switch between **Local** and **Online** mode. The label indicates the mode you will switch to when the button is clicked.
4	This button enables you to **Pause** or **Resume** scrolling data in the window. The label indicates the action that will be taken when the button is clicked.
5	Indicates the current terminal emulation.
6	Displays the active session and current page number (always 1), and the line:column location of the text cursor.

Item	Description
7	This indicates whether **Overstrike mode** or **Insert mode** is currently active. In Overstrike mode (default), new characters will replace already existing characters at the cursor position. When Insert mode is active, new characters will be inserted at the cursor position without deleting existing characters, which will move to the right.
8	Indicates the status of the printer as follows: • **None** indicates that the printer is not turned on or not connected, or not installed or configured. • **Not Ready** indicates that the printer is not ready to receive data for printing. • **Ready** indicates that the printer is ready to receive data for printing. • **Auto** indicates that the emulation is in Auto Print mode in which the current cursor line is sent to the printer when a command for the cursor to move to the next line is issued. • **Controller** indicates that the emulation is in Printer Controller mode in which the host has direct control over the printer. Print screen commands issued from the keyboard or mouse will be ignored. • **Tty Print** indicates that the emulation is in TTY Print mode. In this mode, incoming screen text (but not control codes except CR and LF) are sent to the printer. • **ErrGen** indicates that an error has occurred and a message box will be displayed indicating the error.
9	Indicates the status of the aux port as follows: • **Ready** indicates that the aux port is ready for bidirectional output. • **In Use** indicates that the aux port is currently busy. • **None** indicates that aux port not available or no aux port configured.

Setup Options

The MD Prism emulation is configured using setup options in the **MD Prism Settings** dialog which can be displayed using one of the following three methods:

Using the **Session Wizard**:

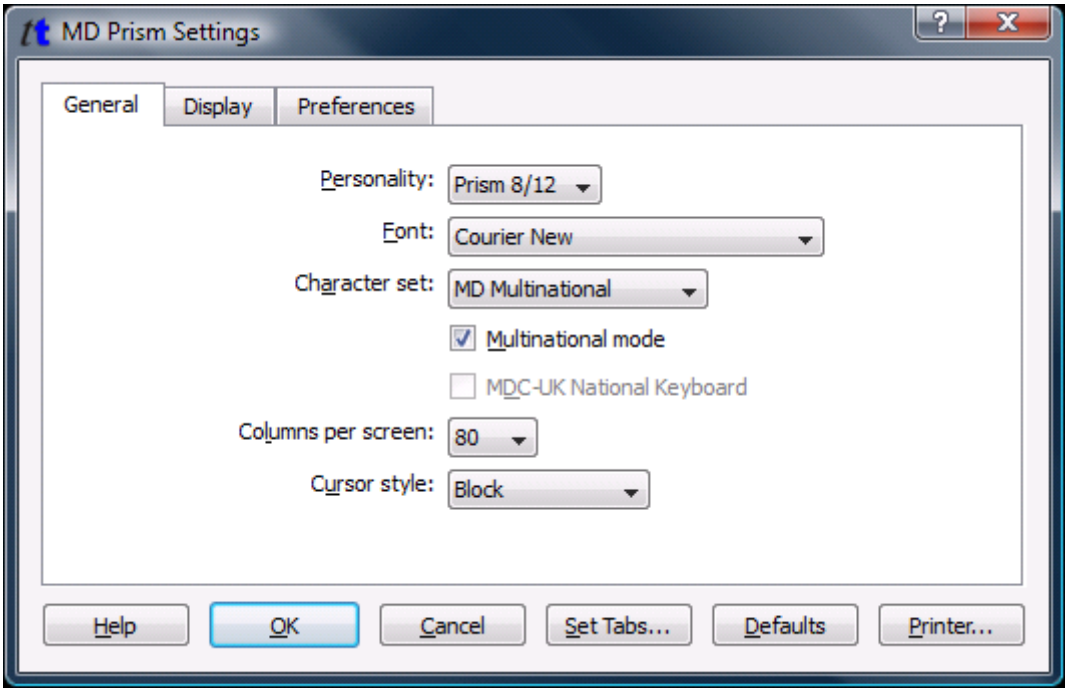
- In **Step 1** set **Emulation** to **MD Prism** then click the **Configure** button.

Using the **TeemTalk Window:**

- On the **Session** menu, select **Emulation** > **MD Prism** then select **Configure Emulation....**
- On the configuration bar, select **MD Prism** in the **Emulation** list box then click **Configure Emulation**.

The setup options are grouped on three tabs labeled **General**, **Display** and **Preferences**.

General Settings



- **Personality**

  Factory default: Prism 8/12

  This specifies the particular MD Prism terminal to emulate. Select from the following:

  - **Prism 8/12** Provides compatibility with software designed to operate the McDonnell Douglas Prism-8 and Prism-12 terminals.
  - **Prism 9** Provides compatibility with software designed to operate the McDonnell Douglas Prism-9 terminal.

- **Font**

  Factory default: Courier New

  This enables you to specify the font to use for displaying characters. The available settings depend on the fonts installed on your system.

- **Character set**

  Factory default: Multinational

  This specifies the character set used for displaying characters.

  When **Iso Hebrew** is selected, the following key functions will be enabled:

  - **Ctrl** + **Alt** + **F1** Select Multinational 8-bit mode and left-to-right typing.
  - **Ctrl** + **Alt** + **F2** Select National 7-bit mode (lowercase English characters will be displayed as Hebrew) and right-to-left typing.
  - **Ctrl** + **Alt** + **F3** Toggle between left-to-right and right-to-left typing.

- **Multinational mode**

Factory default: Checked

This option will only be available if the system is configured for a language that supports national replacement character sets.

The setting of this option determines the type of character set used to generate characters. When unchecked, TeemTalk is in National mode in which a character set specific to the selected keyboard nationality is used. When checked (default) TeemTalk is in Multinational mode in which a character set consisting of two tables of characters is used. This enables characters from any keyboard nationality to be generated.

- **MDC-UK National Keyboard**

  Factory default: Unchecked

  This option will only be available if TeemTalk is set to National mode.

  The setting of this option will automatically re-map the **?**, **$** and **#** symbols when system set to UK locale.

- **Columns per screen**

  Factory default: 80

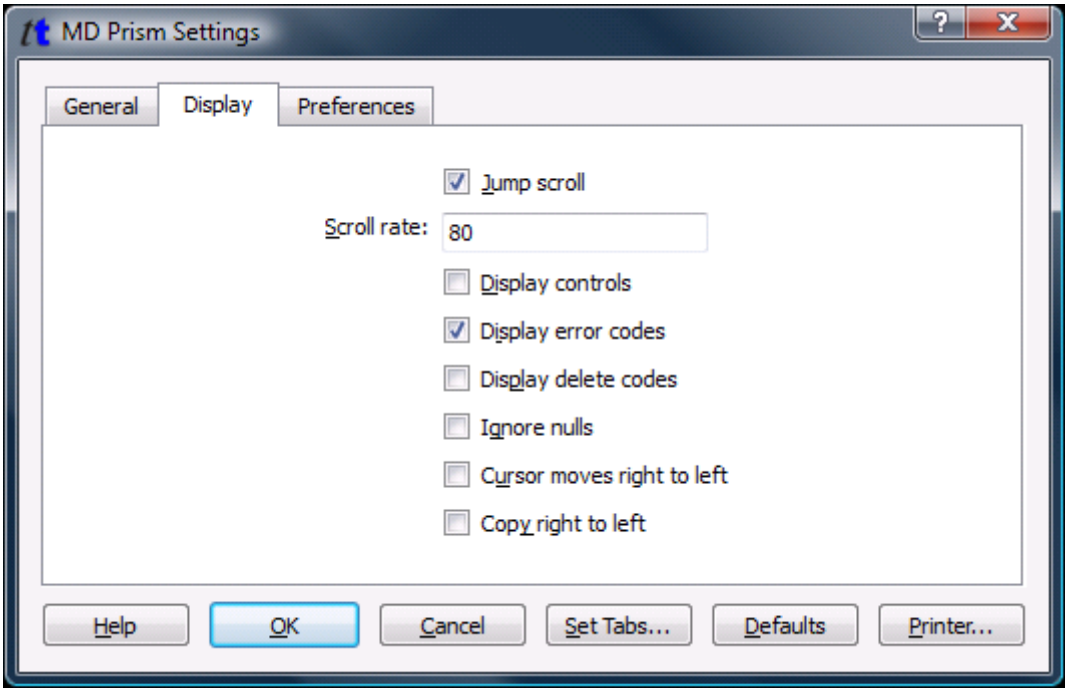
  This option enables you to specify a width of 80 or 132 columns for the workspace. When set to **132**, the setting of the **Use 80 Column Font** option determines whether all 132 columns are displayed using a narrow font, or only 80 columns at a time using the normal (80 column) font, with the ability to scroll horizontally to view the remaining columns.

- **Cursor style**

  Factory default: Block

  This enables you to specify how the text cursor is displayed. Select from **Block**, **Underline**, **Static block**, **Static underline** or **None**.

Display Settings



- **Jump scroll**

  Factory default: Checked

  The setting of this option determines whether data is scrolled one or several lines at a time when the window becomes full.

  When checked, data will scroll up several lines at a time as determined by the **Scroll rate** setting below.

- **Scroll rate**

  Factory default: 80

  This determines the number of lines that are scrolled when the **Jump scroll** option above is selected.

- **Display controls**

  Factory default: Unchecked

  The setting of this option determines whether received control codes are actioned or displayed. When checked, a representation of most control codes will be displayed on the screen.

- **Display error codes**

  Factory default: Checked

  This option determines whether a visual indicator is displayed when an error code is received. When checked, error codes received are displayed as a reverse question mark and are not ignored.

- **Display delete codes**

  Factory default: Unchecked

This option determines whether a visual indicator is displayed when a delete code (7f hex) is received. When checked, a symbol is display on receipt of a delete code.

- **Ignore nulls**

  Factory default: Unchecked

  The setting of this option determines whether Null characters received from the host are actioned or ignored.

