

User's Guide

TTWIN 3

Terminal Emulation for *Windows*



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TTWIN User's Guide
Version 3

About this Manual

The TTWIN 3 User's Guide is a comprehensive guide to all the information you need to work easily and efficiently with Turbosoft's TTWIN 3 terminal emulation package.

Organisation of this Manual

The TTWIN 3 User's Guide is divided into 5 parts:

Part One - Basic Concepts

Chapter 1

Introduction. A brief description of the files supplied with the TTWIN 3 product and the system requirements.

Chapter 2

Installation. The steps to follow when setting up TTWIN 3 on a local PC or on a network file server. This chapter also includes modifying and uninstalling TTWIN 3.

Chapter 3

Getting Started. How to connect your machine to a remote host(s) and the basic steps required for getting started with TTWIN 3.

Part Two - Advanced Operation

This section provides more detail on the menus and options that make up the TTWIN 3 package. This section is a detailed reference guide for these components.

- Chapter 4** **File menu.** The standard operations: opening and saving session definition files, print and print setup utilities.
- Chapter 5** **Edit menu.** Selecting, copying, clearing and pasting regions.
- Chapter 6** **Actions menu.** All the operations carried out by TTWIN 3: connecting, disconnecting and dialing.
- Chapter 7** **Scripts menu.** Running, creating and editing scripts created using TTWIN 3's scripting language, TTWIN BASIC.

Part Three - File Transfers

This section covers everything you need to know about transferring files.

- Chapter 8** **Configure File Transfer.** Setting up file transfer modules.
- Chapter 9** **Transferring Files.** A guide to transferring files using each of the available protocols.

Part Four - Configuration

This section covers all the features available on the **Configure** menu, excluding **File Transfers**, which is covered in the **Part Three**.

- Chapter 10** **Communications.** Setting up the type of communications (transport) module.
- Chapter 11** **Emulations.** Configuring your required emulation.

| | |
|-------------------|---|
| Chapter 12 | Colours. Creating and changing the colour scheme. |
| Chapter 13 | Keyboard. Remapping the keyboard. |
| Chapter 14 | HotSpots. Defining hotspot placement and execution. |
| Chapter 15 | Menu. Creating and configuring menus. |
| Chapter 16 | Toolbars. Creating and Configuring toolbars. |
| Chapter 17 | General Preferences. Configuring general features. |
| Chapter 18 | Session Preferences. Configuring session related features. |
| Chapter 19 | Display. Setting up the TTWIN 3 window format and scroll history parameters. |
| Chapter 20 | Fonts. Selecting the display fonts. |
| Chapter 21 | Modem. Configuring your modem. |
| Chapter 22 | Dialing Directory. Building a list of dial out numbers. |
| Chapter 23 | Mouse. Defining the mouse operation. |
| Chapter 24 | Printer. Specifying how the printer handles a print job.. |
| Chapter 25 | Title & Status Bar. Giving the session a title. |

Part Five - Appendices

Several appendices have been included to provide additional information in related areas.

| | |
|-------------------|--|
| Appendix A | Macros and Macro Strings |
| Appendix B | Installing PICK File Transfer Host Components |
| Appendix C | Glossary |

Appendix D

Customer Support

Appendix E

Host Table Support

Appendix F

Your Questions Answered

How to use this Manual

The structure of this manual is based on the organisation of the TTWIN 3 menus. For example, *Chapter 4 File Menu*, covers all the options on the **F**ile menu, with each option under a main heading. All the menus are documented in this manner, see **Part Two - Advanced Operation**, with the exception of the **C**onfigure menu.

The **C**onfigure menu is described in **Part Four - Configuration**. Each chapter in **Part Four** covers one option on the **C**onfigure menu.

For accessibility, both the configuration and use of file transfer protocols have been grouped together in two chapters in **Part Three - File Transfers**.

The information provided in **Part Two**, **Part Three** and **Part Four** is closely linked to the tiles (a *tile* is the TTWIN 3 term for a dialog box), displayed in the TTWIN 3 window. Within each section, the tiles appear in the order in which they are displayed. (Except in situations where there is more than one possibility.)

The first-time user of TTWIN 3 will probably find it necessary to read the complete section related to the operation that they are performing.

If you have any suggestions regarding this guide, please contact Turbosoft with details. *Refer to Page 1* for contact details.

Conventions

To assist you to read and understand this guide we have used a number of conventions:

- TTWIN 3 is Turbosoft's terminal emulation product for *Windows*.
- *PC* refers to any IBM or compatible personal computer (PC) capable of running Microsoft *Windows NT 4.0 or later and Windows 95* or later.
- *Windows* refers to Microsoft *Windows NT 4.0 or later and Windows 95* or later.
- *Tile* is TTWIN 3's term for a dialog box.
- Lower case bold **courier** typeface indicates things you need to type, such as **a:\setup**.
- Upper case COURIER typeface indicates a filename or directory name, such as C:\TTWIN3\TTWIN3.EXE.
- All keys are shown in upper case COURIER typeface. For example, the Shift key is shown as SHIFT; the Escape key is ESC.

***Note:** The keys on your keyboard may not be labeled exactly as they are in this manual.*

- A sequence of simultaneous key strokes is indicated with an underscore. For example, ALT_F8 is the sequence generated when the ALT key is held down while F8 is pressed.
- **Bold Arial** typeface indicates menus, menu options, tile titles, tile options, tile fields and buttons. For example, click on the **Colours...** button on the **Configure IBM 5250** tile then select **Blink**.
- **File** refers to the FILE command, which can also be called using the **short cut key** sequence ALT_F. This feature is **not** available on every option but a large number of relevant menu locations do offer the short cut key.
- As TTWIN 3 is designed to operate in the *Windows* environment this guide also uses standard *Windows*

terminology. One term frequently used is *drop down menu*. The following illustration is provided for those users unfamiliar with this term.

Drop down menu

A drop down menu displays a list of possible items for a field. It is activated by clicking on the menu indicator displayed on the extreme right of the field. The following diagram shows the field before and after the drop down menu (*Windows 95*) has been activated.

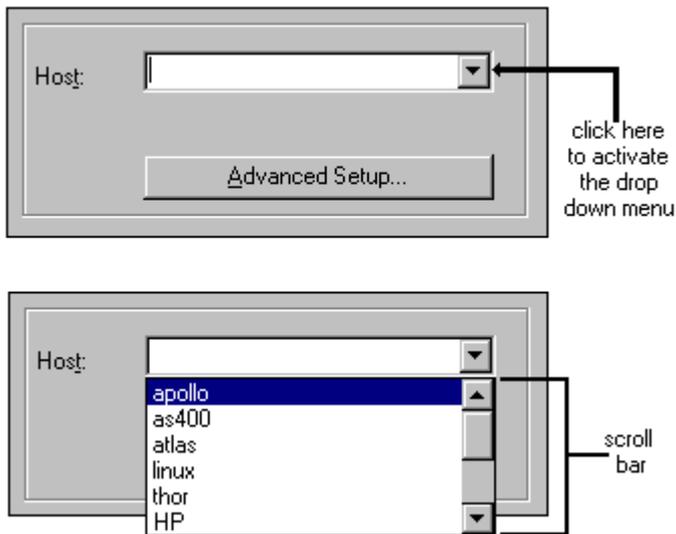
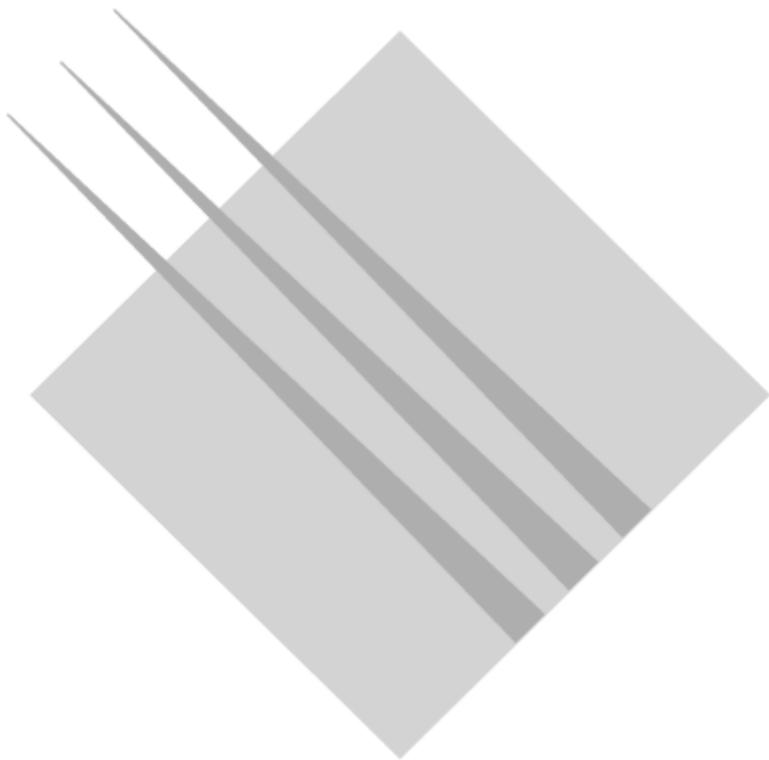


Figure 0.1: Drop Down Menu tile

Once the drop down menu is displayed, use the scroll bar to scroll through the list. For further details refer to your *Windows* manual.



PART ONE
BASIC CONCEPTS



Chapter 1 |

Introduction |

TTWIN 3's features include:

- Fully integrated Drag and Drop FTP
- Graphical Keyboard Mapping
- Cut and paste
- Toolbars
- Powerful, easy to use scripting language
- Multiple concurrent sessions
- Printing
- Automatic font resizing
- Complete window resizing
- File transfer capabilities
- Complete terminal configurability
- Mouse support/hot spots
- User friendly interface
- Context sensitive on-line help
- Support for true type fonts
- Screen buffer/scroll history
- Feature control/Fully configurable menu
- Full keyboard re-mapping
- Multi-host connectivity

- Macro support
- Extremely accurate emulations.

Online Help

TTWIN 3 comes with extensive online help at all levels. It will assist you with the task that you are performing, to find a menu option and to provide you with a description of fields and tiles.

To access help either:

- click on the **H**elp button on the tile that is currently displayed
or
- select **I**ndex from the **H**elp menu.

You can also obtain help on the currently loaded emulation, file transfer and communications modules by making the appropriate selection from the **H**elp menu.

Short Cut Keys

TTWIN 3 provides short cut keys for its facilities on all levels where appropriate. Short cut key sequences are indicated by an underscore.

For example, **O**pen refers to the `OPEN` option, which can be selected using the **short cut key** sequence `ALT_O`.

The TTWIN 3 Pack

Among the files provided in your TTWIN 3 pack are the following:

| | |
|-------------------|--|
| *.DLL | Files essential to the operation of TTWIN 3. They include terminal emulations, communications and file transfer modules. |
| *.CLR | User defined colour configuration files. |
| *.CFG | Configuration files. |
| *.FON | Font files. |
| *.HLP | Online help files. |
| *.HSP | Hotspot files. |
| *.KEY | Key mapping files. |
| *.THF | History files. |
| *.CMP | Character mapping files, used for screen display and printing. |
| *.MC | Mouse Configuration files. |
| *.MNU | Menu files. |
| *.TB | Toolbar files. |
| *.TSL | TTWIN 3's scripting language files. |
| *.TWC | Predefined session(s). All .TWC files are installed into the CONFIG sub directory. |
| TTWIN3.EXE | The main executable. This executable can only be run from within the <i>Windows</i> environment. |
| TTWIN.INI | TTWIN 3 system parameters file. Installs into the root directory of your TTWIN 3 installation. |

Supplied predefined sessions

A predefined session file is a file containing values for all user configurable variables within a particular TTWIN 3 session.

DEFAULT.TWC

When you start up TTWIN 3, if no predefined session is explicitly given as a parameter to either TTWIN3 . EXE or the DfltConfig= **option** in TTWIN . INI, the supplied session definition file, DEFAULT . TWC, is used and its values are used as settings to your session. (Refer to *Chapter 3 - Getting Started, TTWin 3 Startup Hierarchy on page 39* for further details.)

SAMPLE1.TWC and SAMPLE2.TWC

Two example predefined session files have been included with your copy of TTWIN 3. These are called SAMPLE1 . TWC and SAMPLE2 . TWC. These files can be found in the CONFIG sub-directory of the TTWIN 3 directory on your system, once TTWIN 3 is installed.

SAMPLE1 . TWC defines a serial connection from COM1 at 9600 baud using a SCO ANSI colour console emulation. SAMPLE2 . TWC defines a TCP/IP Telnet connection over WINSOCK.DLL using the Telnet - WINSOCK interface to a remote host. The emulation used is DEC VT220 and Kermit has been selected as the file transfer protocol.

Note: *When loading a predefined session, TTWIN 3 checks that the underlying transport layers are loaded. If these are not detected then an error message is generated by TTWIN 3 to indicate this.*

System Requirements

TTWIN 3 software runs only on IBM personal computers or compatible machines which adhere to this standard.

The minimum requirements from your system in order to use TTWIN 3 are:

1. An IBM AT or compatible PC capable of running *Windows*.
2. An installed copy of *Windows*. *Windows* refers to Microsoft *Windows 95 or later, Windows NT 4 or later*.
3. Either;
 - A Network Interface Card (NIC) connected to your network with the appropriate communications transport for your environment already installed on your PC.
 - or
 - A COM port for serial type communications or dial-up networking connections.

Chapter 2 | ***Installation***

The **Installation** chapter takes you through the steps required to get TTWIN 3 installed on your machine, whether it is a stand-alone PC or a network file server. Installing TTWIN 3 onto your system is quick and easy. The full installation process takes only a few minutes.

Software Registration

Purchased Software

Your software comes with a warranty of 90 days, from the date of purchase. To qualify for phone and Internet support during this period you **MUST** register your software on the supplied registration form.

Evaluation Software

Evaluation software has a limited lifespan. Should you find the evaluation period inadequate please contact your dealer or Turbosoft for details on extending the evaluation period.

Before installing TTWIN 3

Before installing TTWIN 3 you must:

1. **Complete your registration form and send it to Turbosoft.**
2. Start up *Windows* on your system.
3. Check that you have at least about 18MB of disk space on the hard drive where TTWIN 3 is to be installed. This approximate space requirement would be for a minimum installation (i.e., only one emulation, a single communications and a file transfer module).

Network Installation

Before installing TTWIN 3 onto your network file server, login as either the network supervisor or a user with supervisor privileges. To install TTWIN 3 onto a network file server, follow the installation procedure as outlined in the section, *Installing TTWin 3*, specifying a network drive (e.g., P:\TTWIN3) as the **Destination Folder** and choose **Network** as the type of installation.

Installing TTWIN 3

To install TTWIN 3 successfully you **must** use the supplied TTWIN 3 SETUP .EXE program.

1. Insert the CD-ROM into the CD-ROM drive on your PC.

If autorun is enabled on your PC, the setup program will automatically commence. Go to Step 3. Otherwise,

Click on the **Start** button and then select **R**un....

2. In the **Run** tile type `D:\SETUP` (or the appropriate drive label) to run the installation program on your TTWIN 3 source disk.

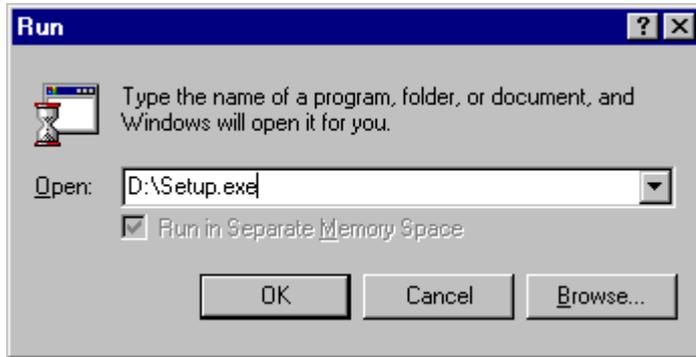


Figure 2.1: **Run** (Windows 95)

The setup program will now load.

***Note:** If you are running Windows from a network drive, and you do not have full access to the Windows files, a **Locked System Directory** error may be reported, followed by several **Cannot copy file** messages. These message are only warnings and should not affect your installation and operation of **TTWIN 3**.*

3. The **Software License Agreement** is displayed. Please read the License Agreement before installing the software. Installing the software establishes your acceptance of this agreement.

4. You are now prompted for your user information.

Serial No.

Please enter your Company Name, Serial Number and Activation Key as instructed below. These details are available on your Licence Certificate.

Company Name:

Serial Number:

Activation Key:

InstallShield

< Back Next > Cancel

Figure 2.2: Serial No. (Enter user information)

- Company** Enter your company name.
- Serial No:** Enter your TTWIN 3 serial number.
- Activation Key:** Enter your TTWIN 3 activation key.

*Note: If a **Secondary Key** is required, you will be prompted to enter it, immediately after completing the tile shown in Figure 2.2.*

5. Choose the location where you want to install the software.

You are prompted for a **Destination Folder**. This is where TTWIN 3 will be installed. To change the **Destination Folder**, click on the **Browse** button.

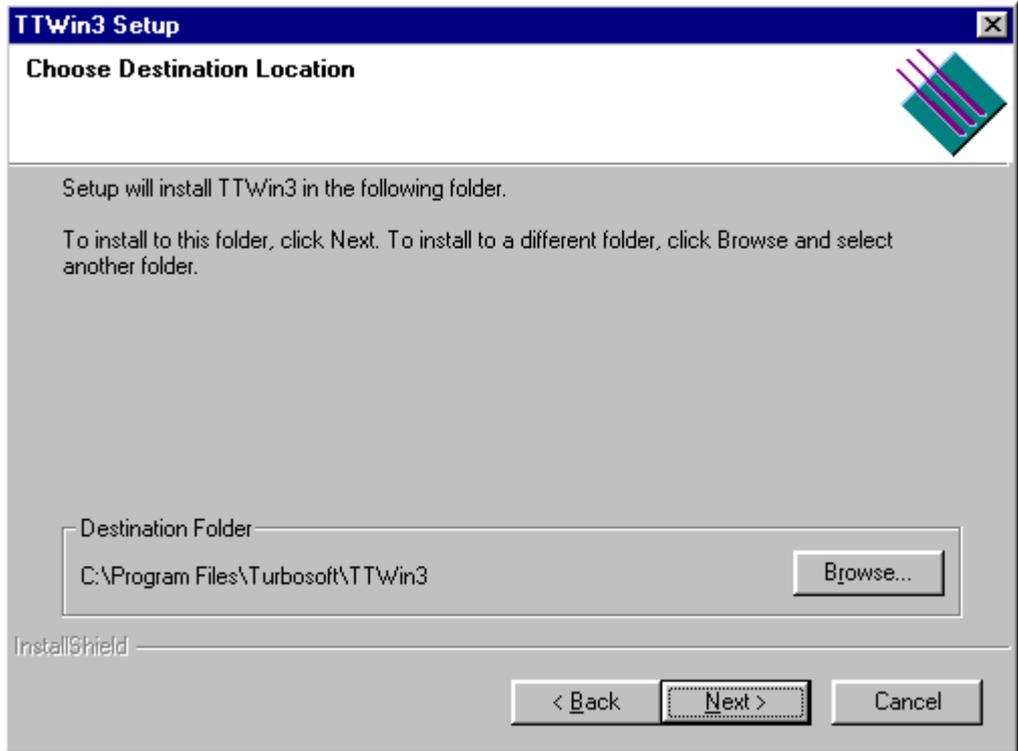


Figure 2.3: Choose Destination Location

For a network installation specify your destination network directory, e.g., P : \ TTWIN3. (Ensure you are logged into your network as either the network supervisor or a user with supervisor privileges.)

6. Specify the location of the component files. By default several sub-directories will be created under the selected install directory. For example: TTWIN3\CONFIG - which holds all the configuration

for predefined sessions, keyboard mappings, colour and modem setting files etc.

If you wish, you can specify a new location for configuration, help, font, script, button and modem files. Two tiles are displayed for you to enter the locations for these files. *Figure 2.4* shows the first of the two tiles.

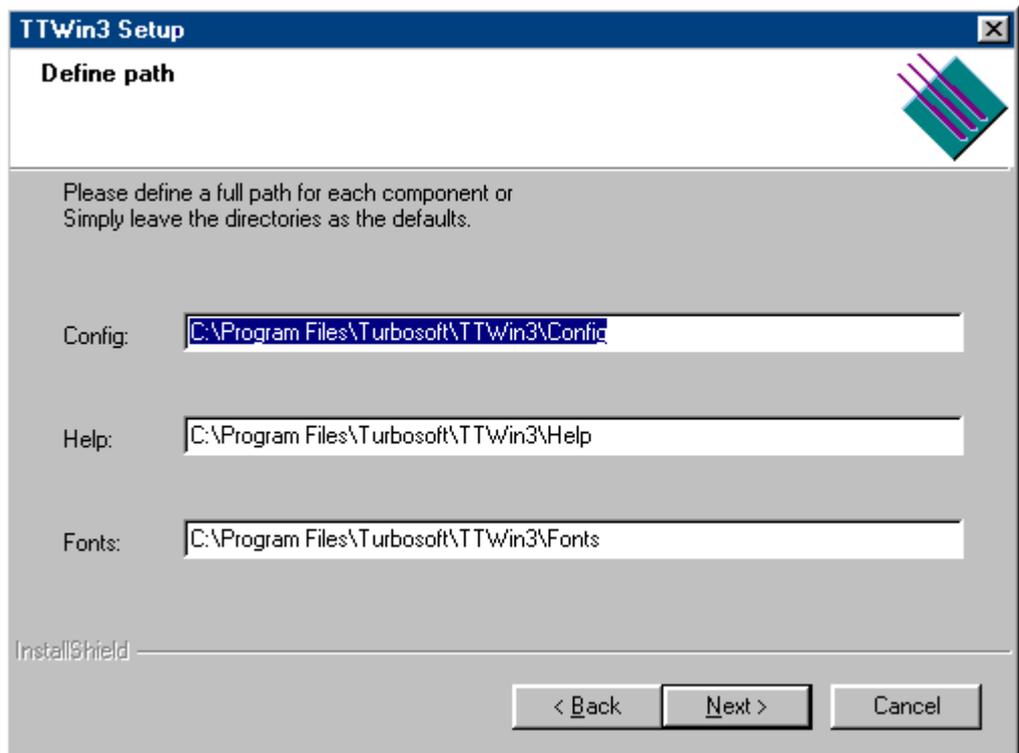


Figure 2.4: Define Path

7. Select the type of setup.

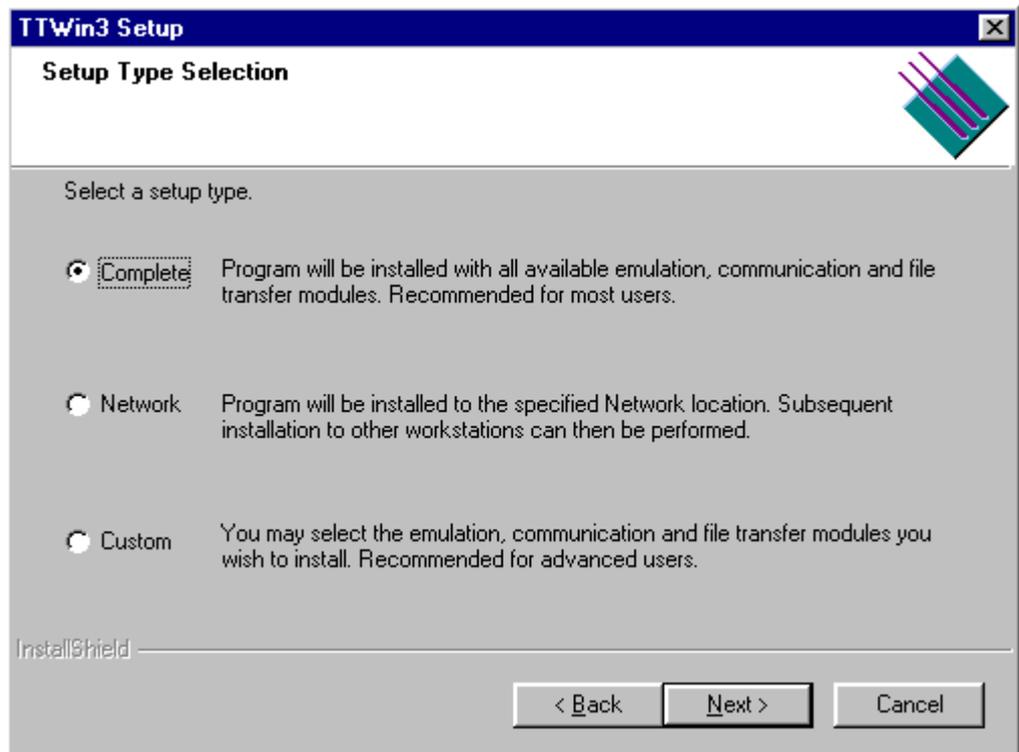


Figure 2.5: **Setup Type Selection**

Complete

All emulation, file transfer and communication modules available in the TTWIN 3 software will be installed. The **Complete** option is the easiest but requires the largest amount of disk space.

Custom

A subset of the supplied modules can be selected and then installed. You can choose which emulations, communications and file transfer modules you wish to have installed.

This option provides a means by which the amount of required disk space can be greatly reduced.

If you choose this option refer to the section below before continuing to **step 8**.

Network

All the supplied TTWIN 3 files will be installed on the network file server. This option allows for subsequent installations to be done from the File Server to the workstation.

Custom Installation

The custom installation provides the means to select only those emulation, communication and file transfer files you wish to have installed.

If you selected **Custom**, the **Custom Install Selection** tile is displayed. (The **Custom Install Selection** tile is also displayed if you select **Add or remove components** when modifying the installed TTWIN 3 components. Refer to *Modifying installed TTWIN 3 Components on page 29*). The **Custom Install Selection** tile changes depending on which component is highlighted.

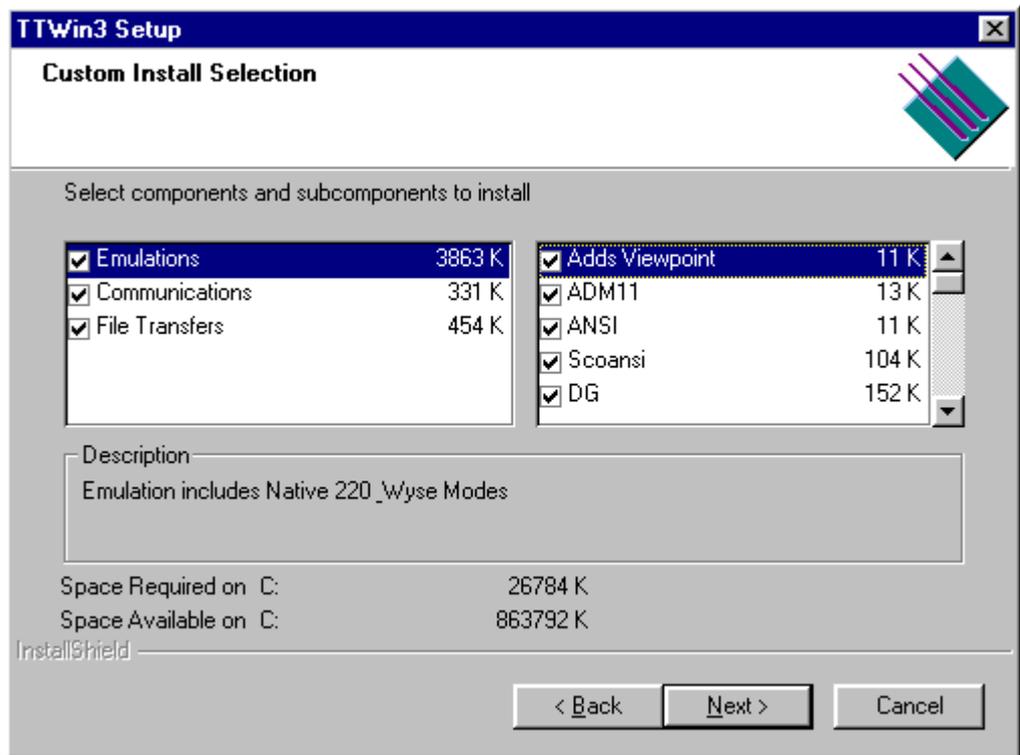


Figure 2.6: Custom Install Selection tile

Components

There are 3 components: **Emulations**, **Communications** and **File Transfers**.

A list of the available modules for the highlighted component is displayed in the right column. To add and remove modules click on the particular item. You will need to select at least one module for each of the 3 components.

Description

A description of the highlighted component.

Space Required The space needed for all selected components and modules.

Space Available The space available on your hard drive.

8. After selecting **Express** or **Network** installation, or after the **Custom Install Selection** tile has been configured, TTWIN 3 will commence the transfer of files. A progress meter has been included to show the percentage of files installed.

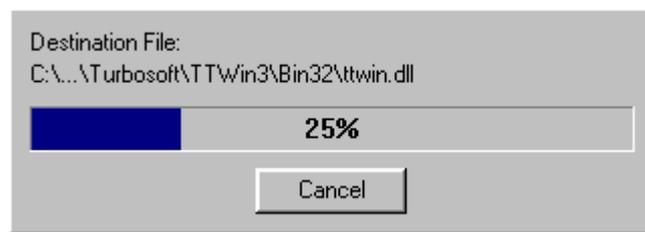


Figure 2.7: Progress meter

9. When all the files have been installed, you will be prompted for a program folder for the TTWIN 3 icons. The default program folder is TTWin3.

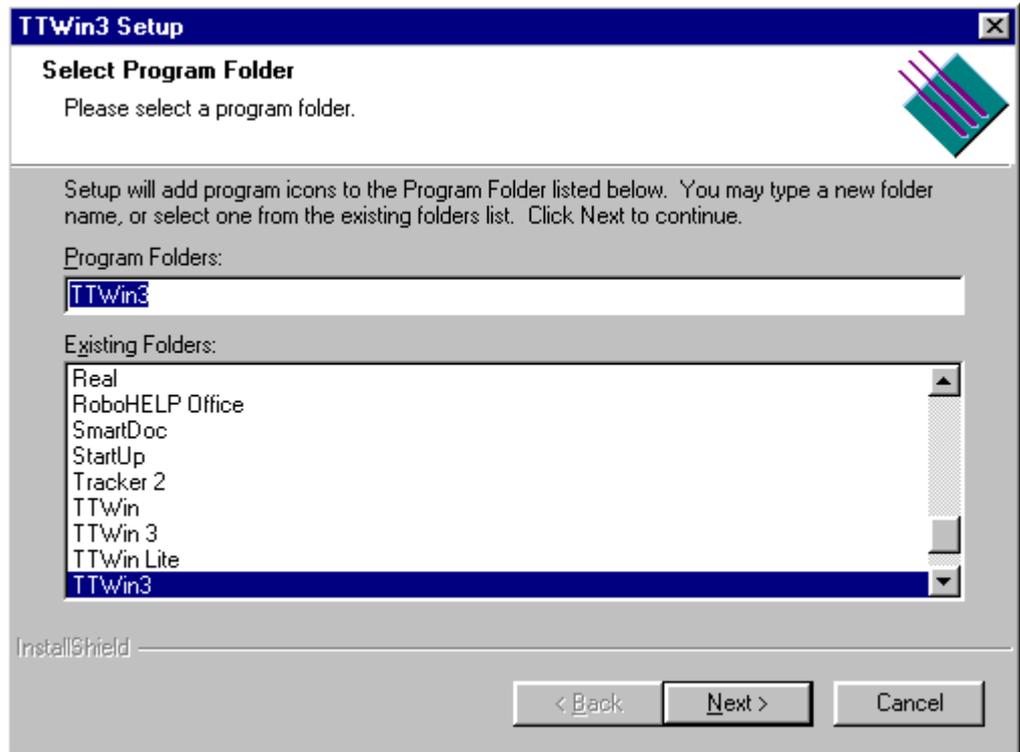


Figure 2.8: **Select Program Folder**

10. Accept the **Setup Complete** tile, by clicking on the **Finish** button. The new program group will be visible, (not for a network installation.) A TTWIN 3 icon can be seen within the folder.

TTWIN 3 is automatically entered into your Programs menu. If you wish, you can also copy TTWIN 3 icon(s) onto your desktop.

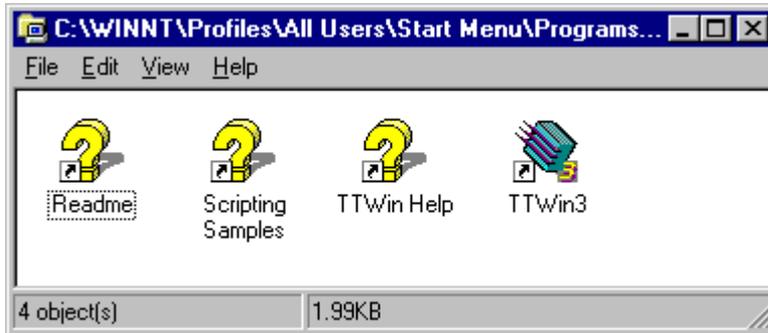


Figure 2.9: TTWIN 3 Program Group tile

Downloading from a Network File Server

When the TTWIN 3 network installation is complete you will need to enable all network users to access and operate TTWIN 3. To do this, you must first flag all TTWIN 3 files installed on the network file server as read shareable and then download TTWIN 3 to each workstation.

To download TTWIN 3, run `SETUP.EXE`. (This file is located in the **Destination Folder** specified during the network installation). Then follow the procedure used to install TTWIN 3.

You will not be required to enter any user information, such as, company name, serial number and activation key.

The remaining steps are the same as the steps used to install TTWIN 3. Refer to *Installing TTWin 3 on page 17*.

You must repeat the downloading procedure for each workstation.

Modifying installed TTWIN 3 Components

The SETUP .EXE program will also enable you to reinstall TTWIN 3 and to add or remove components of the currently installed version.

When TTWIN 3 is installed on a PC

To add or delete components from your installed TTWIN 3, or to reinstall TTWIN 3, run SETUP .EXE from your CD-ROM, just as you did when installing. (See **Step 1** under *Installing TTWin 3 on page 17.*) The first tile that is displayed is the **Select an Option** tile.

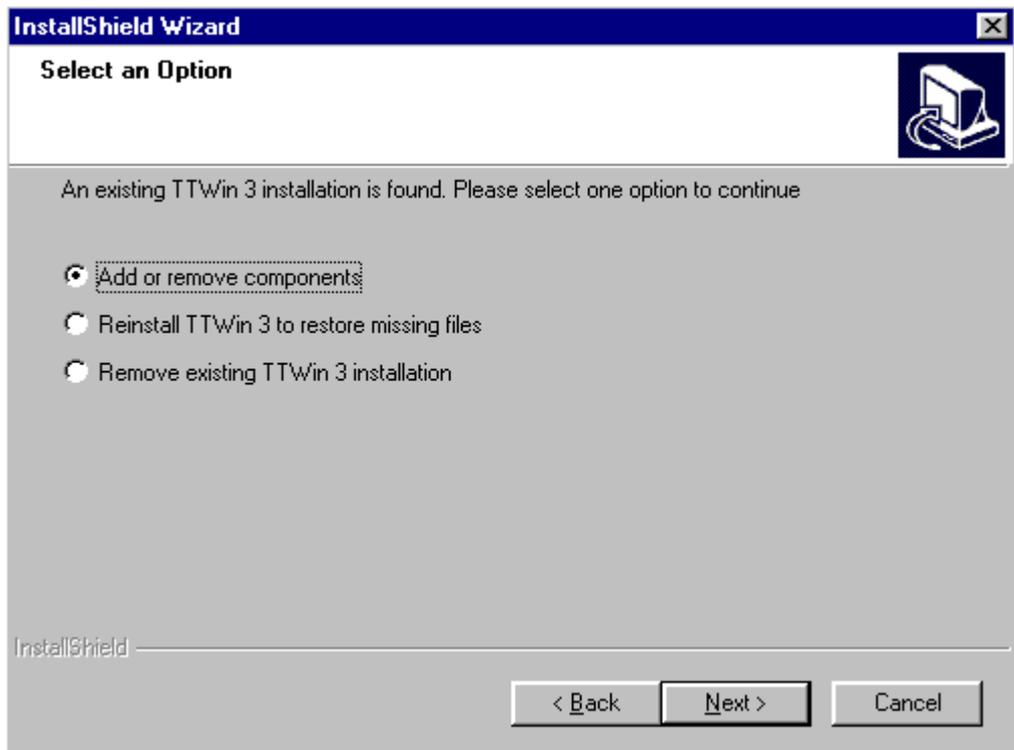


Figure 2.10: **Select an Option** tile

Add or remove components

This option allows you to add or remove the emulation, communications and file transfer modules.

After selecting to **Add or remove components** the **Custom Install Selection** tile is displayed. Refer to *Custom Installation on page 23* for details of the fields on this tile.

Reinstall TTWin 3 to restore missing files.

This option allows you to reinstall TTWIN 3 if files are missing or corrupt.

All files will be copied to the location that was specified during the initial installation.

You will be prompted either to retain your existing configuration files (e.g., predefined sessions, keyboard mappings, etc.) or replace them with default files.

The reinstallation procedure is shorter than installation. Refer to **Step 3, Step 4** and **Step 7** of *Installing TTWin 3 on page 17*.

Remove existing TTWin 3 installation

All the existing TTWIN 3 and registration files will be removed.

When TTWIN 3 is installed on the Network

If TTWIN 3 was installed on the network file sever and then downloaded to a workstation, you can not reinstall nor add or remove components on the workstation without first uninstalling the workstation TTWIN 3.

To uninstall TTWIN 3 refer to *Uninstalling TTWin 3 on page 32*.

After you have uninstalled TTWIN 3, run SETUP .EXE from the network file server, to download again. Refer to *Downloading from a Network File Server on page 28*.

Uninstalling TTWIN 3

If for some reason you need to remove TTWIN 3 from your PC, an uninstall process is available.

1. Click on the **Start** button and then select **Setting....** Then select **Control Panel**.
2. In the **Control Panel** dialog box that is displayed, click on **Add/Remove Programs**.
3. Scroll through the list of applications on the **Add/Remove Programs Properties** dialog box and select TTWIN 3.
4. Click on the **Add/Remove** button.

Chapter 3 | Getting Started

Starting TTWIN 3

Note: You will need a minimum of 6Mbytes of available memory to run TTWIN 3.

If a TTWIN 3 icon has been set up on your desktop, double click on the icon. The TTWIN 3 window is then opened, see Figure 3.1.

If an icon has not been created, use the **Start** button to select **Programs**. From the **Programs** menu select the TTWIN 3 Program Folder, and then select TTWIN 3. The TTWIN 3 window is then opened, see *Figure 3.1*.

Refer to your Microsoft *Windows* documentation for information on creating icons.

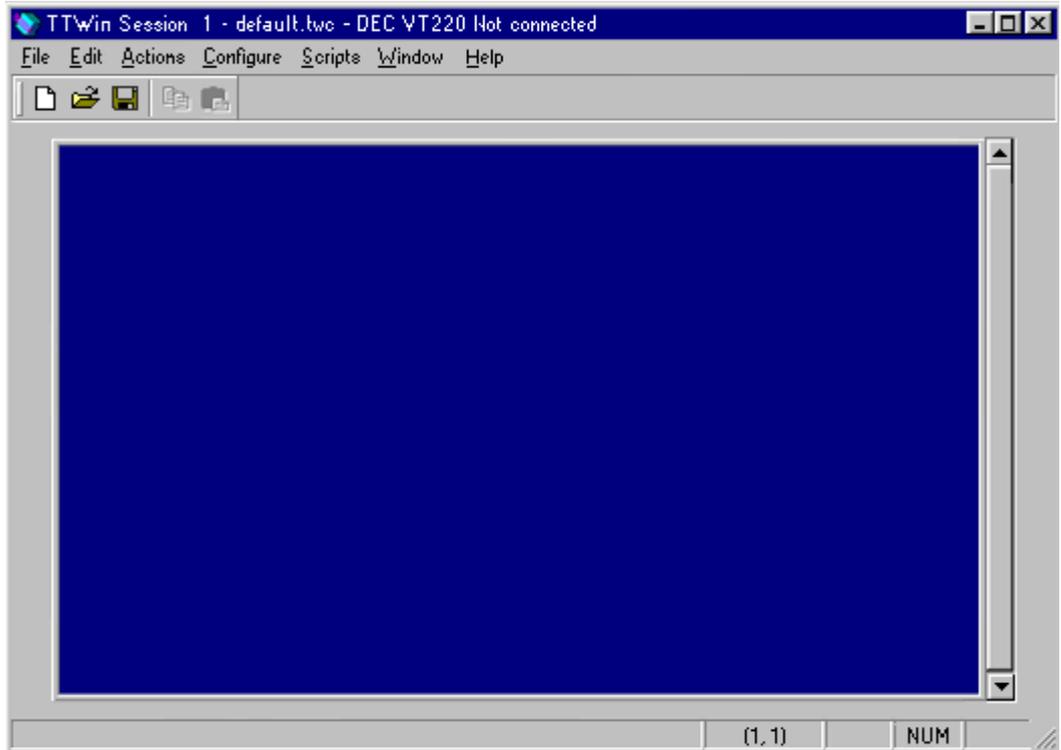


Figure 3.1: TTWIN 3 window (with **History** enabled)

Setting Startup Options

If you selected the **Auto connect on startup** when configuring your predefined session, then on startup TTWIN 3 will attempt to connect to the specified remote host. If you also entered a valid **Startup string**;, this will be automatically sent, when a successful remote host connection is made. (For further details see *Chapter 18 - Session Preferences on page 444*)

Automatically Starting TTWIN 3

To have TTWIN 3 start automatically when you start your PC, place it in your *Windows* **Startup** folder using the following steps:

***Note:** You must create a TTWIN 3 icon on your desktop before preceding. Refer to your Microsoft Windows documentation for information on creating icons.*

1. Right click on the **Start** button and then select **E**xplore.

The **Exploring - C:\WIN95\Start Menu** dialog box is then displayed.