- **Cursor moves right to left**

  Factory default: Unchecked

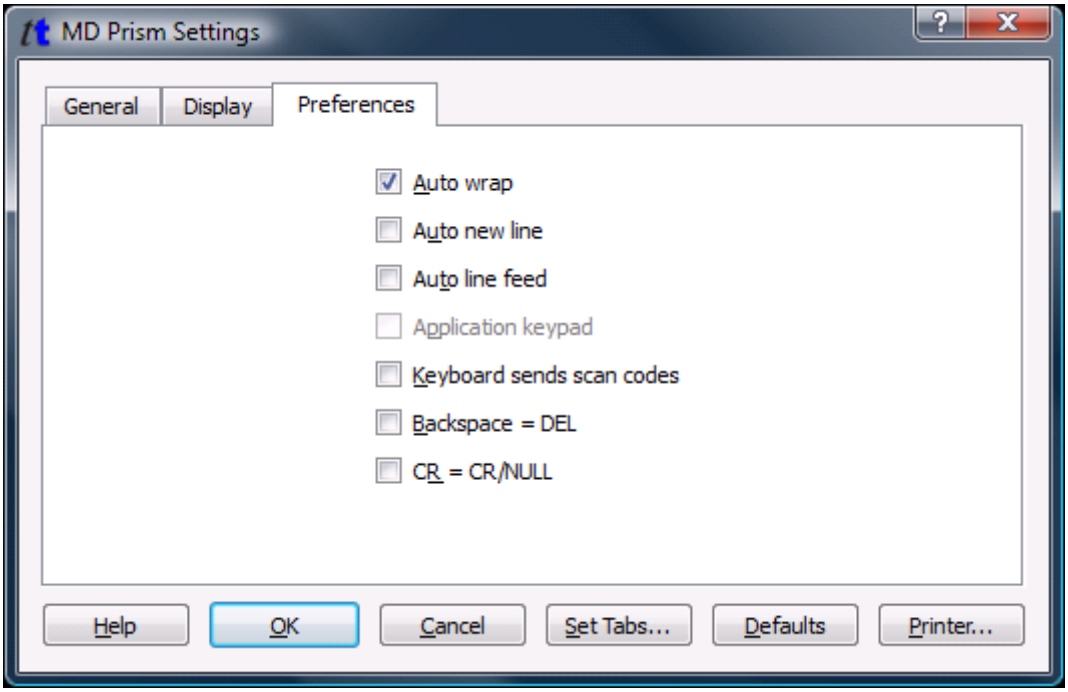
  The setting of this option enables you change the direction in which the text cursor moves across the display.

- **Copy right to left**

  Factory default: Unchecked

  The setting of this option enables the copy commands to function in right to left display mode.

Preferences



- **Auto wrap**

  Factory default: Checked

  The setting of this option determines whether characters wrap to the next line when the right margin is reached. When unchecked, on reaching the right margin, the last character position will be overwritten by every new character received.

- **Auto new line**

  Factory default: Unchecked

  When checked, this will cause a carriage return command to be appended to every line feed command received.

- **Auto line feed**

  Factory default: Unchecked

  When checked, this will cause a line feed command to be appended to every carriage return command received.

- **Application keypad**

  Factory default: Unchecked

  The setting of this option determines the effect of pressing keys in the keypad on the right side of the keyboard.

  When unchecked, the keypad is in numeric mode and keys will generate the characters shown on the key caps. When checked, the keypad is in application mode and keys will generate control functions when pressed.

- **Keyboard sends scan codes**

Factory default: Unchecked

The setting of this option determines whether keyboard scan codes or ASCII codes are sent to the host on key press/release.

- **Backspace = DEL**

  Factory default: Unchecked

  The setting of this option determines whether or not a backspace command performs a delete.

- **CR = CR/NULL**

  Factory default: Checked

  This option allows you to disable the **NULL** being automatically sent on **CR**.

21 Running Scripts

This chapter describes how to run a script program.

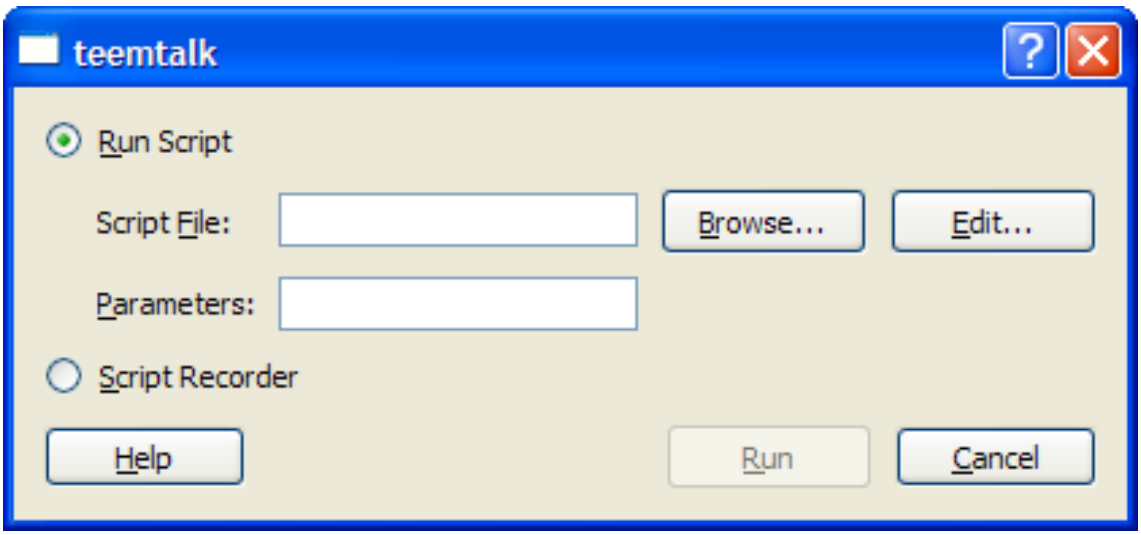
Introduction

TeemTalk provides a scripting language that enables you to automate a variety of operations. The commands that can be used in a script file are described in the *HP TeemTalk Terminal Emulator 7.0 Programmer's Manual* . This chapter describes the options for running a script file.

Script Item on Tools menu

To run a script from the TeemTalk Tools menu:

1. Select **Script...** on the **Tools** menu.



2. Select **Run Script**.
3. Either enter the name of the script file in the **Script File** box, or click the **Browse** button to select the file.
4. If you want to edit the script you can do so by clicking the **Edit** button. This will display the **Script Editor** window which provides editing facilities so that you can view and edit script files.
5. The **Parameters** box enables you to specify the values of **ArgV#** type variables within the script, if required. The values are separated from each other by a comma. You must ensure that the values are entered in the correct order so that they are assigned to the correct variables.
6. Click **Run** to run the script.

Using a Key or Button Definition

You can program a key or button to run a script file when pressed by enclosing the name of the script file including any parameters within the <' (left angle bracket and single quote) and '> (single quote and right angle bracket) characters.

For example, to program a key or button so that it will run the script file **myscript.scr** and assign the values **value1** to variable **ArgV1** and **value2** to **ArgV2**, you would enter the following for the key or button definition:

<'myscript.scr(value1,value2)'>

22 Capturing Host Communication

This chapter describes how to capture the communication between the host and the emulator in a file, then replay it.

Introduction

TeemTalk provides a facility for capturing the communication between the host and the emulation to a file which you can replay. This is achieved using the **Capture File** and **Replay File** options on the **Tools** menu.

The default capture state is to capture received host data only, but you can capture both received data and data sent back to the host by the emulation by using the following command line options:

-debug

Capture data sent by host only.

-debug2way

Capture data sent by both host and emulation.

The default replay state is to the emulation, but you can direct the replay to the host only or to both host and emulation by using the following command line options:

-replay

Replay directed to emulation only.

-replayhost

Replay directed to host only.

-replayboth

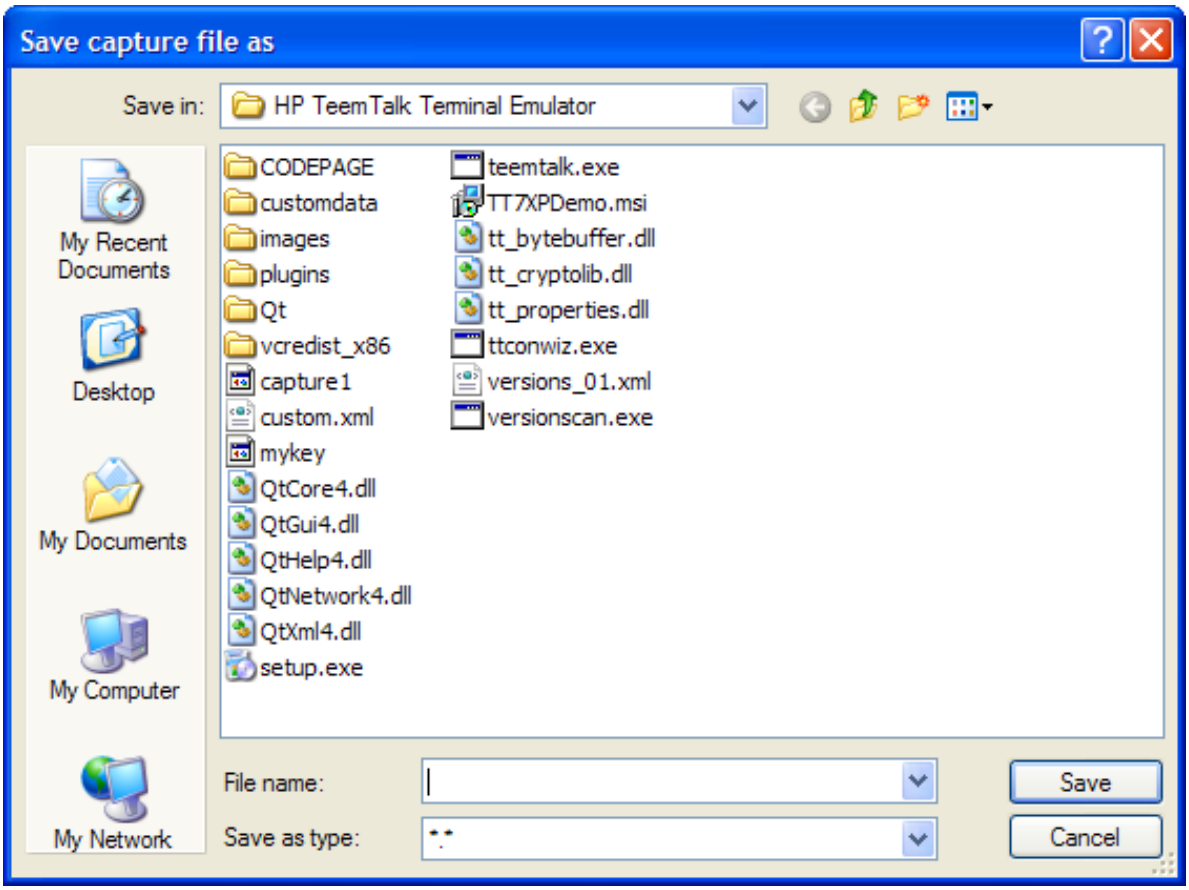
Replay directed to both host and emulation.