2. Double click on the **Programs** folder.

The **Exploring - C:\WIN95\Start Menu\Programs** dialog box is then displayed.

3. Double click on the **Startup** folder.

The **Exploring - C:\WIN95\Start Menu\Programs\Startup** dialog box is then displayed.

4. Click on the TTWIN 3 icon on your desktop and drag it into the **Startup** folder. TTWIN 3 will automatically start **next** time you start your PC.

Specifying a predefined Session at Startup

Use the **Start** button to select the **R**un command.

If you have used the default install values then TTWIN 3 will be in the C:\PROGRAM FILES\TURBOSOFT\TTWIN3 directory, so type:

```
"c:\program files\turbosoft\ttwin3\bin32  
\ttwin3.exe" predefined session
```

By specifying a predefined session at startup, you will be placed straight into the specified predefined session.

For example, if you are using *Windows 95* and wish to start TTWIN 3 with one of the supplied sample predefined sessions, say `SAMPLE1.TWC`, you would use the **Start** button to select the **Run** command and then enter:



Figure 3.2: Starting TTWIN 3 with a predefined session

Other Command Line Parameters

As well as specifying a predefined session at startup, there are also the following command line options:

- Running TTWIN 3 hidden,
- Labelling the TTWIN 3 session for external control,
- Specifying an IP address,
- Specifying user defined initialisation file, i.e., a `.INI` file.

More than one argument or switch can be specified at one time.

Refer to the following table for details:

| Argument or switch | Description |
|---------------------------|--|
| /h or -h | Executes TTWIN 3 hidden. For example, c:\ttwin3\bin32\ttwin3.exe /h |
| /i or -i | Specifies a user defined initialisation file. For example, c:\ttwin3\ttwin3.exe /ic:\myini.ini When you use a .INI file to start TTWIN 3, TTWIN 3 will use the default session unless a session file is also specified. |
| /l or -l | Specifies a session label for external control of TTWIN 3. For example, c:\ttwin3\bin32\ttwin3.exe -l label |
| /t or -t | Specifies a hostname or IP address for the host. For example, c:\ttwin3\bin32\ttwin3.exe -t host |
| session_file | Specifies a predefined session file. For example, c:\ttwin3\bin32\ttwin3.exe mysession.twc |

Creating additional TTWIN 3 icons

Each TTWIN 3 icon typically forms the basis for a pre-configured session, allowing you to set up as many sessions as you require. This is done by configuring each copy of TTWIN 3 to automatically load a given predefined session (e.g., AS400.TWC) whenever you double click on its icon.

To create additional TTWIN 3 icons, in *Windows 95* or similar, follow these steps:

1. Right click on the TTWIN 3 icon on the desktop. From the pop up menu, select **C**opy. This creates a copy of the icon and the shortcut.
2. Right click on the TTWIN 3 icon again and holding down the right mouse button, drag the copy to the required position.

After you drop the icon, select **C**opy Here from the pop up menu that appears.

You can change the name and/or properties of the icon by right clicking on the icon and selecting either **R**ename or **P**roperties.

3. To specify the pre-configured session that will be automatically loaded when starting TTWIN 3, right click on the icon and select **P**roperties.
4. Click on the **S**hortcut tab.

Then in the **T**arget field, add the name of the .TWC file as an argument to the path already indicated.

For example, if the path is

```
C:\PROGRAM FILES\TTWIN3\TTWIN3.EXE
```

and the required .TWC file is IBM.TWC then the resulting **T**arget field would contain

```
"C:\PROGRAM FILES\TTWIN3\TTWIN3.EXE" IBM.TWC
```

TTWIN 3 Startup Hierarchy

When you start TTWIN 3, irrespective of whether you choose to start by double-clicking on an icon or by using the Run command, TTWIN 3 will follow a predetermined series of steps.

1. TTWIN 3 first checks whether a predefined session, (a .TWC file) has been specified as a parameter when starting TTWIN 3.

If so, TTWIN 3 will load with its settings from the predefined session file.

2. If no .TWC file has been defined as a parameter or the given file cannot be found then TTWIN 3 looks in the TTWIN3 .INI file for the *DfltConfig* variable.

If a .TWC has been entered against the *DfltConfig* variable then TTWIN 3 will load its settings from this predefined session file.

3. If the *DfltConfig* variable has no associated .TWC or the given one can not be found then TTWIN 3 looks for the file DEFAULT .TWC in the TTWIN3\CONFIG directory.

If the predefined session called DEFAULT .TWC is found then TTWIN 3 will load its default settings from this file.

4. TTWIN 3 again looks in TTWIN3 .INI for the individual module defaults. In this file these are given as *DfltEmulation*, *DfltCommunications* and *DfltFileTransfer*. If a particular module has not been specified TTWIN 3 will load without this module.

5. Finally, if no DEFAULT .TWC file can be found then TTWIN 3 will load with internally defined values for such features as the font style and size, the colour scheme, view settings, etc.

The Title Bar

The Title bar has 3 elements, from left to right (see *Figure 3.3*):

- *Windows* Control Command menu
Clicking on the icon in the extreme top left corner will display the *Windows* Control Command menu. The **Menu** option is added to this menu if the **Allow menu configuration via System Menu** item is selected on the **Session tab** on the **Configure | Preferences** menu. Refer to *Chapter 18 - Session Preferences on page 444*.
- Session title
The session title is set up using the **Title** option on the **Configure** menu. When TTWIN 3 starts up, if no title has previously been set for the loaded session then the session's filename will be used for the title. This is particularly useful when there are several sessions to the same host. Refer to *Chapter 25 - Title & Status Bar on page 488*.
- *Windows* Close, Minimize and Maximize buttons.



Figure 3.3: Title bar

The Menu Bar

The TTWIN 3 menu bar provides access to all of TTWIN 3's facilities. (Depending on the configuration of your TTWIN 3, some or all of the menus may not be visible.)

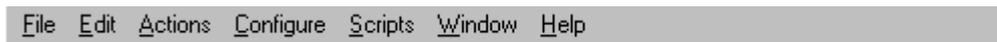


Figure 3.4: Menu bar

The Display Area

This is your interface to the remote host. This area allows you to send commands and data to the remote host and/or remote host application. Any messages from the remote host and/or remote host application are also displayed in this area.

The Status Bar

The Status bar displays first level help and messages for the selected menu option or the action being performed.

The Status bar can be enabled or disabled using the Status bar checkbox found on the Display dialog of the Configure|Preferences menu item. Refer to *Chapter 19 - Display on page 449*.

Toolbars

Toolbars are displayed horizontally (top or bottom), vertically (left or right) or floating. The placement is defined in toolbar configuration. Refer to *Chapter 16 - Toolbars on page 428*.

History Scroll Bar

The History scroll bar is displayed on the right side of the TTWIN 3 window (see *Figure 3.1*). The **Enable history** option is part of **Display** configuration. Refer to *Chapter 19 - Display on page 449*.

Configuring TTWIN 3

In order to achieve communication with a remote host it is necessary to configure a number of the TTWIN 3 modules.

On the **C**onfigure menu, which is selected from the TTWIN 3 main menu, are the options that allows you to configure the emulation, communication and file transfer modules. The configuration of these modules is fundamental to the setting up of TTWIN 3 on your system, so that it can communicate with your remote host. (Assuming you have successfully installed your transport software/hardware i.e., TCP/IP, IPX/SPX, etc.).

The following sections are only an introduction to the configuration of TTWIN 3. For further information refer to the relevant chapter.

Configuring the Emulation

In order to change the emulation settings, choose **E**mulation from the **C**onfigure menu.

***Note:** If you choose an emulation for which you are not licensed, an error message is displayed and you will be prompted to select another emulation.*

If there is no active emulation module, then the **S**elect an Emulation menu will appear. This enables you to select the required emulation. Once an emulation has been selected, the **c**onfigure emulation tile for this emulation will appear.

If an emulation is already selected, you will be presented with the **c**onfigure emulation tile for this emulation.

From the **configure** emulation tile, you can either alter settings for the current emulation or select a different emulation by clicking the mouse on the **Select Another...** button. Refer to *Chapter 11 - Emulations on page 192*.

Configuring the Communications Module

To select/alter the communications module settings, the process is similar to the process for terminal emulations as discussed above. Select **Comms** from the **Configure** menu.

***Note:** If you choose a communications module that is not available in your environment, an error message is displayed and you will be prompted to select another communications module.*

If there is no active module, then the **Select a Comms Module** menu will appear. From this tile select the comms module required.

If a comms module is selected, you will be presented with the **configure** comms module tile for this module.

The **configure** Comms module tile, enables you to alter settings on the current comms module or choose a different comms module by clicking on the **Select Another...** button.

***Note:** Before you can **Select Another...** communications module, you **must** disconnect from your remote host.*

Refer to *Chapter 10 - Communications on page 163* for further details.

If you are unsure which is the best communications module for your network architecture then check with your system administrator, or contact your local dealer.

Configuring the File Transfer Protocol

To select/alter the file transfer module settings, choose **File Transfer** from the **Configure** menu.

***Note:** File transfer software is required to be resident on the host. If you select a protocol that is not available on your host, the file transfer will fail.*

If there is no active module then the **Select a File Transfer Module** tile will appear. You now select your required file transfer module.

If a file transfer module is already selected you will be presented with the configure file transfer tile for this module.

With the **configure** file transfer screen, the settings on the current file transfer module can be changed or a different file transfer module selected by clicking the mouse on the **Select Another** button. Refer to *Chapter 8 - Configure File Transfers on page 91*.

Other Configurable Options

TTWIN 3 provides a large range of configurable options, easily accessed through the **Configure** menu. It is recommended that you explore these other options especially:

- **Mouse.** Both the left and right mouse buttons can be configured with a variety of options.
- **Menu.** The menu system in TTWIN 3 is fully configurable. This provides maximum flexibility and allows the user interface to be as simple or complex as is required.
- **Toolbars.** The user can define toolbars to initiate a variety of actions, for instance, send a string, send an emulation key and select a menu option. Predefined toolbars are available in TTWIN 3.
- **Hotspots.** A fixed or non-fixed area of the screen can be defined as a hotspot. Hotspots can be set to autoexecute or be activated by the click of a mouse button. Also, like toolbars, hotspots can be

used to start a range of actions, such as, send a string, send an emulation key and select a menu option.

For details on all the configurable options, refer to the relevant chapter in **Part Four - Configuration**.

Connecting to a Remote Host

Once the required emulation has been selected and the communication module configured for your installed transport, TTWIN 3 can connect to your remote host. To do this, select **C**onnect from the **A**ction menu.

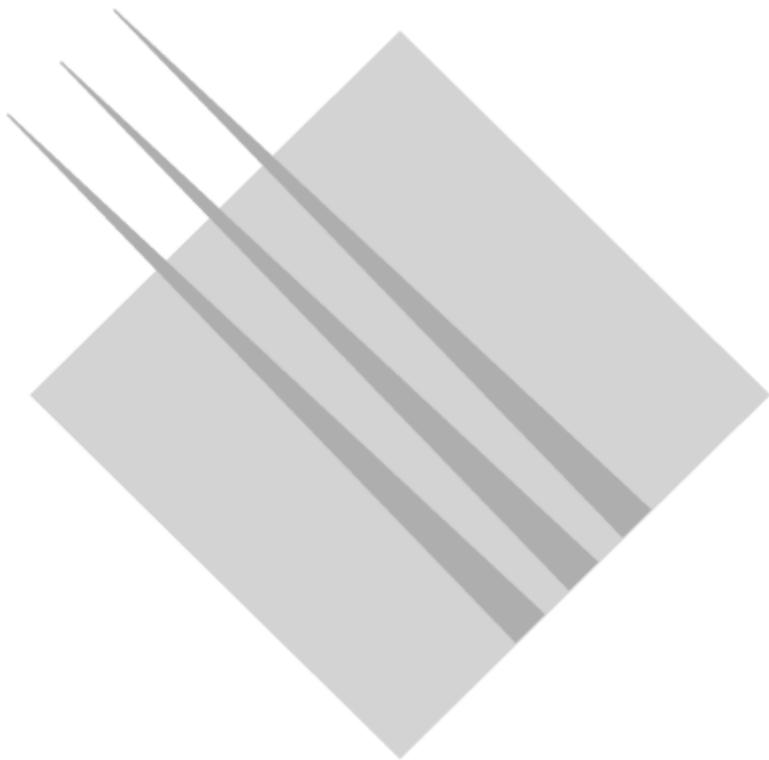
Initiating additional remote connections

Once you have a TTWIN 3 connection to a remote host running, an additional connection can be started to the same or different host, using any communications module and emulation settings. This is done by selecting **N**ew from the **F**ile menu.

The number of sessions that can be active is dependent on your network architecture. For example, serial communication is strictly one connection per serial Comms port, while Telnet can support a number of concurrent connections to your remote host(s).

A black and white photograph of a mountainous landscape. In the foreground, a winding road is visible on the left side. The middle ground shows a deep valley with a river or stream flowing through it. In the background, there are several mountain ranges with prominent, flat-topped peaks. The overall scene is hazy, suggesting a misty or overcast day.

PART TWO
ADVANCED OPERATION



Chapter 4 |

File Menu

The majority of **File** menu options will be familiar to *Windows* users. Commands found within the **File** menu basically involve opening and closing TTWIN 3 sessions, saving configuration files and printing options. These will be covered only briefly. The *Windows* manual discusses these functions in more detail.

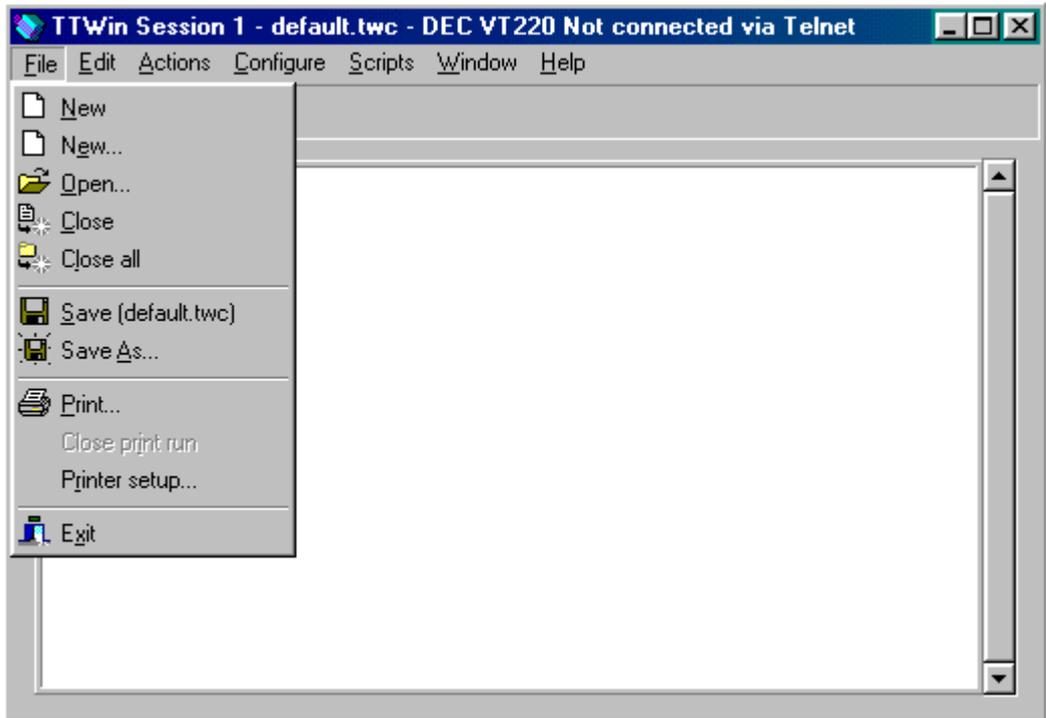


Figure 4.1: **F**ile menu

New

The **New** command starts an additional TTWIN 3 session using DEFAULT.TWC under the following conditions:

- If DEFAULT.TWC exists, then **New** will start a session using those values stored in the DEFAULT.TWC.
- If DEFAULT.TWC can not be found then either the system default values from TTWIN.INI are used or, if there are no defaults defined in TTWIN.INI the TTWIN 3 internal default values are used.

New...

The **New...** command starts an additional TTWIN 3 session using the TTWIN 3 session file that you select.

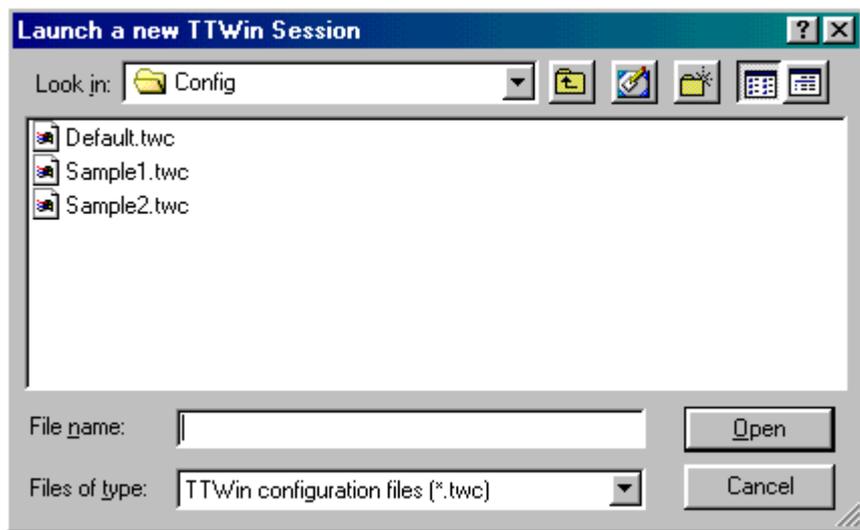


Figure 4.2: **Launch a new TTWin session** tile

Once selected, a new TTWIN 3 session using the parameters of the selected session file is started.

Open...

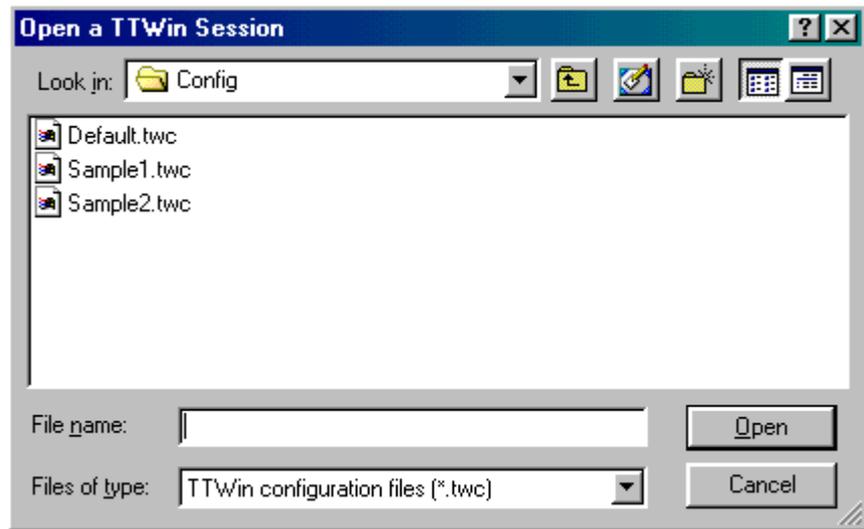


Figure 4.3: File Open tile

The **Open...** option is used to select and load the predefined sessions file that you wish to use. Predefined session files have the file extension .TWC.

After opening a predefined session, (e.g., SAMPLE1.TWC) all session parameters are reconfigured to the settings defined in the newly loaded session. Refer to *Chapter 18 - Session Preferences on page 444*.

Close

The **Close** option closes the currently selected TWIN 3 session. In SDI mode, this will also close that instance of TWIN 3, and focus will switch to the previous active application. In MDI mode, the selected session will close however TWIN 3 will remain running.

Close all

The **Close all** option will close all currently open TWIN 3 sessions, regardless of which session the command was selected in. In SDI mode, this will also close the TWIN 3 applications. In MDI mode, all sessions will be closed however TWIN 3 will remain running.

Save

The **Save** option saves all the configuration settings of the currently selected session in its `.TWC` file.

Save As...

The **Save As...** option in the **File** menu enables you to save the configuration details in a predefined session file. You will be prompted for a filename, the extension will automatically become `.TWC` to indicate a TTWIN 3 predefined session.

Print

The **Print** option is used to print the contents of the emulation screen to the selected printer. Any changes that need to be made to the settings are done via the **Printer Setup** option.

Refer to *Chapter 24 - Printer on page 482* especially *Other Options on page 485* to configure the TTWIN 3 print settings and to specify how the print job is handled by the defined printer.

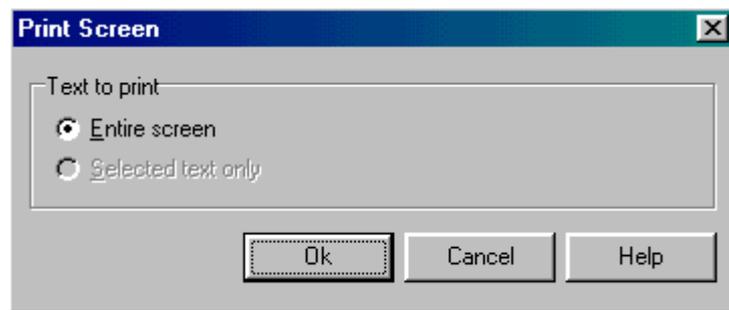


Figure 4.4: **Print** tile

Current Printer

The currently selected printer is displayed. To change the printer, select the **Printer Setup** option from the **File** menu.

Note: *This feature to be added in a future release of TTWIN 3.*

Text to print...

This allows you to select what to include when you do a screen print.

Entire Screen

The entire contents of the current screen are sent to the defined printer.

Selected text only

The area of the screen that you have selected will be printed. You can select text by dragging the mouse across a region and highlighting it.

This option is only available after a region of the screen has been selected.

Close Print Run

When 'print through' is used in an emulation, the **C**lose Print Run... command sends any outstanding, buffered data to your printer and then closes down the print job.

This option is greyed out unless a print job is active and the **C**lose the print job manually option is selected in the **P**rinter dialog on the **C**onfigure | **P**references menu.

Printer Setup

The **Printer Setup** command allows you to specify and configure your preferred printer. This operation is directly interfaced into the *Windows* print setup.

Refer to *Chapter 24 - Printer on page 482* to specify how the print job is handled by the defined printer.

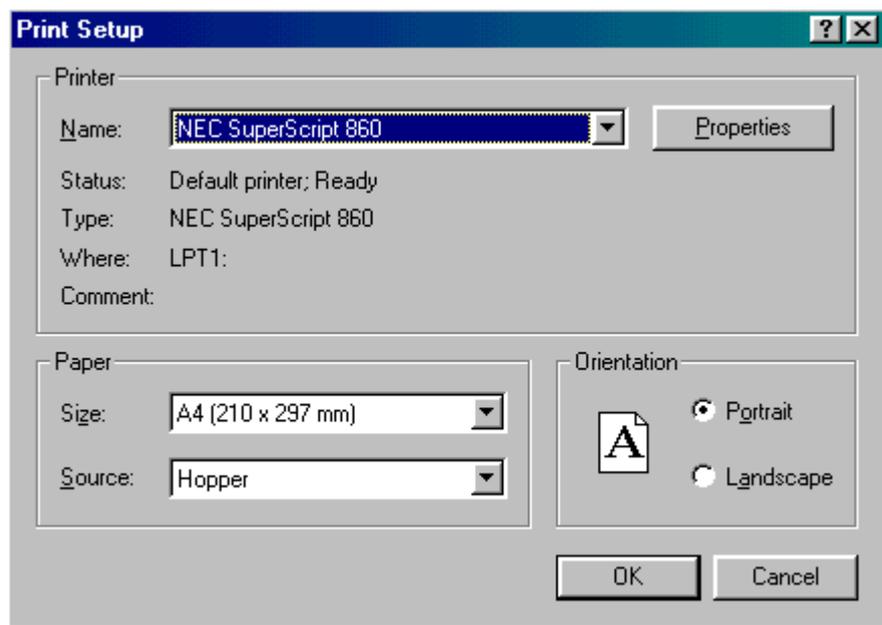


Figure 4.5: **Print Setup** tile

Printer

The printer required for your particular print job can be selected and configured.

Name: This is the printer defined as the *Windows* default printer in the **Control Panel** option on the **Settings** menu.

To change the printer, scroll through the list and select the particular printer required for your print job.

Status: The status of the printer e.g., idle, ready

Type:, Where: and Comment: Information about the printer.

Properties

The **Properties** menu displays all the standard settings available to your selected printer. If you are unsure of any of the parameters, refer to your printer manual or system administrator.

Paper

Allows the paper **Size** and **Source** (paper tray) to be selected.

Orientation

Indicate whether the print job is to be printed in a **Portrait** (tall) or a **Landscape** (wide) format.

Exit

The **Exit** option closes down the TWIN 3 application. In SDI mode, this will close the currently selected instance of TWIN 3 and focus will switch to the previously active application. In MDI mode, the TWIN 3 application will be closed, regardless of the number of active sessions.

Once you have completed your work on the remote host, it is good practice to first logout or close down the connection to the remote host before exiting the TWIN 3 program.

Chapter 5 | Edit Menu

The **Edit** menu offers the ability to clear the display (excluding or including history data), to copy and paste selected regions to and from the *Windows* clipboard, and to manipulate data in the history area.

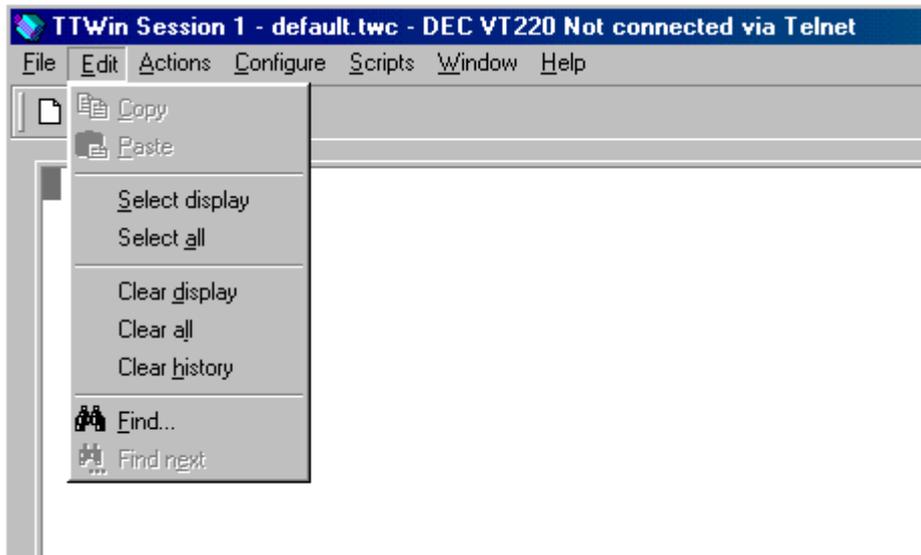


Figure 5.1: **Edit** Menu

Copy

The **Copy** command will copy a selected region to the *Windows* clipboard for later use by the **Paste** command. The region is selected by highlighting with the mouse. Refer to *Chapter 23 - Mouse on page 476*.

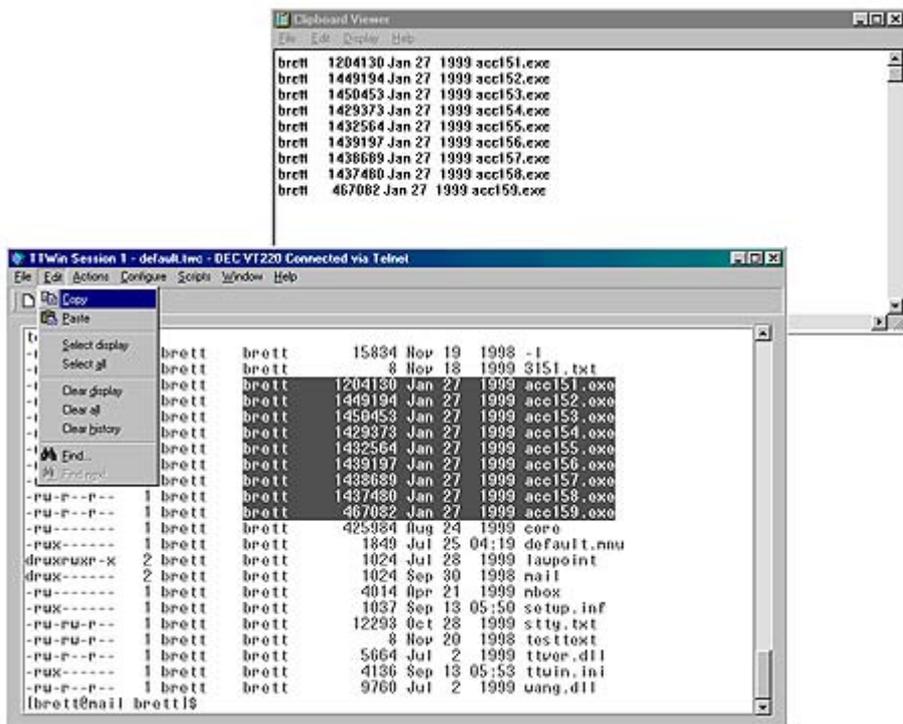


Figure 5.2: Using the **Copy** command and the results viewed on the clipboard.

In Figure 5.2 a copy of the contents of the region selected in the TTWIN 3 session (foreground) appears in the *Windows* clipboard (background).

Paste

The **Paste** command will insert, at the current position of the cursor, the contents of the *Windows* clipboard.

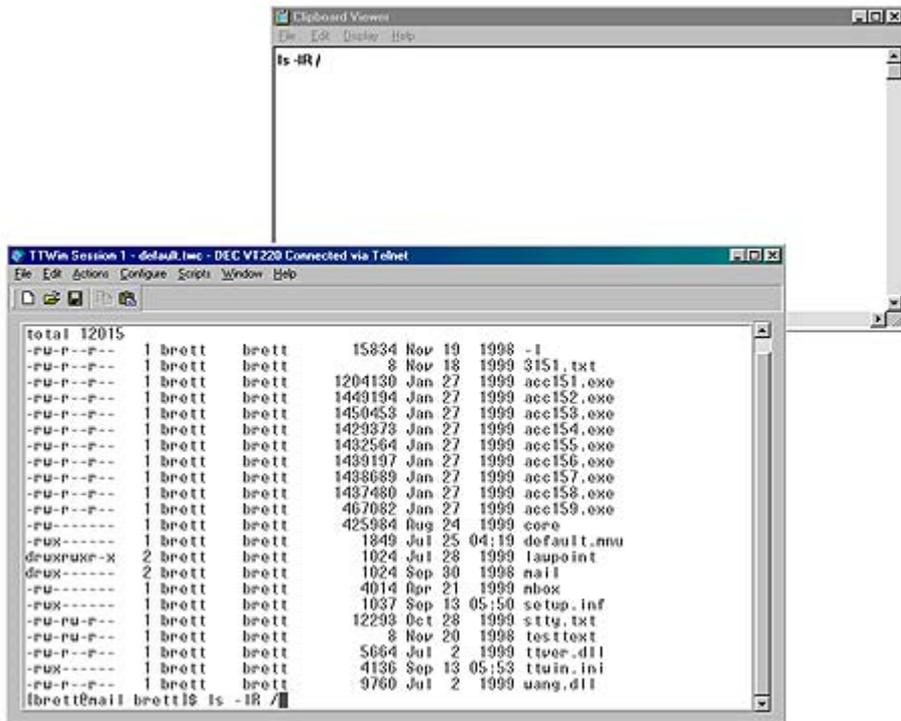


Figure 5.3: Using the **Paste** command

The **Paste** facility allows text from the *Windows* clipboard to be copied into a TTWIN 3 session. In Figure 5.3 the clipboard text was pasted into the TTWIN 3 session and the pasted command is available for execution.

Select display

The **Select display** will select the entire current TTWIN 3 window display area for copying. The display area is defined by the emulation currently in use, not by the size of the TTWIN 3 Window.

For example, if you are using the DEC VT220 emulation with a display size of 24 x 80, the **Select display** command will select all of the contents of this area, irrespective of the window size you are using.

Once selected, a region can be either

- copied to the *Windows* clipboard using the **Copy** option on the **Edit** menu,
or
- printed to a specified printer using the **Print...** option on the **File** menu.

Select all

The **Select all** will select the entire current TTWIN 3 window display area along with the stored scroll history region for copying.

Once selected, a region can be either

- copied to the *Windows* clipboard using the **Copy** option on the **Edit** menu,
or
- printed to a specified printer using the **Print...** option on the **File** menu.

Clear display

To clear the contents of the current TTWIN 3 display area, use the **Clear display** command.

After the display area is cleared the cursor is positioned at the top left corner of the screen.

If the display setting “copy to history on a screen clear” is selected, the screen data cleared by this command is moved to the scroll history buffer. If this is not selected, the data is deleted.

Clear all

To clear the current display region along with any stored scroll history, use the **Clear all** command.

After the display area is cleared the cursor is positioned at the top left corner of the screen.

Clear history

To clear only the contents of the scroll history buffer i.e., information already scrolled off the screen, use the **Clear history** command. The display area is not changed and the cursor position remains constant.

Find

This option allows you to search for a text string in the current display area and scroll history (if enabled).

Text to find

This is used to enter the text string that you want to locate.

Options

Match Case

Specifies whether you want to distinguish between upper and lower case characters when searching.

Whole words only

Specifies whether you want to only locate whole word occurrences of the text string or occurrences that might also form part of a larger word.

Direction

Forward

Specifies that you want to search from the start of the history buffer forward towards the end of the display area.

Backward

specifies that you want to search from the end of the display area back towards the start of the history buffer

Search

Entire region

Specifies that you want the search to start from the beginning of the history buffer.

From current position

Specifies that you want the search to start from your current location.

Find next

This option repeats the previous **F**ind command using the same parameters. If no previous **F**ind command has been executed, this option is not available (greyed out). If you want to change any of the parameters, you need to re-issue the **F**ind command.

Chapter 6 | Actions Menu

The **Action** menu controls the activities of terminal emulation, including file transfers, resetting the terminal, screen capture and connecting/disconnecting to the remote host.

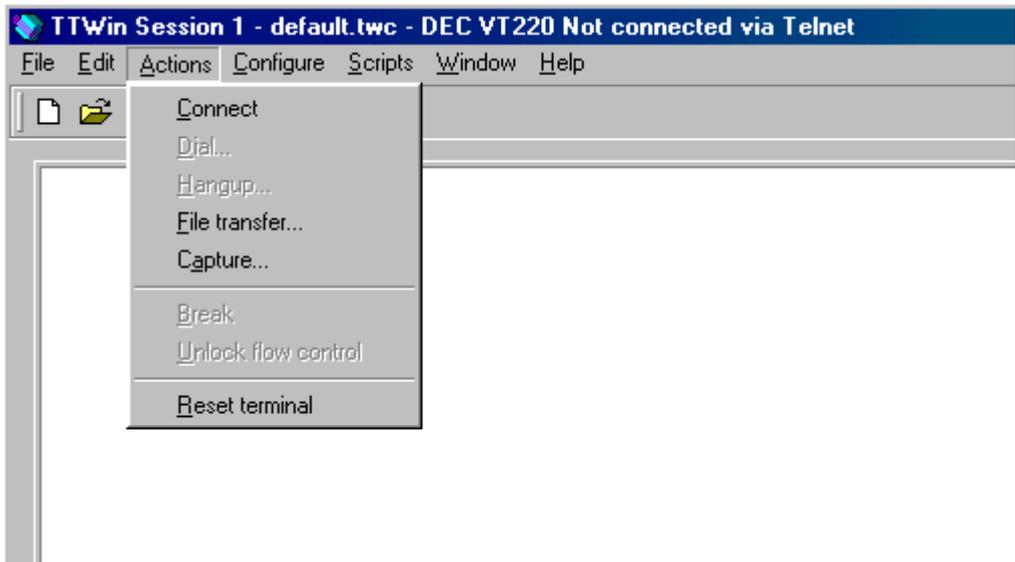


Figure 6.1: **Actions** menu (awaiting connection)

Connect

Disconect

The **Connect** option is used to establish a connection to a host using the selected modules and their defined settings.

Before issuing a request for a connection to your remote host, ensure that the appropriate communications module is loaded and configured for your system.

The currently loaded communications module can be determined in several ways:

- If configured, it can be displayed on the title bar.
- By selecting the **Comms..** option on the **Configure** menu.

***Note:** To change the communications module, you must use the **Comms** option on the **Configure** menu. Refer to Chapter 10 - Communications on page 163.*

Connecting

Once the required communications module is loaded, there are two methods of initiating a connection between your system and the remote host:

- The **Connect** command in the **Actions** menu (see *Figure 6.1*).
- The **Connect** button on the **Configure** tile for the selected **Comms..** module.

If there is no communications module indicated when you select the **Connect** option, nothing will happen.

Confirmation of a successful connection is indicated in two ways:

- The **C**onnect option, under the **A**ctions menu, toggles to **D**isconnect awaiting the closure of the connection.
- If the title bar option to display connection status is enabled, it will change from **N**ot **C**onected to **C**onected .

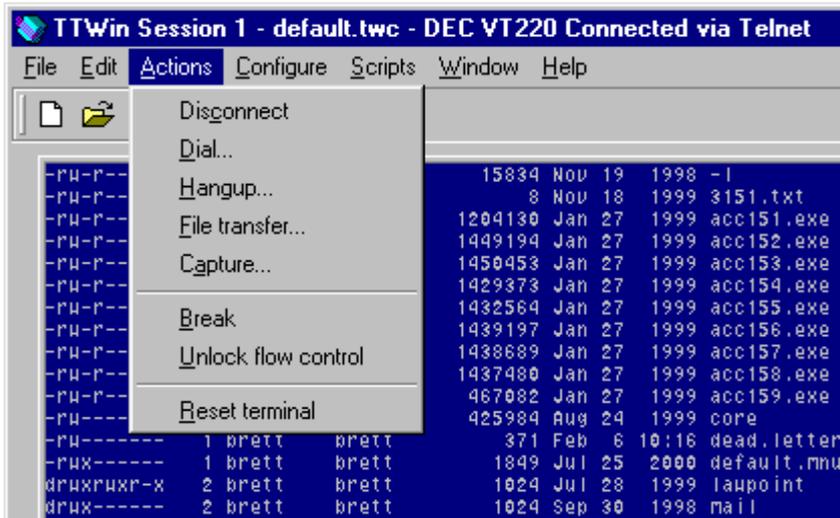


Figure 6.2: **A**ctions menu (**C**onected)

To cease communications with the nominated host, select the **D**isconnect option. Confirmation of the **D**isconnect action can be seen in the change of the connection status element of the title bar (if configured).

TTWIN 3 won't connect!

When an error message is returned while trying to connect, this often indicates that the transport software has not been successfully loaded **OR** incorrect details regarding the remote host have been provided to the

TTWIN 3 communications module. (Refer to *Chapter 10 - Communications on page 163* for details on configuring the communications module.)

Dial

The **Dial...** option is used to instruct a modem connected to your PC to contact and establish communications with a remote host.

Note: Before you are able to use the **Dial...** option, you **must** first load the serial communications module and establish communications with the modem using the **Connect** option.

Until you have established a connection with the modem, the **Dial...** option on the **Actions** Menu will be greyed out, (see *Figure 6.3*).

Checking serial communication & local modem settings

Before trying to dial your remote host, it is good practice to confirm your modem is on-line and ready to operate.

For example, for a Hayes-compatible modem, typing **at** followed by ENTER while TTWIN 3 is connected will cause the modem to reply with the message OK. If nothing echoes to your screen, check that the modem is correctly installed and switched on, and that the correct COM port is selected.

Also ensure that the selected modem is the same as, or compatible with, your own connected modem. The modem details are set up through the **Modem** option in the **Preferences** menu. Refer to *Chapter 21 - Modem on page 461* for details.

The local serial communications settings, i.e. baud rate, flow control, parity etc., are dependent on the settings of the remote site. For a successful connection, the local settings **must** be set to match those of the remote site.

Serial communication details are set up using the **Comms** option on the **Configure** menu. Refer to *Chapter 10 - Communications on page 163* option for details.

Selecting a remote site

After selecting **Dial...** the **Dial** tile is displayed.

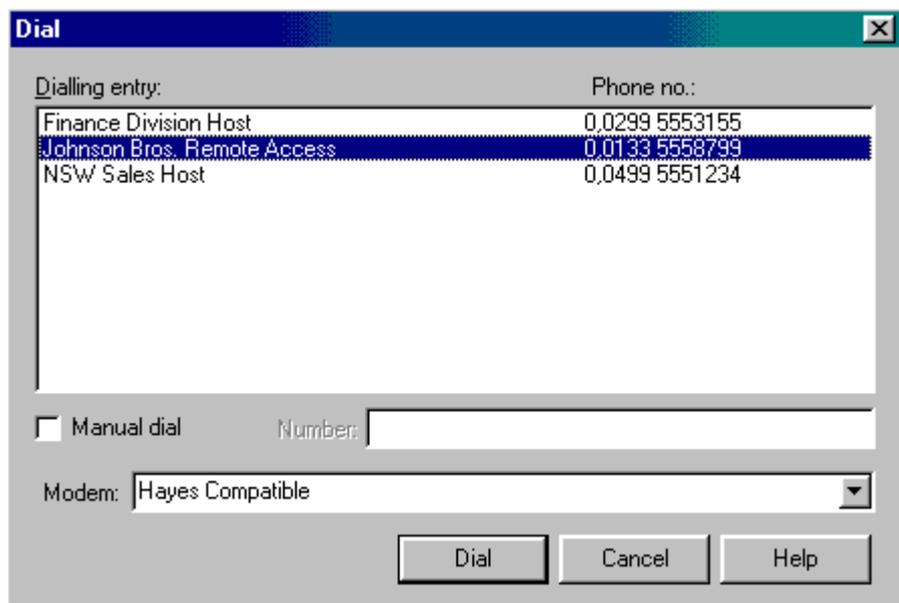


Figure 6.3: **Dial** tile

The **Dial** tile allows you to specify the telephone number that you wish to dial. This can be done by using either the predefined **Dialing entries** or by using the manual dial capability.

Dialing entries

This is a list of telephone numbers that can be permanently stored in your TTWIN 3 session, along with some brief details. If the number that you wish to dial is already included in your list of **Dialing entries**, (see *Figure 6.3*) then highlight that entry to select it.

If the number you want is not in the list, you can either use the **Manual dial** option or add the number to your **Dialing entries** list. (Refer to *Chapter 22 - Dialing Directory on page 471*).



Figure 6.4: **Manual dial** option

Manual dial

To dial a number that is not in your **Dialing entries** list, select the **Manual dial** option. Enter the phone number of the remote host's modem.

The number entered is not retained after dialing has completed.

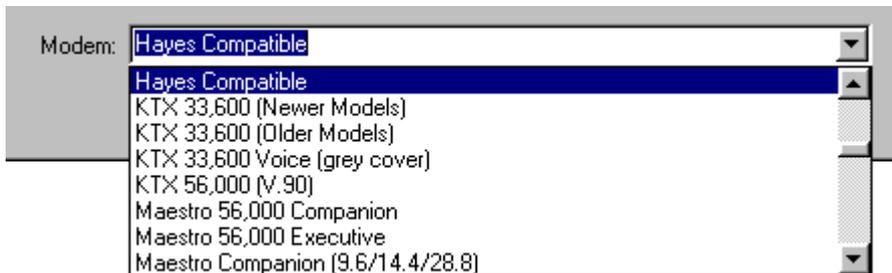


Figure 6.5: **Modem** selector

Modem:

This is used to select the type of modem you will be using when you dial. Use the drop down menu to see the list of available modems, then highlight the modem that you wish to use.

The default modem list supplied contains several commonly used modems. The list can be added to or modified using the **Modem** tab on the **Configure | Preferences** menu (refer to *Chapter 21 - Modem on page 461*).

Dialing

Once you have indicated the phone number to be dialed and selected your modem, click on the **Dial** button. The **Dialing** tile will appear.

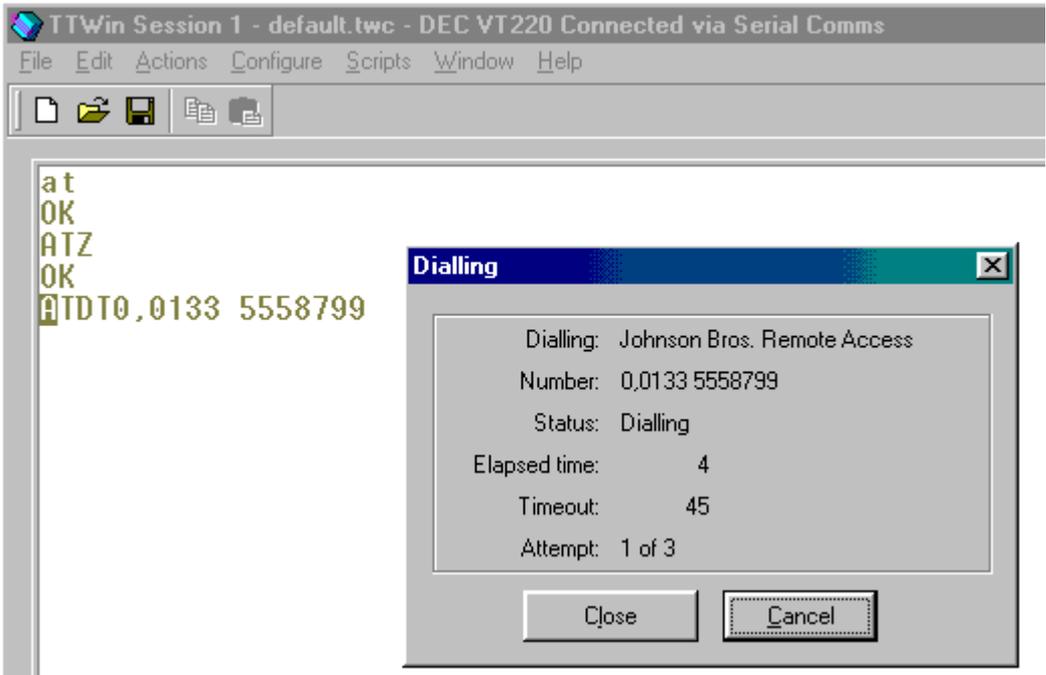


Figure 6.6: **Dialing** tile

| | |
|------------------------------|--|
| Dialing Number Status | Description of the site you are currently dialing. Modem number of the remote site. Current state of your modem. Several stages are required to obtain a successful connection to the remote site as follows: <ul style="list-style-type: none"> • Initialise modem. • Dial number. • Detect remote modem. • Confirm remote modem settings are configured for compatibility with local modem. • Report successful connection. |
| Elapsed time | Time, in seconds, spent on the current attempt to achieve a connection to the remote modem. |
| Timeout | Maximum time, in seconds, allowed for a connection to be confirmed with the remote modem. |
| Attempt | Multiple retries may be required to gain access to the remote modem. Each attempt is for the duration of one Timeout period. |

***Note:** The dialing parameters, as shown in Figure 6.6 (i.e. Dialing, Number, Timeout and Attempt), are defined under the **Dialing entries...** tab on the **Configure | Preferences** menu. Refer to Chapter 22 - Dialing Directory on page 471 for details.*

Hangup

When you wish to terminate your communications with the remote host, use the **Hangup** option to disconnect from the remote modem.

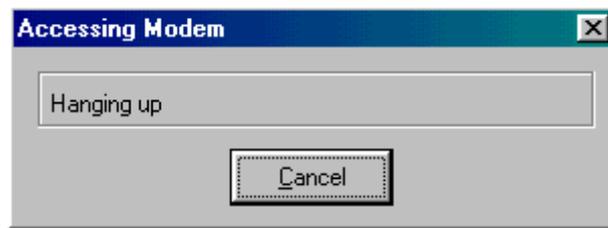


Figure 6.7: **Accessing Modem** tile

The hang-up string sent to the remote modem is defined using the **M**odem tab in the **P**references section of the **C**onfigure menu, refer to *Chapter 21 - Modem on page 461* for details.

File Transfer

The **File Transfer** option is used to transfer data to and from the remote host once a connection has been successfully established. Through the **File Transfer** option, files can be transferred between two machines using a variety of different protocols.

Before you issue a request for a file transfer, ensure that the appropriate file transfer module is loaded and configured for your system.

***Note:** To change or configure the file transfer module, you must use the **File Transfer** option in the **Configure** menu. Refer to *Chapter 8 - Configure File Transfers on page 91*.*

Transferring Files

Once the required file transfer module is loaded, select the **File Transfer** option. You are then presented with the **file transfer** tile for the current file transfer protocol. For the full details on using each of the available file transfer protocols see *Chapter 9 - Transferring Files on page 121*.

Capture

Stop Capture

Capture... is the process whereby all data, to and from the remote host, together with any key strokes, is saved either to a nominated file or to the *Windows* clipboard. A capture will also save a copy of the TTWIN 3 configuration files. e.g, .TWC, .CLR, .KEY etc. This facility is designed primarily for Turbosoft Support.

If you only want to record data sent to the terminal use the **Save history to a file** option under **Display** on the **Preferences** menu. Alternatively, to save print through data, print to a file.

When you select **Capture** the following screen is displayed.

***Note:** The capture file is not written to disk until **Stop Capture** is selected. Therefore, if your PC hangs or you fail to stop the capture for some reason, the capture will not be successful*

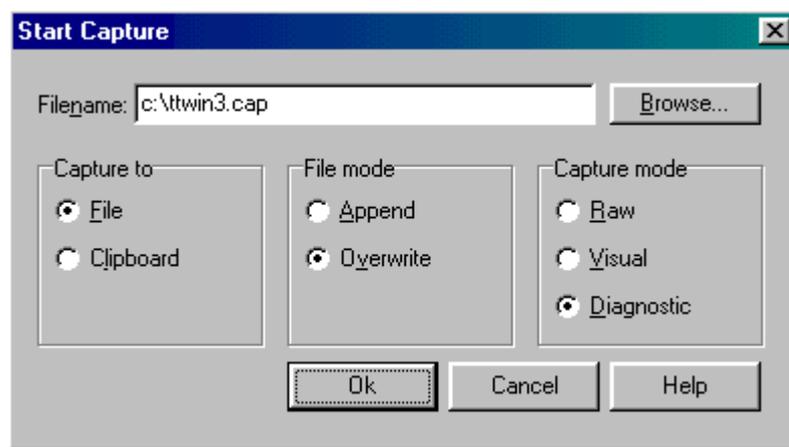


Figure 6.8: **Start Capture** tile

Filename Specify the name of the file to which TTWIN 3 will capture PC - host connectivity data. The default for this is TTWIN3 .CAP.

Capture To

File You must enter a filename to save the capture file to disk. The **OK** button is disabled until a filename is entered in the **Filename** field.

Clipboard

The **Filename** field is disabled as no file is generated. Instead, the capture is written directly to your *Windows* clipboard. On selecting **Clipboard** the **OK** button is activated.

File Mode

File Mode is disabled if writing to the *Windows* clipboard.

Append

Appends the capture details to the end of the file named in the **Filename** field. If the filename given does not exist then a new capture file will be created.

Overwrite

A new capture file is created using the given name, irrespective of whether the given filename exists or not.

Capture Mode

Raw

All data transferred to and from the remote host, together with any key strokes, is written to the specified capture file or the *Windows* clipboard.

Visual

Only displayable characters are written to the specified capture file or the *Windows* clipboard.

Diagnostic

Includes diagnostic information and copies of configuration files.

Once the **Capture...** has been started, the **Capture...** option toggles to **Stop Capture** awaiting the close of the capture file.

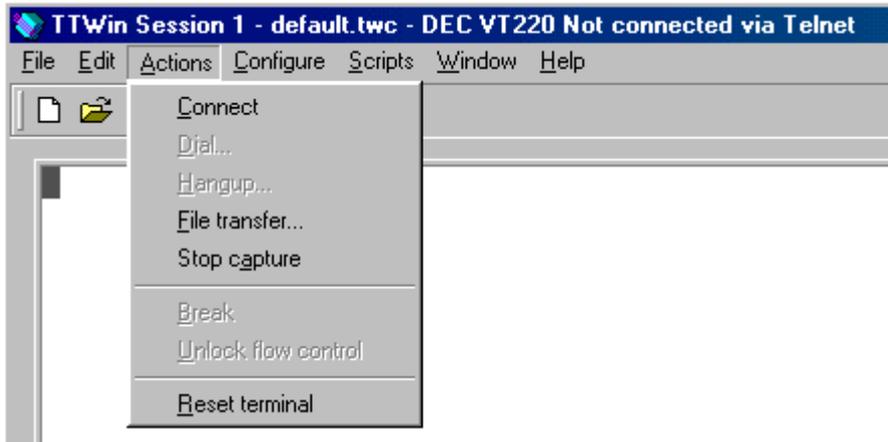


Figure 6.9: **A**ctions menu indicating **Capture** active.

To close the capture file select the **Stop Capture** option. Confirmation of completing the capture is requested.

Break

A **Break** is a time delay signal transmitted to the remote host. The break signal is used to interrupt the host operations, overriding any other task it may be executing.

For example, you may have sent an incorrect command, by sending a **Break** you can interrupt the remote machine before it has time to process the command.

The **Break Duration** is variable through the **Configure Comms** tile. The default setting for a **Break** signal is 100 milliseconds.

***Note:** The **Break** command is only available to a session using communications module which supports the **Break** signal.*

Unlock Flow Control

Occasionally your PC and the remote host can lose synchronisation of their flow control status. This stops the screen from updating. To overcome this problem, you simply reset the flow control on your PC so that it can be updated from the host.

Flow control problems can be the result from incorrect settings of the **XON/XOFF** parameters in the communications module. Refer to the relevant section in *Chapter 10 - Communications on page 163* for details.

***Note:** The **Unlock Flow Control** command is only available to sessions using a communications module which supports the **Unlock Flow Control** signal.*

Reset Terminal

If your screen does not reset at the end of an operation or garbled characters appear on screen due to line noise, the **Reset Terminal** option will reset the terminal.

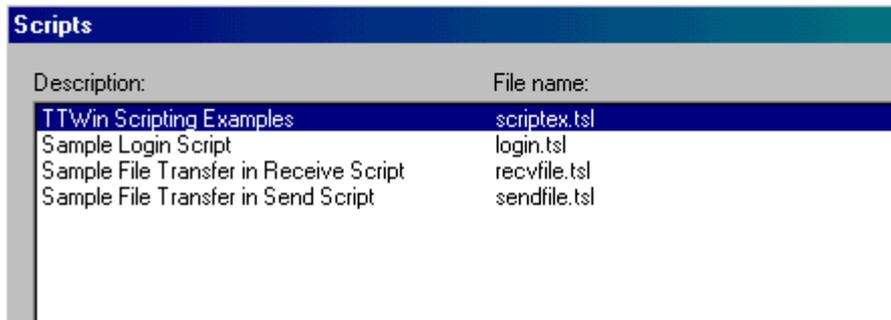
The **Reset Terminal** option clears the screen, puts the cursor in the home position and resets the emulation parameters to their default settings. The extent of the reset operation can be defined by the *UserResetTerm* flag in the .TWC file. For further information on the *UserResetTerm* flag contact Turbosoft Support. (For contact details, see the inside front cover of this manual.)

***Note:** Some emulations can be configured so that the screen is not cleared when a Reset Terminal is issued. Please refer to the Configuration Tile for the appropriate emulation to see if this option is available.*

Chapter 7 | Scripts Menu

TTWIN 3 provides its own scripting language to help you customise your environment. This chapter covers only the operation of the **Scripts** menu which allow you to create, edit, compile and run scripts.

For a complete description of the TTWIN 3 scripting language functions, variables, controls etc. refer to the *TTWIN 3 Basic Guide*.



| Scripts | |
|--|--------------|
| Description: | File name: |
| TTWin Scripting Examples | scriptex.tsl |
| Sample Login Script | login.tsl |
| Sample File Transfer in Receive Script | recvfile.tsl |
| Sample File Transfer in Send Script | sendfile.tsl |

Figure 7.1: **Scripts** menu

Run/Edit

The **Run/Edit...** command allows you to create, edit, compile, test and run scripts.

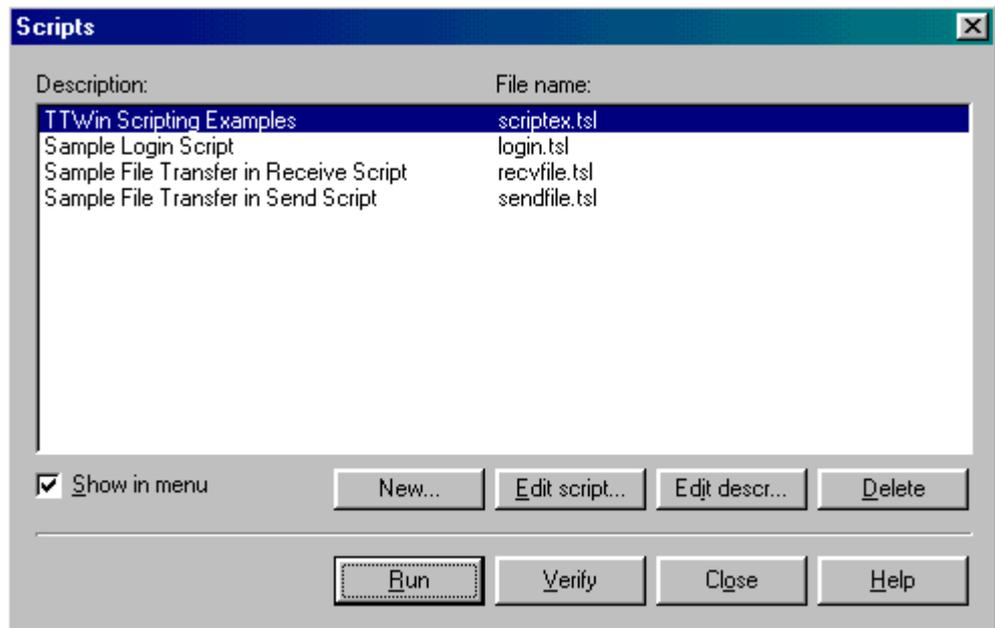


Figure 7.2: Scripts tile

The **Scripts** tile is the centre of script creation and debugging.

Scripts list

The majority of the **Script** tile is a list of all known TTWIN 3 scripts in your environment. The script list shows the script description and filename.

Scripts can be added to the lists and scripts within the list can be readily altered and deleted.

Show in menu

Selecting this option displays the currently highlighted script on the **Scripts** menu.

For example, *Figure 7.3* shows the script 'Sample Login Script' on the **Scripts** menu.

This enables scripts which are frequently executed to be easily accessed from the **Scripts** menu.

Note: A script will not be accessible from the **Scripts** menu unless you select this option.

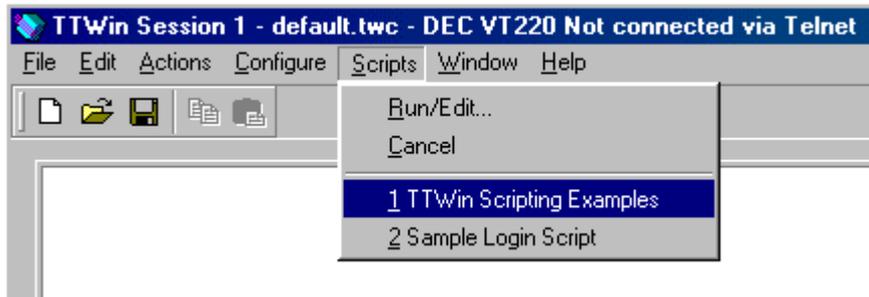


Figure 7.3: **Scripts** menu

Creating a new Script

To create a new entry in the scripts table, click on the **New...** button. The **New script entry** tile is displayed, (see *Figure 7.3*).

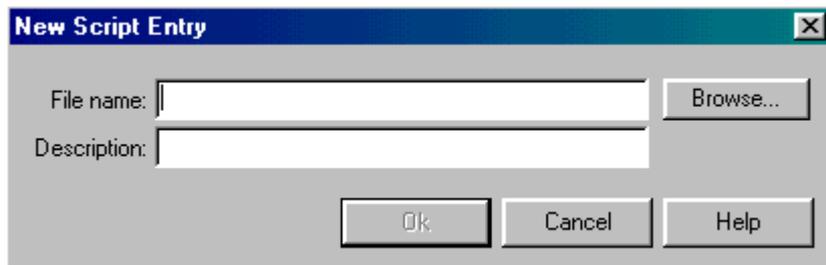


Figure 7.4: New script entry tile

File name: Enter the filename. The default directory is the directory specified in the **General** tab of the **Preferences...** option on the **Configure** menu.

Refer to *Chapter 17 - General Preferences on page 439*.

Description: Enter a description for the script. The description is displayed on the **Scripts** menu when **Show in menu** is selected.

Editing a Script

Click on the **Edit script...** button to edit an existing script, (see *Figure 7.2*). The **Edit script...** option calls up the editor, nominated in the **General** tab of the **Preferences** option on the **Configure** menu, with your selected script as a parameter. Refer to the *TTWIN 3 Basic Guide* for a complete description of TTWIN 3 scripting language functions, variables, controls etc.

If the **File** name you selected when creating the entry in the **Scripts** list does not exist, you will be prompted to create it. If you entered the name of an existing file you will go straight into editing that file.

Changing the Description of a Script

To change just the description of the script, click on the **Edit desc...** button, (see *Figure 7.2*). The **Edit script description** tile allows for easy modification of the selected script's descriptive name.

Deleting a Script

Clicking on the **Delete...** button (see *Figure 7.2*), removes the currently selected script from the list, but the script file is **NOT** deleted.

Running a Script

Click on the **Run** button to run a script, (see *Figure 7.2*). This option is particularly useful for scripts under development.

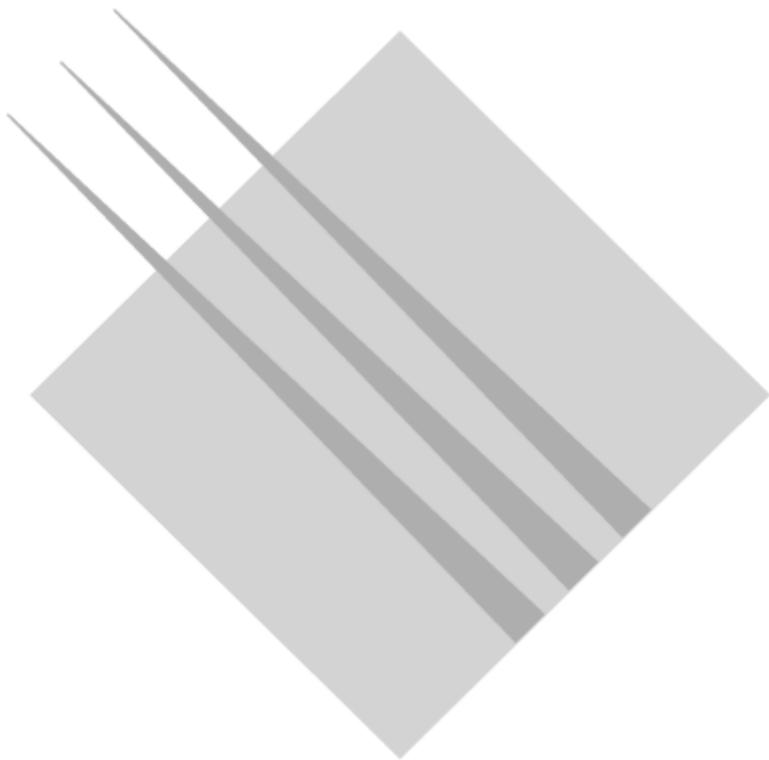
For frequently used scripts, it is recommended that you use **Show in menu** on the **Scripts** tile. The script is then displayed on the **Scripts** menu from which it can be selected.

Testing a Script

Once you have completed writing or editing a script you will need to test it.

Click on the **Verify** button (see *Figure 7.2*), to verify the accuracy of the currently selected script. If the verify parse is not successful then the **Compile errors** tile is presented indicating problems within the script.





Chapter 8 | Configure File Transfers

The **File Transfer** option on the **C**onfigure menu enables you to:

- Configure the file transfer protocol modules.
As it is possible to nominate, and use, any of the available file transfer protocols at any time during a session with a remote host, it is important that all the requisite protocols have been configured.
- Change the current file transfer protocol.
Before transferring files to and/or from the remote host ensure that the required file transfer protocol is current.

Selecting a File Transfer module

To select a file transfer module, choose the **F**ile Transfer... option from the **C**onfigure menu.

If at the time of selecting a file transfer module, there is no file transfer module loaded, you will be prompted with the **Select a File Transfer Module** tile, (see *Figure 8.1*). Choose the required file transfer from the list presented.



Figure 8.1: **Select a File Transfer Module** tile

If a file transfer module is already loaded then the **configure** tile for that module will be displayed, ready for editing.

Changing the Current File Transfer Module

To choose a different file transfer module, first select the currently loaded file transfer module, see *Selecting a File Transfer module on page 91*. Then click on the **Select Another...** button on the **configure** tile for the currently loaded module.



Figure 8.2: **Select Another...** button

On selecting the **Select Another...** button, you are presented with the **Select a File Transfer Module** tile, (see *Figure 8.1*). Choose the required file transfer from the list presented.

Loading a File Transfer module

Having selected the required file transfer module, the **configure** tile for that file transfer is displayed.

To load the configured file transfer module click on the **OK** button on the **configure** tile. (Any changes that have been made to the configuration of the file transfer module are saved.)

Refer to the relevant section in *Chapter 9 - Transferring Files* for details on transferring files.

Configuring a File Transfer module

Having selected a file transfer module, you are automatically presented with the **configure** tile. The **configure** tile allows you to edit the details for the chosen file transfer module. All of the available file transfer modules are described in detail in the following sections of this chapter.

Note: *File transfer software is required to be resident on the host. If you select a protocol that is not available on your host, the file transfer will fail.*

FTP Drag & Drop

This is the default FTP protocol supplied within TTWIN 3. Refer to *Chapter 9 - Transferring Files on page 121* for details on transferring files.

The Configure FTP Protocol tile

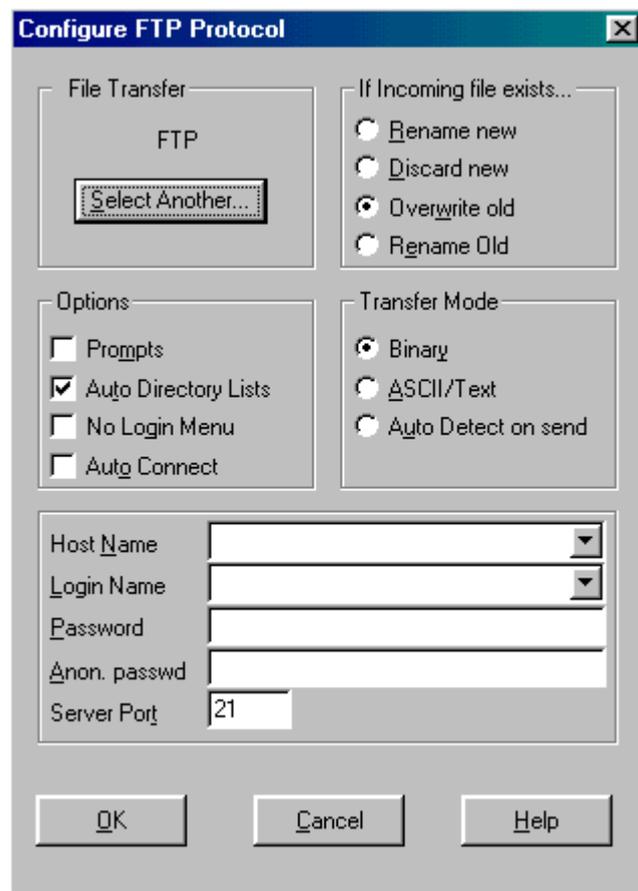


Figure 8.3: **Configure FTP Protocol** tile

Options

Prompts

If selected this will prompt each file transfer on a request to transfer multiple files.

Auto Directory Lists

If selected then a directory listing is automatically generated on a change directory operation.

No Login Menu

If selected then on connecting to the host, the user's login details and the host name will not be requested.

This option allows the login details to be entered as part of configuration.

If selected, the host name **MUST** be entered in the **Host Name** field (see below).

Similarly, the user's name **MUST** be entered in the **Login Name** field (see below).

If the user's password is not entered during configuration then the user is prompted for their password when establishing a connection.

If Incoming file exists...

This option only operates on a file being transferred **from** the remote host **to** your local PC.

If the filename already exists on your PC's destination directory then:

Rename new

The new file will be saved with its name filled out with a's.

For example, the new TTWIN3 . EXE is saved as TTWIN3AA . AAA, in the first instance, and in the second instance saves as TTWIN3AA . AAB.

| | |
|----------------------|--|
| Discard new | The transfer is simply aborted. |
| Overwrite old | The old file is overwritten by the new one. |
| Rename old | The old file is renamed with its name filled out with a's. For example, an old <code>TTWIN3 .EXE</code> is renamed <code>TTWIN3AA .AAA</code> , in the first instance, and in the second instance as <code>TTWIN3AA .AAB</code> . |

Transfer Mode

| | |
|----------------------------|---|
| Binary | Maintains the file format down to the bit level (8 bit) i.e., the received file will be an exact duplicate of the original file. |
| ASCII/Text | UNIX and DOS systems store ASCII files slightly differently. DOS uses carriage return/line feed (CR/LF) to represent an end-of-line (EOL) while UNIX simply uses a carriage return (CR). Hence when transferring a file from DOS to UNIX the file will shrink a little and visa versa for UNIX to DOS. |
| Auto Detect on send | Only used when sending. When the file is selected for transfer, the file type is automatically detected. |

Login Details

Host Name

The host name or IP number must be specified in order to open the FTP connection. This **MUST** be entered if **No Login Menu** has been selected.

Login Name

A login name for the remote host.

A login name **MUST** be entered if **No Login Menu** has been selected.

Password

Predefining the login password is optional.

If a password is not given here it will be prompted for when the connection to the remote FTP server is initiated.

Anon. passwd

This allows you to login as an anonymous user. Generally required in the form of an email address.

Server Port

(FTP Drag and Drop only) Specify the server port. The standard FTP server port and the default is 21.

IBM IND\$FILE

IND\$FILE is a file transfer protocol used when communicating with IBM mainframes. It allows text and data to be copied, and includes the capacity to translate between ASCII and EBCDIC character sets.

Note: *IND\$FILE encompasses two different modes of operation - Screen Buffer mode and Structured Field Mode. This version of IND\$FILE supports only the Structured Field Mode.*

To successfully transfer files using this version of IND\$FILE, the mainframe host **must** know the terminal supports **extended attributes**. Refer to the description of the relevant IBM emulation in *Chapter 11 - Emulations on page 192*.

For example, if you connect to the remote host via Telnet and you select the IBM 3270 emulation, then the **Extended Attributes** option must be selected on the **Configure IBM3270** tile. This adds an **-E** suffix, giving the emulation type IBM-3279-2-E.

Refer to *Chapter 9 - Transferring Files on page 121* for details on transferring files.

The Configure (IBM IND\$FILE) File Transfer tile

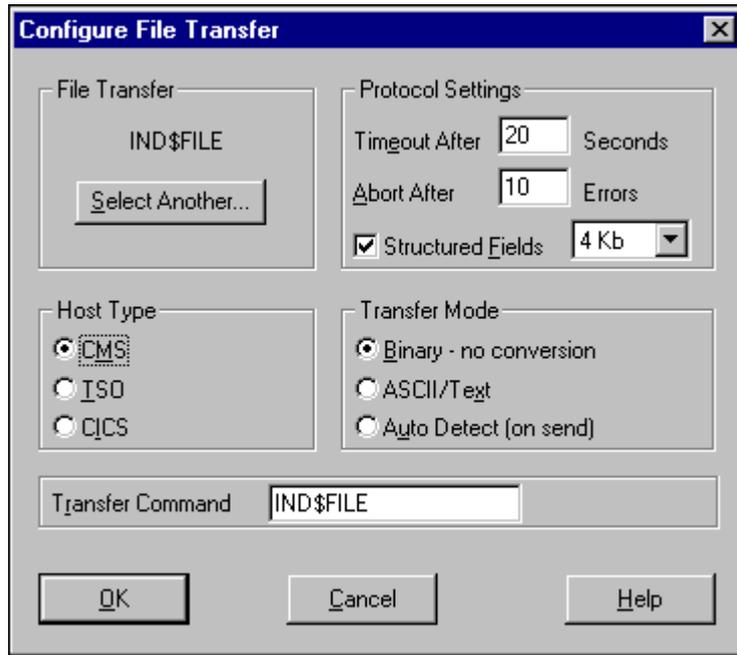


Figure 8.4: Configure File Transfer tile

Host Type

This **must** be set to the operating environment of the remote host. The IND\$FILE module constructs a command string to send to the host. It therefore needs to know what environment is running in order to format the command correctly. Select from: **CMS**, **TSO** or **CICS**.

Protocol Settings

Timeout After (Seconds)

This may need to be increased depending upon the speed of the host, and/or the quality of the communication link between the PC and the host. The default is 20 seconds.

Aabort After (Errors)

This sets the maximum number of consecutive protocol errors before the transfer is aborted.

Structured Fields

This allows the desired mode of operation to be selected, (screen buffer or structured field), and if structured field mode is desired, then the block length can be chosen.

***Note:** This currently cannot be altered. Structured fields mode **must** be used.*

Using larger buffers may increase the data transfer speed, but structured fields larger than 2K may not be supported on older model controllers.

Transfer Mode

Binary - no conversion

Use this option when transferring binary data, executable files, or text files which will only be stored on the remote site, not viewed.

ASCII/text

The file is converted from ASCII to EBCDIC if sent to the host, and EBCDIC to ASCII if being received from the host.

Auto Detect (on send)

Only used when sending. TTWIN 3's IND\$FILE will examine the file to determine if it is a text file or not, and selects the appropriate transfer mode automatically.

Transfer Command

Allows the actual command for the file transfer to be customised, should it be named differently to the standard IND\$FILE.

Kermit

The Kermit file transfer protocol is a popular file transfer protocol. Originally developed at the Columbia University, it now has world-wide support on most types of computers.

Kermit supports both ASCII and binary data transfers. With error checking as part of the protocol it ensures that data is correctly transferred between computers, even when the connecting line is noisy. Refer to *Chapter 9 - Transferring Files on page 121* for details on transferring files.

The Configure KERMIT Transfer tile

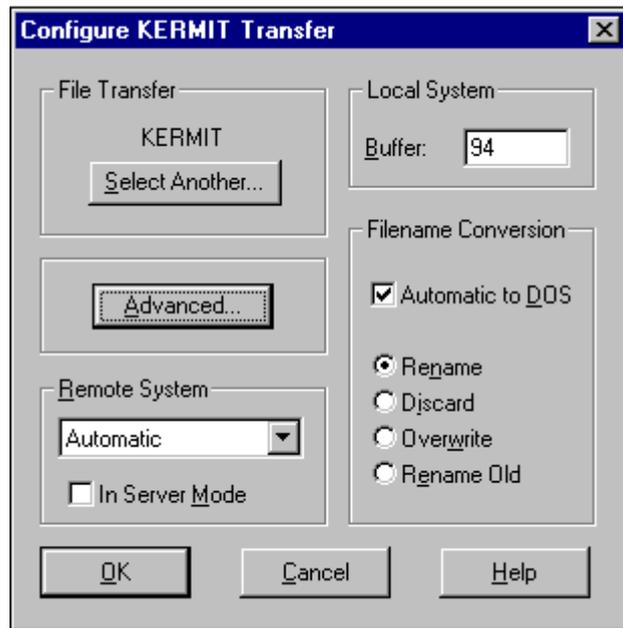


Figure 8.5: Configure KERMIT Transfer tile

Remote System

Most versions of the Kermit program have the ability to operate as a slave to a remote Kermit. This is referred to as Server mode. Server mode reduces the effort required by the user to transfer files, since only the local transfer command needs to be given. (Instead of commands being given at both ends as with many other file transfer protocols).

In Server Mode

Selecting the **In Server Mode** option informs the TTWIN 3 Kermit that the remote host Kermit is running in Server mode. That is, the remote host Kermit takes all its commands from the local Kermit running on your local machine.

If not selected, the remote host Kermit will run in Interactive mode. In interactive mode a command must be issued to the remote Kermit each time you want to transfer a file.

Local System

When transferring any information, Kermit uses data packets.

Buffer:

Each packet can be up to 1024 characters long. By setting the local buffer to 1024 you allow Kermit to support up to the maximum of a 1024 character packet length.

***Note:** Some systems will require this buffer setting to be a different value, e.g., VMS Kermit suggests a setting of 94.*

Filename Conversion

Filename nomenclature varies from one operating system to another.

For example, the common DOS 8.3 (**xxxxxxxx.xxx**) naming structure can pose problems when moving a UNIX file with a name like SALES_FIGURES.MATT.OCT_93.

Automatic to DOS

Whenever a file transfer takes place the filename is automatically adjusted to the DOS 8.3 filename format.

In the above example, the resulting filename would be SALES_FI.MAT.

If the **Automatic to DOS** option had not been selected the UNIX to DOS file transfer would fail, as the original name could not be maintained.

The following options only operate on a file being transferred **from** the remote host **to** your local PC. If the filename already exists on your PC's destination directory then:

Rename new

The new file will be saved with its name filled out with a's.

For example, the new TTWIN3.EXE is saved as TTWIN3AA.AAA, in the first instance, and in the second instance saves as TTWIN3AA.AAB.

Discard new

The transfer is simply aborted.

Overwrite old

The old file is overwritten by the new one.

Rename old

The old file is renamed with its name filled out with a's.

For example, an old TTWIN3.EXE is renamed TTWIN3AA.AAA, in the first instance and in the second instance as TTWIN3AA.AAB.

Advanced Kermit Configuration

A Kermit packet consists of:

- a start-of-packet character,
- a count of the total length of this packet,
- the sequence number of the packet,
- the type of packet,
- the data
- and a checksum.

The packet may also be followed by an end-of-line character, but this is ignored except on half duplex systems.

Except for the **start-of-packet character** (normally ASCII SOH, decimal 1), **end-of-line character** (normally carriage return, decimal 13), and **padding character** (normally NULL, decimal 0), Kermit can be set to send and receive only 7-bit printable ASCII characters.

This is done to side-step problems with 7-bit links, and because some non-printable characters have a special effect on some systems (e.g., XOFF may stop transmission).

Any non-printable characters in the data are converted into two printable ASCII 7-bit characters. The Kermit at the receiving end converts the data back to its original form. It can also compress the data if several consecutive bytes have the same value (e.g., spaces). This is called **quoting**.

Kermit can do three types of quoting:

- **Control character quoting** to convert non-printable characters to two printable ones,
- **8-bit quoting** to convert an 8-bit character to two 7-bit ones,
- **Repeat count quoting** to compress repeated characters to a count and a character.

Quoting is always used for **control characters** (as these are non-printable ASCII) and may also be used for 8-bit quantities or repeat counts.

It is normally not desirable to use **8-bit quoting** as it increases both processing and transmission overheads. However, since it is the only mechanism for binary file transfer available to systems that only use 7-bits for data, a receiver must be able to request the sender to do 8-bit quoting. Most senders will not normally do 8-bit quoting by default.

Repeat count processing can only be requested by the sender, and will only be used by the sender if the receiver agrees.

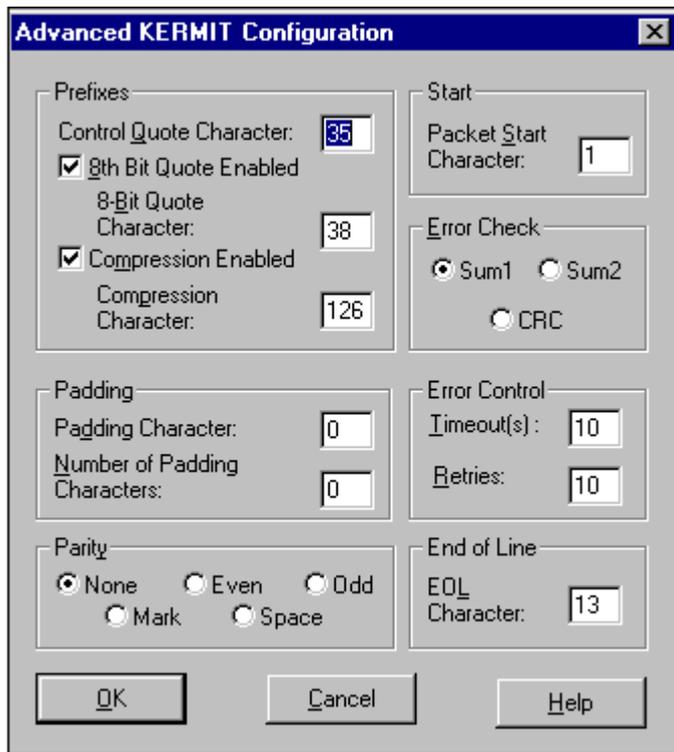


Figure 8.6: **Advanced KERMIT Configuration** title

Prefixes

Before a transfer starts, the two Kermit programs discuss what type of quoting the other wishes to do, to allow for compatibility with older versions of Kermit.

| | |
|--------------------------------|---|
| Control Quote Character | The default control quote character is # (decimal value 35). |
| 8th Bit Quote Enable | When selected 8-bit quoting enables 8 bit to two 7 bit character quoting. |
| 8-Bit Quote Character: | The default 8 bit quote character is & (decimal 38). |
| Compression Enabled | When selected, repeat count quoting is enabled. |
| Compression Character: | The usual repeat quote character is ~ (decimal 126). |

Padding

| | |
|-------------------------------------|--|
| Padding Character | The default value is NULL (decimal 0). |
| Number of Padding Characters | Specify the required number of padding characters. |

Parity

Specifies the type of parity checking used by Kermit: **None**, **Even**, **Odd**, **Mark** or **Space**.