Note that you can modify the speed at which the replay is performed by appending a number in the range **0** to **10** to the command line option, where **0** is fast and **10** is slow. For example: **-replayhost8**.

Capture File

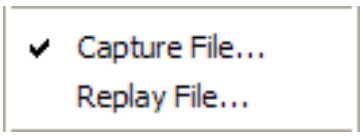
To start the Capture File process:

1. Select **Capture File** on the **Tools** menu to display the **Save capture file as** dialog.



2. Enter a name for the capture file in the **File name** box then click the **Save** button.

   Communication between the host and the emulation will now be logged in the specified file and the **Capture File** item on the **Tools** menu will have a check mark next to it indicating that the Capture File process is active.

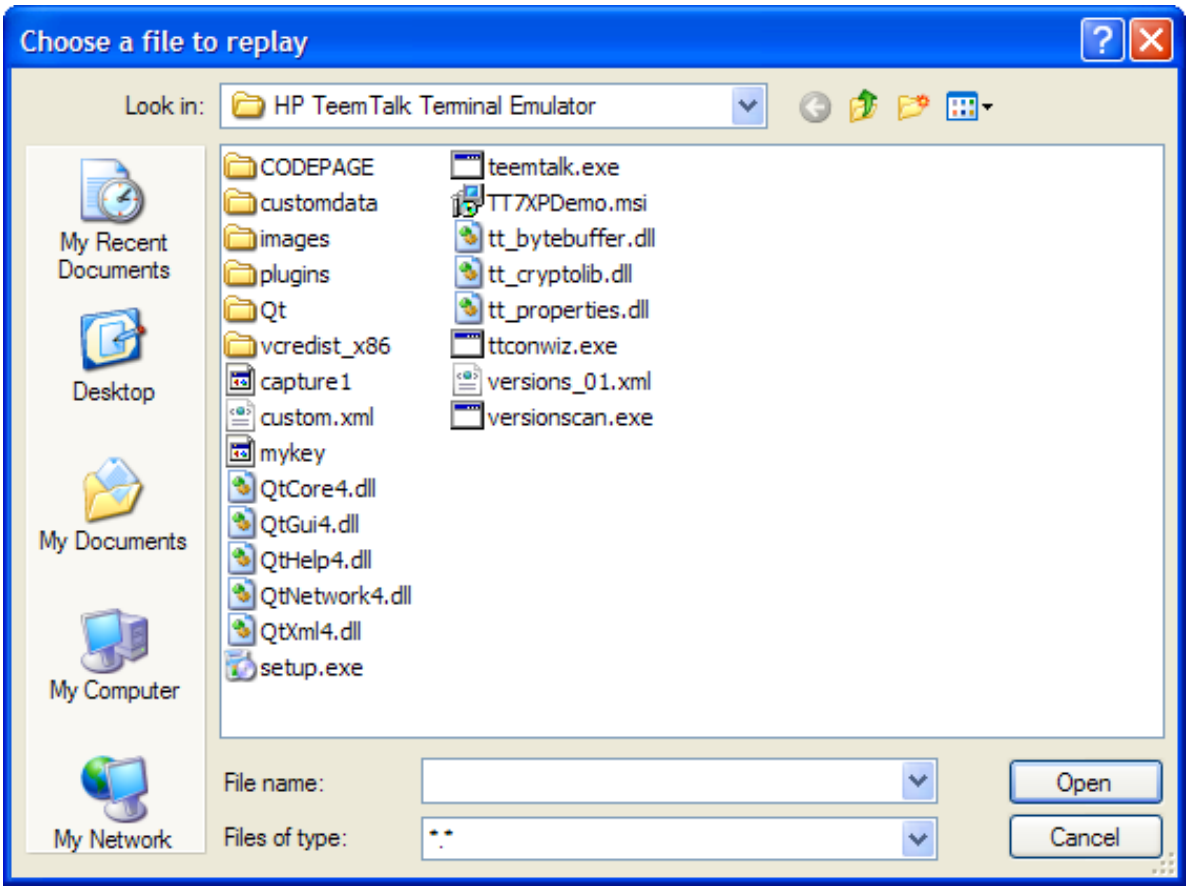


To stop the Capture File process, select **Capture File** on the **Tools** menu to stop the Capture File process. The check mark will toggle off.

Replay File

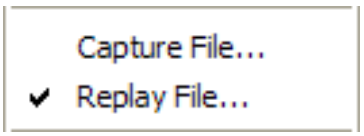
To start the Replay File process:

1. Select **Replay File** on the **Tools** menu to display the **Choose a file to replay** dialog.



2. Enter the name of the capture file to replay in the **File name** box then click the **Open** button.

   Communication between the host and the emulation logged in the Capture File will now be replayed and the **Replay File** item on the **Tools** menu will have a check mark next to it indicating that the Replay File process is active.



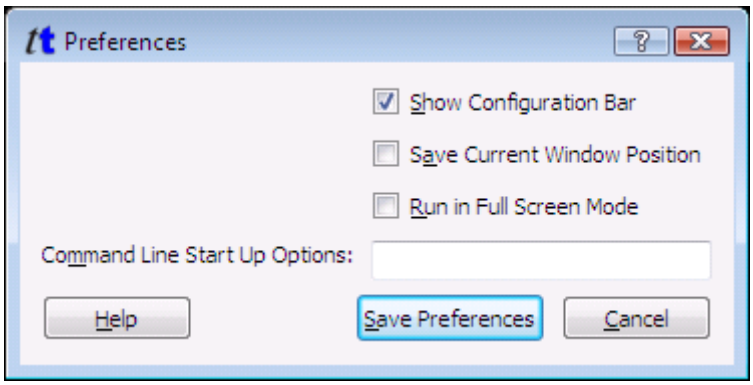
To stop the Replay File process, select **Replay File** on the **Tools** menu to stop the Replay File process. The check mark will toggle off.

23 Preferences and Command Line Options

This chapter describes the **Preferences** dialog and command line options that can be used to specify the TeemTalk startup configuration.

Preferences

The **Preferences** dialog provides user control of several TeemTalk options as well as an alternative input location for TeemTalk command line options. The preferences can be displayed from the **File** menu by selecting the **Preferences...** option.



Specify the desired options as described below, and then click the **Save Preferences** button. Please note that changes made in the preferences dialog will affect all TeemTalk sessions.

- **Show Configuration Bar**

  Factory default: Checked

  When checked the configuration bar will be displayed. This option does not affect the display of the **Session** menu.

- **Save Current Window Position**

  Factory default: Unchecked

  When checked the current TeemTalk windows size and position will be saved when the **Save Preferences** button is pressed and restored on next launch. If previously set, to save a new size and position, bring up the **Save Preferences** dialog again, ensure the **Save Current Windows Position** is check and click the **Save Preferences** button.

- **Run in Full Screen Mode**

  Factory default: Unchecked

  This will cause the emulation workspace to fill the screen and will remove the window frame, soft buttons, menu and configuration bars. Note that this option will not take effect until the next

launch and will override the **Show Configuration Bar** and **Save Current Window Position** options if selected.

- **Command Line Start Up Options**

  Factory default: Blank

  This field provides an alternative location for specifying TeemTalk command line options. Please refer to the remainder of this chapter for descriptions of the valid options which can be entered here.

Command Line Options

The command line for running TeemTalk can include options that modify its startup configuration. The options are entered after the name of the TeemTalk application and each option must be preceded by a space.

For example, to run TeemTalk so that the configuration bar and soft buttons are not displayed you would enter the following on the command line:

teemtalk.exe -cfg -bl0

where **-cfg** removes the configuration bar and **-bl0** removes the soft buttons.

All the command line options currently supported by TeemTalk are described in the following tables.

Session Configuration

Table 23-1 Command switches that affect the Session configuration

Functionality	Command switch	Description
Load Session File	**+lsf**"*mysessionfile.tts*"	This enables you to load settings stored in a session configuration file previously created using either the TeemTalk **Session Wizard** or the **Save Session As** dialog. The specified filename must include the extension **.tts** and must be enclosed within double-quote characters.
Path for Language/ Codepage Files	**-langdir**"*full directory path*"	This specifies the full directory path for language and codepage files.
Translation File	**-transl**"*filename*"	This specifies the name and optional path of the translation file to use. If the entry contains no / or \ characters for directory, it assumes the path is in the language directory. If the entry starts with the _ character it prepends the application name (*teemtalk_*).
Do Not Display Query Save Session Message	**-qss** <*n*>	This enables you to specify what happens when you attempt to exit a session which has been modified but not saved. By default a message box will be displayed asking if you want to save the new settings before exiting. Using this command line option without the optional <n> value will prevent the message from being displayed. The value <*n*> is optional and can be one of the following: **1** Save the session. **2** Cancel (default action).

Table 23-1 Command switches that affect the Session configuration (continued)

Functionality	Command switch	Description
Do Not Display Dialog When Host Connection Closed	**-rce** <*n*>	This enables you to specify what happens on host disconnection. By default a dialog box will be displayed asking if you want to reconnect, cancel or exit TeemTalk. Using this command line option without the optional value will prevent the message from being displayed. The <*n*> value is optional and can be one of the following: **1** Reconnect. **2** Cancel (default action). **3** Exit.
Replay File to Emulation Only	**-replay** <*n*>	This specifies that a file replay is directed to the emulation only (default), not to the host. The optional <*n*> parameter specifies the speed of the replay and is a numeric value in the range **0** to **10**, where **0** (default) is fastest and **10** is slowest.
Replay File to Host Only	**-replayhost** <*n*>	This specifies that a file replay is directed to the host only, not to the emulation. The optional <*n*> parameter specifies the speed of the replay and is a numeric value in the range **0** to **10**, where **0** (default) is fastest and **10** is slowest.
Replay File to Both Host & Emulation	**-replayboth** <*n*>	This specifies that a file replay is directed to both the host and the emulation. The optional <*n*> parameter specifies the speed of the replay and is a numeric value in the range **0** to **10**, where **0** (default) is fastest and **10** is slowest.
Enable Debug	**-debug**	This enables received host data to be logged in a file for replaying later using the **Capture File** and **Replay File** options on the **Tools** menu.
Enable Debug Two-Way	**-debug2way**	This enables both received host data and data sent back to the host to be logged in a file for replaying later using the **Capture File** and **Replay File** options on the **Tools** menu.
Set Bitwise Debugging Flags	**-debug=NN**	This sets bitwise debugging flags.