Start

A special character is used to indicate the beginning of a sent packet.

| | |
|-------------------------------|---|
| Packet Start Character | The default value is ASCII SOH (decimal 1). |
|-------------------------------|---|

Error Check

Kermit supports three error checking methods. These are:

- **Sum1** – one byte
- **Sum2** – two byte
- **CRC** – three byte

The **CRC** (three byte method) is the most reliable, **BUT** it is not supported by all Kermits. The method of error checking is negotiated between the remote host Kermit and TTWIN 3 Kermit before starting a transfer.

Error Control

Timeout(s):

This sets the amount of time, in seconds, Kermit will wait before signaling a timeout condition.

Retries:

Number of times Kermit will re-transmit a packet and then wait for an acknowledgment from the remote host.

End of Line

EOL Character

The default value is carriage return (decimal 13).

PICK

The **PICK** file transfer module is used to enable file transfers between workstations running TTWIN 3 and host environments that use the Pick database / operating system. Due to the nature of the **PICK** environment the file transfer process is host driven, so there is little to configure at the TTWIN 3 end. A number of proprietary TTWIN 3 modules need to be installed on the **PICK** host in order for the file transfer process to operate. Details regarding the installation of the **PICK** File Transfer host modules are located in *Appendix B - Installing the Pick File Transfer Host Components on page 507*.



Figure 8.7: **Configure PICK** tile

The **PICK** file transfer protocol allows files to be transferred both to and from a remote **PICK** host to the local PC running TTWin 3.

There are only two options available for configuration in **PICK** file transfer.

Line delay

This specifies the delay (in milliseconds) between each line of the file that it is being sent from the local PC to the remote **PICK** host.

Char delay

This specifies the delay (in milliseconds) between each byte of the file that is being sent from the local PC to the remote **PICK** host.

XMODEM/YMODEM

XMODEM and YMODEM are public domain error detecting file transfer protocols.

XMODEM uses 128 byte blocks for communications. Only a single file can be sent per command and a filename has to be given for each end.

YMODEM uses the CRC method of error detection/correction to determine any transmission errors. It uses 1024 byte blocks for data communications and unlike XMODEM it supports wild cards such as * and ? in filename fields so that multiple files can be transferred with one request.

Refer to *Chapter 9 - Transferring Files on page 121* for details on transferring files.

The Configure X/YMODEM Protocols tile

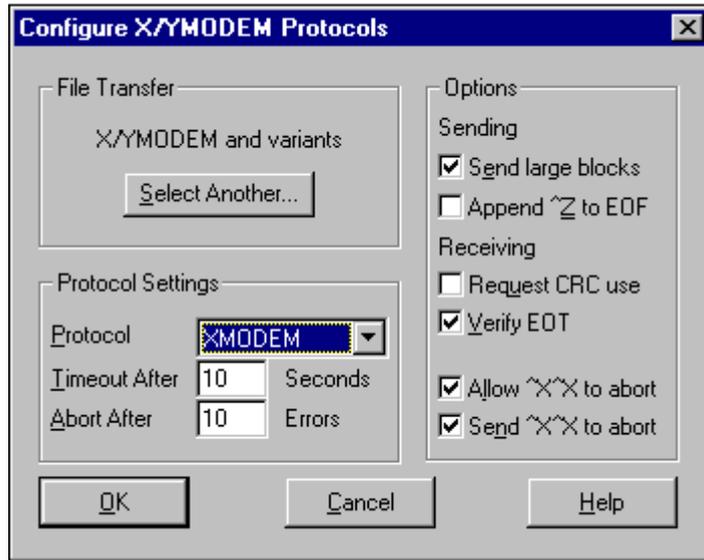


Figure 8.8: Configure X/YMODEM Protocol tile

Protocol Settings

Protocol

There are several modes of operation as follows:

- **XMODEM** This is the basic XMODEM protocol. It uses 128 byte blocks and a one character arithmetic checksum.
- **XMODEM-CRC** Replaces XMODEM's 1 byte checksum with a two byte cyclical redundancy check (CRC-16), giving a modern error detection protection that is much more reliable than a simple checksum.

- **XMODEM-1K** Refers to the XMODEM/CRC protocol with 1024 byte data blocks. This can increase efficiency and reduce transfer time for data blocks over 128 bytes, if the communications path has few errors and/or a compression algorithm is used.
- **YMODEM** This is the basic YMODEM protocol. It uses 1024 byte blocks for data communications. Unlike XMODEM, YMODEM supports wild cards such as * and ? in filenames so that multiple files can be transferred with one request. The CRC method of error detection/correction is used to determine any transmission errors.
- **YMODEM-g** This is the same as YMODEM without the receiver acknowledging valid packets. **This method should only be used over an error free link.** If the receiver detects an error the transfer is aborted. This offers a faster transfer rate because the sender can stream the data out without waiting for acknowledgments.
- **SEAlink** The SEAlink file transfer protocol is a sliding window protocol that is fully backward compatible with XMODEM. If you were to nominate a window size of 1, you have XMODEM. The intention of the SEAlink protocol is to provide a file transfer that does not suffer from propagation delays, such as are introduced by satellite relays or packet switching networks.

| | |
|---------------------------------------|--|
| <u>T</u>imeout After (Seconds) | Set the time period that the file transfer waits for a remote response. |
| <u>A</u>bort After (Errors) | The maximum acceptable number of errors received while transmitting the same packet before the file transfer aborts. |

Options

| | |
|-----------------------------|---|
| Sending large blocks | Use a block size of 1024 bytes for all transfers. |
| Append ^Z to EOF | <p>With some early systems, such as CP/M, data ends exactly on a 128-byte boundary, with a CR in 127 and LF in 128. Appending a subsequent sector containing ^Z (CTRL_Z) is preferred, but optional</p> <p><i>Note: Some utilities and user programs can not handle EOF with a ^Z (CTRL_Z).</i></p> |
| Request CRC use | When receiving files, TTWIN 3 informs the remote transfer module that CRC error checking will be used. |
| Verify EOT | <p>The sender sends a NAK character on receipt of an EOT character, then waits for an ACK character to be returned.</p> <p>This provides for synchronisation and flow control.</p> |
| Allow ^X^X to abort | When ticked, sending the ^X (CTRL_X) sequence at least twice will terminate the current file transfer. |
| Send ^X^X to abort | If an error is detected in the file transfer, the receiver aborts the transfer by sending a multiple ^X(CTRL_X) sequence. |

ZMODEM

ZMODEM is a public domain protocol that can use both 16 and 32 bit CRC error detection.

It does not use fixed length data blocks but instead varies their length so that it is better able to handle interference on its transmission path.

ZMODEM also caters for interrupted file transfers so that once the communications line is clear again the transfer can be restarted from where it left off.

Refer to *Chapter 9 - Transferring Files on page 121* for details on transferring files.

The Configure ZMODEM Protocol tile

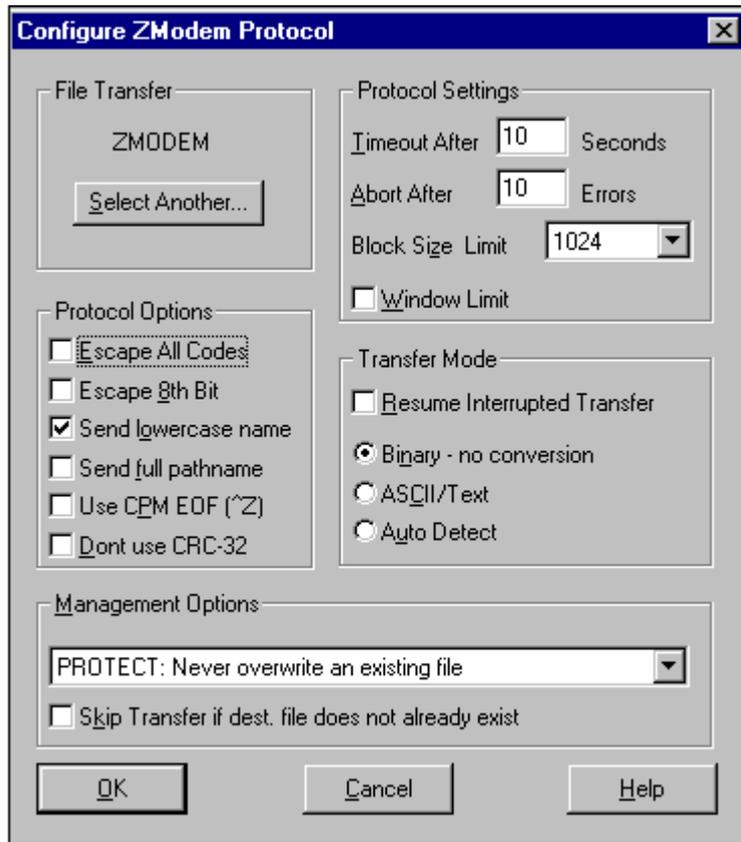


Figure 8.9: Configure ZMODEM Protocol tile

Protocol Options

The following protocol options are available:

- Escape All Codes
- Escape 8th Bit
- Send lowercase name
- Send full pathname
- Use CP/M EOF (^Z)
- Don't use CRC-32.

Protocol Settings

| | |
|---|---|
| <u>T</u>imeout After (Seconds) | Set the time period that the file transfer waits for a remote response. |
| <u>A</u>bort After (Errors) | The maximum acceptable number of errors received while transmitting the same packet before the file transfer aborts the transfer. |
| <u>B</u>lock Size Limit | Size of data packets, specified in bytes. The available values are: 64, 128, 256, 512 and 1024. |
| <u>W</u>indow <u>L</u>imit | The maximum size to use for the window. When selected, available values are: 256, 512, 1024, 2048 and 4096. |

Transfer Mode

| | |
|---|---|
| <u>R</u>esume Interrupted transfer | When the communications line is clear again the transfer is restarted from where it left off |
| <u>B</u>inary - no conversion | Maintain the data files file down to the bit level (8 bit). That is, the received file will be an exact duplicate of the original file. |

ASCII/Text

UNIX and DOS systems store ASCII files slightly differently.

DOS uses carriage return/linefeed (CR/LF) to represent an end-of-line (EOL) while UNIX simply uses a line feed (LF). Hence when transferring a file from DOS to UNIX the file will shrink a little and visa versa for UNIX to DOS.

Auto Detect

When the file is selected for transfer, the file type is automatically detected.

Management Options

ZMODEM can intelligently determine which files to transfer and which are to be ignored:

- (none)
- **PROTECT: Never overwrite an existing file.** Any source files with a filename the same as on the destination system are not transferred.
- **CLOBBER: Allow existing file(s) to be overwritten.** All source files are transferred. Any files on the destination system with a filename the same as the source file are overwritten
- **APPEND: Append to the end of the destination file.** If the name of the source file is the same as the destination file, append the source file to end of destination file.
- **DIFFER: Transfer if dates or lengths differ.** Transfer the file if the source file and the destination file have the same name **AND** either a different last modified date or a different file size. The destination file is overwritten.
- **NEW: Transfer if newer.** Transfer the file if the source and the destination file have the same name **AND** the source file has a newer last modified date. The destination file is overwritten.

- **NEWLONG: Transfer if newer or longer.** Transfer the file if the source and the destination file have the same name **AND** the source file has either a newer last modified date or larger size. The destination file is overwritten.

Skip Transfer if dest. file does not already exist This option is used in combination with the above algorithms. Source files that do not already exist as destination files are not transferred.

Chapter 9 | Transferring Files

This chapter provides the details for the transfer of files using any of the available protocols, which are:

- FTP Drag & Drop
- IBM IND\$FILE
- Kermit
- PICK
- XMODEM
- YMODEM
- ZMODEM

It is possible to nominate, and use, any of these file transfer protocols at any time during a session with a remote host.

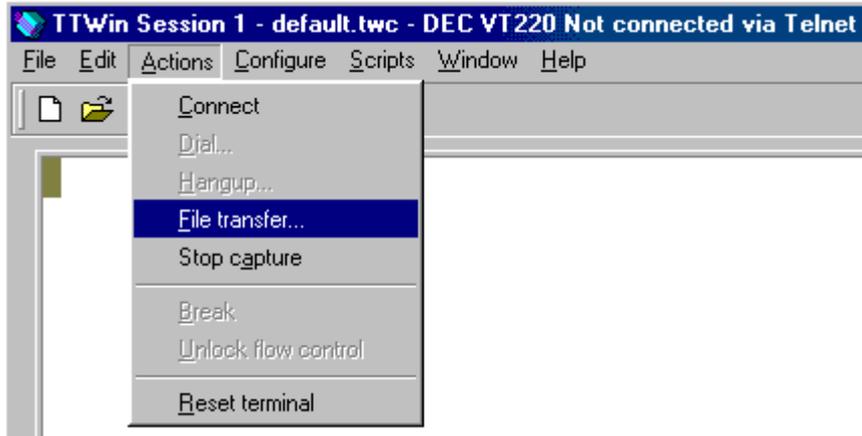
Executing a File Transfer

Before issuing a request for a file transfer, ensure that the appropriate file transfer module is loaded and configured for your system.

(Refer to the relevant section in *Chapter 8 - Configure File Transfers on page 91* for configuration details.)

Note: To change the current file transfer module, you must use the **File Transfer** option in the **Configure** menu. Refer to *Chapter 8 -*

Configure File Transfers, Changing the Current File Transfer Module on page 93.



*Figure 9.1: **A**ctions menu*

Once the required file transfer module is loaded, select the **File Transfer** option from the **A**ctions menu. The **file transfer** tile for the current file transfer protocol is then displayed. Refer to the relevant section of this chapter for details on the specific protocol.

FTP Drag & Drop

FTP Drag & Drop can be used to transfer one or multiple files in both directions.

FTP Drag & Drop is the most communicative of the available protocols and provides all the functionality of any of the others. Other file transfer protocols only provide a subset of this functionality.

Refer to *Chapter 8 - Configure File Transfers, FTP Drag & Drop on page 95* for configuration details.

The File Transfer Tile

The **File Transfer** tile (see *Figure 9.2*) is divided into three areas, as follows:

- The menu and buttons (top).
- The directory listings for the local PC and the remote host (middle).
- The command and message display areas (bottom).

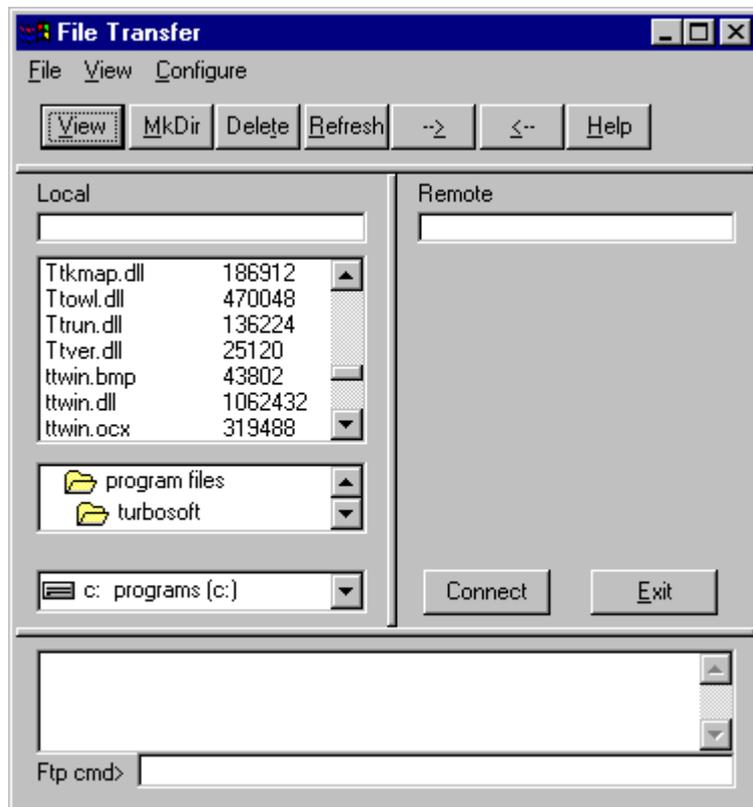


Figure 9.2: File Transfer tile - FTP Drag & Drop before connecting

The FTP Drag & Drop Menus

The FTP Drag & Drop **File Transfer** tile has 3 menus: **F**ile, **V**iew and **C**onfigure. Each of these menus is described in the following sections.

The File Menu

This menu provides the file transfer and directory functions.

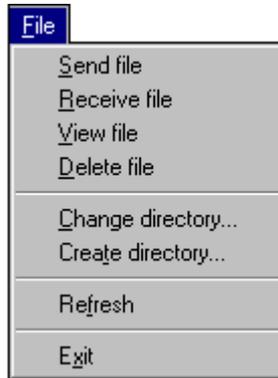


Figure 9.3: **F**ile menu - FTP Drag & Drop

| | |
|--------------------------------|---|
| <u>S</u>end file | Sends a file to the host. |
| <u>R</u>ecieve file | Gets a file from the remote host. |
| <u>V</u>iew file | Gets a file and opens it as a text document. |
| <u>D</u>elete file | Deletes a file. |
| <u>C</u>hange directory | Changes the current directory on either your local PC or the remote host. |
| <u>C</u>reate directory | Creates a new directory on your local PC. |
| <u>R</u>efresh | Updates the file lists. |
| <u>E</u>xit | Exits the file transfer. |

The View Menu

The **View** menu controls the visible components of the **File Transfer** tile.

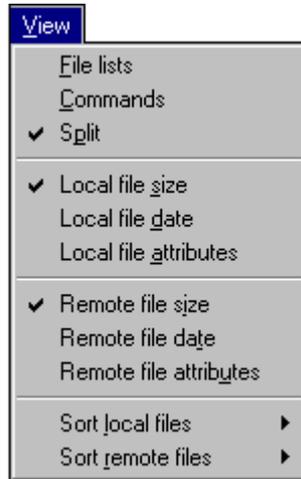


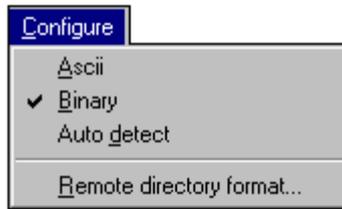
Figure 9.4: **View** menu - FTP Drag & Drop

| | |
|---|--|
| <u>F</u>ile lists | Displays only the file lists, both local and remote. |
| <u>C</u>ommands | Displays only the command and message display areas. |
| <u>S</u>plit | (Default) Displays both the file lists and the command area, see <i>Figure 9.2</i> . |
| Local file <u>s</u>ize, Local file <u>d</u>ate and Local file <u>a</u>tttributes | Sets the level of display detail for local files. |
| Remote file <u>s</u>ize, Remote file <u>d</u>ate, and Remote file <u>a</u>tttributes | Sets the level of display detail for remote files. |

- Sort local files and Sort remote files**
- By name
 - By size
 - By date
 - Ascending - reverses the order.

The Configure Menu

The **Configure** menu allows you to specify the type of file transfer and remote directory information.



*Figure 9.5: **Configure** menu*

| | |
|---------------------------------------|---|
| <u>A</u>scii | Transfers files with CR/LF to LF conversion. |
| <u>B</u>inary | Transfers files as binary files (no conversion). |
| <u>A</u>uto<u>d</u>etect | Automatically detects an ASCII file. |
| <u>R</u>emote directory format | Allows the configuration of the remote directory format to be specified. The default is auto detect. (See the following section for further details.) |

Configuring the Remote Directory Format

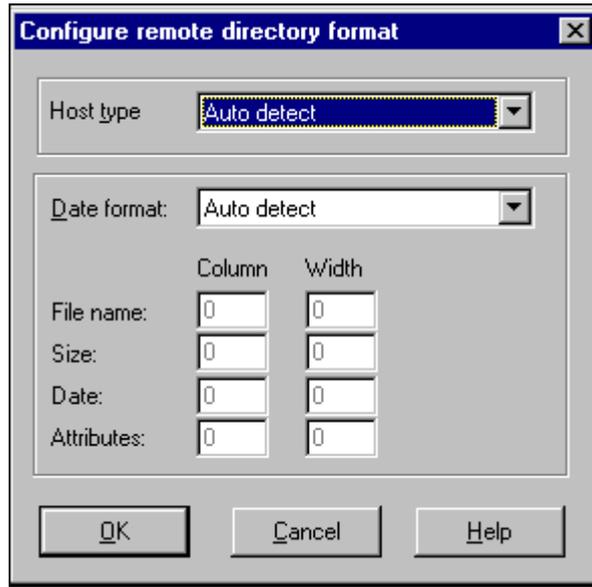


Figure 9.6: Configure remote directory format tile

Host type

Select the operating system used by the remote host :**Auto detect**, **Manual settings**, **UNIX**, **DOS**, **Rws**, **Bull (GCOS)**, **Netware**, **Windows NT**, **VMS**, **VOS**, **MVS**, **OS/400**, **Prime**, **MPE/1X** and **DG/UX**. The default is **Auto detect**.

If you select **Manual**, then you need to specify the column number and width for **File name:**, **Size:**, **Date:** and **Attributes:**.

Date format:

Select the date format used by the remote host. The default is **auto detect**.

File name:, Size:, Date: and Attributes: Enter the column number and the width of the column. These fields are set to the default values unless the **Host type** is **Manual**.

The FTP Drag & Drop Button Bar

The Button Bar makes available some of the most commonly used functions creating an efficient file transfer environment.



Figure 9.7: FTP Drag & Drop Button Bar

The function of each of the available buttons is as follows:

| | |
|-------------------------------|---|
| <u>V</u>iew | Gets a file and opens it as a text document. |
| <u>M</u>kdir | Creates a directory on the local PC or the remote host. |
| <u>D</u>ele | Deletes the highlighted file. |
| <u>R</u>efresh | Updates the command display area. |
| → | Sends a file to the remote host. |
| ← | Gets a file from the remote host. |

All of these functions are also available from the **File** menu.

The Command and Message Display Areas

The two areas at the bottom of the **File Transfer** tile below the directory listings are the **Command** and **Message display** areas, see *Figure 9.2*. Any messages from the remote host are displayed in the **Message display** area. By clicking on the scroll arrow, any messages not currently visible can be seen. The **Command** area, the bottom line on the tile, allows you to send commands to the remote host, as if from the remote host prompt.

Transferring Files with FTP Drag & Drop

The FTP Drag & Drop protocol is designed to take advantage of the *Windows* environment, and especially the mouse. If you don't have a mouse, you can still benefit from the functionality provided by the FTP Drag & Drop protocol.

The FTP Drag & Drop protocol allows you to transfer files using a variety of different methods. You can use any combination of:

- the mouse,
- short cut keys,
- buttons
and/or
- menu options.

By using the short cut keys to select buttons and menu options, you can operate the FTP Drag & Drop protocol without a mouse.

One of the advantages of the FTP Drag & Drop protocol is the ability to transfer more than one file at a time. If the file already exists, then a new filename is determined by the configuration of the FTP Drag &

Drop protocol. A number of options are available. For details, refer to *Chapter 8 - Configure File Transfers, FTP Drag & Drop on page 95*.

Transferring Files using a Mouse

If you have a mouse then you can employ the drag and drop technique to move files from one location to another. The drag and drop method is the simplest and quickest way to transfer files. However, you can not drag and drop unless you have a mouse.

When using the drag and drop technique, the procedure is the same for both sending and receiving files.

To transfer a file, in either direction, follows these steps:

1. To begin a file transfer, select **File Transfer (ftp)** from the **Actions** menu. The **File Transfer** tile for FTP Drag & Drop will be displayed, see *Figure 9.2*.

2. **Connect to the remote host.**

Before beginning the file transfer, click on the **Connect** button on the **File Transfer** tile to connect to the remote host.

3. **Login, if required.**

Depending on the configuration of your system, you may be prompted for login details and/or a password.

4. **Highlight the destination directory.**

Highlight the directory (local or remote) where the file is to be placed and double-click using the left mouse button.

(The scroll bars allow you to easily move through the directory structure and the file list.)

5. **Highlight the source directory.**

Highlight the directory (local or remote) where the file is located and double-click using the left mouse button.

6. **Select the file(s).**

Highlight the file(s) to be transferred and click the left mouse button.

You can select more than one file using one of the following methods.

To select adjacent files, highlight the first file in the group, then holding down the **SHIFT** key and click the left mouse button on the last file in the group.

To select non adjacent files, highlight the first file in the group, then holding down the **CTRL** key and click the left mouse button on the other files in the group.

7. **Drag and drop.**

With the file(s) still highlighted hold down the left mouse button and drag the file(s) to the destination directory. Release the mouse button to drop the files.

8. **Disconnect and Exit.**

Click on the **Disconnect** and **Exit** buttons, in turn, to disconnect and exit.

Transferring Files without a Mouse

If you do not have access to a mouse then you can use the keyboard together with the buttons and menu options to transfer files.

The keyboard sequences that you need to know are:

| | |
|------------------|--|
| TAB | Use the TAB key to move around a tile. |
| SHIFT_TAB | Hold down the SHIFT and press TAB to move backwards through a tile. |
| ALT_TAB | Hold down the ALT key and press TAB to re-activate the File Transfer tile after connecting to the host. |

- Up/down arrow keys** Use the up and down arrows keys to scroll through lists.
- Short cut keys** All the menus and menu options are available using short cut keys. For example, the **F**ile menu can be reached using the short cut sequence ALT_F.

To transfer a file, in either direction, follow these steps:

1. To begin a file transfer, select **File Transfer (ftp)** from the **A**ctions menu. The **File Transfer** tile for FTP Drag & Drop will be displayed, see *Figure 9.2*.
2. **Connect to the remote host.**
Use the TAB key to move through the **File Transfer** tile and highlight the **Connect** button. Press ENTER to activate the connection to the remote host.
3. **Login, if required.**
Depending on the configuration of your system, you may be prompted for login details and/or a password.
Fill in the details, using the TAB key to move between fields and to highlight the **OK** button. When you are ready, press ENTER.
4. **Re-activate the File Transfer tile.**
Use ALT_TAB to re-activate the **File Transfer** tile.
5. **Highlight the destination directory.**
Using short cut keys, select **C**hange directory ... from the **F**ile menu, ALT_F followed by ALT_C. Then using the TAB key and arrow keys select **L**ocal or **R**emote and fill in the path name. Highlight the **OK** button and press ENTER.
6. **Highlight the source directory.** (See step 3.)

7. Select the file(s).

Use the TAB key to move the source file list. To scroll through the list use the arrow keys.

To select more than one adjacent file, highlight the first file in the group, then holding down the SHIFT key use the down/up arrow keys to highlight all the files you want.

8. Select Send or Receive.

Use the TAB key to highlight the **Send** → or **Receive** ← button and press ENTER.

9. Disconnect and Exit.

Use the TAB key to highlight the **Disconnect** and **Exit** buttons, in turn, and press ENTER.

IBM IND\$FILE

IND\$FILE is a file transfer protocol used when communicating with IBM mainframes. It allows text and data to be copied, and includes the capacity to translate between ASCII and EBCDIC character sets.

To successfully transfer files using this version of IND\$FILE, the mainframe host **must** know that the terminal supports extended attributes. This is controlled through the configuration of the emulation module, where the **Extended Attributes** must be selected. Refer to the relevant IBM emulation in *Chapter 11 - Emulations on page 192* .

For example, if you connect to the remote host via Telnet and you select the IBM 3270 emulation, then the **Extended Attributes** option must be selected on the **Configure IBM3270** tile. This adds an **-E** suffix, giving the emulation type IBM-3279-2-E.

For details on configuring the IND\$FILE file transfer protocol, refer to *Chapter 8 - Configure File Transfers, IBM IND\$FILE on page 99*.

Note: *IND\$FILE encompasses two different modes of operation - Screen Buffer mode and Structured Field Mode. This version of IBM IND\$FILE supports only the Structured Field Mode.*

Transferring Files with IND\$FILE

Before transferring files **to** or **from** the remote host using the IBM IND\$FILE protocol, make sure that the host system is at the command prompt. The host system **must** be at the command prompt for the IND\$FILE command to be executed.

Select the **File transfer (ind\$file)** option from the **Actions** menu. You are then presented with the **File Transfer Status** tile, (see *Figure 9.8*).

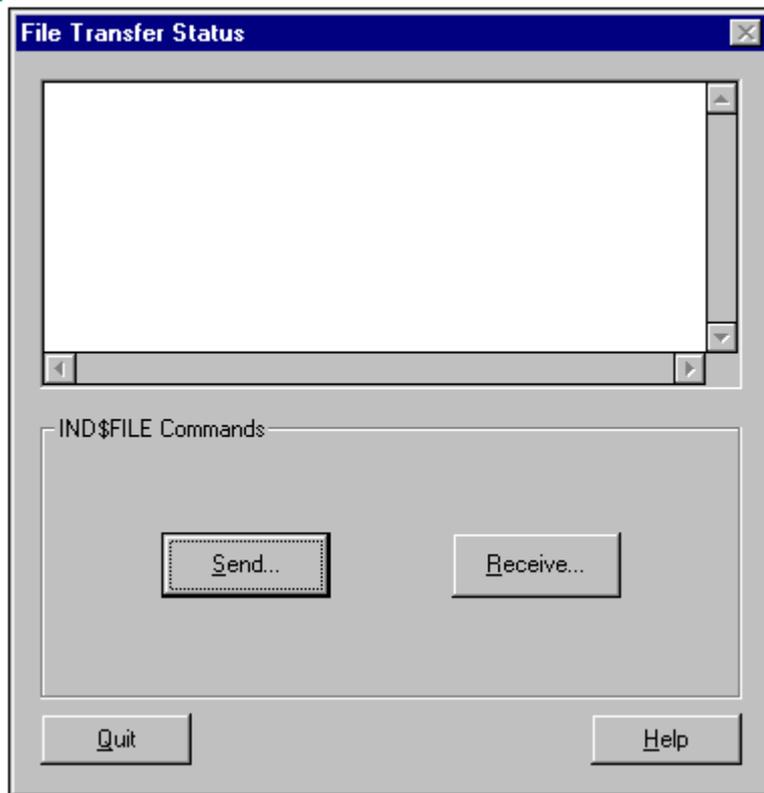


Figure 9.8: **File Transfer Status** tile - IBM IND\$FILE

Make sure that the host system is at the command prompt, then click on the **S**end... button. The **File Transfer Send** tile is then displayed. (For a detailed description of the **File Transfer Send** tile refer to *page 156*.)

The **IND\$FILE Transfer Status** indicates the state of the transfer as it occurs.

As an example, to transfer a local ASCII text file from your PC to a remote host, follow these steps:

1. Make sure that the host system is at the command prompt.
2. Select **F**ile Transfer (ind\$file)... from the **A**ctions menu.
3. Click on the **S**end... button on the **IND\$FILE File Transfer** tile.
4. Using the **D**irectories and **F**iles lists select the file you want to copy to the remote host and select **O**K.
5. You will see the file being copied to the open file on the remote host. When the transfer is complete, save and close the remote file.

Make sure that the host system is at the command prompt, then click on the **R**ecieve... button. The **Get** tile is then displayed. (For a detailed description of the **Get** tile refer to *page 160*.)

The **IND\$FILE Transfer Status** indicates the state of the transfer as it occurs.

Kermit

Kermit file transfers are available in two modes: Interactive and Server. Both modes allow more than one file to be transferred at a time through the use of wildcards.

Both ASCII and binary data file transfers are supported by Kermit.

Refer to *Chapter 8 - Configure File Transfers, Kermit on page 103* for configuration details.

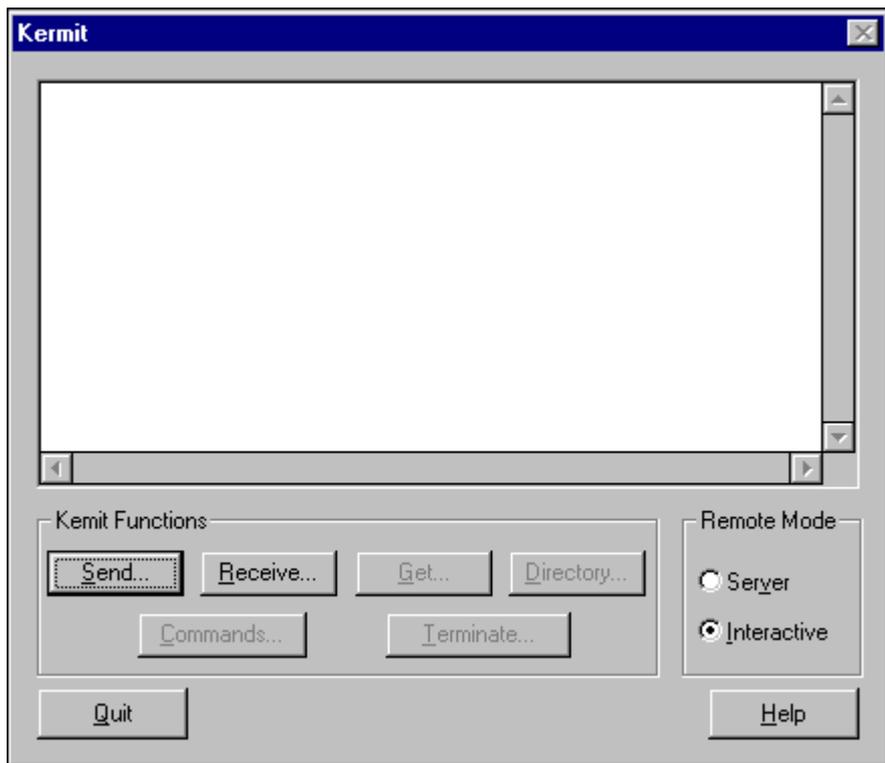


Figure 9.9: Kermit file transfer tile

Using Kermit Interactive mode

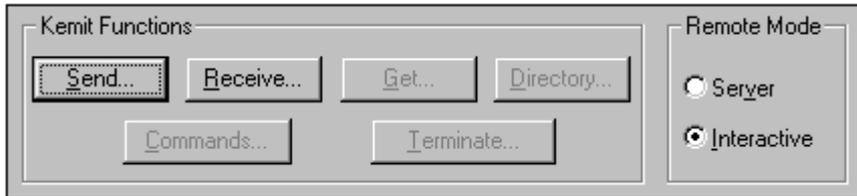


Figure 9.10: **Kermit Functions** - Interactive mode

When running Kermit in Interactive mode, ensure that the **Remote Mode** switch is set to **Interactive** (see *Figure 9.10*). Refer to *Chapter 8 - Configure File Transfers, Remote System on page 104* for the setting of the default **Remote Mode**.

When Kermit is to be used in the Interactive mode, only a single send or receive command can be executed on the remote host each time Kermit is run.

Sending files – Interactive mode

To send files to a remote host using the Kermit protocol, also referred to as uploading, you must first start Kermit on the remote machine and set it up to receive files. The command needed to achieve this varies from one version of the Kermit server software to another. However some of the more common ones are:

UNIX server: **kermit -r**

MS-DOS server: **kermit receive**

Once the remote Kermit server is running, select the **File Transfer (kermit)** option from the **Actions** menu. You will be presented with the **Kermit** file transfer tile (see *Figure 9.9*).

To send more than one file, wildcards can be used (e.g. *.TXT to copy all files with the .TXT name extension). The files, when created on the remote host, will retain their original name(s).

Click on the **Send...** button to copy a file to the remote host. (For a detailed description of the **File Transfer Send** tile refer to *page 156*.)

The **Kermit Transfer Status** box displays the state of the transfer while it occurs. Kermit will notify you when the transfer is complete.

Receiving files – Interactive mode

This is similar to sending files, except the remote Kermit must be told to send files. Commonly used commands are:

UNIX server: **kermit -s filename**

MS-DOS server: **kermit send filename**

Once the remote Kermit is running, select **File Transfer** from the **Actions** menu. You will be presented with the **Kermit** file transfer tile (see *Figure 9.9*).

Click on the **Receive...** button to receive a file from the remote host using Kermit interactive mode. (For a detailed description of the **File Transfer Receive** tile refer to *page 158*.)

If you are receiving more than one file, and you enter a filename, only the first incoming file will be stored under this name. The remainder will be given the names supplied by the remote host.

The **Kermit Transfer Status** box displays the state of the transfer while it occurs. Kermit will notify you when the transfer is complete and upon completion you will be returned to the remote host prompt.

Using Kermit Server mode

The advantage of Server mode over the normal sending and receiving commands, is that it is possible to do many transfers without having to change back to the terminal mode and run Kermit again on the remote host after each transfer.

To start the remote Kermit in **Server** mode, commonly used commands are:

UNIX server: **kermit -x**

MS-DOS server: **kermit server**

Once the remote Kermit server is running in Server mode, select the **File Transfer (kermit)** option from the **Actions** menu. You will be presented with the **Kermit** file transfer tile (see *Figure 9.9*).

If you are running Kermit on the remote host in Server mode, ensure that in the **Kermit** file transfer tile from the **Actions** menu, the **Remote Mode** switch is set to **Server**, see *Figure 9.11*. (Refer to *Chapter 8 - Configure File Transfers, Remote System on page 104* for the setting of the default **Remote Mode**).

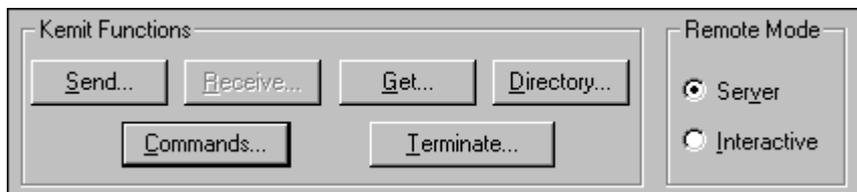


Figure 9.11: Kermit Functions - Server mode

Click on the **Send...** button to send a file to the remote host. (For a detailed description of the **File Transfer Send** tile refer to *page 156*.)

Wildcards can be used to send more than one file (e.g. *.TXT to copy all files with the .TXT name extension). The files, when created on the remote host, will retain their original names.

The **Kermit Transfer Status** box displays the state of the transfer while it occurs. Kermit will notify you when the transfer is complete.

Under the **Server** mode of operation, receiving a file from the remote host is done using the **Get...** option. A file can be retrieved to either a disk or printer, if required.

Click on the **Get...** button to get a file from the remote host. (For a detailed description of the **Get** tile refer to *page 160*.)

If you are receiving more than one file, and you enter a filename, only the first incoming file will be stored under this name. The remainder will be given the names supplied by the remote host.

The **Kermit Transfer Status** box displays the state of the transfer while it occurs. Kermit will notify you when the transfer is complete.

This option enables you to obtain a directory listing from the remote host.

After selecting the **F**ile Transfer (**k**ermit) option from the **A**ctions menu. Click on the **D**irectory button on the **K**ermit file transfer tile, see *Figure 9.9*. You are then presented with the **D**irectory tile.

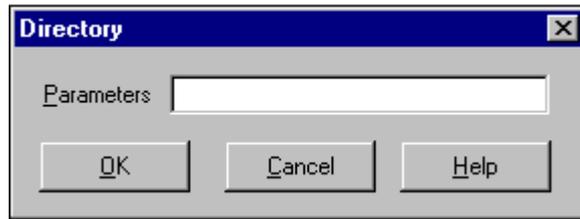


Figure 9.12: **D**irectory tile - Kermit

Parameters To obtain a directory listing for a specific remote directory, enter the directory path.
To obtain a listing of the current working directory, leave the **Parameters** field blank.

The **Commands...** option is a set of general host commands available in the Kermit file transfer protocol. These may or may not be supported by your remote host's Kermit.

The list of commands available on the remote Kermit may be obtained by typing ? (question mark), at the remote host prompt, once the remote Kermit is running.

The **Commands** tile (see *Figure 9.13*) is displayed after clicking on the **Commands** button on the **Kermit** file transfer tile.

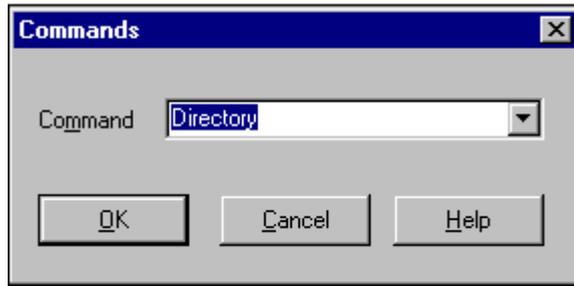


Figure 9.13: **Commands** tile

The available commands include:

Command

Use the drop down menu to select a command. The available commands include:

- Bye
- Change_Dir
- Copy
- Delete
- Directory
- Disk_Usage
- Help
- Host
- Journal
- Kermit
- Login
- Program
- Query
- Rename
- Send_Message
- Set_Variable
- Terminate
- Type
- Who

Consult your remote host's Kermit documentation for information on which commands are actually supported and details of these commands.

Terminate sends a FINISH command to the remote Kermit server. This terminates Kermit on the remote host, then automatically closes down your local Kermit and returns you to your remote host prompt.

***Note:** You should always terminate the remote Kermit server before closing down Kermit on your local PC.*

PICK

The **PICK** file transfer process is controlled totally by the host. As a result there is no user interaction with the transfer process. When the **File Transfer** option is selected on the **Actions** menu a **PICK File Transfer** tile is opened.

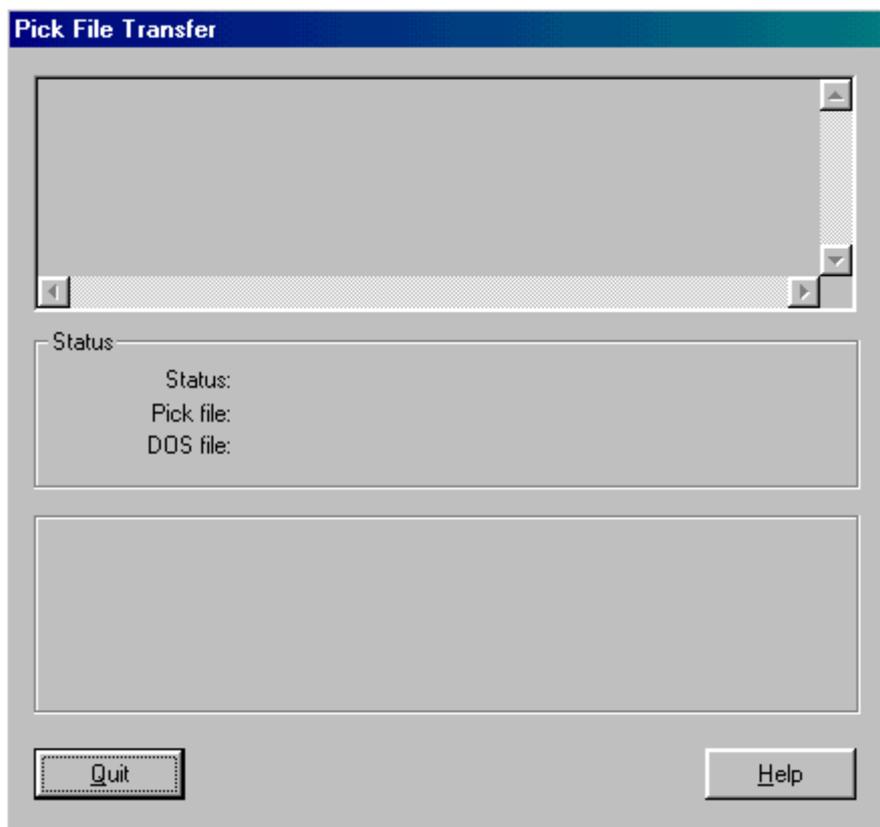


Figure 9.14: **PICK File Transfer** tile

This tile is provided so that progress of the file transfer can be checked. There is no user interaction with the transfer whilst it is running. Once the transfer has completed you can use the **Quit** button to close the file transfer module.

XMODEM and YMODEM

XMODEM and YMODEM are public domain error detecting file transfer protocols.

XMODEM uses 128 byte blocks for communications. Only a single file can be sent per command and a filename has to be given for both the host file and the local file. This means that wildcards can not be used.

YMODEM uses the CRC method of error detection/correction to determine any transmission errors. It uses 1024 byte blocks for data communications and unlike XMODEM it supports wild cards such as * and ? in filenames so that multiple files can be transferred with one request.

***Note:** XMODEM requires an 8 bit transparent communications path for file transfers to be successful. If you are using a modem, it must be set to 8 bit mode. Many network protocols and devices such as terminal servers are not 8 bit transparent and XMODEM cannot be used through such a device.*

Refer to *Chapter 8 - Configure File Transfers, XMODEM/YMODEM on page 112* for configuration details.

Transferring Files with X/YMODEM

Before transferring a file you must first start X/YMODEM on the remote host. The command used to start X/YMODEM depends on your system, the protocol, i.e., XMODEM-1K, YMODEM-g and on whether you want to send or to receive files.

To **send** a file to the remote host, start X/YMODEM on your remote host to receive. You **must** include the name the file will be called on the receiving remote host as a parameter.

For a UNIX system XMODEM typically uses: **rx filename**

and YMODEM typically uses: **rb filename**

To **get** a file from the remote, start X/YMODEM on your remote host to send files. The name of the file being sent is given as a parameter.

UNIX XMODEM typically uses: **sx filename**

and YMODEM typically uses: **sb filename**

Once you have started the X/YMODEM protocol, select the **File transfer (xmodem)** option from the **Actions** menu. You are then presented with the **File Transfer Status** tile, (see *Figure 9.15*).

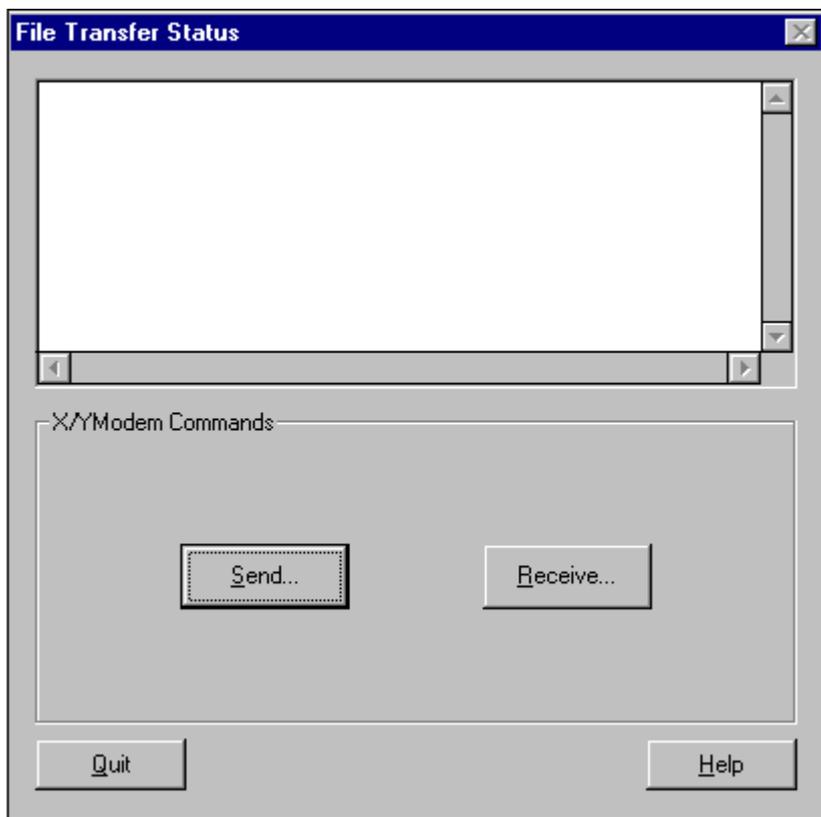


Figure 9.15: **File Transfer Status** tile - X/YMODEM

Click on the **Send...** button to transfer a file to your remote host. (For a detailed description of the **File Transfer Send** tile refer to *page 156*.) The state of the transfer is shown, as it occurs, in the **X/Ymodem Transfer Status** box.

For example, to transfer a local data file from your PC to a remote host, follow these steps:

1. Start the X/YMODEM command on your remote host to receive. Include the name the file will be called on the receiving remote host as a parameter.

(For a UNIX system XMODEM typically uses **rx** and YMODEM typically uses **rb**.)
2. Select **File Transfer (xmodem)...** from the **Actions** menu.
3. Click the **Send...** button.
4. Enter the name of the file you want to transfer to the remote host in the **Filename** box.

The **Send As** field is ignored as filename information is not sent. So, click on the **OK** button.
5. Click **Quit** to close the file transfer.

Click on the **Receive...** button to receive a file from your remote host. (For a detailed description of the **File Transfer Receive** tile refer to *page 158*.)

The state of the transfer is indicated in **X/Ymodem Transfer Status** box as it occurs.

For example, to receive a data file from your remote host onto your local PC, follow these steps:

1. Start the X/YMODEM command on your remote host to send with the name of the file being sent as a parameter.

(UNIX XMODEM typically uses **sx** and YMODEM typically uses **sb**.)

2. Select **File Transfer (xmodem)...** from the **Actions** menu.
3. Click on the **Receive...** button.
4. Enter the name you wish to be given to the file on the local PC in the **Received As** box and click **OK**.
5. When the transfer has completed, click **Quit**.

ZMODEM

ZMODEM is a public domain protocol that can use both 16 and 32 bit CRC error detection. It does not use fixed length data blocks but instead varies their length so that it is better able to handle interference on its transmission path.

ZMODEM also caters for interrupted file transfers so that once the communications line is clear again the transfer can be restarted from where it left off.

Refer to *Chapter 8 - Configure File Transfers, ZMODEM on page 116* for configuration details.

Transferring Files with ZMODEM

Before transferring a file you must first start ZMODEM on the remote host. The command used to start ZMODEM differs from one system to another and depends on whether you want to send or to receive files.

To **send** a file to the remote host, start ZMODEM on your remote host to receive files. Include as a parameter in the command, the name the file will be called on the remote host.

The UNIX command is typically: ***rz filename***

To **get** a file from the remote host, start ZMODEM on your remote host to send files. The name of the file being sent is included as a parameter.

The UNIX command is typically: ***sz filename***

Once you have started ZMODEM on the remote host, select the **File transfer (zmodem)** option from the **A**ctions menu. You are then presented with the **File Transfer Status** tile, (see *Figure 9.16*).

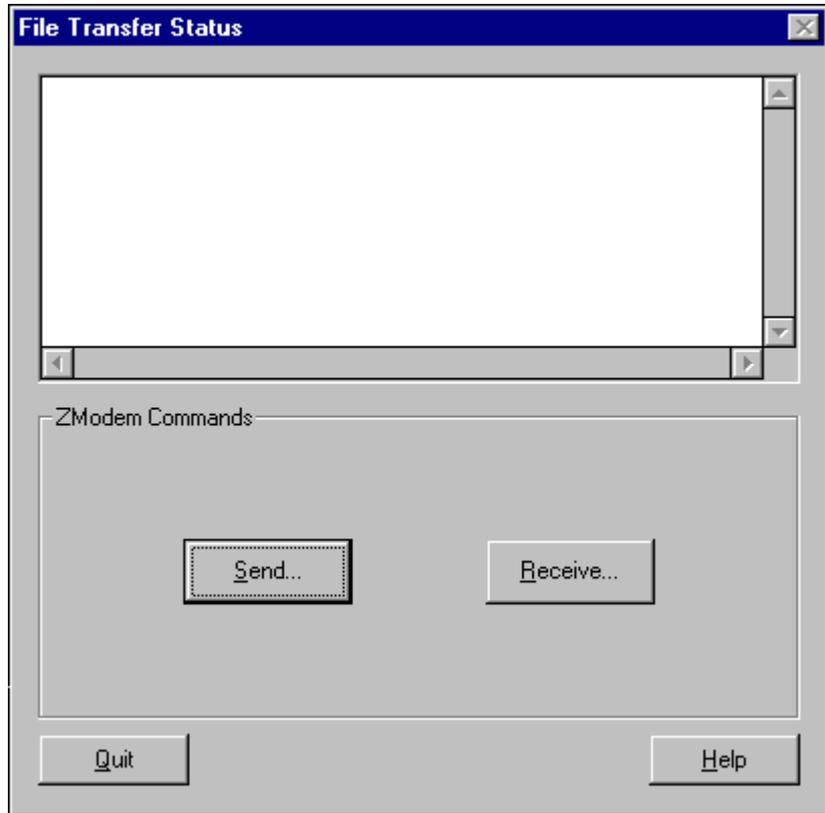


Figure 9.16: **File Transfer Status** tile - ZMODEM

Click on the **Send...** button to transfer a file to your remote host. (For a detailed description of the **File Transfer Send** tile refer to *page 156*.)

The state of the transfer is shown, in the **Zmodem Transfer Status** box.

For example, to transfer a local data file from your PC to a remote host, follow these steps:

1. Start the ZMODEM command on your remote host to receive. Include the name the file will be called on the receiving remote host, as a parameter. (UNIX typically uses **rz *filename***).
2. Select **File Transfer (zmodem)...** from the **A**ctions menu.
3. Click on the **Send...** button.
4. Enter the name of the file you want to transfer to the remote host in the **Filename** box. No filename information is sent using ZMODEM, so the **Send As** field is ignored. Click on the **OK** button.
5. Click **Quit** to exit the file transfer.

Click on the **Receive...** button to get a file from your remote host. (For a detailed description of the **File Transfer Receive** tile refer to *page 158*.)

The state of the transfer is shown, in the **Zmodem Transfer Status** box.

For example, to receive a data file from your remote host onto your local PC, follow these steps:

1. Start the ZMODEM command on your remote host to send. Include the name of the file being sent as a parameter. (UNIX typically uses **sz *filename***).
2. Select **File Transfer (zmodem)...** from the **A**ctions menu.
3. Click on the **Receive...** button.
4. Enter the name you wish to be given to the file on the local PC in the **Received As** box. Click on the **OK** button.
5. When the transfer has completed, click **Quit**.

The File Transfer Send tile

This tile is displayed when using the IBM IND\$FILE, Kermit (Interactive and Server modes), XMODEM, YMODEM or ZMODEM protocol to send files from your local PC to the remote host.

In some case the file transfer protocol will allow you to transfer multiple files using wildcards, such as * and ?. (Refer to the relevant protocol in this chapter.)

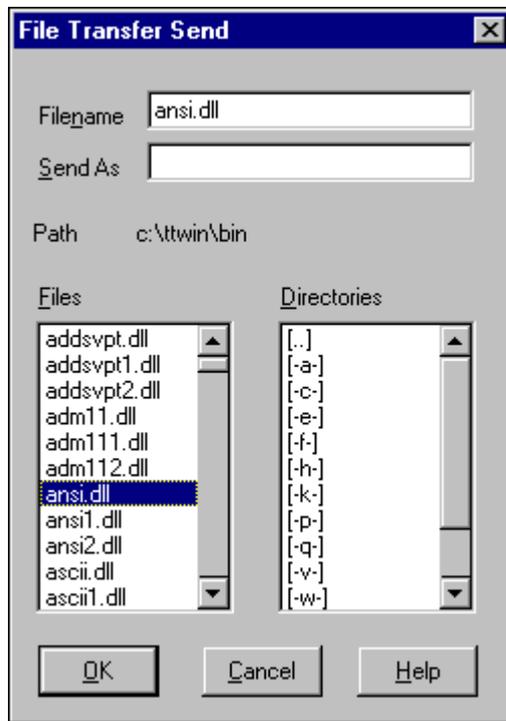


Figure 9.17: File Transfer Send tile

Filename

The name of the file to be transferred to the remote host. Use the directory and file lists to select the file you want to copy to the remote host. The filename is then automatically entered into this field.

Some file transfer protocols accept wildcards, (e.g * .TXT to copy all files with the .TXT name extension).

Send As

The name of the file to be created on the host.

This field is ignored when using the XMODEM, YMODEM and ZMODEM protocols.

Path

The path name of the selected file.

Files

The file list. Highlight the file you want to send to the remote host.

Directories

The directory list on the PC. Select the directory that contains the file you want to send. By default TTWIN 3 uses the current working directory.

The File Transfer Receive tile

This tile is displayed when using the Kermit (Interactive mode only), XMODEM, YMODEM or ZMODEM protocols to get files from your remote host.

This tile **DOES NOT** allow the user to specify the name of the file on the remote host. The filename **MUST** be specified when you issue the command, on the remote host, to start the file transfer.

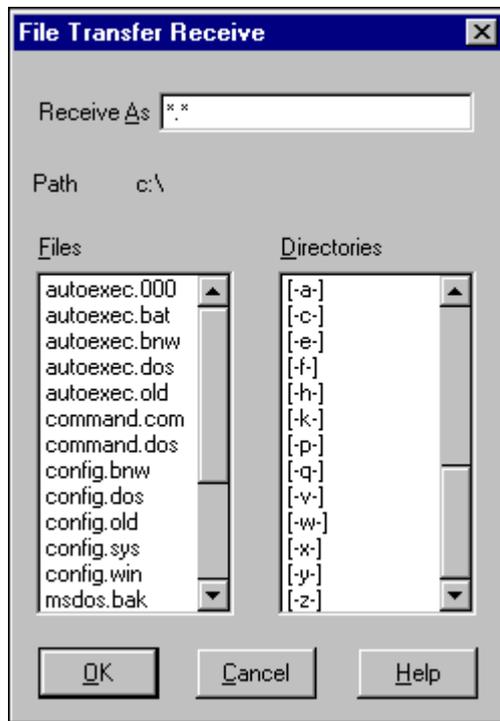


Figure 9.18: File Transfer Receive tile

Receive As:

The name of the file to be created on the PC.

Use the directory list to select the directory where you want to receive the file and enter the name of the file.

If left blank and the protocol you are using allows this, the filename provided by the remote host is used. (Also see the relevant section in *Chapter 8 - Configure File Transfers on page 91* for details on how a protocol behaves if a file already exists.)

If the protocol you are using allows you to receive more than one file, and you enter a filename, only the first incoming file will be stored under this name. The remainder will be given the names supplied by the remote host.

Path

The path name for the file created on the PC.

Files

The file list on the PC. If you want to replace an existing file, select the file.

Directories

The directory list on the PC. Select the directory where you want to place the file. By default TTWIN 3 uses the current working directory.

The Get tile

This tile is displayed when using the IBM IND\$FILE or Kermit (Server mode only) protocols to get files from your remote host.

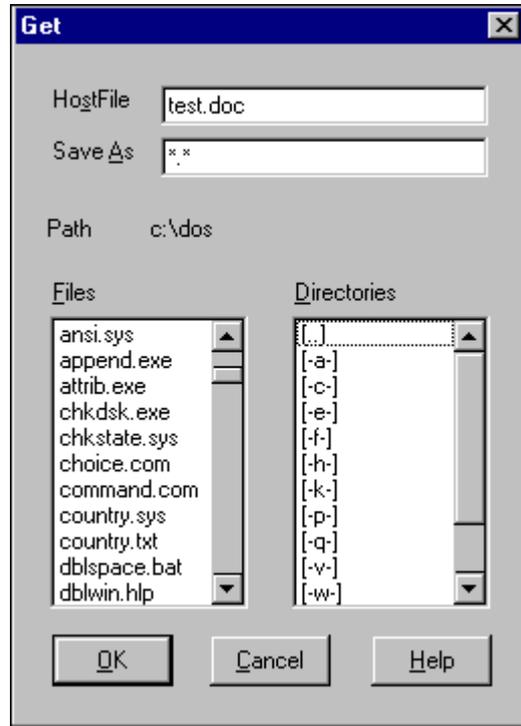


Figure 9.19: Get tile

Host file: The name of the file to retrieve from the host. This must be specified.

Save As:

The name of the file to be created on the PC.

If left blank and the protocol you are using allows this, the filename provided by the remote host is used. (Also see the relevant section in *Chapter 8 - Configure File Transfers on page 91* for details on how a protocol behaves if a file already exists.)

If the protocol you are using allows you to receive more than one file, and you enter a filename, only the first incoming file will be stored under this name. The remainder will be given the names supplied by the remote host.

Path

The path name for the file created on the PC.

Files

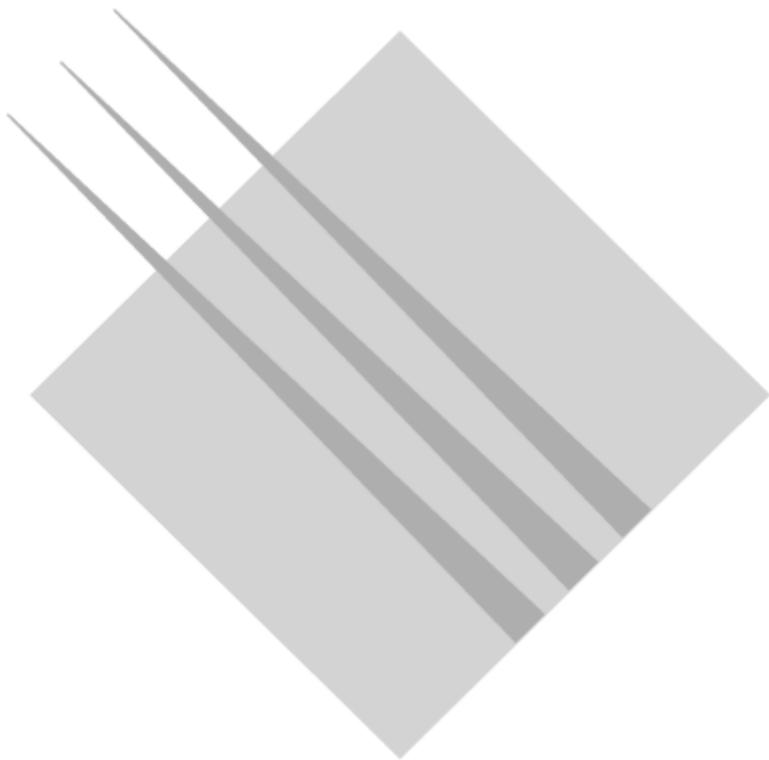
The file list on the PC. If you want to replace an existing file, select the file.

Directories

The directory list on the PC.

Select the directory where you want to place the file. By default TTWIN 3 will use the current working directory.





Chapter 10 | Communications

Possibly the most important element of the TTWIN 3 configuration procedure is the setting up of the communications module. This module determines whether you are going to be able to make a connection to your remote host and, more importantly, ensures that all data transmission is accurate and dependable.

Selecting a Communications Module

Selecting the appropriate communications module for your system is the first step to getting TTWIN 3 communicating with your remote host.

To select the required communications module, make sure you are **not** currently connected to a remote host. After this, choose the **C**omms option from the **C**onfigure menu.

***Note:** If you choose a communications module that is not available in your environment, an error message is displayed and you will be prompted to select another communications module.*

If there is no communications module loaded then you will be prompted with the **Select a Comms Module** tile, (see *Figure 10.1*). Choose the required communications module from the list. (This list varies depending on the TTWIN 3 pack that you purchased.)

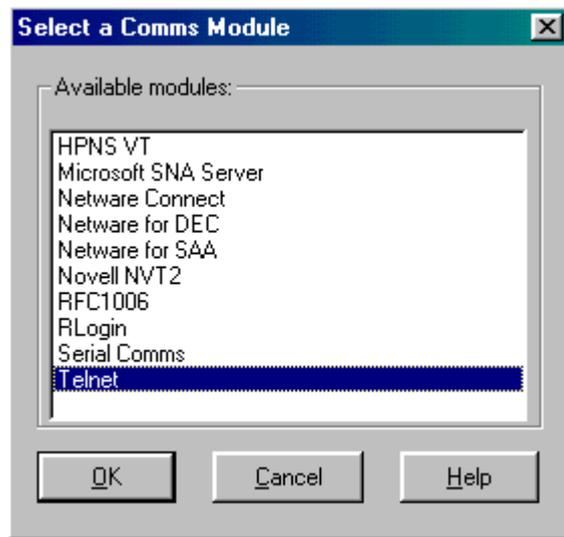


Figure 10.1: **Select a Comms Module** list

If a communications module is already loaded then the **configure communications module** tile for that module will be displayed, ready for editing.

Changing the Current Communications Module

To select another communications module click on the **Select Another...** button on the **configure** tile. All communications modules have a **Select Another...** button located at the top left hand corner of the configuration tile, (see *Figure 10.2*, “Configure **HP Virtual Terminal** tile”, for an example).

After clicking the **Select Another...** button, you will be presented with the **Select a Comms Module** tile, (see *Figure 10.1*). From the modules shown, choose the communications module required.

*Note: If you are currently connected to a remote host, the **Select Another...** button will be greyed. You must first disconnect from the remote host before trying to change the communications module*

Loading the Communications Module

Having selected the required communications module, the **configure** tile for that emulation is displayed.

To load the configured communications module, click on the **OK** button on the **configure** tile. Any changes that have been made to the configuration of communications module are retained and the module is loaded ready for use but a connection is **NOT** initiated.

Starting a Connection

Having configured the communications module, click on the **Connect** button to initiate a connection to the specified remote host. Any changes that have been made to the configuration of communications module are retained.

Configuring the Communications Module

On selecting the required communications module, you will automatically go to the **configure** tile for that module. This allows you to configure the chosen communications module.

The actual details required when configuring a communications module are generally dependent on the remote host. All of the available communications modules are discussed in the following sections.

HP Virtual Terminal

The Hewlett Packard Network Services (NS) interface. By default the terminals are serial devices. TTWIN 3 facilitates a connection, over NS via the WINSOCK interface.

The Configure HP Virtual Terminal tile

When you select the HPNS VT communications module the **Configure HP Virtual Terminal** tile is displayed.

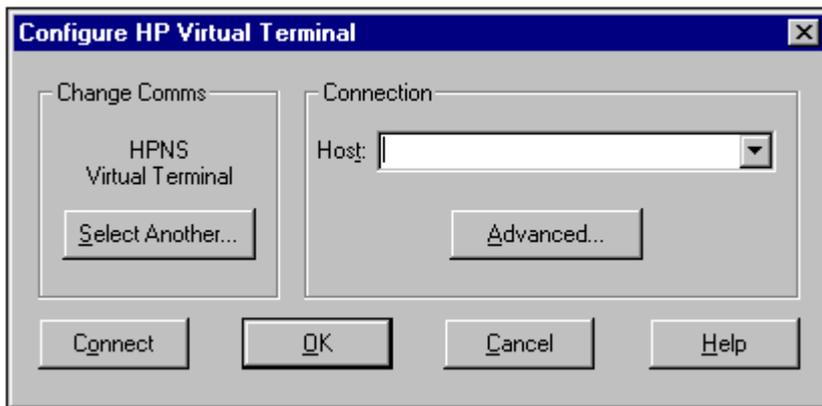


Figure 10.2: **Configure HP Virtual Terminal** tile

Hosts:

The name or IP address of the remote host. The mapping from name to address can be stored in the TTWIN.INI file, in the [HPNSHOSTS] section or the name translation mechanism of the underlying *Windows* Sockets protocol software.

HP VT Advanced Configuration

Click on the **Advanced...** button to display the **HP VT Advanced Configuration** tile.



Figure 10.3: **HP VT Advanced Configuration** tile

Local NS Nodename

The NS name of the local PC, used to identify the terminal to the remote host. This consists of three labels representing *host.department.organisation*, e.g., PC31.DEV.TURBOSOFT.

Options

Custom Prompt

When enabled the prompt string sent by the host is replaced by the users customised string. The maximum length for the string is 8 characters.

Stream mode

The newer stream mode connection is supported as well as the standard message mode. When selected, an attempt is made to establish a stream mode connection. If this fails, HP VT will automatically fall back to message mode.

Show Diagnostics

This feature displays various diagnostic messages during connection.

Once you have entered all the required details, clicking on the **Connect** button will initiate a connection to the specified remote host.

Microsoft SNA Server for 3270

Before using Microsoft SNA Server for 3270, the Microsoft SNA Client software must be installed on your workstation. Please contact your systems administration regarding the setup of this software.

The Configure Microsoft SNA Server for 3270 tile

When you select the Microsoft SNA Server for 3270 communications module the **Configure Microsoft SNA S00erver for 3270** tile is displayed.

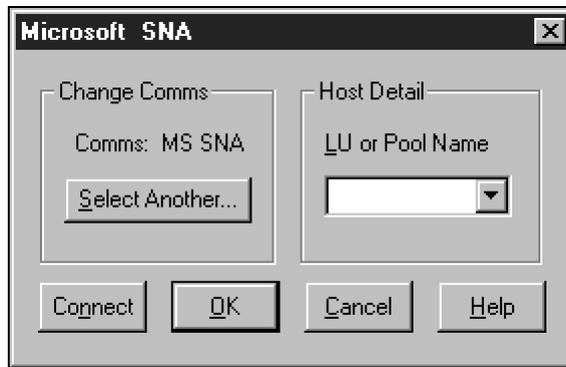


Figure 10.4: **Configure Microsoft SNA Server for 3270** tile

Host Detail

Click on the drop down menu on the **LU or Pool Name** field to display a list of the available LU's (including pools and individual LU's). Select the LU you require.

Once you have entered the host details you can click on the **Connect** button to initiate a connection to your remote host.

Microsoft SNA Server for 5250

Before using Microsoft SNA Server for 5250 the Microsoft SNA Client software must be installed on your workstation. Please contact your systems administration regarding the setup of this software.

The Configure Microsoft SNA Server for 5250 tile

When you select the Microsoft SNA Server for 5250 communications module the **Configure Microsoft SNA Server for 5250** tile is displayed.

Host Detail

| | |
|----------------------------------|---|
| System (Remote LU Alias): | This is a drop down menu displaying the currently available APPC Remote LU names as configured on the SNA Server. |
| Local LU Alias: | This is the local LU name that your workstation can use to connect to the host. |
| Device Name: | By default, the host provides this setting. Contact your Systems Administrator if you wish to change it. |

Advanced Microsoft SNA Server for 5250 Setup

Due to the complex nature of the Microsoft SNA Server for 5250 communications module, a number of advanced options are provided to enable fine tuning of the connection.

Click on the **Advanced Setup...** button to display the **Microsoft SNA Server for 5250 Advanced Setup** tile.

General

- Mode Name:** The common name is “QPCSUPP”, and is defined on the host. Contact your Systems Administrator if you wish to change it.
- Fully Qualified Remote LU:** This field is only required if you do not enter a value into the System (Remote LU Alias) field. Contact your Systems Administrator if you wish to change it.
- User Name:** Enter your host User Name here if you wish to automatically bypass the host login screen.
- Password:** Enter your host Password here if you wish to automatically bypass the host login screen.

Netware Connect

Netware Connect is a workstation software utility supplied by Novell which allows a workstation to communicate with a Netware Connect Server.

Netware Connect lets applications send and receive characters to and from the communications ports available on the Netware Connect Server. It allows any workstation on the network to share either dial-up phone lines or directly connected lines to a host computer or other asynchronous device.

The Configure NWConnect tile

When you select the Netware Connect communications module the **Configure NWConnect** tile is displayed.

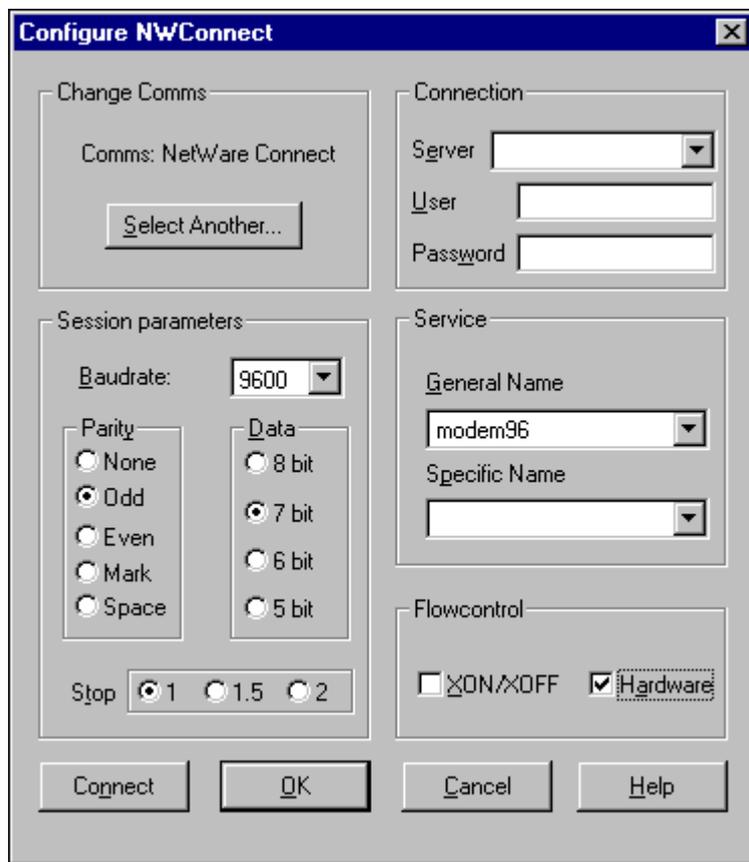


Figure 10.5: Configure NWConnect tile

Session parameters

The **Baudrate**, **Parity**, **Data** and **Stop** values should match those used by the remote host computer.

Baudrate

Select the baud rate. Up to 19200 baud is supported.

Parity

Select the type of parity checking from:
None, Odd, Even, Mark, Space

Data Select the number of data bits in a character from: **8 bit, 7 bit, 6 bit** or **5 bit**

Stop Select the number of stop bits used to mark the end of each character from: **1, 1.5** or **2**

Connection

Server Click on the drop down menu to the Netware Connect server.

User Enter your user ID.

Password Enter your password.

Service

General Name General names should describe the type of service provided by the port.
If there are a number of resources offering the same service e.g., several modems at 9600 baud, then you can give each of these 9600 baud modems the same **General Name** e.g, MODEM96

Specific Name Specific Name allows you to selected a particular modem to dial from.
Give the actual port you wish to attach to on the nominated service.

Flowcontrol

XON/XOFF Select to enable software flow control.

Hardware Select to enable hardware flow control.

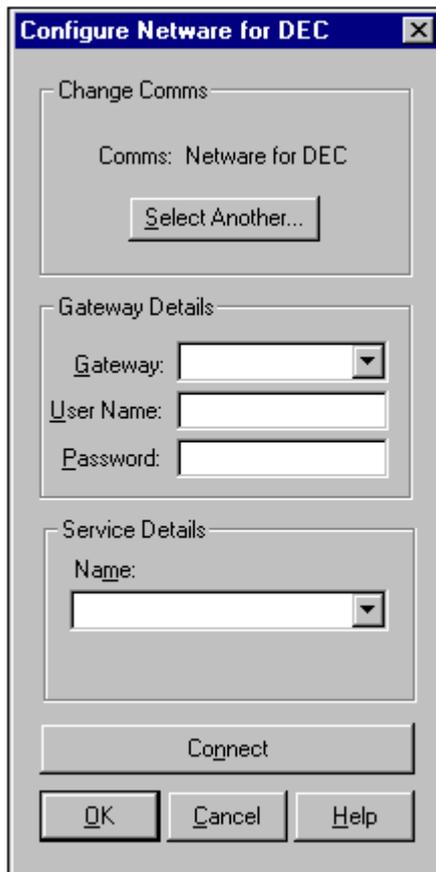
Once you have entered the required details, click on the **Connect** button to initiate a connection to your specified remote host.

Netware for DEC

Netware for DEC is Novell's IPX/SPX gateway.

The Configure Network for DEC tile

When you select the Netware for DEC communications module the **Configure Network for DEC** tile is displayed.



The image shows a Windows-style dialog box titled "Configure Network for DEC". The dialog is divided into three main sections:

- Change Comms:** This section contains the text "Comms: Netware for DEC" and a button labeled "Select Another...".
- Gateway Details:** This section contains three input fields: "Gateway:" (a dropdown menu), "User Name:" (a text box), and "Password:" (a text box).
- Service Details:** This section contains one input field: "Name:" (a dropdown menu).

At the bottom of the dialog, there is a "Connect" button, and below that, three buttons: "OK", "Cancel", and "Help".

Figure 10.6: **Configure Netware for DEC** tile

Gateway Details

- Gateway:** A drop down menu of currently available Netware for DEC gateway servers.
- User Name:** Enter your user name details for the Netware server.
- Password:** Enter the password for the supplied Netware server user name.

Service Details

- Name:** The name of the required remote host services. That is, a Service Profile name as defined within the Netware Communication Services configuration utility, CSCON.

Once you have entered the gateway and service details, click on the **Connect** button to initiate a connection to your remote host.

Netware for SAA

Netware for SAA is Novell's IPX/SPX/SNA gateway.

The Configure Netware for SAA tile

When you select the Netware for SAA communications module the **Configure Netware for SAA** tile is displayed.

The screenshot shows a dialog box titled "Configure Netware for SAA". The dialog is organized into four main sections:

- Change Comms:** Displays "Comms: Netware for SAA" and a button labeled "Select Another...".
- Gateway Details:** Includes a "Gateway:" dropdown menu, a "User Name:" text input field, and a "Password:" text input field.
- Service Details:** Features a "Name:" text input field.
- Resource:** Features a "Name:" text input field and a checkbox labeled "Specific LU".

At the bottom of the dialog, there are four buttons: "Connect", "OK", "Cancel", and "Help".

Figure 10.7: **Configure Netware for SAA** tile

Gateway Details

- Gateway:** A drop down menu of currently available Netware for SAA gateway servers.
- User Name:** Enter your user name details for the Netware server.
- Password:** Enter the password for the supplied **User Name**.

Service Details

- Name** The name of the required remote host services. That is, a Service Profile name as defined within the Netware Communication Services configuration utility, CSCON.

Resource

- Name** The name of the resource (LU) required.
* indicates a pooled resource.
- Specific LU** Select if the resource is a specific LU.

Once you have entered the required details you can click on the **Connect** button to initiate a connection to your remote host.

Novell NVT

Novell's IPX/SPX Network Virtual Terminal communications transport commonly found on Portable Netware hosts.

The NVT protocol requires all communications to be carried out in a 7 bit mode, therefore it is necessary to use a 7-bit file transfer protocol, e.g., Kermit. Any file transfer protocols requiring an 8 bit transparent communications path, such as XModem, YModem and ZModem, cannot be used across an NVT connection.

TTWIN 3 provides both Novell NVT1 and Novell NVT2 communication. Novell NVT1 is applicable for older UNIX Netware implementations and uses only the IPX. Novell NVT2 uses SPX.

The Configure Novell NVT Comms tile

When you select the Novell NVT1 or the Novell NVT2 communications module the **Configure Novell NVT Comms** tile is displayed.

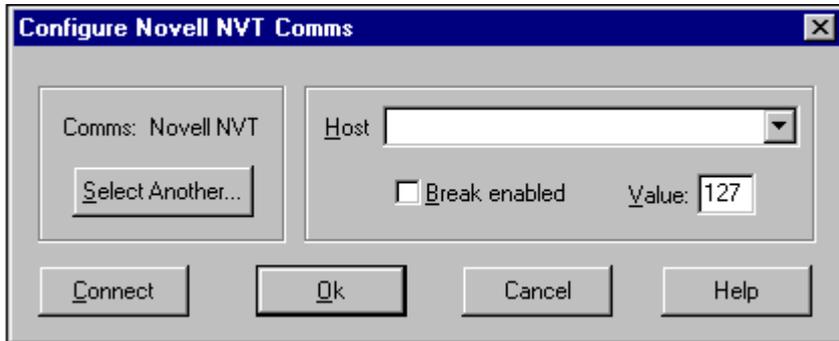


Figure 10.8: **Configure Novell NVT Comms** tile

- Host** For an NVT connection, you are required to give the name of a remote service. Any advertised NVT hosts which TTWIN 3 detects on the network will be offered via the drop down menu.
- Break enabled** Select to enable a break signal.
- Value:** The default break value is decimal 127.

Once you have entered the required details you can click on the **Connect** button to initiate a connection to your remote host.

RFC 1006

The RFC 1006 communications module provides for a TWIN 3 connection to an OSI-enabled host over TCP.

The Configure RFC1006 tile

When you select the RFC 1006 communications module, the **Configure RFC 1006** tile will be displayed.

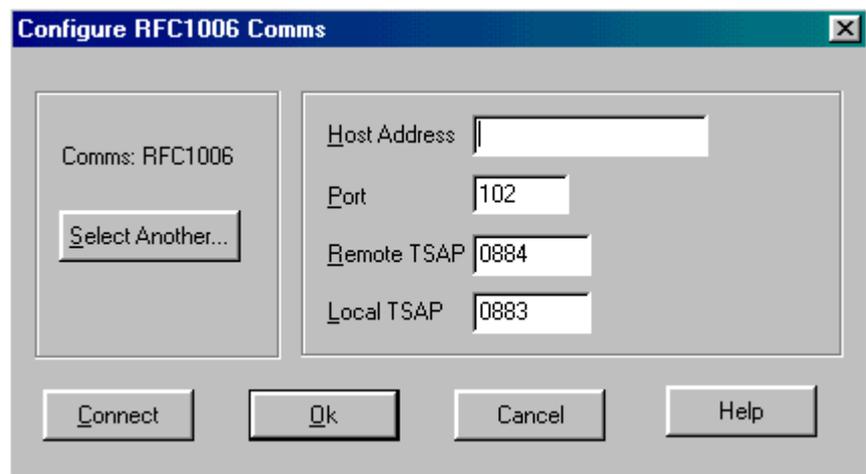


Figure 10.9: **Configure RFC 1006** tile

Host Address

Enter the IP address of the RFC 1006 Service Provider that you wish to connect to.

| | |
|--------------------|--|
| Port | This is an integer that defines the TCP port on which the RFC 1006 Service Provider is listening. The default value for RFC 1006 communications is TCP port 102, however other values may be used as required. |
| Remote TSAP | Enter the Remote TSAP value here. This value should be provided by the network or host system administrator for your organisation. |
| Local TSAP | Enter the Local TSAP value here. This value should be provided by the network or host system administrator for your organisation. |

Once you have entered the appropriate details, you can click on the **Connect** button to initiate a connection to your host.