Window Appearance

Table 23-2 Command switches that affect the Window appearance

Functionality	Command switch	Description
Do Not Show Splash Screen	**-spl**	This prevents the initial splash screen from being displayed when TeemTalk is started.
Show Window Full Screen	**+wfs**	This will cause the emulation workspace to fill the screen. Note that this also removes the window frame, soft buttons, menu and configuration bars.
Show Window Minimized	**+wmn**	This will cause the TeemTalk window to be minimized on startup.
Show Window Maximized	**+wmx**	This will cause the TeemTalk window to be maximized on startup.

Table 23-2 Command switches that affect the Window appearance (continued)

Functionality	Command switch	Description
Set Window Position	**+pos** *left* **,** *down*	This specifies the position of the top left corner of the TeemTalk window relative to the top left corner of the display. The numeric value of *left* and *down* (separated by a comma) specifies the number of pixels. For example, to position the window 200 pixels from the left edge of the display and 100 pixels down, you would use the following entry: **+pos200,100**.
Set Window Size	**+siz** *width* **,** *depth*	This specifies the size of the TeemTalk window. The numeric value of *width* and *depth* (separated by a comma) specifies the number of pixels. For example, to specify a window size of 1280 by 1024 pixels you would use the following entry: **+siz1280,1024**.
Disable Window resize	**-wrd**	This prevents the TeemTalk window from being resized.
Remove the Window Frame	**-wfr**	This will remove the window frame from the display. Note that this also removes the title bar, system menu, minimize and maximize buttons.
Remove the Title Bar	**-ttb**	This will remove the title bar from the display. Note that this also removes the window frame, system menu, minimize and maximize buttons.
Add the Title Bar	**+ttb**	This will add the title bar to the display.
Window Title	Command option: **+wtl**"*title*"	This enables you to specify the title that is to be displayed in the title bar. This is useful when you are running more than one instance of TeemTalk. If no title is specified then the name of your version of the emulator will be displayed.
Window Subtitle	Command option: **+stl**"*subtitle*"	This specifies a subtitle which is appended to the title displayed in the title bar.
Remove the System Menu	**-sys**	This will remove the system menu from the display. Note that this also removes the window frame, minimize and maximize buttons.
Add the System Menu	**+sys**	This will add the system menu to the display. Note that the title bar must be enabled.
Remove/Disable Minimize Button	**-mnb**	This will remove or disable the minimize button. Note that the window frame will also be removed.
Add/Enable Minimize Button	**+mnb**	This will add or enable the minimize button. Note that the system title bar and system menu must be enabled.
Remove/Disable Maximize Button	**-mxb**	This will remove or disable the maximize button. Note that the window frame will also be removed.
Add/Enable Maximize Button	**+mxb**	This will add or enable the maximize button. Note that the system title bar and system menu must be enabled.
Remove the Menu Bar	**-mnu**	This will remove the menu bar from the display.
Remove the **File** Menu	**-mfi**	This will remove the **File** menu from the menu bar.
Remove individual **File** menu items	**-ffd**	Remove **Factory Default**.
	-frt	Remove **Reset Termina**.
	-fnw	Remove **New Window**.

Table 23-2 Command switches that affect the Window appearance (continued)

Functionality	Command switch	Description
	-fnt	Remove **New Tab**.
	-fct	Rmove **Close Tab**.
	-fos	Remove **Open Session**.
	-fss	Remove **Save Session**.
	-fsa	Remove **Save Session As**.
	-fps	Remove **Print Screen**.
	-fpr	Remove **Preferences**.
	-fex	Remove **Exit**.
Remove the **Edit** Menu	**-med**	This will remove the **Edit** menu from the menu bar.
Remove individual **Edit** menu items	**-eop**	Remove **Clipboard Options**.
	-ecb	Remove **Clear Buffer**.
	-eec	Remove **Copy**.
	-eep	Remove **Paste**.
	-esa	Remove **Select All**.
Remove the **View** Menu	**-mvi**	This will remove the **View** menu from the menu bar.
Remove individual **View** menu items	**-vto**	Remove **Toolbars**.
	-vwi	Remove **Windows**.
	-vst	Remove **Status Bar**.
Remove the **Connection** Menu	**-mco**	This will remove the **Connection** menu from the menu bar.
Remove individual **Connection** menu items	**-ccn**	Remove **Connect**.
	-cdi	Remove **Disconnect**.
Remove the **Session** Menu	**-mse**	This will remove the **Session** menu from the menu bar.
Remove individual **Session** menu items	**-str**	Remove **Transport**.
	-sco	Remove **Connection**.
	-sem	Remove **Emulation**.
	-sct	Remove **Configure Transport**.
	-scc	Remove **Configure Connection**.
	-sce	Remove **Configure Emulation**.

Table 23-2 Command switches that affect the Window appearance (continued)

Functionality	Command switch	Description
Remove the **Tools** Menu	**-mto**	This will remove the **Tools** menu from the menu bar.
Remove individual items from the **Tools** menu	**-tat**	Remove **Attributes**.
	-tkm	Remove **Key Macros**.
	-tma	Remove **Mouse Actions**.
	-tsb	Remove **Soft Buttons**.
	-tal	Remove **Auto Logon**.
	-tcf	Remove **Capture File**.
	-trf	Remove **Replay File**.
	-tep	Remove **Emulation Printer**
Remove the Help Menu	**-mhe**	This will remove the **Help** menu from the menu bar.
Remove individual **Help** menu items	**-hth**	Remove **HP TeemTalk Help**.
	-hab	Remove **About**.
Remove the **Emulation Status Bar**	**-esb**	This will remove the emulation status bar from the display.
Remove the **Configuration Bar**	**-cfg**	This will remove the configuration bar from the display. Note that the **Session** menu will also be removed from the menu bar.
Remove individual **Configuration Bar** items	**-ctr**	Remove **Transport**.
	-cco	Remove **Connection**.
	-cem	Remove **Emulation**.
	-ccb	Remove **Connect/Disconnect**.
Remove the **Window Status Bar**	**-wsb**	This will remove the window status bar from the display.
Remove the Soft Buttons	**-bl0** or **+bl0**	This will remove the soft buttons from the display.
Soft Button Levels Displayed	**+bl1** to **+bl4**	This specifies how many soft button levels are displayed at any one time.

Emulation Workspace

Table 23-3 Command switches that affect the emulation workspace

Functionality	Command switch	Description
Mouse Cursor Style	**+cu** *style*	This enables you to specify how the mouse cursor appears in the emulation workspace. You can select from the following *style* options: **0** Blank cursor **1** I-Beam (the default) **2** Arrow **3** Up arrow **4** Crosshair **5** Hourglass/watch **6** Vertical resize **7** Horizontal resize **8** Diagonal resize (\) **9** Diagonal resize (/) **10** All directions resize **11** Vertical splitting **12** Horizontal splitting **13** Pointing hand **14** Slashed circle **15** Arrow with question mark **16** Arrow with hourglass/watch
Reflection 4 Color Support	**+r4c**	This enables Reflection 4 color commands to be processed in the VT terminal emulation.

A Programming Keys and Buttons

This appendix describes how to program a key or button to generate specific key functions and characters when pressed.

Introduction

TeemTalk provides various ways of programming keys and buttons to perform functions that you have defined. The following sections describe how to include key functions and special characters in a user definition.

The function of keys and buttons can be redefined using settings in the following dialogs displayed from the **Tools** menu:

Key Macro Settings described in the section Defining Key Functions on page 30.

Mouse Action Settings described in the section Defining Mouse Functions on page 38.

Soft Button Settings described in the section Defining Soft Button Functions on page 45.

Including Key Function Combinations & Sequences

You can program a key or button to perform the function of a combination or sequence of keys. For example, you can cause a key or button to perform the same function as pressing the keys **Alt** + **F4** together, or pressing the keys **F2** then **F3** then **F4**.

Virtual Key Names

Key functions are identified by virtual key names as listed in the **Key Macro Settings** dialog in the **Emulation Keys** and **Virtual Keys** list boxes. The virtual key name has to be enclosed by the < and > characters in the user definition box. You may omit the **VK_** and **VT_** (etc.) parts of the virtual key name.

For example, the virtual key name for the **Return** key function when running a DEC VT terminal emulation is **VT_RETURN**. You would enter this in the user definition box as follows:

<RETURN>

Key Combinations

To program a key or button so that it performs the same function as pressing two or more other keys together, type the < character, followed by the virtual key names linked together with + (plus sign) characters, and end with the > character

For example, to program a key or button so that when it is pressed it performs the same function as pressing the keys **Alt + F4** together, enter the following characters in the user definition box:

<ALT+F4>

Key Sequences

To program a key or button so that it performs the same function as pressing a sequence of keys one after the other, enter each virtual key name in the order required, starting and ending each virtual key name with the < and > characters, respectively. Each enclosed virtual key name must immediately follow the previous enclosed virtual key name with no spaces.

For example, to program a key or button so that when it is pressed it performs the same function as pressing the keys **F2** then **F3** then **F4**, enter the following characters in the user definition box:

<F2><F3><F4>

Including Special Characters

Control Characters

There are various ways in which you can specify a particular character in a user definition. For example, the **ESC** character can be specified using any one of the following five entries:

_027 Decimal value (underscore character followed by a 3-digit number).

\033 Octal value (backslash character followed by a 3-digit number).

\u001B Unicode value (backslash and u characters then unicode value).

^[Control key value (^ represents the control key on the keyboard).

\e Additional value for **ESC**.