RLogin

The RLogin communications module provides for a TTYWIN 3 connection using the RLogin protocol over TCP to the nominated host.

The Configure RLogin tile

When you select the RLogin communications module the **Configure RLogin** tile will be displayed.

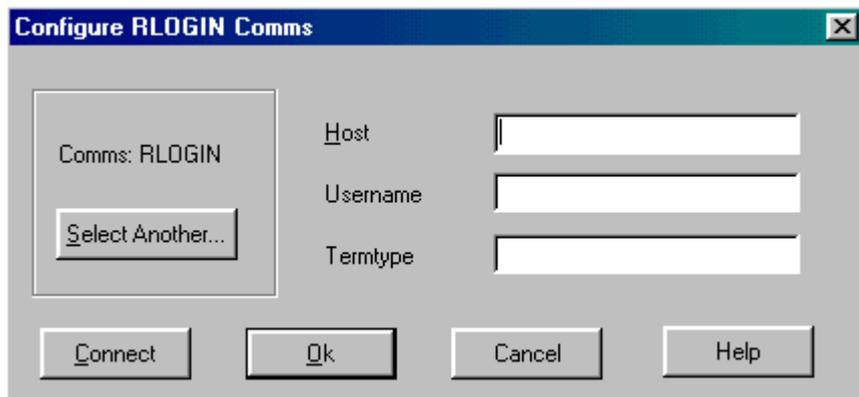


Figure 10.10: **Configure RLogin** tile

- | | |
|-----------------|---|
| Host | Enter the IP address of the host that you wish to connect to. |
| Username | Enter the username that will be used to log on to the host. |

Termtypes

(optional) Enter the terminal type to be used once you have connected to the host. This value will be issued (via a 'term=' command) by the RLogin module once a connection is established with the host. No validation of this parameter is carried out. If used, the correct Termtypes value should be obtained from your host system administrator.

Once you have entered the appropriate details, you can click on the **Connect** button to initiate a connection to your host.

Serial Comms

Serial communications provides a direct connect between your local system and a remote system.

For a serial connection, the baud rate, parity, data bits and stop bits **must** all be set to match the remote host's settings in order to achieve a successful connection.

For example, if the remote host is set to 2400 baud, 8 data bits, 1 stop bit and no parity, you **must** set your local communications module to these values. Flow control may also be required.

Using the serial communications module, multiple concurrent serial sessions are possible. Each session must be configured to use a unique COM port and even though your software supports up to four COM ports, your hardware may only be able to support two COM ports.

***Note:** The COM port must not be in use by any other device, for example, a mouse.*

The Configure Serial tile

When you select the Serial Comms communications module the **Configure Serial** tile is displayed.

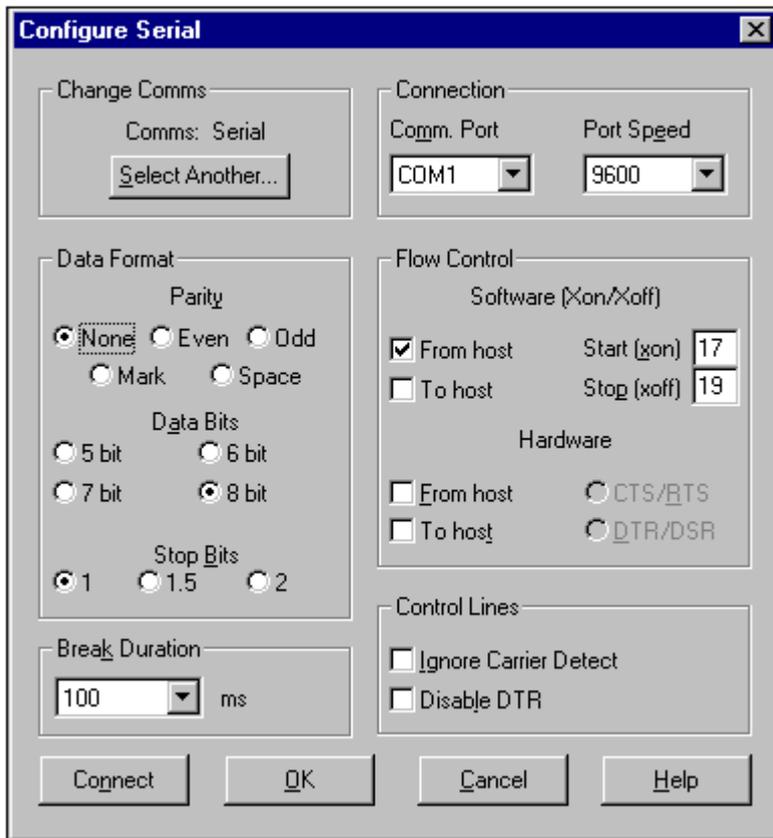


Figure 10.11: **Configure Serial** tile

Connection

- Comm. Port** Select the serial communications port to be used from: **COM1** through to **COM9**.
- Port speed** Specify the baud rate: 300, 600, 1200, 2400, 4800, 9600, 19200, 38400 or 57600.

Data Format

- Parity** Select the type of parity to be used from: **None, Even, Odd, Mark** or **Space**.
- Data Bits** Select the data bits from: **5bit, 6bit, 7bit, 8bit**.
- Stop Bits** Select the stop bits from: **1, 1.5, 2**.

Flow Control - Software(Xon/Xoff)

The software **Flow Control** options, are only available after one of the options, **From host** or **To host**, has been selected.

- Start (xon)** The default setting is 17(decimal) - CTRL_Q (^Q).
- Stop (xoff)** The default setting is 19(decimal) - CTRL_S (^S).

Flow Control - Hardware

Only when one of the options, **From host** or **To host**, has been selected are the radio buttons for the signal control available.

- CTS/RTS** Clear To Send/Request To Send.
- DTR/DSR** Data Terminal Ready/Data Set Ready.

Control Lines

| | |
|------------------------------|---|
| Ignore Carrier Detect | This option is required when running TTWIN 3 over a direct connection where the Carrier Detect Pin is not connected. |
| Disable DTR | This disables the DTR signal, if required. |
| Break Duration (ms) | The break period is defined in milliseconds. The duration can be set to one of the following: 10, 50, 100, 200, 300, 400, 500, 600, 700, 800, 900 or 1000 . |

Suggested settings for Modems

Most modems use hardware flow control. It is therefore suggested that the following settings be used:

Flow Control - Software(Xon/Xoff)

| | |
|------------------|-----|
| From host | Off |
| To host | Off |

Flow Control - Hardware

| | |
|------------------|-----|
| From host | On |
| To host | On |
| CTS/RTS | On |
| DTR/DSR | Off |

Control Lines

| | |
|------------------------------|-----|
| Disable DTR | Off |
| Ignore Carrier Detect | Off |

Telnet - WINSOCK

Telnet -WINSOCK communications module provides TTWIN 3 support for the *Windows* Sockets specification Version 1.1.

The Configure Telnet tile

When you select the Telnet -WINSOCK communications module the **Configure Telnet** tile is displayed.

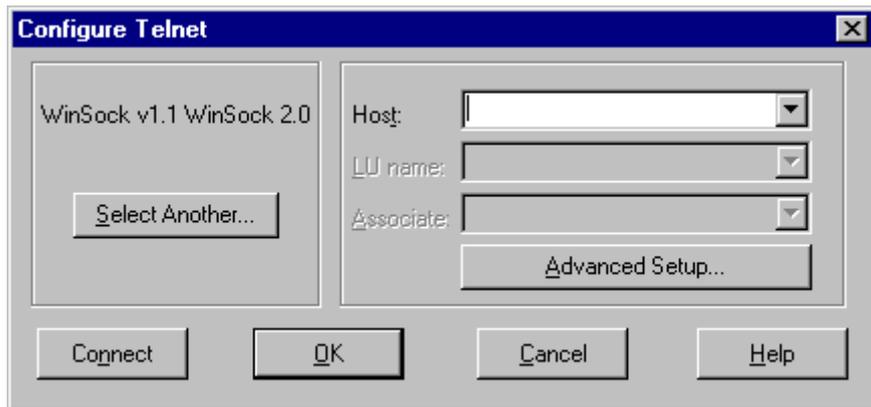


Figure 10.12: **Configure Telnet** tile

Host:

Enter the IP number of the remote host.

If a Telnet host table has been created, click on the drop down menu on the **Host** field. Select a host from the list displayed.

(Refer to *Appendix E - Host Table Support* on page 521 for details.)

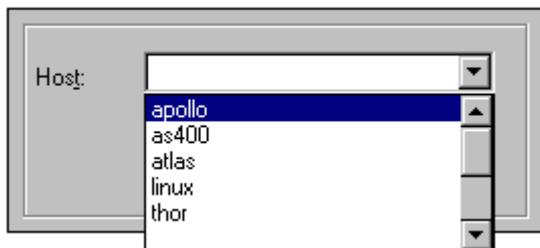


Figure 10.13: **Host** field with TTWIN . INI defined Telnet hosts

LU name: This option will be greyed out unless you are either using an IBM3270 or IBM5250 emulation, or the **Telnet Mode in Advanced Setup...** is IBM3270 or IBM5250 . This is used to identify the terminal as an LU (Logical Unit) to an IBM Mainframe.

Associate: This option has no effect unless you are using the IBM3287 printer emulation. This is used to associate an existing Terminal LU (Logical Unit) to this session.

***Note:** The LU name and Associate options are mutually exclusive.*

Advanced WINSOCK Setup

Telnet communication is one of the more complex methods of host to host communication and a number of advanced options are provided to fine tune the connection.

Click on the **Advanced Setup...** button to display the **Windows Socket Telnet - Advanced...** tile.

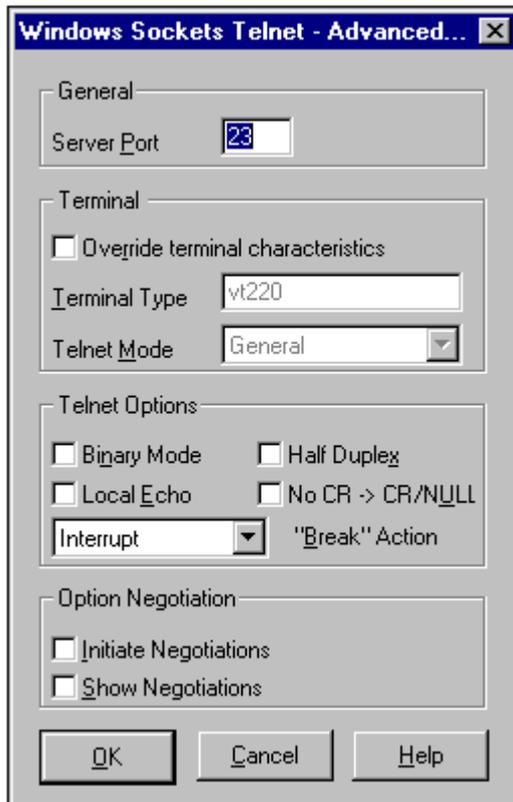


Figure 10.14: **Windows Socket Telnet - Advanced...** tile

General

Server Port

This is an integer that identifies the destination within the remote host: 23 is reserved for Telnet, 21 for FTP.

Terminal

Override Terminal Characteristics

TTWIN 3 will automatically supply the most appropriate **Terminal Type** and **Telnet Mode** for the Telnet connection. Select this option to override the **Terminal Type** and **Telnet Mode** supplied by TTWIN 3.

Terminal Type:

The Telnet protocol allows the terminal to inform the host, or the host to ask the terminal, for a terminal type identifier (such as VT100). This allows the host to correctly setup terminal-specific variables such as the codes to clear the screen.

This option is only available when **Override Terminal Characteristics** is selected.

Telnet Mode:

The type of Telnet communications between your local machine and the remote host can vary depending on the type of emulation you are using. The available settings are: **General** (default), **IBM3270** and **IBM5250**.

This option is only available when **Override Terminal Characteristics** is selected.

Telnet Options

Several settings for Telnet data structure and handling are available.

Binary Mode

All data is handled as 8 bit characters. There are no additional functions performed on characters such as end-of-line, or any other ASCII characters.

This option is mutually exclusive with **Line Mode**. In **Line Mode** characters, like the end-of-line character, are translated. **Line Mode** is also known as character mode.

Local Echo

When selected, characters are sent direct to the screen **and** to the remote host.

When not selected, all data must first go to the remote host, then on return it is displayed on your screen. On a heavily loaded network this may appear too slow.

Half Duplex

Sets the Telnet mode to **Half Duplex**. This is not usually recommended.

No CR to CR/NULL

Sends only CRs (carriage returns). This is useful for some hosts notably Data General Machines.

Break-Action

Sets the **Break Action**, depending upon the host, to **Break, Interrupt, or Abort Output**.

Option Negotiation

Initiate Negotiation

A Telnet connection is generally initiated from the remote host. Selecting this option forces the Telnet negotiation to start from the TTWIN 3 end.

Show Negotiations

When selected, the Telnet negotiation during the initial connection is shown.

Once you have entered the required details you can click on the **Connect** button to initiate a connection to your remote host.

Chapter 11 | Emulations

Having selected and configured the communications module, you now need to choose the required terminal emulation to match the terminal settings on your remote host.

Selecting an Emulation

To select your required emulation, choose the **Emulation** option from the **Configure** menu.

***Note:** If you choose an emulation for which you are not licensed, an error message is displayed and you will be prompted to select another emulation.*

If an emulation is already loaded then the **configure** tile for that emulation will be displayed, ready for editing.

If there is no emulation currently loaded then you will be prompted with the **Select an Emulation** tile (*Figure 11.1*). Choose the required

emulation from the list displayed. (The list varies depending on the TTWIN 3 pack that you purchased.)

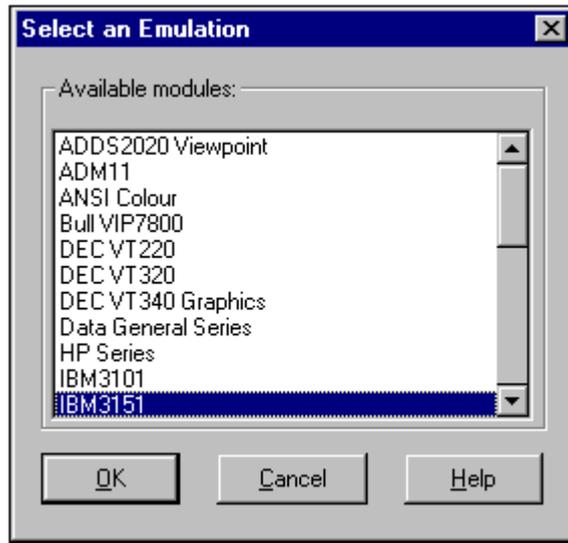


Figure 11.1: Select an Emulation List

Changing the current Emulation

To choose a different emulation, first display the **configure** tile for the current emulation. Then click on the **Select Another...** button.

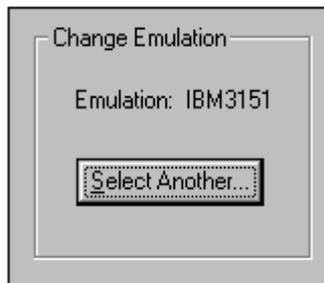


Figure 11.2: Select Another... button

You will then be presented with the **Select an Emulation** tile (Figure 11.1). Choose the required emulation from the list.

***Note:** TTWIN 3 offers the ability to change your emulation while a connection to your remote host exists. That is, the current emulation can be changed 'on-the-fly', e.g., from VT220 to Wyse60.*

Loading an Emulation

Having selected the required emulation, the **configure** tile for that emulation is displayed.

To load the emulation, click on the **OK** button on the **configure** tile. Any changes that have been made to the configuration of the emulation module are retained.

Configuring the Emulation

Having selected the required emulation, the **configure** tile for that emulation is displayed. This tile allows you to enter the configuration settings for the emulation.

The emulation modules have been configured so that the default settings are generally acceptable for standard terminal emulation, requiring little or no configuration prior to operation.

All of the available emulations are described in detail in the following sections of this chapter.

***Note:** If you have manuals on the terminal you are emulating, these are an invaluable source of information on the available features offered by the terminal. Although every effort is made by Turbosoft to create emulations as close as physically possible to your required terminals specifications, the underlying hardware of a PC can*

*introduce restrictions. If you find that a feature you require has not been implemented, please contact TurboSoft with the relevant details. Refer to the **Feedback Sheet** at the back of this manual.*

Character mapping

Emulation character mapping allows the user to select the character generated for a given ASCII value by the relevant country code mapping. This ASCII value may originate from a keyboard sequence, or from a character sequence from the remote host to the local PC screen or printer. The language mappings stored in the map file may be modified with a text editor.

***Note:** Not all languages are supplied for all emulations. If you require a language, please contact TurboSoft Support. (Refer to page 1 for contact details.)*

Character mapping is the same for all the emulations. To specify the language and map file, first select the **configure** tile for the emulation you are using, see *Selecting an Emulation on page 192*. Then click on the **Char mapping** button on the **configure** tile. The **Emulation character set** tile will then appear.

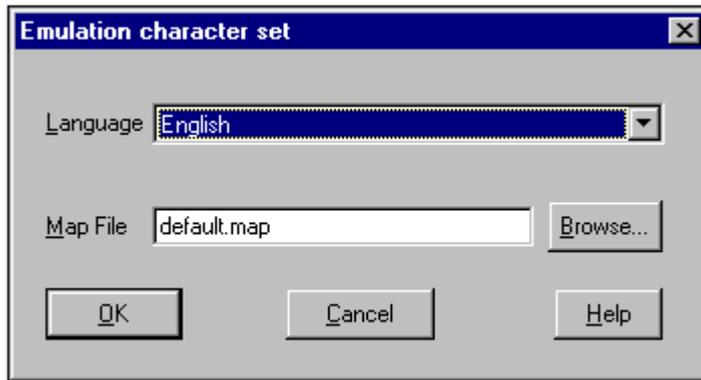


Figure 11.3: **Emulation character set** tile

Language

Use the drop down menu to select the required language. The current language is determined from the session file (*.TWC) or from the TTWIN.INI file.

Map File

The character map(s) are selected from the map file based on the current emulation and its language.

ADDS2020 Viewpoint

Having selected the ADDS2202 Viewpoint emulation the **Configure ADDS 2020** tile is displayed.

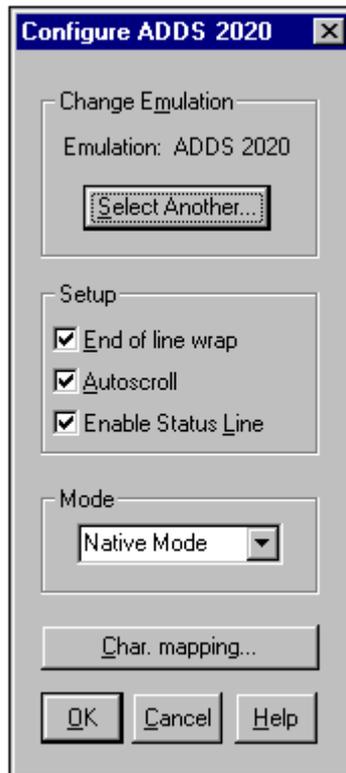


Figure 11.4: **Configure ADDS 2020** tile

Setup

End of line wrap

When this is selected and the cursor reaches the last column on a line, the cursor will be moved to the first column of the next line.

If it is not selected then the cursor will not move and incoming characters will overwrite the last column on the screen.

Autoscroll

When selected, the screen will scroll up when a linefeed is received and the cursor is on the last line of the page.

When **Autoscroll** is not selected, the screen and cursor position will remain the same.

Enable Status Line

The ADDS 2020 terminal supports a status line across the bottom of the display region. Select this option to display the status line.

Character mapping

Refer to *Character mapping on page 195*.

ADM11

Having selected the ADM11 emulation the **Configure ADM11** tile is displayed.

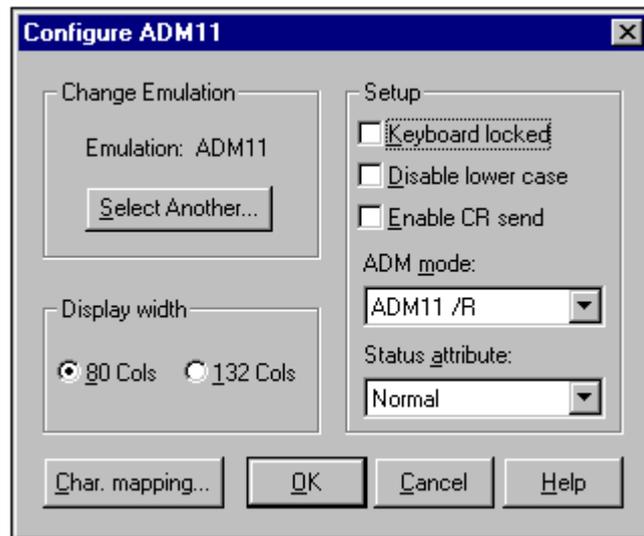


Figure 11.5: **Configure ADM11** tile

Setup

Keyboard locked

When selected, the keyboard is disabled.

All key strokes except for the RESET function will be ignored. The emulation will continue to display normally while the keyboard is disabled.

When the emulation is first loaded it assumes a default state of the keyboard enabled (unlocked).

Disable lower case

When selected, the keyboard will behave the same as when the CAPS LOCK key is ON.

Enable CR send

This option governs whether or not a CR (carriage return) is inserted between each line of data sent to the host during a send operation.

ADM mode:

Four terminal modes are supported on the ADM11 emulation.

- **ADM 11/R.** (Default) Standard Pick System mode. This mode emulates most of the functions of the AWA VTE-6/R terminal.
- **ADM 11/H Hybrid mode.** This emulation responds to both VTE-6/R and Prism II commands. In cases where the command codes or sequences clash, the Prism II command is executed.
- **ADM 11/P Prism II mode.** Emulating the Microdata Prism II terminal.
- **ADM 11/W Wordmate mode.** Specially designed for use with the Wordmate Word Processing Package.

Status attribute:

The ADM11 terminal supports a status line across the bottom of the display region, available formats:

- **Normal.** (Default) The status bar appears with the normal attribute settings.
- **Reverse.** The status bar appears using the reverse attribute settings.
- **Blank.** The status bar is not visible, it uses the current normal text background attribute.
- **Blink.** The status bar uses the blink attribute settings.

Character mapping

Refer to *Character mapping on page 195*.

ANSI Colour (X3.64)

Having selected the ANSI Colour emulation the **Configure ANSI Colour with Extended Attributes** tile is displayed.

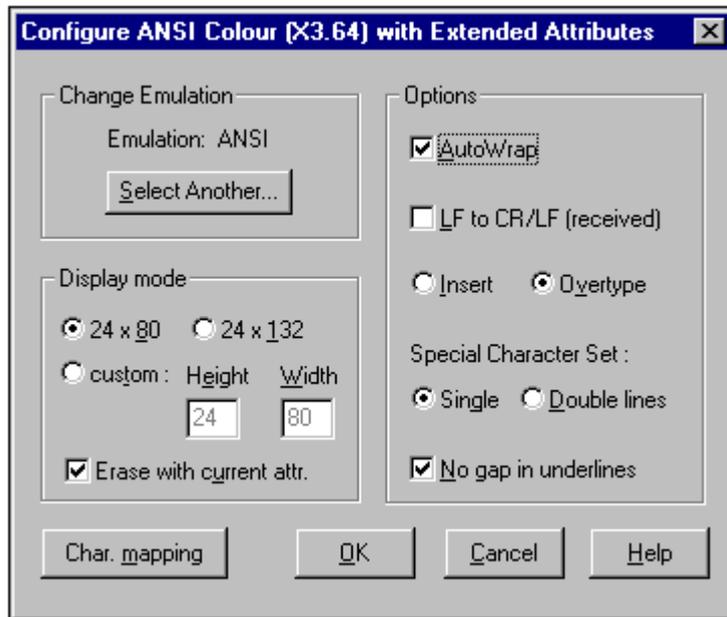


Figure 11.6: **Configure ANSI Colour with Extended Attributes** tile

Display mode:

24 x 80

(Default) The ANSI Colour terminal has two standard screen resolution modes, one being 24(rows) x 80(columns).

Note: Switching from 132 to 80 will truncate text in columns 81 to 132.

24 x 132

The other standard screen resolution is 24 x 132.

Custom:

The custom option allows the user to specify the **Height** (number of rows) and the **Width** (number of columns).

Erase with current attr

When selected, the current character attribute will be used when an erase operation is performed.

When TTWIN 3 receives a remote host generated sequence to change resolution modes, the screen is erased and the cursor moves to the home position.

Options:

Autowrap

When selected and the cursor is in the last column, incoming text is written to the beginning of the next line.

When not selected, incoming characters will overwrite the last column until an EOL (end-of-line) character is received.

LF to CR/LF (received)

If selected then on receipt of a linefeed from the remote host TTWIN 3 performs a carriage return as well as a linefeed.

When entering text from the console it can be displayed in one of two methods:

Insert

Inserts incoming text at the position of cursor. Existing text will be moved to the right to make space.

Overtype

From the current position overwrite text to the right on the current line.

Special Character Set:

The ANSI emulation supports two styles of box drawing characters, these are:

| | |
|------------------------------------|---|
| Single | Single line box drawing character set. |
| <u>Double lines</u> | Double line box drawing character set. |
| <u>No gap in underlines</u> | Select if you do not want gaps in underlines. |

Character mapping

Refer to *Character mapping on page 195*.

Bull VIP7800

Having selected the Bull VIP7800 emulation the **Configure Bull VIP7800 Series** tile is displayed.

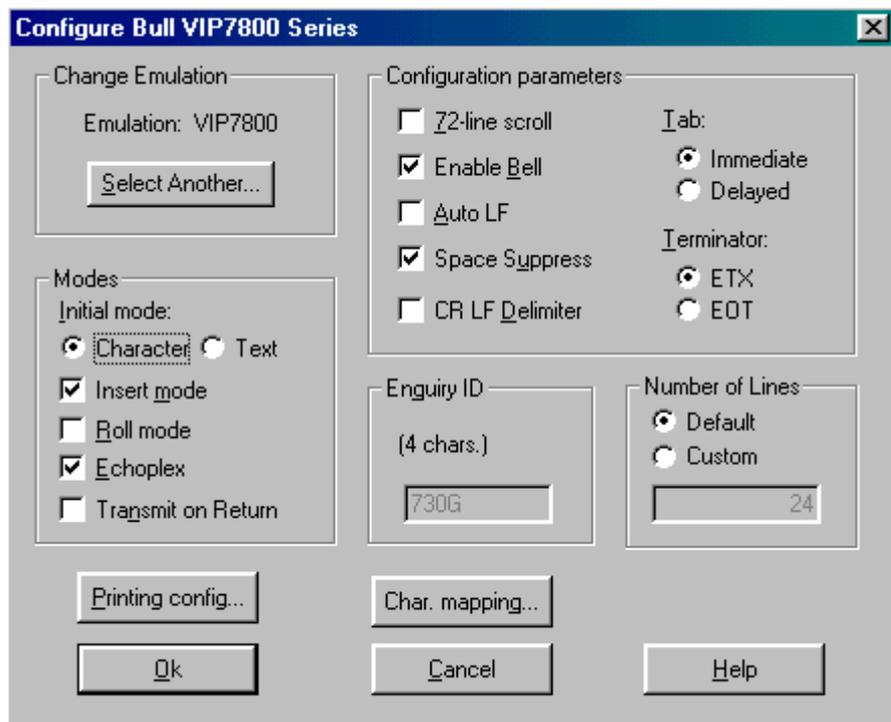


Figure 11.7: **Configure Bull VIP7800 Series** tile

Modes

Initial mode:
Character /
Text

There are 3 modes of operation: **Character** (default), **Text** or **Block**. Initially, the terminal is set to either **Character** or **Text** mode. To switch the terminal into **Block mode**, either the host can send commands or the user can press the FORM MODE key. **Character** and **Text** modes allow the host or user to define the screen attributes and fields that become active when **Form mode** is activated.

| | |
|---|--|
| Insert <u>m</u>ode | <p>When selected, all screen data received causes all data, line graphics and attributes from the cursor to the end of the line to shift right.</p> <p>When not selected, the data will overwrite data at the cursor position.</p> |
| <u>R</u>oll mode | <p>This item governs the screen behaviour when the cursor is on the last line of data space (which can be line 24 or line 72 if 72-line scroll is set) and a line feed is received.</p> <p>If Roll mode is on, then all data will be rolled up one line and the data that was on line 1 of data space is lost. Otherwise a DATA OVERFLOW error is generated on the status line.</p> |
| <u>E</u>choplex | <p>(Default) When selected, data entered at the terminal is transmitted without being displayed locally. This mode is only valid when in Character mode and Local mode is toggled on.</p> <p>When not selected, entered data is simultaneously displayed locally and sent to the host.</p> |
| <u>T</u>ransmit on <u>R</u>eturn | <p>Provides an alternative method of transmitting data whilst in Text mode, by enabling the sending of specially-formatted data from the screen when the RETURN key is pressed.</p> <p>When this mode is disabled the RETURN acts as normal.</p> |

Configuration parameters

72-line scroll

When selected this mode sets the terminal to operate with a 72 line data space instead of the standard 24 lines. The displayable text at any time is 24 lines, which will then scroll up and down over the 72 lines available in the data space.

Enable Bell

When selected, the bell will sound if a bell character (CTRL-G) is received from the host.

Auto LF

This option causes the RETURN key to generate the two bytes CR/LF, instead of the normal CR.

Space Suppress

This option causes the terminal to suppress trailing spaces from being sent to the host during various send operations.

When not selected, all spaces are sent.

CR LF Delimiter

This option governs whether or not a CR/LF is inserted between each line of data sent to the host during a send operation.

Tab:

This option determines the behaviour of the cursor after the last character of an unprotected field has been entered whilst in **Form** mode.

- **Immediate.** The cursor will immediately tab to the next unprotected field once the end of the current unprotected field has been reached.
- **Delayed.** The cursor will remain at the start of the next field then on the next valid keypress, the tab operation will occur.

Terminator: EOT / ETX The character appended to the end of data sent to the host during a send operation.

Enquiry ID

This configuration gives the user the ability to customise the first four characters sent to the host, such as during an enquiry response. These characters act as a terminal identification string for the hosts that require custom strings to be sent.

Number of Lines

The number of lines for the display. The default number of lines is 24. The **Custom** options allows the user to specify the number of lines. Enter a number from 1 to 99.

Character mapping

Refer to *Character mapping on page 195*.

Bull Printing Configuration

Click on the **Printing config...** button to display the **Bull VIP7000 Printing Configuration** tile.

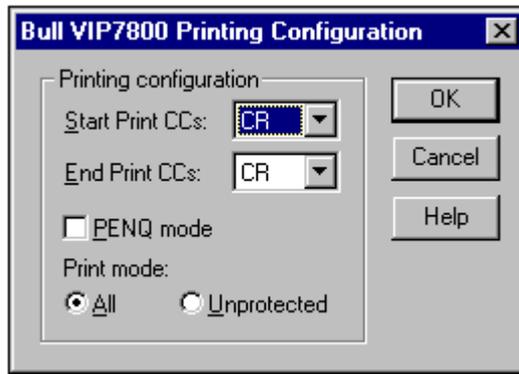


Figure 11.8: **Bull VIP7800 Printing Configuration**

- | | |
|-------------------------------|--|
| <u>S</u>tart Print CCs | This option sets the combination of characters sent to the printer before a print job. |
| <u>E</u>nd Print CCs | This option sets the combination of characters sent to the printer after a print job. |
| <u>P</u>ENQ mode | When selected, a receipt of a PENQ command (printer enquiry) will disable the use of the PRINT key. If not selected, then the PRINT key will not be disabled on receipt of a PENQ. |
| Print mode: | |
| <u>A</u>ll | When selected, both unprotected and protected data is sent to the printer. |
| <u>U</u>nprotected | When selected, only unprotected data is printed |

DEC VT220

Having selected the DEC VT220 emulation the **Configure VT220** tile is displayed.

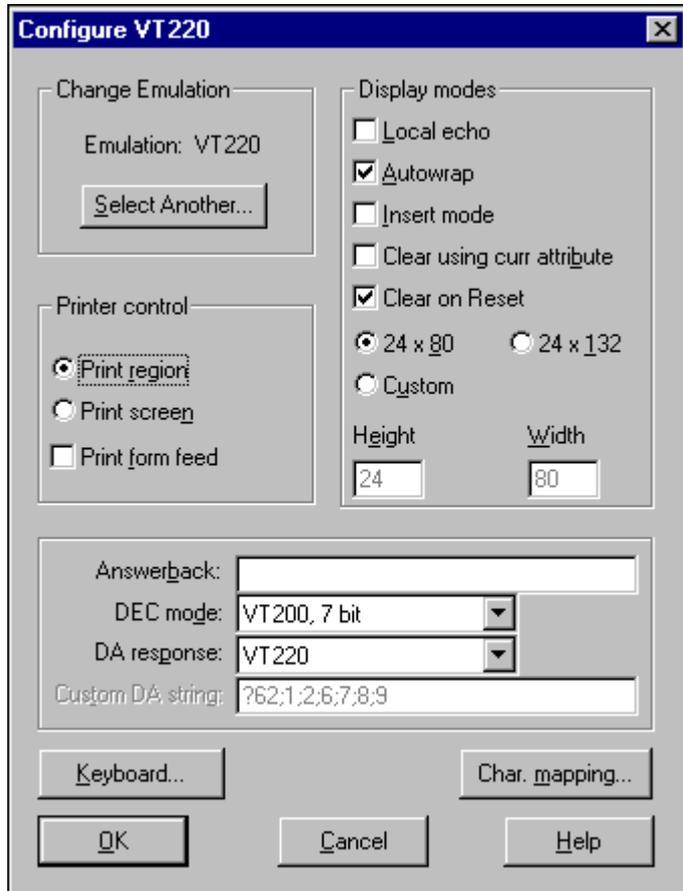


Figure 11.9: **Configure VT220** tile

Printer Control

Set the default VT220 print mode.

- | | |
|-------------------------------|---|
| Print <u>r</u>egion | Send just the selected region to the printer. |
| Print <u>s</u>creen | Send entire screen contents to the printer. |
| Print <u>f</u>orm feed | Send a form feed character at the end of the print job. |

Display Modes

Permits you to set the attributes which determine the appearance of text within the TTWIN 3 window

- | | |
|--------------------------|---|
| <u>L</u>ocal Echo | When selected, as a character is typed on the keyboard it is immediately echoed to your screen. When disabled, the entered character is sent to the remote host which in turn echoes it back. On its return the character is displayed on your screen. In this way, passwords and other sensitive information do not appear on your screen. |
| <u>A</u>utowrap | When selected and the cursor is in the last column, incoming text is written to the beginning of the next line. When not selected, incoming characters will overwrite the last column until an EOL (end-of-line) character is received. |

Insert Mode

This option determines how characters are added to the screen.

When **Insert Mode** is selected, the character is inserted at the cursor, moving previously displayed characters to the right.

When not selected, new display characters replace old display characters at the current cursor position.

Clear using curr attribute

Clear the screen using the current attribute.

Clear on Reset

When selected and the **Reset Terminal** option (**Actions** menu) is selected, everything is cleared. By default this option is selected.

When not selected and the **Reset Terminal** option (**Actions** menu) is selected, the screen is **not** cleared.

***Note:** The host will usually assume that a reset will clear the screen.*

24 x 80, 24 x 132

The 24 (rows) x 80 (columns) and 24 x132 are standard VT220 screen resolution modes.

***Note:** Switching from 132 to 80 will truncate text in columns 81 to 132.*

Custom

This option allows the user to specify the height (rows) and the width (columns).

When TTWIN 3 receives a remote host generated sequence to change resolution modes, the screen is erased and the cursor moves to the home position.

Answerback

The string specified here is used as the answerback message which is sent from the terminal to the host when the host sends the ENQ (control code) character.

Character mapping

Refer to *Character mapping on page 195*.

DEC VT220 Keyboard Configuration

Click on the **Keyboard...** button to display the **VT220 Keyboard Configuration** tile.



Figure 11.10: VT220 Keyboard Configuration tile

Keypad

The numeric keypad generates either numeric characters or control functions. Selecting **A**pplication or **N**umeric keypad mode, determines the type of characters. The terminal emulation when first selected, or after a reset, will be set to numeric keypad mode.

Application Selects application keypad mode. The keypad will generate application control functions.

Numeric Selects numeric keypad mode. The keypad will generate characters that match the numeric, period, plus, minus, star and forward-slash keys on the main keypad.

Cursor Keys

The characters generated by the cursor keys depend on the state of the Cursor Keys mode.

Normal Causes the cursor keys to generate ANSI cursor control sequences.

Application Causes the cursor keys to generate application control functions.

Keyboard control codes

This option is only supported by the VT200 modes as both the VT52 and VT100 operate strictly in a 7-bit mode.

7 bit controls Causes all control codes returned to the application to be converted to their equivalent 7-bit code extensions.

8 bit controls Causes the terminal to return control codes to the application without converting them to their equivalent 7-bit code extensions.

Tilda and Left Quote keys

This option allows the user to define the TILDA/LEFT QUOTE key (i.e., ~ / ` key) to operate either as normal or as an escape key.

- | | |
|--------------------------------------|---|
| Sends <u>e</u>scape | Redefine the TILDA/LEFT QUOTE key to send an escape key sequence. |
| Sends <u>t</u>ilda/left quote | Leave the TILDA/LEFT QUOTE key as normal, i.e., left quote and with the SHIFT key, tilda. |

Flags

- | | |
|--|--|
| <u>K</u>eyboard locked | When the keyboard is locked, no codes can be transmitted from the keyboard to the host. You can unlock the keyboard either by deselecting this option or resetting the terminal. |
| <u>U</u>ser defined keys locked | The lock parameter determines whether the down-loaded key definitions are locked or not, after you load it. Once the keys are locked, to unlock you must either deselect <u>U</u>ser defined keys locked option or a reset is required. |
| <u>C</u>onvert LF to CR/LF | When selected, this option causes a received RETURN to transmit as both a CR and a LF. When not selected and a RETURN is received, only a CR is transmitted. |

DEC VT320

Having selected the DEC VT320 emulation the **Configure VT320** tile is displayed.

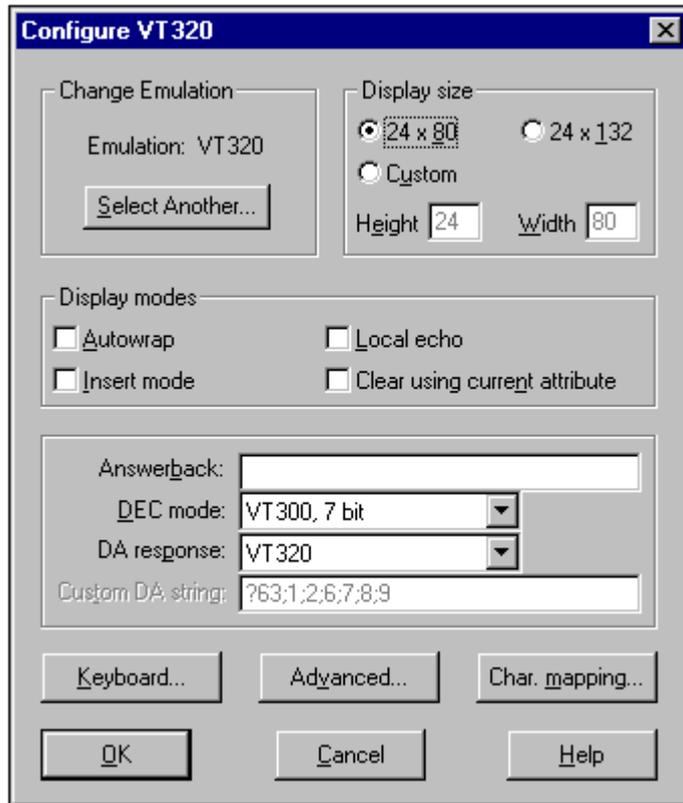


Figure 11.11: **Configure VT320** tile

Display size

The VT320 display terminal has two standard screen resolution modes, TTWIN 3 also supports a customised screen resolution mode.

24 x 80 and **24 x 132** The 24 (rows) x 80 (columns) and 24 x132 are standard VT320 screen resolution modes.

***Note:** Switching from 132 to 80 will truncate text in columns 81 to 132.*

Custom

This option allows the user to specify the **Height** (number of rows) and the **Width** (number of columns).

When TTWIN 3 receives a remote host generated sequence to change resolution modes, the screen is erased and the cursor moves to the home position.

Display modes

Permits you to set the attributes which determine the appearance of text within the TTWIN 3 window.

Autowrap

When selected and the cursor is in the last column, incoming text is written to the beginning of the next line.

When not selected, incoming characters will overwrite the last column until an EOL (end-of-line) character is received.

Insert mode

This mode determines how characters are added to the screen.

When selected, the character is inserted at the cursor, moving previously displayed characters to the right.

When not selected, new display characters replace old display characters at the current cursor position.

Local echo

If selected, as a character is typed on the keyboard it is immediately echoed to your screen.

If disabled, the entered character is sent to the remote host which in turn echoes it back. On its return the character is displayed on your screen. In this way, passwords and other sensitive information do not appear on your screen.

Clear using current attribute

Clears the screen using the current attribute.

Answerback:

The string specified here is used as the answerback message which is sent from the terminal to the host when the host sends the ENQ character.

DEC mode:

The DEC VT52 and VT100 terminals are subsets of the VT320 terminal. A single .DLL emulation file provides a set of DEC VT terminal personalities.

- **VT52 mode** is a text mode that executes DEC proprietary functions, not ANSI functions.

This mode restricts use of the keyboard to VT52 keys. All data is restricted to 7 bits.

- **VT100 mode 7-bit** executes standard ANSI functions.

This mode restricts use of the keyboard to VT100 keys. All data is restricted to 7 bits.

- **VT100 mode 8-bit** executes standard ANSI functions.

This mode is compatible with an 8-bit host data stream.

- **VT300 mode 7-bit**, (default mode) controls and executes standard ANSI functions.

This is the default mode of operation for a VT320 terminal.

- **VT300 mode 8-bit**, controls and executes standard ANSI functions.

This mode offers extensive non-graphics compatibility with the VT340 in an 8-bit communications environment with 8-bit controls.

DA response:

Device attributes response. The DA response is a sequence sent to the host following a host request for the terminal's current available services.

The DA response can advise the host of such attributes as terminal family type, 132 column support and printer port. The different emulation modes naturally support different attributes.

- **VT100** default setting: ?1;2
- **VT101** default setting: ?1;0
- **VT102** default setting: ?6
- **VT220** default setting: ?6;2;1;2;6;7;8;9
- **VT240** default setting:
?6;2;1;2;3;4;6;7;8;9
- **VT320** default setting: ?6;3;1;2;6;7;8;9
- **VT340** default setting:
?6;3;1;2;3;4;6;7;8;9;13;15;16;18;19
- **Custom** A user defined DA response can be specified through the **Custom DA string** option.

Custom DA string:

Used with the **Custom** option in **DA Response** to define a DA response string.

Character mapping

Refer to *Character mapping on page 195*.

DEC VT320 Keyboard Configuration



Click on the **Keyboard...** button to display the **VT320 Keyboard Configuration** tile.

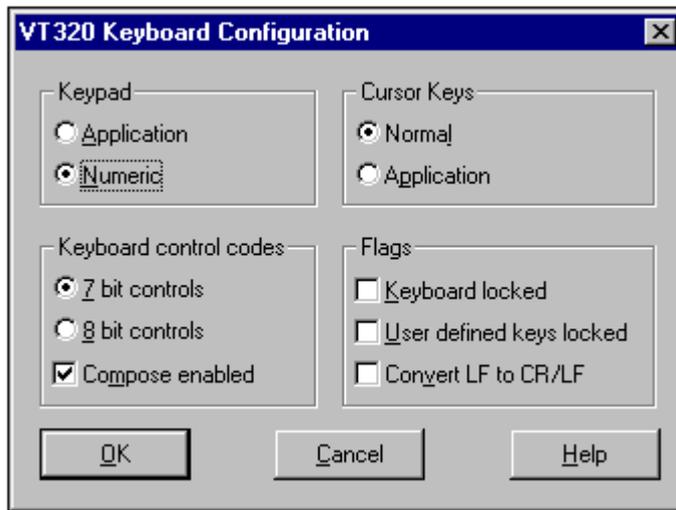


Figure 11.12: VT320 Keyboard Configuration tile

Keypad

The numeric keypad generates either numeric characters or control functions. Selecting **Application** or **Numeric** keypad mode, determines the type of characters. The terminal emulation when first selected, or after a reset, will be set to numeric keypad mode.

Application

Selects application keypad mode. The keypad generates application control functions.

Numeric (Default) Selects numeric keypad mode. The keypad generates characters that match the numeric, period, plus, minus, star and forward-slash keys on the main keypad.

Cursor Keys

The characters generated by the cursor keys depend on the state of the **Cursor Keys** mode.

Normal (Default) Causes the cursor keys to generate ANSI cursor control sequences.

Application Causes the cursor keys to generate application control functions.

Keyboard control codes

This option is only supported by the VT300 modes as both the VT52 and VT100 operate strictly in a 7-bit mode.

7 bit controls (Default) Causes all control codes returned to the application to be converted to their equivalent 7-bit code extensions.

8 bit controls Causes the terminal to return control codes to the application without converting them to their equivalent 7-bit code extensions.

Compose enabled The VT320 lets you use more characters than appear on your keyboard, by typing a compose sequence.

A compose sequence is a series of two or three keystrokes that produce a single compose character. Pressing the COMPOSE CHARACTER key starts the compose sequence.

Flags

Keyboard locked

When the keyboard is locked, no codes can be transmitted from the keyboard to the Host.

You can unlock the keyboard either by deselecting this option or resetting the terminal.

User defined keys locked

The lock parameter determines whether the downloaded key definitions are locked or not, after you load them.

To unlock the keys you must either deselect **User defined keys locked** option or a reset is required.

Convert LF to CR/LF

When selected, this causes a received RETURN to transmit as both a CR and a LF.

When not selected and a RETURN is received only a CR is transmitted.

DEC VT320 Advanced Configuration

Click on the **Advanced...** button to display the **VT320 Advanced Configuration** tile.

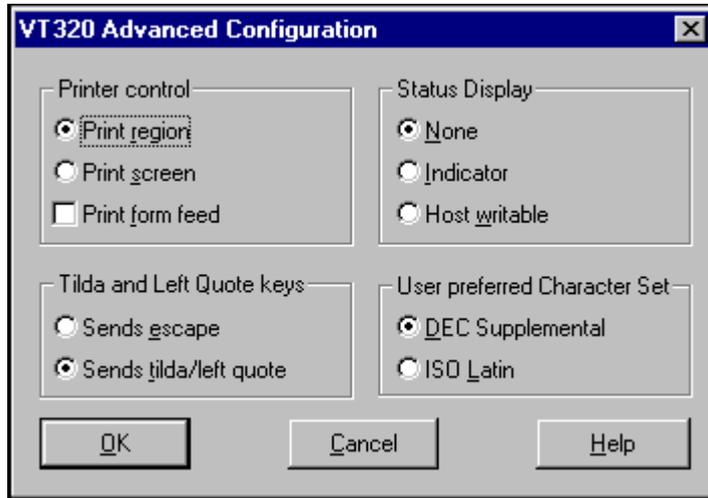


Figure 11.13: VT320 Advanced Configuration tile

Printer Control

Set the default VT320 print mode.

- | | |
|-------------------------------|---|
| Print <u>r</u>egion | (Default) Send just the selected region to the printer. |
| Print <u>s</u>creen | Send entire screen contents to the printer. |
| Print <u>f</u>orm feed | Send a form feed character at the end of the print job. |

Status Display

| | |
|-----------------------------|---|
| <u>N</u>one | (Default) The status line is not displayed. |
| <u>I</u>ndicator | The status display is always visible. |
| Host <u>w</u>ritable | Host applications can write messages in place of the status line. |

Tilda and Left Quote key

This option allows the user to define the TILDA/LEFT QUOTE key (i.e., ~ / ` key) to operate either as normal or as an escape key.

| | |
|---|---|
| Sends <u>e</u>scape | Redefine the TILDA/LEFT QUOTE key to send an escape key sequence. |
| Sends <u>t</u>ilda/left <u>q</u>uote | (Default) Leave the TILDA/LEFT QUOTE key as normal, i.e., left quote and with the SHIFT key, tilda. |

User preferred Character Set

Two 8-bit character sets are built into the VT320. These are:

- **DEC Supplemental** – DEC Multinational set
- **ISO Latin.**

Both 8-bit sets include the standard ASCII character set and a supplemental set.

DEC VT340 Graphics

Having selected the DEC VT340 Graphics emulation the **Configure VT340** tile is displayed.

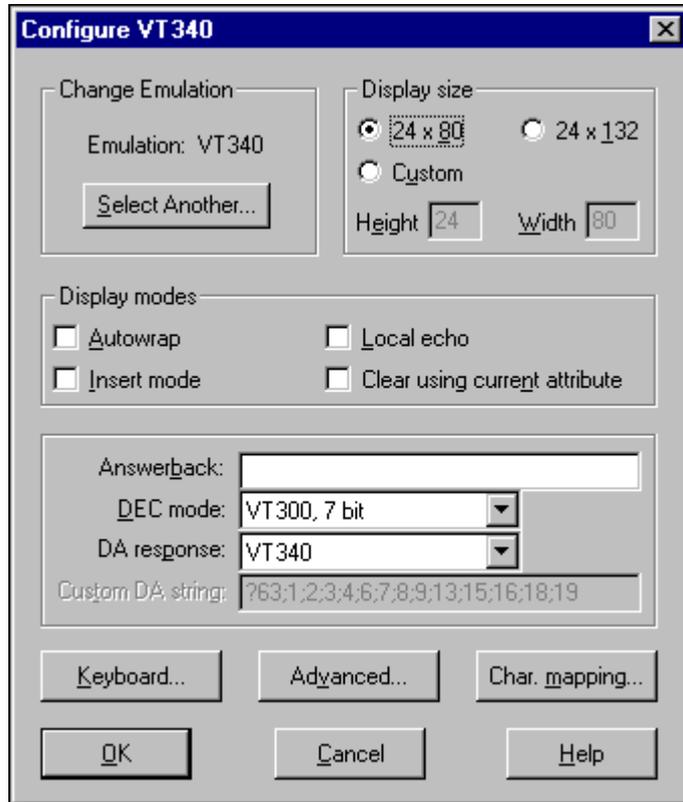


Figure 11.14: **Configure VT340** tile

Display size

The VT340 display terminal has two standard screen resolution modes, TTWIN 3 also supports a customised screen resolution mode.

24 x 80 and **24 x 132** The 24 (rows) x 80 (columns) and 24 x132 are standard VT320 screen resolution modes.

***Note:** Switching from 132 to 80 will truncate text in columns 81 to 132.*

Custom

This option allows the user to specify the **Height** (number of rows) and the **Width** (number of columns).

When TTWIN 3 receives a remote host generated sequence to change resolution modes, the screen is erased and the cursor moves to the home position.

Display modes

Permits you to set the attributes which determine the appearance of text within the TTWIN 3 window.

Autowrap

When selected and the cursor is in the last column, incoming text is written to the beginning of the next line.

When not selected, incoming characters will overwrite the last column until an EOL (end-of-line) character is received.

Insert mode

This mode determines how characters are added to the screen.

When selected, the character is inserted at the cursor, moving previously displayed characters to the right.

When not selected, new display characters replace old display characters at the current cursor position.

Local echo

If selected, as a character is typed on the keyboard it is immediately echoed to your screen.

If disabled, the entered character is sent to the remote host which in turn echoes it back. On its return the character is displayed on your screen. In this way, passwords and other sensitive information do not appear on your screen.

Clear using current attribute

Clears the screen using the current attribute.

Answerback:

The string specified here is used as the answerback message which is sent from the terminal to the host when the host sends the ENQ character.

DEC mode:

The DEC VT52 and VT100 terminals are subsets of the VT340 terminal. A single .DLL emulation file provides a set of DEC VT terminal personalities.

- **VT52 mode** is a text mode that executes DEC proprietary functions, not ANSI functions.

This mode restricts use of the keyboard to VT52 keys. All data is restricted to 7 bits.

- **VT100 mode 7-bit** executes standard ANSI functions.

This mode restricts use of the keyboard to VT100 keys. All data is restricted to 7 bits.

- **VT100 mode 8-bit** executes standard ANSI functions.

This mode is compatible with an 8-bit host data stream.

- **VT300 mode 7-bit**, (default mode) controls and executes standard ANSI functions.

This is the default mode of operation for a VT320 terminal.

- **VT300 mode 8-bit**, controls and executes standard ANSI functions.

This mode offers extensive non-graphics compatibility with the VT340 in an 8-bit communications environment with 8-bit controls.

DA response:

Device attributes response. The DA response is a sequence sent to the host following a host request for the terminal's current available services.

The DA response can advise the host of such attributes as terminal family type, 132 column support and printer port. The different emulation modes naturally support different attributes.

- **VT100** default setting: ?1;2
- **VT101** default setting: ?1;0
- **VT102** default setting: ?6
- **VT220** default setting: ?6;1;2;6;7;8;9
- **VT240** default setting:
?6;1;2;3;4;6;7;8;9
- **VT320** default setting: ?6;1;2;6;7;8;9
- **VT340** default setting:
?6;1;2;3;4;6;7;8;9;13;15;16;18;19
- **Custom** A user defined DA response can be specified through the **Custom DA string** option.

Custom DA string:

Used with the **Custom** option in **DA Response** to define a DA response string.

Character mapping

Refer to *Character mapping on page 195*.

DEC VT340 Keyboard Configuration

Click on the **Keyboard...** button to display the **VT340 Keyboard Configuration** tile.

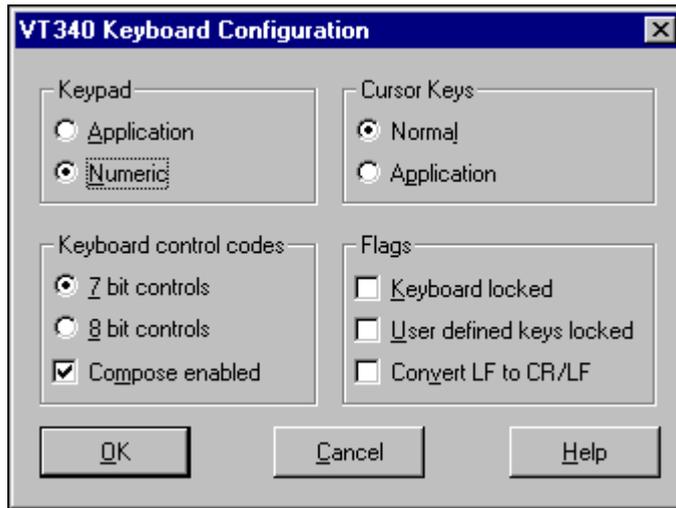


Figure 11.15: **VT340 Keyboard Configuration** tile

Keypad

The numeric keypad generates either numeric characters or control functions. Selecting **A**pplication or **N**umeric keypad mode, determines the type of characters. The terminal emulation when first selected, or after a reset, will be set to numeric keypad mode.

Application

Selects application keypad mode. The keypad generates application control functions.

Numeric

(Default) Selects numeric keypad mode. The keypad generates characters that match the numeric, period, plus, minus, star and forward-slash keys on the main keypad.

Cursor Keys

The characters generated by the cursor keys depend on the state of the **Cursor Keys** mode.

| | |
|--------------------|---|
| Normal | (Default) Causes the cursor keys to generate ANSI cursor control sequences. |
| Application | Causes the cursor keys to generate application control functions. |

Keyboard control codes

This option is only supported by the VT300 modes as both the VT52 and VT100 operate strictly in a 7-bit mode.

| | |
|-------------------------------|---|
| <u>7</u> bit controls | (Default) Causes all control codes returned to the application to be converted to their equivalent 7-bit code extensions. |
| <u>8</u> bit controls | Causes the terminal to return control codes to the application without converting them to their equivalent 7-bit code extensions. |
| <u>Compose enabled</u> | <p>The VT340 lets you use more characters than appear on your keyboard, by typing a compose sequence.</p> <p>A compose sequence is a series of two or three keystrokes that produce a single compose character. Pressing the COMPOSE CHARACTER key starts the compose sequence.</p> |

Flags

Keyboard locked

When the keyboard is locked, no codes can be transmitted from the keyboard to the Host.

You can unlock the keyboard either by deselecting this option or resetting the terminal.

User defined keys locked

The lock parameter determines whether the downloaded key definitions are locked or not, after you load them.

To unlock the keys you must either deselect **User defined keys locked** option or a reset is required.

Convert LF to CR/LF

When selected, this causes a received RETURN to transmit as both a CR and a LF.

When not selected and a RETURN is received only a CR is transmitted.

DEC VT340 Advanced Configuration

Click on the **Advanced...** button to display the **VT340 Advanced Configuration** tile.

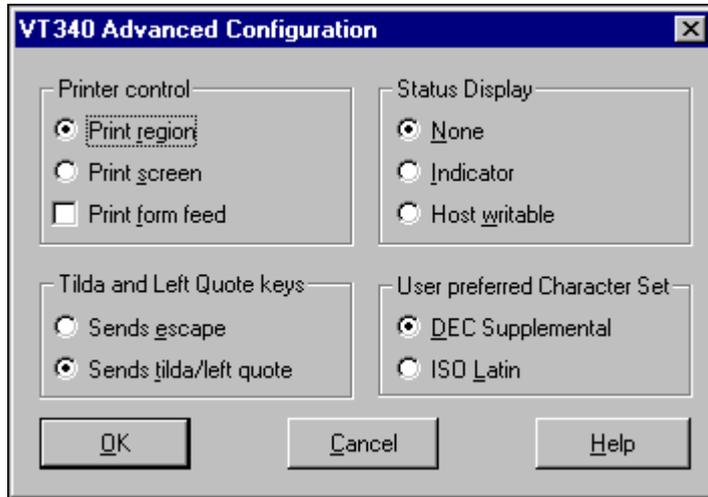


Figure 11.16: VT340 Advanced Configuration tile

Printer Control

Set the default VT340 print mode.

- | | |
|-------------------------------|---|
| Print <u>r</u>egion | (Default) Send just the selected region to the printer. |
| Print <u>s</u>creen | Send entire screen contents to the printer. |
| Print <u>f</u>orm feed | Send a form feed character at the end of the print job. |

Status Display

| | |
|-----------------------------|---|
| <u>N</u>one | (Default) The status line is not displayed. |
| <u>I</u>ndicator | The status display is always visible. |
| Host <u>w</u>ritable | Host applications can write messages in place of the status line. |

Tilda and Left Quote key

This option allows the user to define the TILDA/LEFT QUOTE key (i.e., ~ / ` key) to operate either as normal or as an escape key.

| | |
|---|---|
| Sends <u>e</u>scape | Redefine the TILDA/LEFT QUOTE key to send an escape key sequence. |
| Sends <u>t</u>ilda/left <u>q</u>uote | (Default) Leave the TILDA/LEFT QUOTE key as normal, i.e., left quote and with the SHIFT key, tilda. |

User preferred Character Set

Two 8-bit character sets are built into the VT340. These are:

- **DEC Supplemental** – DEC Multinational set
- **ISO Latin.**

Both 8-bit sets include the standard ASCII character set and a supplemental set.

Data General

Having selected the Data General emulation the **Configure Data General** tile is displayed.

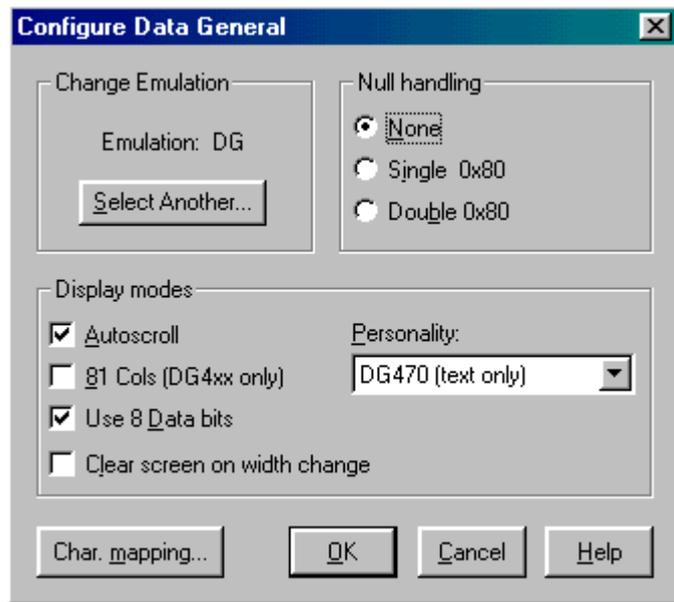


Figure 11.17: **Configure Data General** tile

Null Handling

Various NULL character representations have been implemented by Data General. The default setting of **None** is almost always required.

Display Modes

Permits you to set the attributes which determine the appearance of text within the TTWIN 3 window.

Autoscroll

When selected, the screen will scroll up when a linefeed is received and the cursor is on the last line.

When not selected, the screen and cursor position will remain the same.

81 Cols (DG4xx only)

When selected the screen will show the 81st column.

Use 8 Data bits

Select to enable 8 bit code operation.

Clear screen on width change

When selected, this will cause a screen clear whenever a screen change between 80 and 132 columns occurs. If history is enabled, the screen data will be saved to the scroll history buffer otherwise the data is lost.

Personality

The Data General emulation supports eleven operating modes, or personalities.

- DG210 Series Basic Data General terminal (i.e., DG210, DG211, DG216, DG216E).
- DG410 Series (i.e., DG410, DG411, DG412) - Same as the 210 with 132 column support.
- DG460 (text only) Series (i.e., DG460, DG461, DG462) - Same as the DG410.
- DG470 (text only) - Same as the 460 with 16 colour support.

Character mapping

Refer to *Character mapping on page 195*.

HP Series

Having selected the HP Series emulation the **Configure Hewlett Packard Series** tile is displayed.

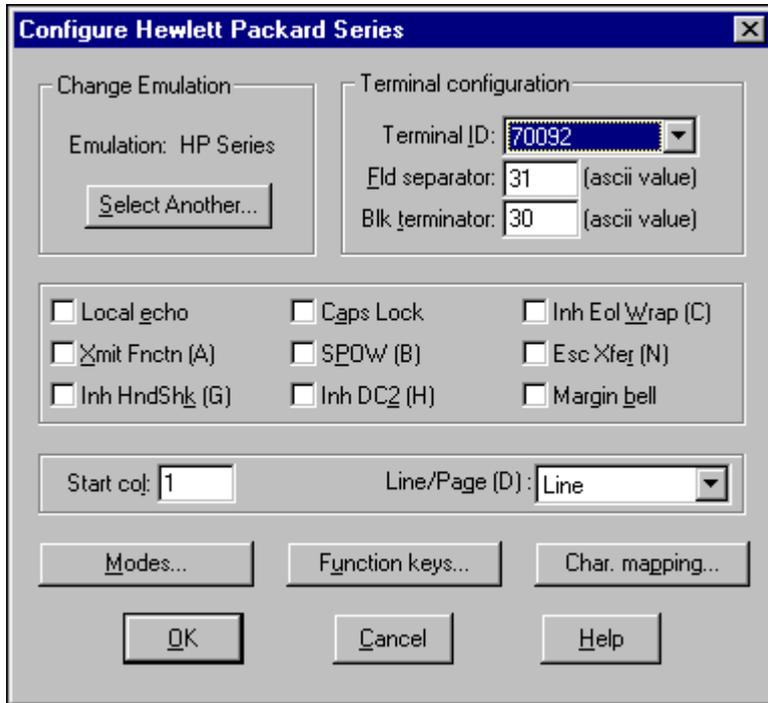


Figure 11.18: **Configure Hewlett Packard Series** tile

Terminal configuration

Terminal ID: This field specifies the Terminal Identification to be sent to the host computer upon a Terminal ID request.

Fld separator: Must be an ASCII character. Default setting is 31.

When you press the ENTER key while the terminal is in block page mode and display memory contains a formatted display, the terminal automatically transmits the specified field separator character at the end of each protected field (except the final one).

Blk terminator: Can be any ASCII character. Default setting: 30. For data transfers between the terminal and a host computer, the terminal transmits the specified block terminator character at the end of the transfer operation.

Other Options

Local echo If selected, characters entered through the keyboard are displayed on the screen and transmitted to the host computer.

When not selected, characters entered through the keyboard are transmitted to the host computer only. If they are to appear on the screen, the host computer must echo them back to the terminal.

Xmit Fncⁿ (A) This field specifies whether the escape code functions are both executed at the terminal and transmitted to the host computer.

Inh HndSh^k (G) See **Inh DC2 (H)** below.

Caps Lock This field specifies whether the terminal generates the full 128-character ASCII set or only the Teletype-compatible codes.

SPOW (B) (Enable Space Over Write). This field specifies whether or not spaces entered through the keyboard will overwrite existing characters.

| | |
|--------------------------------|--|
| Inh DC<u>2</u>(H) | Together, InhHndShk(G) and Inh DC2(H) fields determine what type of handshaking is to be used when transferring blocks of data from the terminal to the host computer. |
| Inh Eol <u>W</u>rap (C) | This field specifies whether or not the end-of-line wrap is inhibited. |
| Esc Xfer <u>N</u>(N) | This field controls the transfer of escape sequences to a printer, and has no effect if there is no second port. |
| Margin <u>b</u>ell | This specifies whether the terminal's bell is enabled or disabled. If not selected, the bell will still sound in response to an ASCII Bell control code (decimal 7, CTRL_G). |
| Start col: | This is a value in the range: 1 - 80. The default setting is 1. |
| Line/Page (D): | The default is Line . This field specifies whether or not the terminal, when operating in Block mode , will transmit data a line at a time or a page at a time. |

Character mapping

Refer to *Character mapping on page 195*.

HP Series Modes

Click on the **Modes...** button to display the **HP Series Modes** file.

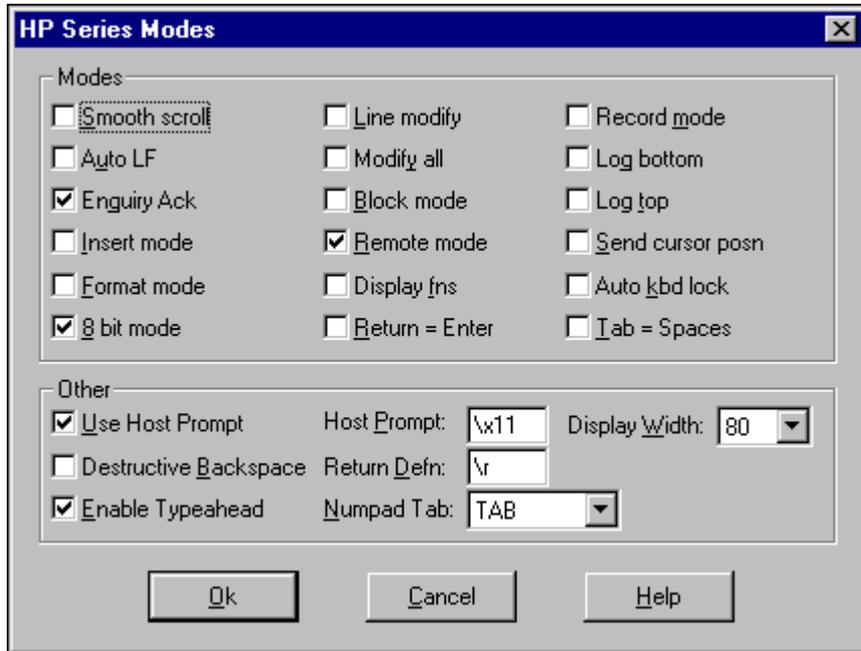


Figure 11.19: HP Series Modes file

Modes

Smooth scroll

When selected, rolling data up and down the screen is done smoothly.

When not selected, the scroll jumps a line at a time.

Auto LF

When selected a line feed control code is automatically appended to each carriage return control code generated through the keyboard.

Engquiry Ack

When selected, all ENQ characters from the incoming data are stripped off and in turn an ACK is transmitted.

When not selected, all incoming characters (including ENQ and ACK but excluding NULLS and DELS) are treated as data bytes. NULLS and DELS are stripped from the incoming data.

Insert mode

This option determines how characters are added to the screen.

When selected, the character is inserted at the cursor, moving previously displayed characters to the right.

When not selected, new characters replace old characters at the cursor position.

Format mode

When selected, the terminal user can only enter data into unprotected fields.

8 bit mode

This enables 8 bit data input streams.

Line modify

When the terminal is in **Remote mode** and **Character mode**, and you are communicating interactively with a host computer, you may sometimes enter an erroneous command string to which the computer responds with an error message.

If the command string is a lengthy one and the error consists of only a few characters, it is a nuisance to have to retype the entire string. In such a case, you may instead enable **Line modify** mode (which temporarily switches the terminal to a special form of **Block mode**). You can then move the cursor to the erroneous line on the display and correct the command string.

When the string is edited to your satisfaction, you retransmit the line to the host computer by pressing either the ENTER key or the RETURN key. **Line modify** is automatically disabled when you press either ENTER or RETURN.

Modify all

When the terminal is in **Character mode**, you can enable **Modify All**, which switches the terminal to a special form of **Block mode**.

Modify All is the same as **Line Modify** except that it is **NOT** disabled when you press ENTER or RETURN.

Block mode

When not selected, the terminal operates in **Character mode**. In **Character mode**, data is transmitted a character at a time as it is entered through the keyboard. Control codes (such as CR and LF) are also transmitted.

When selected, the terminal operates in **Block mode**.

In **Block mode**, data is **NOT** transmitted at the time it is entered through the keyboard.

Instead, you transmit an entire block of data by first typing the data and then pressing the ENTER key.

When the terminal is in **Block mode**, control codes (such as CR and LF) are acted upon locally but **NOT** transmitted with the data block.

Remote mode

When selected, if you press an alphanumeric key the associated character code is transmitted to the host computer.

When not selected (**Local mode**), if you press an alphanumeric key the associated character is displayed at the current cursor position on the screen. Nothing is transmitted to the host computer.

Display fns

When selected, the terminal operates as follows:

In **Local mode**, it displays control codes and escape sequences but does not execute them.

In **Remote mode**, it transmits control codes and escape sequences but does not execute them locally.

Return = Enter

This is the flag to make the RETURN key (on main keyboard) act like the ENTER key (num pad).

- Record mode** **Record mode** copies from the datacomm to the selected destination (to) device, e.g., an external printer.
- When the **Record mode** is not selected, the contents of a partially filled buffer will be sent to the destination device(s).
- Log bottom** Logging is a mechanism whereby data can be automatically routed to an external device e.g., a printer.
- With bottom logging, each time the cursor moves from one line to another, the line from which the cursor moved is sent to the external device.
- Log top** When the display memory is full and another line of data is entered, the top line in the display is purged to make room for the new line.
- With top logging, each purged line is sent to the external device. Thus, while the line is lost from display memory, it is maintained in hard copy form.
- Send cursor posn** When selected, if the ENTER key, SELECT or a user defined key (set to transmit) is pressed, the current cursor position is sent to the computer.
- Auto kbd lock** By default **Auto kbd lock** is not selected.
- When a terminal is connected to a packet switching network (using X.25 protocol) via a controller/multiplexer, it is necessary to ensure that the packet sent is received and acted upon before another is sent (from the terminal).
- In order to achieve this, the keyboard must automatically lock, in such a way that it can only be unlocked by the receiving host. This is **Auto kbd lock**.

Tab = Spaces

When selected, the TAB virtual key produces the number of spaces required to reach the next tab stop to the right.

When not selected, the TAB key behaves as normal, (i.e., sends a tab character). Similarly, this flag causes BACK TAB to send out the required number of backspace characters (^H) to reach the nearest tab stop to the left.

Other

Use Host Prompt

Uses a host originated, user-definable character value to release the keystrokes, stored previously via **Typeahead**.

Destructive Backspace

With **Destructive Backspace**, pressing BACKSPACE moves the cursor back one character and clears the character.

Normally, BACKSPACE moves the cursor back one character but the character is **not** cleared.

Enable Typeahead

While the keyboard is locked, keystrokes are stored and released when the keyboard is unlocked.

Host Prompt

Decimal ASCII character value used by the host prompt.

Return Defn

Sets the character string assigned to the RETURN virtual key using the TTWIN 3 string parsing language.

Limited to a maximum of 2 characters, and if no string is provided then defaults to **\r** (carriage return).

Numpad **Tab:**

Configure the numpad TAB virtual key to behave as one of the following virtual keys:

- **0** - TAB
- **1** - RETURN
- **2** - ENTER

Display **W**idth

Select the width of the display screen: 80 column and 132 column modes are supported.

Note: Switching from 132 to 80 will truncate text in columns 81 to 132.

HP Series Function keys

This option allows the user to assign functions and labels of their choosing to the first eight function keys.

Click on the **Function Keys...** button to display the **HP Series Function Keys** tile.

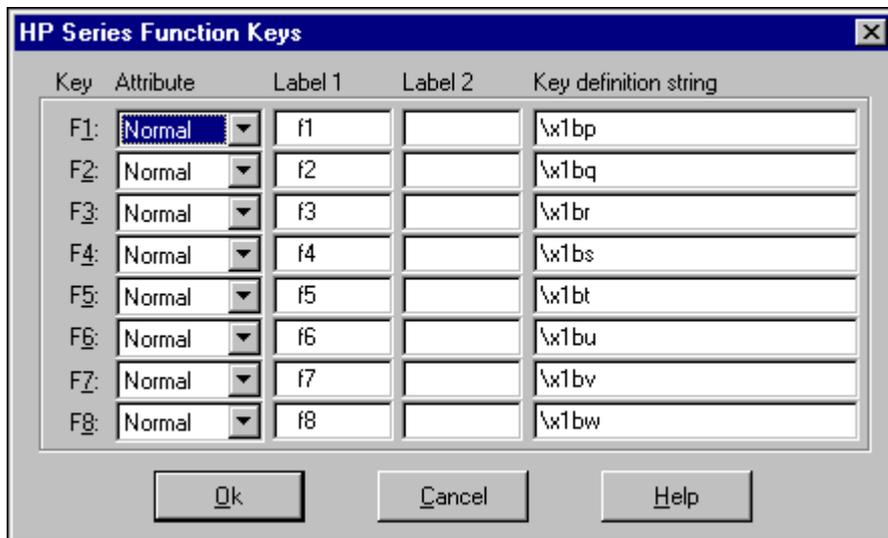


Figure 11.20: **HP Series Function Keys** tile

| | |
|------------------------------|--|
| Key | The functions keys (F1, F2, F3, F4, F5, F6, F7 and F8) on the physical keyboard can be mapped to and displayed across the bottom the TTWIN 3 window. |
| Attribute | <p>The attribute is selected from the following options:</p> <ul style="list-style-type: none">• Normal - The key definition string acts as data entered normally from the keyboard.• Transmit - For transmission only. The key definition string is sent to the host. It is not echoed locally.• Local - For local use only. The key definition string is sent to the screen. It is not transmitted to the host. |
| Label 1 | Specify the first line of text to appear on the displayed key. |
| Label 2 | Specify the second line of text to appear on the displayed key. |
| Key definition string | Give the command to be executed when the appropriate function key is pressed. Each function key can be assigned a definition string of up to 80 characters. |

IBM 3101

Having selected the IBM 3101 emulation the **Configure IBM 3101** tile is displayed.

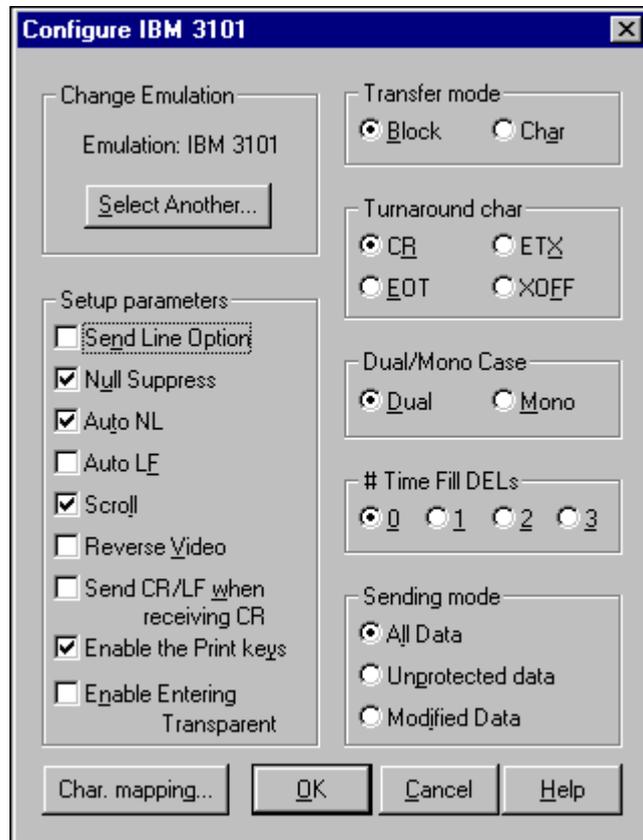


Figure 11.21: **Configure IBM 3101** tile

Setup parameters

| | |
|-------------------------------------|---|
| Send Line Option | <p>When selected the functions of the SEND and SEND LINE keys are reversed.</p> <p>When not selected they function normally.</p> |
| Null Suppress | <p>When selected, trailing NULLs are not sent to the host or printer.</p> <p>When not selected, trailing NULLs are replaced with blanks when sent.</p> |
| Auto NL (new line) | <p>When selected, a carriage return is generated automatically when a linefeed is received. That is, both a carriage return and linefeed are sent to the screen.</p> <p>When not selected, only a linefeed is sent.</p> |
| Auto LF | <p>When this is selected a linefeed is generated automatically when a carriage return is received. That is, both a carriage return and linefeed are sent to the screen.</p> <p>When not selected only a carriage return is sent when one is received.</p> |
| Scroll | <p>The scroll function relates to what happens when a linefeed is processed when the cursor is on the last line of the screen.</p> <p>When selected, the screen will be scrolled up.</p> <p>When not selected, nothing happens.</p> |
| Reverse Video | <p>When selected normal text will be displayed in the reverse video attribute.</p> |
| Send CR/LF when receiving CR | <p>When is selected and the NEWLINE key is pressed, a linefeed as well as a carriage return is sent.</p> <p>When not selected, only a carriage return is sent.</p> |

Enable the Print keys

When this is selected, the print keys are functional. They will have no effect if this parameter is not selected.

Enable Entering Transparent

When this is selected requests to enter transparent mode i.e., print to local printer, are accepted.

When not selected, such requests are ignored.

Transfer mode

When set to **Char**, transfers to the host are character by character. When set to **Block**, transfers to the host are only done when you press a SEND key.

Turnaround char

This is used to set your line turnaround character. This character is sent to the host at the end of a data stream when a SEND key is pressed. The turnaround character can be any one of the following:

- CR
- EOT
- ETX
- XOFF

Dual/Mono Case

If set to **Dual** then no change of case is performed on any characters received or typed. If set to **Mono** then any lowercase characters received or sent are converted to uppercase.

Time Fill DELs

You can select 0, 1, 2 or 3 time fill characters (DELs) to be used in the print stream when doing a buffer print.

Sending mode

This controls what data is sent when any of the SEND, SEND MSG or SEND LINE keys are pressed.

| | |
|-------------------------|---|
| All Data | When selected the whole screen is sent. |
| Unprotected data | When selected only unprotected data is sent. |
| Modified Data | When selected only data that has been modified is sent. |

Character mapping

Refer to *Character mapping on page 195*.

IBM 3151

Having selected the IBM 3151 emulation the **Configure IBM 3151** tile is displayed.

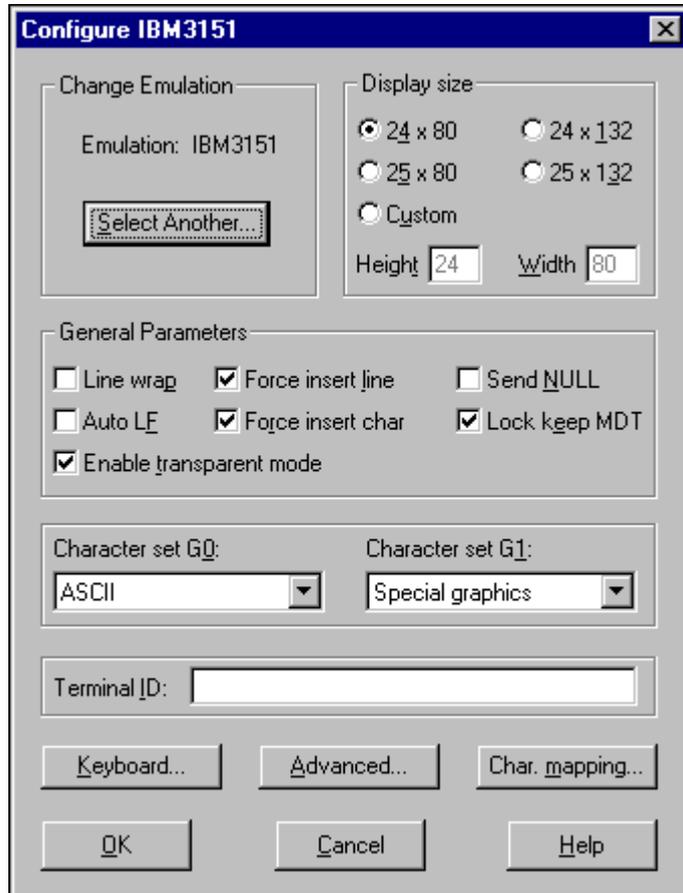


Figure 11.22: **Configure IBM 3151** tile

Display size

There are 4 available standard screen resolution modes:

- 24 x 80
- 25 x 80
- 24 x 132
- 25 x 132

***Note:** Switching from 132 to 80 will truncate text in columns 81 to 132.*

You can also use the **Custom** option to specify the **Height** (number of rows) and the **Width** (number of columns) of the screen.

When TTWIN receives a remote host generated sequence to change resolution modes, the screen is erased and the cursor moves to the home position.

General Parameters

Line wrap

When selected, if the current cursor position is on the last column of the screen, the cursor will be moved to the first column of the next.