Backslash Values

The following *backslash* values can be used:

\u Unicode introducer

\n Line feed

\r Carriage return

\e Escape

Note that as the **** and **^** characters are used as value introducers, to enter these as character values you need to precede them with a backslash character, i.e. enter **** as **** and **^** as **\^**.

The Euro Character

The Euro character can be specified by entering the unicode value **\u20ac**.

Running a Script File

You can define a macro to run a script file by enclosing the name of the file and any arguments within the <' (left angle bracket and single quote) and '> (single quote and right angle bracket) characters. For example, to run the script file **myscript.scr** and assign the values **value1** and **value2** to two variables, you would enter the following in the macro definition:

<'myscript.scr(value1,value2)'>

B Virtual Key Names

This appendix lists the virtual key names available for defining key functions and including specific key functions in macro definitions.

Introduction

This appendix lists the virtual key names supported by TeemTalk. Virtual key names enable you to redefine keys on the keyboard and include specific key functions in a macro definition.

The virtual key names that can be used depends on the terminal emulation being run. The **Emulation Keys** and **Virtual Keys** list boxes in the **Key Macro Settings** and **Soft Button Settings** dialogs list all the virtual key names that can be used while running the current terminal emulation.

The following sections list the virtual key names that apply to each terminal emulation. Note that the Standard Virtual Key Names section applies to all terminal emulations.

The virtual key names listed in each terminal emulation section includes an additional column indicating the default mapping of the key function on the keyboard by TeemTalk. Note that the following abbreviations apply:

S+ Shift Key

C+ Control Key

A+ Alt Key

Standard Virtual Key Names

The virtual key names listed in this section are applicable in all terminal emulations.

Table B-1 Standard Virtual Key Names

Key Function	Virtual Key Name
0 - 9	VK_0 - VK_9
A - Z	VK_A - VK_Z
Alt (right)	VK_RALT
Apps	VK_APPS
Apostrophe	VK_APOSTROPHE
Attention	VK_ATT
Backspace	VK_BACK
Blank Key	VK_NONAME
Break	VK_BREAK
Capital	VK_CAPITAL

Table B-1 Standard Virtual Key Names (continued)

Key Function	Virtual Key Name
Clear	Clear (OEM)
Comma	VK_COMMA
Compose Character	VK_COMPOSE
Control (Left)	VK_CONTROL
Control (Right)	VK_RCONTROL
Copy	VK_COPY
Cursor Up	VK_UP
Cursor Down	VK_DOWN
Cursor Left	VK_LEFT
Cursor Right	VK_RIGHT
Cursor Select	VK_CRSEL
Data Talk	VK_DATATALK
Delete	VK_DELETE
End	VK_END
Equal	VK_EQUAL
Erase End Of File	VK_EREOF
Escape	VK_ESCAPE
Euro Sign	VK_EUROSIGN
Execute	VK_EXECUTE
Exit Emulator	VK_EXIT
Exsel	VK_EXSEL
F1 - F24	VK_F1 - VK_F24
Help	VK_HELP
Hold Screen	VK_HOLDSCREEN
Home	VK_HOME
Hyphen	VK_HYPHEN
Insert	VK_INSERT
Menu	VK_MENU
Num Lock	VK_NUMLOCK
Numeric Pad 0 - 9	VK_NUMPAD0 - VK_NUMPAD9
Numeric Pad Add (+)	VK_ADD

Table B-1 Standard Virtual Key Names (continued)

Key Function	Virtual Key Name
Numeric Pad Divide (/)	VK_DIVIDE
Numeric Pad Decimal (.)	VK_DECIMAL
Numeric Pad Multiply (*)	VK_MULTIPLY
Numeric Pad Subtract (-)	VK_SUBTRACT
Off (` |) 102 key kbd	VK_OFF
PA1	VK_PA1
Page Down	VK_NEXT
Page Up	VK_PRIOR
Paste	VK_PASTE
Pause	VK_PAUSE
Period	VK_PERIOD
Play	VK_PLAY
Print	VK_PRINT
Print Screen	VK_SNAPSHOT
Quote (back)	VK_BACKQUOTE
Return	VK_RETURN
Scroll Lock	VK_SCROLL
Select	VK_SELECT
Semicolon (; :)	VK_SEMICOLON
Separator	VK_SEPARATOR
Setup	VK_SETUP
Shift	VK_SHIFT
Shift (right)	VK_RSHIFT
Slash (backward)	VK_BACKSLASH
Slash (forward)	VK_SLASH
Spacebar	VK_SPACE
Square Bracket (left)	VK_LBRACKET
Square Bracket (right)	VK_RBRACKET
Tab	VK_TAB
Windows (left)	VK_LWIN

Mouse Buttons

Table B-2 Mouse Buttons

Mouse Action	Virtual Key Name
Left Click	VK_MSE_B1_CLK
Right Click	VK_MSE_B2_CLK
Middle Click	VK_MSE_B4_CLK
Left Double-Click	VK_MSE_B1_DBL
Right Double-Click	VK_MSE_B2_DBL
Middle Double-Click	VK_MSE_B4_DBL

Extended Keyboard Functions

Table B-3 Extended Keyboard Functions

Key Function	Virtual Key Name
Browser Back	VK_BROWSER_BACK
Browser Forward	VK_BROWSER_FORWARD
Browser Stop	VK_BROWSER_STOP
Browser Refresh	VK_BROWSER_REFRESH
Browser Home	VK_BROWSER_HOME
Browser Favorites	VK_BROWSER_FAVORITES
Browser Search	VK_BROWSER_SEARCH
Japanese Kanji	VK_KANJI
Japanese Kana	VK_KANA
Korean Hanguel	VK_HANGUEL
Korean Hanja	VK_HANJA
Launch Mail	VK_LAUNCH_MAIL
Launch Media Select	VK_LAUNCH_MEDIA_SELECT
Launch Application 1	VK_LAUNCH_APP1
Launch Application 2	VK_LAUNCH_APP2
Media Play/Pause	VK_MEDIA_PLAY_PAUSE
Media Stop	VK_MEDIA_STOP
Media Previous Track	VK_MEDIA_PREV_TRACK
Media Next Track	VK_MEDIA_NEXT_TRACK
Volume Down	VK_VOLUME_DOWN

Table B-3 Extended Keyboard Functions (continued)

Key Function	Virtual Key Name
Volume Up	VK_VOLUME_UP
Volume Mute	VK_VOLUME_MUTE

AT&T 4410 Virtual Key Names

The following virtual key names can be used when running the AT&T 4410 terminal emulation in addition to all the VK_ virtual key names listed in the section Standard Virtual Key Names on page 245.

Table B-4 AT&T 4410 Virtual Key Names

Key Function	Virtual Key Name	Default Mapping
Backspace	AT_BACKSPACE	VK_BACK
Break	AT_BREAK	
Clear	AT_CLEAR	VK_F10
Cursor Up	AT_UP	VK_UP
Cursor Down	AT_DOWN	VK_DOWN
Cursor Left	AT_LEFT	VK_LEFT
Cursor Right	AT_RIGHT	VK_RIGHT
Delete	AT_DELETE	VK_DELETE
Escape	AT_ESCAPE	VK_ESCAPE
F1 - F8	AT_F1 - F8	VK_F1 - VK_F8
Home Down	AT_HOMEDOWN	VK_END
Home Up	AT_HOMEUP	VK_HOME
Line Feed	AT_LINEFEED	VK_F9
Num Lock	AT_NUMLOCK	A+VK_NUMLOCK
Return	AT_RETURN	VK_RETURN
Setup	AT_SETUP	VK_F11
Tab	AT_TAB	VK_TAB

DEC VT510 Virtual Key Names

The following virtual key names can be used when running any of the DEC VT terminal emulations in addition to all the VK_ virtual key names listed in the section Standard Virtual Key Names on page 245.

Table B-5 DEC VT510 Virtual Key Names

Key Function	Virtual Key Name	Default Mapping
Back Tab	VT_CSIZ	S+VK_TAB
Break	VT_BREAK	VK_PAUSE
Backspace	VT_BACKSPACE	S+VK_BACK
Compose Character	VT_COMPOSE	A+VK_UP
Cursor Up	VT_UP	VK_UP
Cursor Down	VT_DOWN	VK_DOWN
Cursor Left	VT_LEFT	VK_LEFT
Cursor Right	VT_RIGHT	VK_RIGHT
Datatalk	VT_DATATALK	A+VK_DOWN
Delete	VT_DELETE	VK_BACK
Do (F16)	VT_DO	A+VK_F6
Enter	VT_ENTER	VK_SEPARATOR
Escape	VT_ESCAPE	VK_ESCAPE
F6 - F12	VT_F6 - VT_F12	VK_F6 - VK_F12
F13 - F14	VT_F13 - VT_F14	A+VK_F3 - A+VK_F4
F17 - F20	VT_F17 - VT_F20	A+VK_F7 - A+VK_F10
Find	VT_FIND	VK_INSERT
Help (F15)	VT_HELP	A+VK_F5
Hold Screen	VT_HOLD	VK_SCROLL
Insert	VT_INSERT	VK_HOME
Keypad 0 - 9	VT_PAD0 - 9	VK_NUMPAD0 - 9
Keypad Comma	VT_COMMA	A+VK_ADD
Keypad Decimal	VT_PADDECIMAL	VK_DECIMAL
Keypad Minus	VT_MINUS	VK_SUBTRACT
Next Page	VT_NEXT	VK_NEXT
PF1 - PF4	VT_PF1 - VT_PF4	VK_F1 - VK_F4
Previous Page	VT_PREV	VK_END
Print	VT_PRINT	C+VK_PRINT
Print TTY Mode	VT_PRINTTTY	S+VK_F4
Print Scrolling Region	VT_PRINTSCROLL	S+C+VK_PRINT
Remove	VT_REMOVE	VK_PRIOR

Table B-5 DEC VT510 Virtual Key Names (continued)

Key Function	Virtual Key Name	Default Mapping
Return	VT_RETURN	VK_RETURN
Scroll Down	VT_PANDOWN	C+VK_DOWN
Scroll Left	VT_PANLEFT	C+VK_LEFT
Scroll Right	VT_PANRIGHT	C+VK_RIGHT
Scroll Up	VT_PANUP	C+VK_UP
Select	VT_SELECT	VK_DELETE
Setup	VT_SETUP	S+C+VK_UP
Tab	VT_TAB	VK_TAB

HP 700-92/96 Virtual Key Names

The following virtual key names can be used when running the HP terminal emulation in addition to all the VK_ virtual key names listed in the section Standard Virtual Key Names on page 245.

Table B-6 HP 700-92/96 Virtual Key Names

Key Function	Virtual Key Name	Default Mapping
Backspace	HP_BACKSPACE	VK_BACK
Clear Display	HP_CLEARMEM	C+VK_F4
Clear Line	HP_CLEARLINE	C+VK_F3
Column Width	HP_COLUMNWIDTH	VK_F12
Compose Character	HP_COMPOSE	A+VK_UP
Cursor Up	HP_UP	VK_UP
Cursor Down	HP_DOWN	VK_DOWN
Cursor Left	HP_LEFT	VK_LEFT
Cursor Right	HP_RIGHT	VK_RIGHT
Cursor Home	HP_HOMEUP	VK_HOME
Cursor Home Shifted	HP_HOMEDOWN	VK_END
Delete	HP_DELETE	S+VK_BACK
Delete Character	HP_DELETECHAR	VK_DELETE
Delete Line	HP_DELETELINE	C+VK_F2
Delete Wrap	HP_DELETEWRAP	C+VK_DELETE
Enter	HP_SEND	VK_SEPARATOR
Escape	HP_ESCAPE	VK_ESCAPE

Table B-6 HP 700-92/96 Virtual Key Names (continued)

Key Function	Virtual Key Name	Default Mapping
F1 - F8	HP_F1 - HP_F8	VK_F1 - VK_F8
Hard Reset	HP_HARDRESET	C+VK_F8
Insert Character	HP_INSERTMODE	VK_INSERT
Insert Line	HP_INSERTLINE	C+VK_F1
Insert Wrap	HP_INSERTWRAP	C+VK_INSERT
Menu	HP_MENU	S+VK_F9
Mode Selection Keys	HP_MODES	VK_F11
Next Page	HP_NEXTPAGE	VK_NEXT
Previous Page	HP_PREVPAGE	VK_PRIOR
Print	HP_PRINT	A+VK_PRINT
Return	HP_RETURN	VK_RETURN
Scroll Down	HP_ROLLDOWN	S+VK_DOWN
Scroll Up	HP_ROLLUP	S+VK_UP
Select	HP_SELECT	C+VK_F5
Soft Reset	HP_SOFTRESET	C+VK_F7
Tab	HP_TAB	VK_TAB
Tab Shifted	HP_BACKTAB	S+VK_TAB
User Keys Mode	HP_USER	VK_F10
User Key Def. Menu	HP_FKEYDEFS	S+VK_F10
User System	HP_SYSTEM	VK_F9

IBM 3151 Virtual Key Names

The following virtual key names can be used when running the IBM 3151 terminal emulation in addition to all the VK_ virtual key names listed in the section Standard Virtual Key Names on page 245.

Table B-7 IBM 3151 Virtual Key Names

Key Function	Virtual Key Name	Default Mapping
Alrm Up	I51_ALRMUP	C+VK_F11
Alrm Down	I51_ALRMDN	C+VK_F12
Backspace	I51_BACKSPACE	VK_BACK
Back Tab	I51_BACKTAB	VK_END

Table B-7 IBM 3151 Virtual Key Names (continued)

Key Function	Virtual Key Name	Default Mapping
Break	I51_BREAK	C+VK_F3
Cancel	I51_CANCEL	A+VK_F2
Clear	I51_CLEAR	VK_PRIOR
Compose Character	I51_COMPOSE	A+VK_UP
Cursor Up	I51_UP	VK_UP
Cursor Down	I51_DOWN	VK_DOWN
Cursor Left	I51_LEFT	VK_LEFT
Cursor Right	I51_RIGHT	VK_RIGHT
Cursor Select	I51_CRSEL	C+VK_F9
Cursor Select	I51_CRSEL	C+VK_NUMPAD8
Define PF Key	I51_DEFPFKEY	S+VK_INSERT
Del	I51_DEL	C+VK_HOME
Delete	I51_DELETE	VK_DELETE
Delete Line	I51_DELETELINE	C+VK_DELETE
Display Message	I51_DSPMSG	C+VK_F10
Display Message	I51_DSPMSG	C+VK_NUMPAD9
Enter	I51_ENTER	VK_SEPARATOR
Erase End Of Field	I51_EREOF	VK_NEXT
Erase EOP	I51_EREOP	C+VK_NEXT
Erase Input	I51_ERINP	C+VK_PRIOR
Escape	I51_ESCAPE	VK_ESCAPE
F1 - F12	I51_F1 - I51_F12	VK_F1 - VK_F12
F13 - F24	I51_F13 - I51_F24	S+VK_F1 - S+VK_F12
Hold	I51_HOLD	VK_PAUSE
Home	I51_HOME	VK_HOME
Insert Line	I51_INSERTLINE	C+VK_INSERT
Insert Mode	I51_INSERT	VK_INSERT
Jump	I51_JUMP	C+VK_F5
Jump	I51_JUMP	C+VK_DIVIDE
Line Feed	I51_LINEFEED	C+VK_RETURN
Local	I51_LOCAL	C+VK_END

Table B-7 IBM 3151 Virtual Key Names (continued)

Key Function	Virtual Key Name	Default Mapping
Local	I51_LOCAL	C+VK_ADD
Numeric Pad 0 - 9	I51_NUMPAD0 - 9	VK_NUMPAD0 - 9
PA1 - PA3	I51_PA1 - I51_PA3	C+VK_NUMPAD1 - 3
Print Message	I51_PRTMSG	C+VK_F2
Print Line	I51_PRTLINE	VK_SCROLL
Print Screen	I51_PRTSCRN	C+VK_F6
Print View	I51_PRTVIEW	VK_SNAPSHOT
Reset	I51_RESET	A+VK_F1
Return	I51_RETURN	VK_RETURN
Send	I51_SEND	C+VK_SEPARATOR
Send Line	I51_SNDLNE	C+VK_F8
Send Message	I51_SNDMSG	C+VK_F7
Send Message	I51_SNDMSG	C+VK_MULTIPLY
Setup	I51_SETUP	C+VK_F4
Setup	I51_SETUP	C+VK_SUBTRACT
Sub	I51_SUB	C+VK_NUMPAD4
Sup	I51_SUP	C+VK_NUMPAD7
Tab	I51_TAB	VK_TAB
Trace	I51_TRACE	C+VK_F1
TXF1 - TXF12	I51_TXF1 - I51_TXF12	S+C+VK_F1 - F12

IBM 3270 Virtual Key Names

The following virtual key names can be used when running the IBM 3270 terminal emulation in addition to all the VK_ virtual key names listed in the section Standard Virtual Key Names on page 245.

Table B-8 IBM 3270 Virtual Key Names

Key Function	Virtual Key Name	Default Mapping
Alternate Code Page	IB_ALTCP	S+A+C+VK_SUBTRACT
Attention	IB_ATTN	S+VK_ESCAPE
Back Tab	IB_BACKTAB	S+VK_TAB
Backspace	IB_BACKSPACE	VK_BACK

Table B-8 IBM 3270 Virtual Key Names (continued)

Key Function	Virtual Key Name	Default Mapping
Clear	IB_CLEAR	VK_PAUSE
Close (Delete Space)	IB_REV_CL	S+VK_MULTIPLY
Copy	IB_COPY	S+VK_NEXT
Cursor Up	IB_UP	VK_UP
Cursor Down	IB_DOWN	VK_DOWN
Cursor Left	IB_LEFT	VK_LEFT
Cursor Right	IB_RIGHT	VK_RIGHT
Cursor Select	IB_CURSORSEL	S+A+VK_F9
Cursor Flash On/Off	IB_FLCR	S+C+VK_F10
Cursor Line/Block	IB_ALTCR	S+C+VK_F11
Delay 1 Second	IB_DELAY	S+A+C+VK_PAUSE
Delete Character	IB_DELCHAR	VK_DELETE
Delete Word	IB_DELWORD	A+VK_DELETE
Display Attributes	IB_DISPATTR	A+VK_F10
Duplicate	IB_DUP	S+VK_INSERT
Enter	IB_ENTER	VK_SEPARATOR
Erase End Of Field	IB_ERASEEOF	VK_END
Erase Input	IB_ERASEINPUT	S+VK_PAUSE
F1 - F12	IB_F1 - IB_F12	VK_F1 - VK_F12
F13 - F24	IB_F13 - IB_F24	S+VK_F1 - S+VK_F12
Field Mark	IB_FIELDMARK	S+VK_HOME
Fn Edit	IB_FEDIT	A+VK_F3
Go To End Of Line	IB_GO_EOL	S+VK_END
Home	IB_HOME	VK_HOME
Insert Mode	IB_INSERT	VK_INSERT
Jump	IB_JUMP	C+VK_HOME
Local National Map	IB_LCLMAP	S+VK_SUBTRACT
Mono Case	IB_MONO	C+VK_F4
Next Word	IB_NEXTWORD	A+VK_RIGHT
Notice Board Copy	IB_NB_COPY	S+C+VK_PRIOR
Notice Board Jump	IB_NB_JUMP	C+VK_PRIOR

Table B-8 IBM 3270 Virtual Key Names (continued)

Key Function	Virtual Key Name	Default Mapping
Notice Board Setup	IB_NB_SETUP	A+VK_F2
Notice Board Zoom	IB_NB_ZOOM	A+VK_PRIOR
Num Lock	IB_NUMLOCK	A+VK_NUMLOCK
PA1	IB_PA1	VK_PRIOR
PA2	IB_PA2	VK_NEXT
PA3	IB_PA3	S+VK_PRIOR
Pause	IB_PAUSE	A+VK_PAUSE
Play Keystrokes	IB_PLAY	A+VK_F8
Previous Word	IB_PREVWORD	A+VK_LEFT
Print Screen	IB_PRINT	VK_SNAPSHOT
Push Mode On/Off	IB_PUSH	S+C+VK_SUBTRACT
Quit	IB_QUIT	A+VK_ESCAPE
Record Keystrokes	IB_RECORD	A+VK_F7
Reset	IB_RESET	VK_ESCAPE
Return	IB_RETURN	VK_RETURN
Reverse Input Direction	IB_REV_IP	S+VK_DIVIDE
Reverse Screen	IB_REV_SC	S+VK_BACK
Rule Display	IB_RULE	A+VK_NEXT
Selectable Field Tab	IB_FIELDTAB	VK_SUBTRACT
System Request	IB_SYSREQ	A+VK_ESCAPE
Tab	IB_TAB	VK_TAB
Test Key To Host	IB_TEST	A+VK_SCROLL

IBM 5250 Virtual Key Names

The following virtual key names can be used when running the IBM 5250 terminal emulation in addition to all the VK_ virtual key names listed in the section Standard Virtual Key Names on page 245.

Table B-9 IBM 5250 Virtual Key Names

Key Function	Virtual Key Name	Default Mapping
Alternate Code Page	AS_ALTCP	S+A+C+VK_SUBTRACT
Attention	AS_ATTN	S+VK_ESCAPE

Table B-9 IBM 5250 Virtual Key Names (continued)

Key Function	Virtual Key Name	Default Mapping
Back Tab	AS_BACKTAB	S+VK_TAB
Backspace	AS_BACKSPACE	VK_BACK
Backspace (non-destruct)	AS_NONDESTBS	A+VK_BACK
Clear	AS_CLEAR	VK_PAUSE
Cursor Up	AS_UP	VK_UP
Cursor Down	AS_DOWN	VK_DOWN
Cursor Left	AS_LEFT	VK_LEFT
Cursor Right	AS_RIGHT	VK_RIGHT
Cursor Fast Left	AS_FASTLEFT	S+VK_LEFT
Cursor Fast Right	AS_FASTRIGHT	S+VK_RIGHT
Cursor Select	AS_CURSORSEL	C+VK_F9
Delay 1 Second	AS_DELAY	S+A+C+VK_PAUSE
Delete Character	AS_DELCHAR	VK_DELETE
Duplicate	AS_DUP	S+VK_INSERT
Enter	AS_ENTER	VK_SEPARATOR
Erase End Of Field	AS_ERASEEOF	VK_END
Erase Input	AS_ERASEINPUT	A+VK_PAUSE
F1 - F12	AS_F1 - AS_F12	VK_F1 - VK_F12
F13 - F24	AS_F13 - AS_F24	S+VK_F1 - S+VK_F12
Field Exit	AS_FIELDEXIT	VK_RETURN
Field Mark	AS_FIELDMARK	S+VK_HOME
Field Minus	AS_FIELDMINUS	VK_SUBTRACT
Field Plus	AS_FIELDPLUS	S+VK_SEPARATOR
Go To End Of Line	AS_GO_EOL	S+VK_END
Help	AS_HELP	VK_MULTIPLY
Home	AS_HOME	VK_HOME
Insert Mode	AS_INSERT	VK_INSERT
Local/General Keyboard	AS_LCLMAP	S+VK_SUBTRACT
Monochrome	AS_MONO	C+VK_F4
New Line	AS_NEWLINE	S+VK_RETURN
PA1	AS_PA1	A+VK_INSERT

Table B-9 IBM 5250 Virtual Key Names (continued)

Key Function	Virtual Key Name	Default Mapping
PA2	AS_PA2	A+VK_HOME
PA3	AS_PA3	A+VK_PRIOR
Pause	AS_PAUSE	A+VK_PAUSE
Play Keystrokes	AS_PLAY	A+VK_F5
Print Local	AS_PRINTLOCAL	C+VK_SNAPSHOT
Print	AS_PRINT	VK_SNAPSHOT
Push Mode On/Off	AS_PUSH	S+C+VK_SUBTRACT
Quit	AS_QUIT	A+VK_ESCAPE
Record Keystrokes	AS_RECORD	A+VK_F4
Reset	AS_RESET	VK_ESCAPE
Reverse Close Text	AS_REV_CL	S+VK_MULTIPLY
Reverse/Normal Toggle	AS_REV_IP	S+VK_DIVIDE
Reverse Whole Screen	AS_REV_SC	S+VK_BACK
Roll Down	AS_ROLLDOWN	VK_PRIOR
Roll Up	AS_ROLLUP	VK_NEXT
Rule Display	AS_RULE	A+VK_NEXT
System Request	AS_SYSREQ	A+VK_SNAPSHOT
Tab	AS_TAB	VK_TAB
Test	AS_TEST	A+VK_SCROLL

IBM 5250 Word Processing Mode

Table B-10 IBM 5250 Word Processing Mode

Key Function	Virtual Key Name
Begin Bold	AS_WP_BOLD
Begin Underline	AS_WP_UNDERLINE
Word Underline	AS_WP_WORD_UNDER
End Attribute	AS_WP_END_ATTR
Centre Text	AS_WP_CENTRE
Half-Index Up	AS_WP_HI_UP
Half-Index Down	AS_WP_HI_DOWN
Next Text Column	AS_WP_NEXT_COL

Table B-10 IBM 5250 Word Processing Mode (continued)

Key Function	Virtual Key Name
Beginning of Line	AS_WP_BEG_LINE
End of Line	AS_WP_END_LINE
Top of Page	AS_WP_TOP_PAGE
End of Page	AS_WP_END_PAGE
Start New Page	AS_WP_NEW_PAGE
Insert Carrier Return	AS_WP_RETURN
Insert Stop Code	AS_WP_STOP_CODE
Find Stop Code	AS_WP_FIND_STOP
Required Page End	AS_WP_REQD_PAGE
Required Space	AS_WP_REQD_SPACE
Required Tab	AS_WP_REQD_TAB
Symbols Command	AS_WP_SYMBOLS

TA6530 Virtual Key Names

The following virtual key names can be used when running the TA6530 terminal emulation in addition to all the VK_ virtual key names listed in the section Standard Virtual Key Names on page 245.

Table B-11 TA6530 Virtual Key Names

Key Function	Virtual Key Name	Default Mapping
Backspace	TA_BACKSPACE	VK_BACK
Back Tab	TA_BACKTAB	S+VK_TAB
Break	TA_BREAK	VK_PAUSE
Break Shifted	TA_S_BREAK	S+VK_PAUSE
Character Delete	TA_CHARDEL	VK_DELETE
Character Insert	TA_CHARINS	VK_INSERT
Cursor Up	TA_UP	VK_UP
Cursor Down	TA_DOWN	VK_DOWN
Cursor Left	TA_LEFT	VK_LEFT
Cursor Right	TA_RIGHT	VK_RIGHT
Delete	TA_DEL	S+VK_ESCAPE
End	TA_END	VK_END
Erase Line	TA_ERASELINE	C+VK_SCROLL

Table B-11 TA6530 Virtual Key Names (continued)

Key Function	Virtual Key Name	Default Mapping
Erase Page	TA_ERASEPAGE	S+C+VK_SCROLL
Escape	TA_ESC	VK_ESCAPE
F1 - F12	TA_F1 - TA_F12	VK_F1 - VK_F12
F13 - F16	TA_F13 - TA_F16	A+VK_F3 - A+VK_F6
F1 - F12 Shifted	TA_S_F1 - TA_S_F12	S+VK_F1 - S+VK_F12
F13 - F16 Shifted	TA_S_F13 - TA_S_F16	S+A+VK_F3 - F6
Home	TA_HOME	VK_HOME
Home + Control	TA_C_HOME	C+VK_HOME
Insert	TA_INSERT	S+VK_INSERT
Line Delete	TA_LINEDEL	C+VK_DELETE
Line Insert	TA_LINEINS	C+VK_INSERT
Num Lock	TA_NUMLOCK	VK_NUMLOCK
Numeric Pad 0 - 9	TA_PAD0 - TA_PAD9	VK_NUMPAD0 - 9
Numeric Pad Comma	TA_PADCOMMA	A+VK_ADD
Numeric Pad Decimal	TA_PADDECIMAL	VK_DECIMAL
Numeric Pad Enter	TA_ENTER	VK_SEPARATOR
Num Pad Enter Shifted	TA_S_ENTER	S+VK_SEPARATOR
Num Pad Enter + Ctrl	TA_C_ENTER	C+VK_SEPARATOR
Numeric Pad Minus	TA_PADMINUS	VK_SUBTRACT
Page Down	TA_PAGEDOWN	VK_NEXT
Page Down Shifted	TA_S_PAGEDOWN	S+VK_NEXT
Page Up	TA_PAGEUP	VK_PRIOR
Page Up Shifted	TA_S_PAGEUP	S+VK_PRIOR
Print Screen	TA_PRTSCR	VK_PRINT
Print Screen Shifted	TA_S_PRTSCR	C+VK_PRINT
Return	TA_RETURN	VK_RETURN
Return Shifted	TA_S_RETURN	S+VK_RETURN
Return + Control	TA_C_RETURN	C+VK_RETURN
Roll Up	TA_ROLLUP	A+VK_UP
Roll Up Shifted	TA_S_ROLLUP	S+A+VK_UP
Roll Down	TA_ROLLDOWN	A+VK_DOWN

Table B-11 TA6530 Virtual Key Names (continued)

Key Function	Virtual Key Name	Default Mapping
Roll Down Shifted	TA_S_ROLLDOWN	S+A+VK_DOWN
Tab	TA_TAB	VK_TAB
Tab Clear	TA_TABCLEAR	S+A+VK_SUBTRACT
Tab Clear All	TA_TABCLRALL	A+C+VK_SUBTRACT
Tab Set	TA_TABSET	A+VK_SUBTRACT

Wyse Virtual Key Names

The following virtual key names can be used when running the Wyse terminal emulations in addition to all the VK_ virtual key names listed in the section Standard Virtual Key Names on page 245.

Table B-12 Wyse Virtual Key Names

Key Function	Virtual Key Name	Default Mapping
Answerback	WY_ANSWERBACK	S+VK_PAUSE
Backspace	WY_BACKSPACE	VK_BACK
Break	WY_BREAK	VK_PAUSE
Character Set	WY_CHARSET	S+A+VK_UP
Clear Line	WY_CLRLINE	VK_END
Clear Screen	WY_CLRSCRN	S+C+VK_END
Compose Character	WY_COMPOSE	A+VK_UP
Cursor Up	WY_UP	VK_UP
Cursor Up Shifted	WY_S_UP	S+VK_UP
Cursor Down	WY_DOWN	VK_DOWN
Cursor Down Shifted	WY_S_DOWN	S+VK_DOWN
Cursor Left	WY_LEFT	VK_LEFT
Cursor Left Shifted	WY_S_LEFT	S+VK_LEFT
Cursor Right	WY_RIGHT	VK_RIGHT
Cursor Right Shifted	WY_S_RIGHT	S+VK_RIGHT
Delete	WY_DELETE	VK_DELETE
Delete Shifted	WY_S_DELETE	S+A+VK_DELETE
Delete Character	WY_DELCHAR	C+VK_DELETE
Delete Line	WY_DELLINE	S+C+VK_DELETE
Del Key	WY_DELKEY	A+VK_BACK

Table B-12 Wyse Virtual Key Names (continued)

Key Function	Virtual Key Name	Default Mapping
Del Key (Shifted)	WY_S_DELKEY	S+A+VK_BACK
End	WY_END	A+VK_END
End Shifted	WY_S_END	S+C+VK_END
Enter	WY_ENTER	VK_SEPARATOR
Enter Shifted	WY_S_ENTER	S+VK_SEPARATOR
Escape	WY_ESC	VK_ESCAPE
Escape Shifted	WY_S_ESC	S+C+VK_ESCAPE
F1 - F12	WY_F1 - WY_F12	VK_F1 - VK_F12
F1 - F12 Shifted	WY_S_F1 - WY_S_F12	S+VK_F1 - 12
F11 - F16	WY_F11 - WY_F16	A+VK_F1 - 6
F11 - F16 Shifted	WY_S_F11 - WY_S_F16	S+A+VK_F1 - 6
FDXBLK	WY_FDXBLK	S+C+VK_PAUSE
Function	WY_FUNCT	S+C+VK_SCROLL
Home	WY_HOME	VK_HOME
Home Shifted	WY_S_HOME	S+VK_HOME
Insert	WY_INSERT	VK_INSERT
Insert Character	WY_INSCHAR	A+VK_INSERT
Insert Line	WY_INSLINE	C+VK_INSERT
Keypad 5	WY_KP5	VK_NUMPAD5
Keypad 5 Shifted	WY_S_KP5	S+VK_NUMPAD5
Num Lock	WY_NUMLOCK	VK_NUMLOCK
Page Up	WY_PAGEUP	VK_PRIOR
Page Up Shifted	WY_S_PAGEUP	S+VK_PRIOR
Page Down	WY_PAGEDOWN	VK_NEXT
Page Down Shifted	WY_S_PAGEDOWN	S+VK_NEXT
Pause	WY_PAUSE	A+VK_SCROLL
Print	WY_PRINT	VK_SNAPSHOT
Print shifted	WY_S_PRINT	S+VK_SNAPSHOT
Replace	WY_REPLACE	S+VK_INSERT
Return	WY_RETURN	VK_RETURN
Return Shifted	WY_S_RETURN	S+VK_RETURN

Table B-12 Wyse Virtual Key Names (continued)

Key Function	Virtual Key Name	Default Mapping
Send	WY_SEND	S+VK_SNAPSHOT
Split	WY_SPLIT	S+C+VK_SUBTRACT
Tab	WY_TAB	VK_TAB
Tab Shifted	WY_S_TAB	S+VK_TAB

MDIS Prism Virtual Key Names

The following virtual key names can be used when running any of the MDIS Prism terminal emulations in addition to all the VK_ virtual key names listed in the section Standard Virtual Key Names.

Table B-13 MD Prism Virtual Key Names

Key Function	Virtual Key Name	Default Mapping
Back Tab	MD_CSIZ	S+VK_TAB
Backspace	MD_BACKSPACE	S+VK_BACK
Break	MD_BREAK	VK_PAUSE
Compose Character	MD_COMPOSE	A+VK_UP
Cursor Down	MD_DOWN	VK_DOWN
Cursor Left	MD_LEFT	VK_LEFT
Cursor Right	MD_RIGHT	VK_RIGHT
Cursor Up	MD_UP	VK_UP
Datatalk	MD_DATATALK	A+VK_DOWN
Delete	MD_DELETE	VK_BACK
Do (F16)	MD_DO	A+VK_F6
Enter	MD_ENTER	VK_SEPARATOR
Escape	MD_ESCAPE	VK_ESCAPE
F6 - F12	MD_F6 - MD_F12	VK_F6 - VK_F12
F13 - F14	MD_F13 - MD_F14	A+VK_F3 - A+VK_F4
F17 - F20	MD_F17 - MD_F20	A+VK_F7 - A+VK_F10
Find	MD_FIND	VK_INSERT
Help (F15)	MD_HELP	A+VK_F5
Hold Screen	MD_HOLD	VK_SCROLL
Insert	MD_INSERT	VK_HOME

Table B-13 MD Prism Virtual Key Names (continued)

Key Function	Virtual Key Name	Default Mapping
Keypad 0 - 9	MD_PAD0 - 9	VK_NUMPAD0 - 9
Keypad Comma	MD_COMMA	VK-ADD
Keypad Decimal	MD_PADDECIMAL	VK_DECIMAL
Keypad Minus	MD_MINUS	A+VK_ADD
Left	MD_LEFT	VK_LEFT
Next Page	MD_NEXT	VK_NEXT
PF1 - PF4	MD_PF1 - MD_PF4	VK_F1 - VK_F4
Previous Page	MD_PREV	VK_END
Print Screen	MD_PRINT	C+VK_PRINT
Print TTY Mode	MD_PRINTTTY	S+VK_F4
Print Scrolling Region	MD_PRINTSCROLL	S+C+VK_PRINT
Remove	MD_REMOVE	VK_PRIOR
Return	MD_RETURN	VK_RETURN
Scroll Down	MD_PANDOWN	C+VK_DOWN
Scroll Left	MD_PANLEFT	C+VK_LEFT
Scroll Right	MD_PANRIGHT	C+VK_RIGHT
Scroll Up	MD_PANUP	C+VK_UP
Select	MD_SELECT	VK_DELETE
Setup	MD_SETUP	S+C+VK_UP
Tab	MD_TAB	VK_TAB
Up	MD_UP	VK_UP

C Product Specification

This appendix describes the level of support provided by each terminal emulation.

Introduction

The following sections describe the level of support provided by each terminal emulation throughout the product range. Note that your product version may not support all the terminal emulations listed here.

General

Limitations

- Key click not supported.
- Badge and Magnetic Card reader support are supported via *wedged* data devices connected to the unit's keyboard.
- No downloadable program module.
- The keyboard layouts may differ but substantially provide the same capabilities as the native terminal.
- No screensavers.
- File Transfer protocols not supported on embedded products / thin clients.
- API's not supported on embedded products / thin clients.
- Smooth Scroll and Variable Scroll rates not supported.
- No graphics or APA graphics

Telnet

Specification

- Implements RFC 854, 855, 856, 857, 858, 860, 1091, 1408, 1571, 1572.
- Implements RFC 1205, 2877 for IBM 5250.
- Implements RFC 2355, 1576, 1646, 1647 for IBM 3270.

AixTerm

- No Vertical tab stops.
- No Select Alternate presentation variant.
- No Select reversed string.

- No Select font in graphic rendition.
- No Virtual terminal commands.
- No Set curses fix.
- No Page scroll.
- No Alternate screen buffer.
- No Xwindows capabilities.

DEC VT Series Emulation

Specification

- Digital VT 420 Programmer's Manual (EK-VT420-RM-001).

Limitations

- The DEC Multisession and SSU protocols are not implemented.

HP 700-92/96 Emulation

Specification

- HP 2392A Reference Guide (02394-90001. April 1984).

IBM 3270 Emulation

Specification

- 3270 Information Display System Data Stream Programmer's Reference (GA23-0059-07).

Limitations

- No Double byte printing.

IBM 5250 Emulation

Specification

- 5494 Remote Control Unit Functions Reference. Release 2.0. (SC30-3533-02).

Limitations

- No text assist in Right to Left writing mode.
- No double-byte printing.
- The 3812-1 Non Host Print Transform (Non-HPT) print protocol is not supported.
- No Calculator / Hex key.
- No Password encryption.
- No Auxiliary port support.

- No Control Unit customization.
- The specification is also defined by the 5250 Device Capabilities report Bytes 0 thru 5 which are 0x7f, 0x11, 0x4e, 0x00, 0x03 and 0x80 for Display Sessions.

IBM 3151 Native Emulation Model 11 & 31

Specification

- IBM 3151 Ascii Display Station Reference Manual (GA18-2634- 01. 1989).

Stratus V102

Specification

- V102 Display Terminal Operator's Manual (TVI 131974-00 June 1985).

Limitations

- Page print flip mode not supported.
- Serial configuration commands not supported.
- Select character set commands not supported.

Tandem 6526/6530 Emulation

Specification

- Tandem 653x Multi-Page Terminal Programmer's Guide (82310-B00 December 1983).

Limitations

- Telnet Line-Mode is not supported.
- Ansi media copy commands are not supported.
- No support for auxiliary port.
- No support for extended buffer and cursor commands.
- String configuration, machine and directory commands not supported.
- Data table redefinition commands not supported.
- Remote termination not supported.
- I/O device and file commands not supported.
- Set color configuration commands not supported.

Televideo 955

Specification

- Televideo 955 Display Terminal Operator's Manual (131969-00- B Sept 1985).

Limitations

- Page print flip mode not supported.
- Serial configuration commands not supported.
- Select character set commands not supported.

Wyse 60 Native Emulation

Specification

- WY-60 Programmer's Guide (880261-01 Rev A).

Limitations

- Only 16 colors supported, not 64.
- Some color commands are not supported.
- No page edit mode.
- Modem and aux port commands not supported.
- No Keyboard scan code mode.
- Character cell size commands not supported.
- Function key label save commands not supported.
- Automatic font loading not supported.
- Remote caps lock commands not supported.
- Ignore nulls commands not supported.
- Attribute overwrite mode not supported.
- Disable intensity commands not supported.
- Some select personality commands not supported.
- Wyseword mode not supported.

Wyse 50, 50+, TVI 910, 950, ADDS-A2, HZ 1500, Wyse PC-Term

Specification

- WY355/ES Reference Manual (883227-01 Rev. A).

Limitations

All modes:

- As Wyse 60 above where applicable.

TVI modes:

- Select Print / Line termination characters.

Wyse PC-Term:

- Default unit command not supported.
- Program key with direction not supported.
- Set print terminators not supported.
- Define delimiters not supported.

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