When not selected, then the cursor will not move and incoming characters will overwrite the last column on the screen.

Auto LF

When selected, a linefeed is generated automatically when a carriage return is received. That is, both a carriage return and linefeed are sent to the screen.

When not selected, only a carriage return is sent when one is received.

Enable transparent mode

This controls whether or not the operator can switch to transparent mode by entering a DLE sequence from the keyboard.

- Force insert line** When selected, and there is no room to insert a NULL line, the rest of the screen will be scrolled down when an insert line operation is requested.
- When not selected then the insert line request is ignored if there is no room.
- Force insert char** When selected and there is no room to insert a character, then space is created for the character by moving the rest of the line right. If **Line Wrap** is **OFF** or **ON** then the last character is dropped from either the field or the page.
- When not selected and there is no room to satisfy a request to insert a character then the request is ignored.
- Send NULL** When selected trailing NULLs are converted to blanks when sent to the host.
- When not selected trailing NULLs are not sent to the host.
- Lock keep MDT**
(modify data tag) If selected then after performing the send function MDT bit @ SEND, the MDT bit is not reset and the keyboard is locked. The only key enabled after this is the RESET key.
- If not selected then the MDT bit is reset to 0.

Character Set G0 and Character Set G1

Select from the following:

- ASCII
- Special graphics
- Auxiliary Page 1
- Auxiliary Page 2

Terminal ID: This can be set to whatever string (up to 20 characters in length) you choose so that the host can identify the 3151.

Character mapping

Refer to *Character mapping on page 195*.

IBM 3151 Keyboard Configuration

Click on the **Keyboard...** button to display the **IBM3151 Keyboard Configuration** tile.

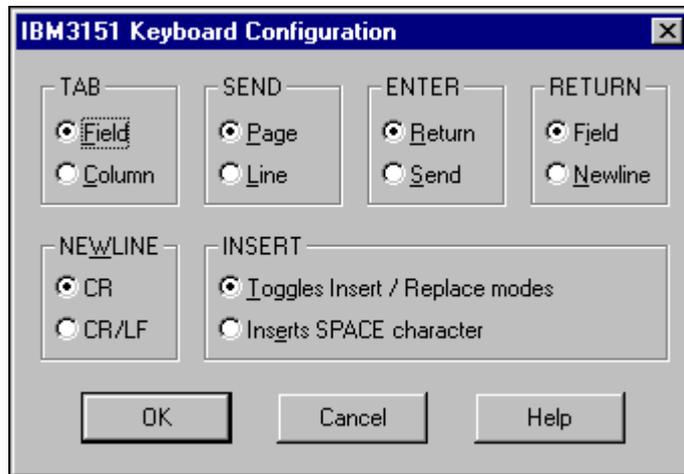


Figure 11.23: **IBM3151 Keyboard Configuration** tile

TAB

Field When selected, the tab stop positions defined by the field attribute character are used, instead of the column tab definitions.

Column When selected, the column tab stop positions are used, instead of the field tab stop positions.

SEND

Page When selected and the SEND key is pressed, the contents of the current page will be sent to the host.

When selected and the SEND LINE key is pressed then contents of the current line are sent to the host.

Line When selected, the SEND key will send the contents of the current line and the SEND LINE key will send the contents of the current page.

ENTER

This enables you to define the ENTER key as either a SEND or RETURN key.

RETURN

Whether set to **Field** or **Newline** the functions specified by the **NEWLINE** parameters are performed.

Field When selected, the cursor moves to the first position in the next unprotected field if the target field is within a protected area.

Newline When selected the cursor moves to a newline.

NEWLINE

CR

Pressing the RETURN key will send only a carriage return when this is set to CR.

CR/LF

When set to CR/LF it will also send a linefeed.

INSERT

Toggles Insert / Replace modes

When selected, pressing the INSERT key will cause the terminal to go into **Insert mode**.

Inserts SPACE character

When selected, the INSERT key will insert a space character after the current cursor position.

IBM 3151 Advanced Configuration

Click on the **Advanced...** button to display the **IBM3151 Advanced Configuration** tile.

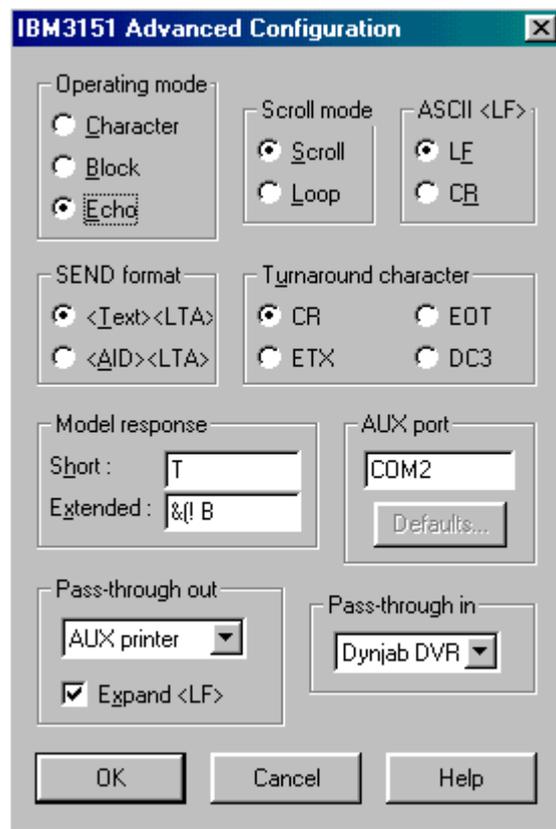


Figure 11.24: IBM3151 Advanced Configuration file

Operating mode

This determines what happens when a key is pressed.

Character

Sends the character to the host **and** to the screen at the same time.

Block This option only updates the screen. The data from the screen is sent to the host only when requested by pressing the SEND keys or on request from the host via a READ command.

Echo Sends the character **only** to the host. The host then echoes the character to the screen.

Scroll mode

The scroll function relates to what happens when a linefeed is received and the cursor is on the last line of the screen.

Scroll When selected, the screen is scrolled up.

Loop When selected, the cursor is sent to the top of the screen.

ASCII<LF>

LE When selected and a linefeed is entered or received, the cursor will move to the same column on the next line.

CR When selected and a linefeed is entered or received, the cursor will move to the first column on the next line.

SEND format

<Text><LTA> When selected and the SEND key is pressed, both text and the LTA (line turnaround) character are sent to the host.

<AID><LTA> The identification character followed by the line terminator is sent to the host when a SEND key is pressed.

Turnaround character

This is used to set your line turnaround character. This character is sent to the host at the end of a data stream when a SEND key is pressed.

There are 4 options:

- CR
- ETX
- EOT
- DC3

Model response

To advertise the model of the 3151 currently being used.

Short: Used to obtain the basic characteristics.

Extended: This command is used when additional information is required on the 3151. Refer to the IBM3151 Reference manual for further details.

AUX port

This is used to nominate the port to which Auxiliary devices are attached. The format of the entry should be the same as used in the Windows environment. For example, "COM2", "SERDEVØ1"

Pass-through out

This is used to nominate the destination of outbound pass-through data.

None: No pass-through printer attached.

AUX printer: Data is directed to the device attached to the AUX port specified above.

TTWin Printer

Data is directed to the currently selected printer. This may be altered using the File/Print Setup command

Expand <LF>

Used to toggle LF to CR/LF.

Pass-through in

This is used to nominate the type of device attached as inbound pass-through data source.

None

No device attached.

Dynjab DVR

The inbound data will be created using a Dynjab Document Verification Reader.

IBM 3164 Colour

Having selected the IBM 3164 Colour emulation the **Configure IBM 3164** tile is displayed.

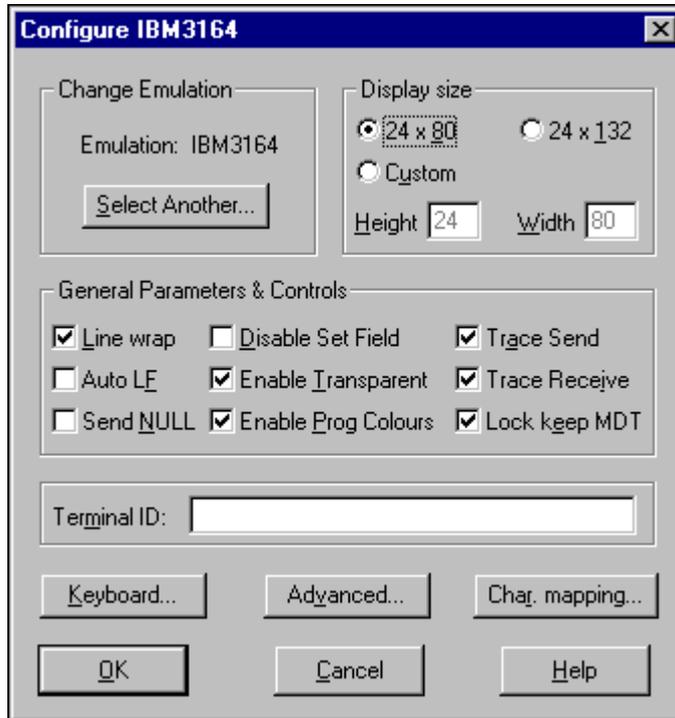


Figure 11.25: **Configure IBM 3164** tile

Display size

Note: Switching from 132 to 80 will truncate text in columns 81 to 132.

| | |
|-----------------|---|
| 24 x 80 | (Default) The IBM3164 has two standard screen resolution modes, one being 24 (rows) x 80 (columns). |
| 24 x 132 | The other standard screen resolution being 24 x 132. |
| Custom | This option allows the user to specify the Height (number of rows) and the Width (number of columns). |

When TTWIN 3 receives a remote host generated sequence to change resolution modes, the screen is erased and the cursor moves to the home position.

General Parameters & Controls

| | |
|-------------------------|--|
| <u>L</u>ine wrap | <p>When selected and the current cursor position is on the last column of the screen, the cursor will be moved to the first column of the next.</p> <p>If not selected, the cursor will not move and incoming characters will overwrite the last column on the screen.</p> |
| Auto <u>L</u>E | <p>When selected, a linefeed is generated automatically when a carriage return is received. That is, both a carriage return and linefeed are sent to the screen.</p> <p>When not selected, only a carriage return is sent when one is received.</p> |

| | |
|--|--|
| Send <u>N</u>ULL | <p>When selected trailing NULLs are converted to blanks when sent to the host.</p> <p>When not selected trailing NULLs are not sent to the host.</p> |
| <u>D</u>isable Set Field | <p>When selected, field attributes can not be modified by the operator.</p> <p>When not selected, they can be modified.</p> |
| Enable <u>T</u>ransparent | <p>This controls whether or not the operator can switch to transparent mode by entering a DLE sequence from the keyboard.</p> |
| Enable <u>P</u>rog Colours | <p>When not selected the terminal can display only the default colours of an IBM3164 terminal which are green, blue, red and white.</p> <p>When selected the emulation can also display black, yellow, magenta and turquoise.</p> |
| <u>T</u>race Send | <p>The trace control determines whether characters sent to the host will be sent to the printer port.</p> |
| <u>T</u>race Receive | <p>Similar to above except when selected character received from the host will be sent to the printer port.</p> |
| Lock <u>k</u>eep MDT (modify data tag) | <p>If this is selected then after performing the send function MDT bit @ SEND, the MDT bit is not reset and the keyboard is locked. The only key enabled after this is the RESET key.</p> <p>If not selected then the MDT bit is reset to 0.</p> |
| <u>T</u>erminal ID: | <p>This can be set to whatever string (up to 20 characters in length) you choose so that the host can identify the IBM3164.</p> |

Character mapping

Refer to *Character mapping on page 195*.

IBM 3164 Keyboard Configuration

Click on the **Keyboard...** button to display the **IBM3164 Keyboard Configuration** tile.

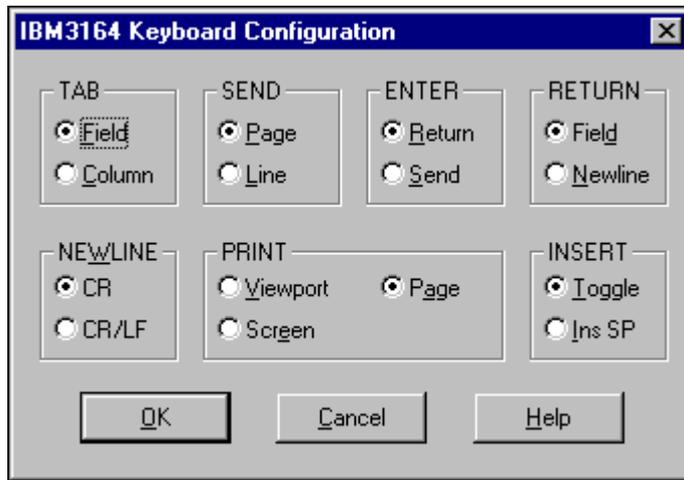


Figure 11.26: **IBM3164 Keyboard Configuration** tile

TAB

Field

When selected the tab stop positions defined by the field attribute character are used, instead of the column tab definitions.

Column

When selected the column tab stop positions are used, instead of the field tab stop positions.

SEND

Page

When selected and the SEND key is pressed, the contents of the current page will be sent to the host.

When selected and the SEND LINE key is pressed then contents of the current line are sent to the host.

Line

When selected, the SEND key will send the contents of the current line and the SEND LINE key will send the contents of the current page.

ENTER

This enables you to define the ENTER key as either a SEND or RETURN key.

RETURN

Whether set to **Field** or **Newline** the functions specified by the **NEWLINE** parameters are performed.

Field

When selected the cursor is moved to the first position in the next unprotected field if the target field is within a protected area.

Newline

When selected the cursor is moved to a newline.

NEWLINE

CR

Pressing the RETURN key will send only a carriage return when this is set to CR.

CR/LF

When set to CR/LF it will also send a linefeed.

PRINT

This controls whether the contents of the page, screen or viewport are sent to the printer when the PRINT key is pressed.

INSERT

Ioggles

When selected, pressing the INSERT key will cause the terminal to go into **Insert mode**.

Ins SP

When selected, pressing the INSERT key will insert a space character after the current cursor position.

IBM 3164 Advanced Configuration

Click on the **Advanced...** button to display the **IBM3164 Advanced Configuration...** tile.

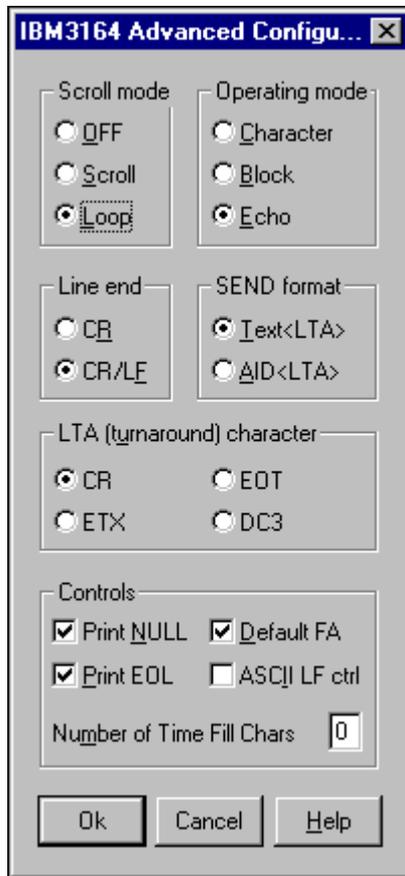


Figure 11.27: IBM3164 Advanced Configuration... tile

Scroll mode

The scroll function relates to what happens if a linefeed is received when the cursor is on the last line of the screen.

- | | |
|----------------------|---|
| <u>OFF</u> | When selected, the display does not scroll. |
| <u>S</u>croll | When selected, the screen is scrolled up. |
| <u>L</u>oop | When selected, the cursor is sent to the top of the screen. |

Operating mode

This determines what happens when a key is pressed

Character

Sends the character to the host **and** to the screen at the same time.

Block

This option only updates the screen. The data from the screen is sent to the host only when requested by pressing the SEND key or on request from the host via a READ command.

Echo

Sends the character **only** to the host. The host then echoes the character to the screen.

Line end

CR

When selected, pressing the RETURN key will send only a carriage return.

CR/LE

When selected, pressing the RETURN key will send a linefeed and a carriage return.

SEND format

Text<LTA>

When selected and the SEND key is pressed, both text and the LTA (line turnaround) character are sent to the host

AID<LTA>

Otherwise, it sends only the identification character followed by the line terminator.

LTA (turnaround) character

This is used to set your line turnaround character. This character is sent to the host at the end of a data stream when a SEND key is pressed.

There are 4 options:

- CR
- ETX
- EOT
- DC3

Controls

Print NULL

When selected, trailing NULLs are converted into blanks and sent to the printer when a print is requested.

When not selected, trailing NULLs are not sent to the printer.

Print EOL

When selected the defined line end character is sent to the printer at the end of each printed line. (Also see **Line end**.)

Default FA

Default field attribute enable.

ASCII LF ctrl

If this is selected, receiving a linefeed from either the host or the keyboard will also generate a carriage return. That is, the cursor will move to the first column of the next line.

When not selected, the cursor will just move down one line.

Number of Time Fill Chars

May be set to 0, 1, 2 or 3. This enables you to set the number of time fill characters (DELs) at the end of each line that are sent to the printer.

IBM 3270

Having selected the IBM 3270 emulation the **Configure IBM 3270** tile is displayed.

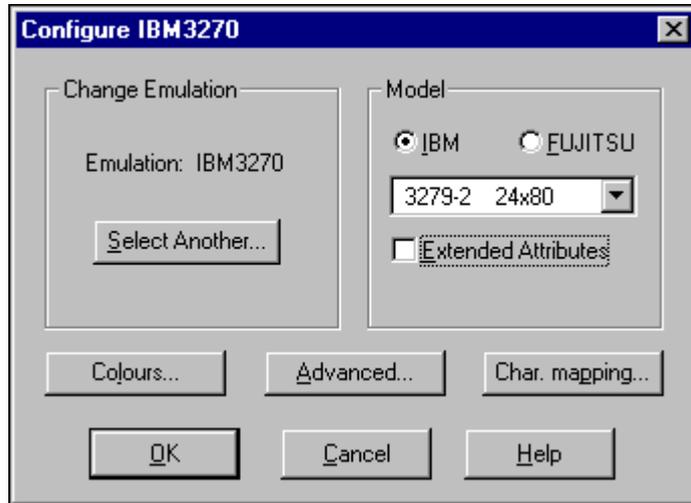


Figure 11.28: Configure IBM 3270 tile

Model - IBM

Supported IBM 3270 terminals includes the 3278 and 3279 models.

- 3278-2 Offers support for a 24 line x 80 column display
- 3278-3 32 x 80 display
- 3278-4 43 x 80 display
- 3278-5 27 x 132 display
- 3279-2 24 x 80 display, (default)
- 3279-3 32 x 80 display
- 3279-4 43 x 80 display
- 3279-5 27 x 132 display

Extended Attributes Select to enable additional terminal characteristics. This **must** be selected for IBM IND\$FILE transfer.

Model - Fujitsu

For the Fujitsu 6680 the following models are supported:

- 6681-2 24 x 80 display
- 6681-3 32 x 80 display
- 6681-4 43 x 80 display
- 6681-5 27 x 132 display
- 6681-6 27 x 136 display

LogMode ID: This is a 2 figure number used by the host. It is required for the Telnet setup and it **MUST** come from your systems supervisor.

Mode₁ and Mode₂ As above, this is dependant upon your system. It effects the handling of colours.

Note: Switching from 132 to 80 truncates text in columns 81 to 132.

Character mapping

Refer to *Character mapping on page 195*.

IBM 3270 Colour Configuration

Click on the **Colours...** button to display the **IBM3270 Colour Configuration** tile.

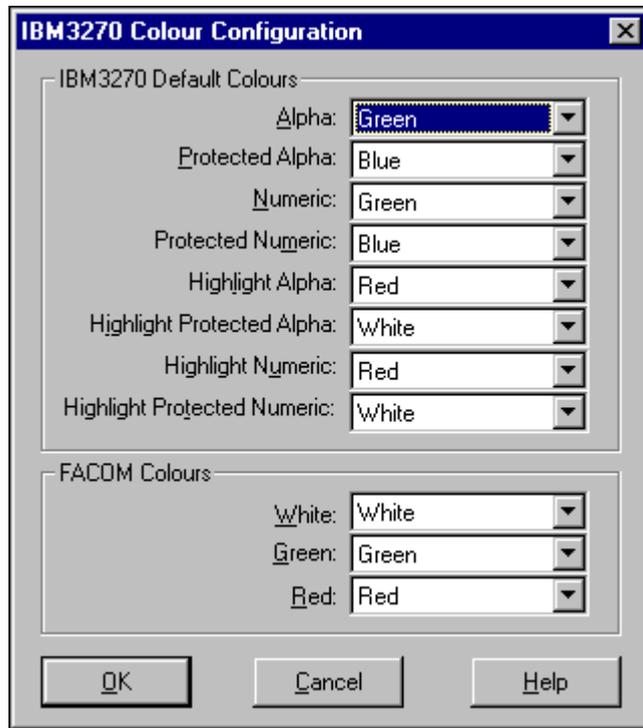


Figure 11.29: IBM3270 Colour Configuration tile

IBM3270 Default Colours

The default colour set to be used by the remote IBM3270 host can be readily defined through the following colour configuration options:

- **Alpha**
- **Protected Alpha**
- **Numeric**
- **Protected Numeric**
- **Highlight Alpha**
- **Highlight Protected Alpha**
- **Highlight Numeric**
- **Highlight Protected Numeric**

FACOM Colours

The default colour set to be used by the Fujitsu terminal.

IBM 3270 Advanced Configuration

Click on the **Advanced...** button to display the **IBM3270 Advanced Configuration** tile.

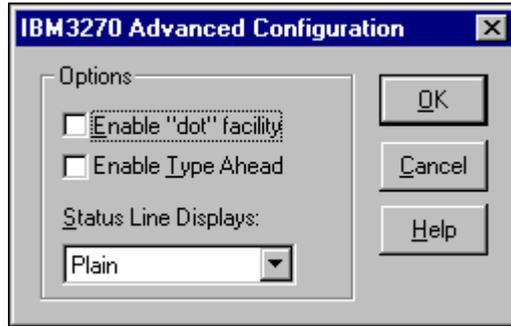


Figure 11.30: IBM3270 Advanced Configuration tile

Options

Enable "dot" facility This option places a dot in input fields for every character.

Enable Type Ahead: This option allows keystrokes to be buffered when the system is busy.

Status Line Display: The emulator has 3 possible status lines: plain, average response, and last response.

IBM 5250

Having selected the IBM 5250 emulation the **Configure IBM 5250** tile is displayed.

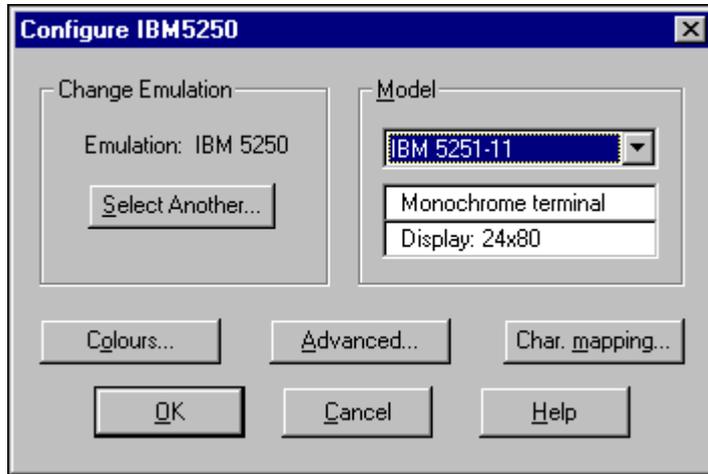


Figure 11.31: Configure IBM 5250 tile

Model

Support for the IBM5250 terminal modes is extensive. Currently supported modes being:

- 3179-2, 3179-220, 3180-2, 3196-A1
- 3477-FG, 3477-FC
- 5251-1, 5251-11 (default), 5252, 5291-1, 5292-2

Character mapping

Refer to *Character mapping on page 195*.

IBM 5250 Colour Configuration

Click on the **Colours...** button to display the **IBM5250 Attribute Configuration** tile.

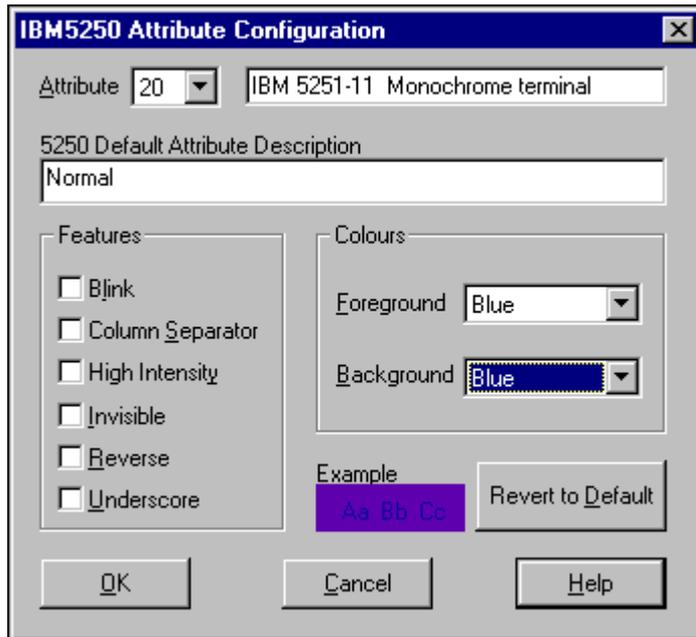


Figure 11.32: IBM5250 Attribute Configuration tile

The default colour set to be used by TWIN 3 can be readily defined through the following colour configuration options:

| | |
|---|---|
| <u>A</u>tttribute | IBM defined attribute number. Along side of the Attribute field is a description of the currently selected emulation mode. |
| 5250 Default Attribute Description | Default description given to current attribute. |

Features

The current attributes associated with the selected **Attribute**. The possible attributes are:

- **Blink**
- **Column Separator**
- **High Intensity**
- **Invisible**
- **Reverse**
- **Underscore**

Colours

The colour of the current **Attribute**. Select the foreground and background colours.

Example

Sample text using the current attributes colour scheme.

IBM 5250 Advanced Configuration

Click on the **Advanced...** button to display the **IBM5250 Advanced Configuration** tile.

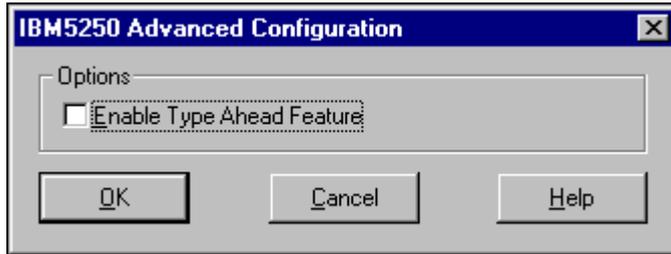


Figure 11.33: IBM5250 Advanced Configuration tile

Options

Enable Type Ahead Feature

This option allows keystrokes to be buffered when the system is busy.

ICL 7561

Having selected the ICL 7561 emulation the **Configure ICL 7561** tile is displayed.

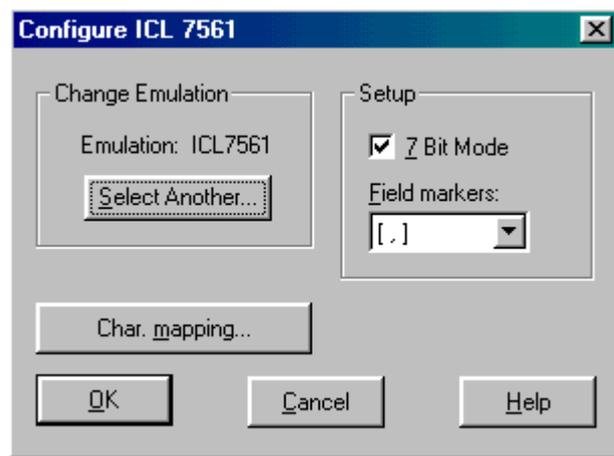


Figure 11.34: Configure ICL 7561 tile

Setup

7 Bit Mode All data is restricted to 7 bits.

Field Markers

This allows the definition of characters that will be used as field markers. The available entries are:

- | | |
|-------|-------------------------|
| [,] | Use the [and] symbols |
| < , > | Use the < and > symbols |
| > , < | Use the > and < symbols |

| | |
|----------------|---|
| (,) | Use the (and) symbols |
| none | No visible field markers |
| default | Use the terminal's default symbols (may not be visible in all font sets). |

Character mapping

Refer to *Character mapping on page 195*.

ICL VT220 Plus

Having selected the ICL VT220 emulation the **Configure ICL VT220** tile is displayed.

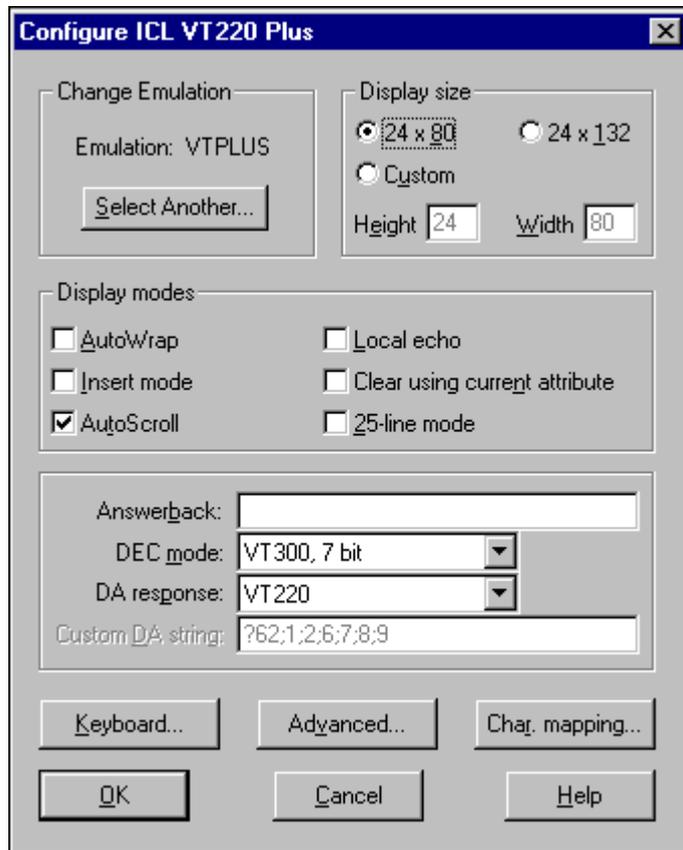


Figure 11.35: **Configure ICL VT220** tile

Display size

The ICL VT220 display terminal has two standard screen resolution modes, TTWIN 3 also supports a customised screen resolution mode.

24 x 80 and **24 x 132** The two standard screen resolution modes.

Note: Switching from 132 to 80 will truncate text in columns 81 to 132.

Custom

This option allows the user to specify the **Height** (number of rows) and the **Width** (number of columns).

When TTWIN 3 receives a remote host generated sequence to change resolution modes, the screen is erased and the cursor moves to the home position.

Display modes

Permits you to set the attributes which determine the appearance of text within the TTWIN 3 window.

Autowrap

When selected and the cursor is in the last column, incoming text is written to the beginning of the next line.

When not selected, incoming characters will overwrite the last column until an EOL (end-of-line) character is received.

Insert mode

This option determines how characters are added to the screen.

When selected, the character is inserted at the cursor, moving previously displayed characters to the right.

When not selected, new display characters replace old display characters at the current cursor position.

AutoScroll

This affects the behaviour of the terminal when a linefeed is issued on the last line. When selected, the screen scrolls up one line and the cursor remains on the last line.

When not selected, the screen remains unchanged but the cursor wraps around to the first column of the screen.

Local echo

When selected, as a character is typed on the keyboard it is immediately echoed to your screen.

When not selected, the entered character is sent to the remote host which in turn echoes it back. On its return the character is displayed on your screen. In this way, passwords and other sensitive information do not appear on your screen.

Clear using current attribute

Clear the screen using the current attribute.

25-line mode

When selected, all 25 lines of the display screen are used as data lines.

When not selected, the 25th line is reserved for the status/system line and the rest for data.

Answerback:

The string specified here is used as the answerback message which is sent from the terminal to the host when the host sends the ENQ character.

DEC mode:

The ICL VT52 and VT100 terminals are subsets of the VT320 terminal. A single .DLL emulation file provides a set of DEC VT terminal personalities.

- **VT52 mode** is a text mode that executes DEC proprietary functions, not ANSI functions.

This mode restricts use of the keyboard to VT52 keys. All data is restricted to 7 bits.

- **VT100 mode 7-bit** executes standard ANSI functions.

This mode restricts use of the keyboard to VT100 keys. All data is restricted to 7 bits.

- **VT100 mode 8-bit** executes standard ANSI functions.

This mode is compatible with an 8-bit host data stream.

- **VT300 mode 7-bit**, (default mode) controls and executes standard ANSI functions.

This is the default mode of operation for a VT320 terminal.

- **VT300 mode 8-bit**, controls and executes standard ANSI functions.

This mode offers extensive non-graphics compatibility with the VT340 in an 8-bit communications environment with 8-bit controls.

DA response:

Device attributes response. The DA response is a sequence sent to the host following a host request for the terminal's current available services.

The DA response can advise the host of such attributes as terminal family type, 132 column support and printer port. The different emulation modes naturally support different attributes.

- **VT100** default setting: ?1;2
- **VT101** default setting: ?1;0
- **VT102** default setting: ?6
- **VT220** default setting: ?6;2;1;2;6;7;8;9
- **VT240** default setting:
?6;2;1;2;3;4;6;7;8;9
- **VT320** default setting: ?6;3;1;2;6;7;8;9
- **VT340** default setting:
?6;3;1;2;3;4;6;7;8;9;13;15;16;18;19
- **Custom** A user defined DA response can be specified through the **Custom DA string** option.

Custom DA string

Used with the **Custom** option in **DA response** to define DA response string.

Character mapping

Refer to *Character mapping on page 195*.

ICL VT200 Plus Keyboard Configuration

Click on the **Keyboard...** button to display the **ICL VT220 Plus Keyboard Configuration** tile.

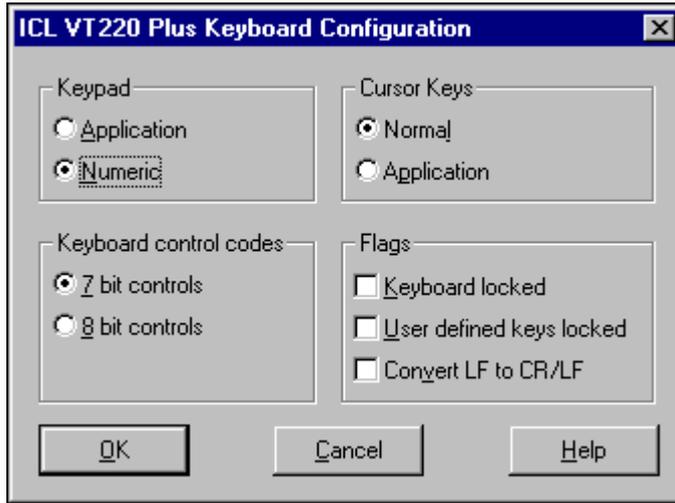


Figure 11.36: ICL VT220 Plus Keyboard Configuration tile

Keypad

The numeric keypad generates either numeric characters or control functions. Selecting **A**pplication or **N**umeric keypad mode, determines the type of characters. The terminal emulation when first selected, or after a reset, will be set to numeric keypad mode.

Application

Selects application keypad mode. The keypad generates application control functions.

Numeric

(Default) Selects numeric keypad mode. The keypad generates characters that match the numeric, period, plus, minus, star and forward-slash keys on the main keypad.

Cursor Keys

The characters generated by the cursor keys depend on the state of the **Cursor Keys** mode.

| | |
|--------------------|---|
| Normal | (Default) Causes the cursor keys to generate ANSI cursor control sequences. |
| Application | Causes the cursor keys to generate application control functions. |

Keyboard control codes

This option is only supported by the VT100 and VT300 modes as the VT52 operates strictly in a 7-bit mode.

| | |
|------------------------------|---|
| <u>7</u> bit controls | (Default) Causes all control codes returned to the application to be converted to their equivalent 7-bit code extensions. |
| <u>8</u> bit controls | Causes the terminal to return control codes to the application without converting them to their equivalent 7-bit code extensions. |

Flags

Keyboard locked

When the keyboard is locked, no codes can be transmitted from the keyboard to the Host. You can unlock the keyboard either by deselecting this option or resetting the terminal.

User defined keys locked

The lock parameter determines whether the downloaded key definitions are locked or not, after you load them. Once the keys are locked, to unlock you must either deselect the **User defined keys locked** option or a reset is required.

Convert LF to CR/LF

When selected, causes a received RETURN to transmit as both a CR and a LF. When not selected and a RETURN is received only a CR is transmitted.

ICL VT220 Advanced Configuration

Click on the **Advanced...** button to display the **ICL VT220 Plus Advanced Configuration** tile.

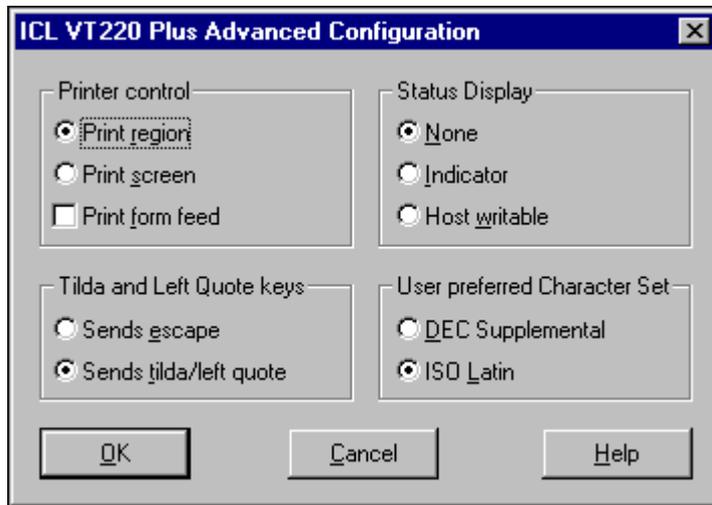


Figure 11.37: ICL VT220 Plus Advanced Configuration tile

Printer Control

Set the default VT220 print mode.

- | | |
|-------------------------------|---|
| Print <u>r</u>egion | (Default) Send just the selected region to the printer. |
| Print <u>s</u>creen | Send entire screen contents to the printer. |
| Print <u>f</u>orm feed | Send a form feed character at the end of the print job. |

Status Display

| | |
|-----------------------------|---|
| <u>N</u>one | (Default) The status line is not displayed. |
| <u>I</u>ndicator | The status display is always visible. |
| Host <u>w</u>ritable | Host applications can write messages in place of the status line. |

Tilda and Left Quote key

This option allows the user to define the TILDA/LEFT QUOTE key (i.e., ~ / ` key) to operate either as normal or as an escape key.

| | |
|---|---|
| Sends <u>e</u>scape | Redefine the TILDA/LEFT QUOTE key to send an escape key sequence. |
| Sends <u>t</u>ilda/left <u>q</u>uote | (Default) Leave the TILDA/LEFT QUOTE key as normal, i.e., left quote and with the SHIFT key, tilda. |

User preferred Character Set

Two 8-bit character sets are built into the VT220. These are:

- **DEC Supplemental** – DEC Multinational set
- **ISO Latin.**

Both 8-bit sets include the standard ASCII character set and a supplemental set.

Liberty Freedom One

Having selected the Liberty Freedom One emulation the **Configure Freedom One** tile is displayed.



Figure 11.38: **Configure Freedom One** tile

Setup parameters

Page mode

When selected, allows editing functions to operate on the entire scrolling page.

When not selected, limits the effects of editing functions to the current line.

Insert mode

When selected, **Insert mode** causes text to be inserted without overwriting existing data. As new text is entered, existing text is shifted right to the next character position.

Local edit

When selected, limits editing functions to the display and does not communicate them to the host system.

Block Mode

When selected, no communication takes place to the host computer until the ENTER or SEND key is pressed. It does, however, respond to commands and characters received from the host.

Truncate

Any characters extending past the end of line are truncated.

Duplex mode

The **Full** and **Half** duplex modes are used in conversation with the host computer with data transferring freely between the two.

Full

Every typed character is transmitted to the host. The host must then decide what to do in response to the character it has received. In the majority of cases, it will simply echo the character back to the screen (or take some action, if it is a control character such as a carriage return).

Half

In half duplex mode, character strings are displayed on the screen without waiting for the host to echo them back. The emulation also responds to characters sent from the host, displaying or executing them, as appropriate.

Insert character

Several editing, erase, clear and scrolling functions use an insert character to clear the screen.

Space This is the default - an ASCII space.

Other The insert character can be selected from any one of the ASCII characters.

Background character

On a terminal reset or screen initialisation, a character referred to as a background character is used to repaint the screen. Select either **Spaces** or **Nulls**.

Display width

Specifies the number of columns per line displayed on the screen.

80 Cols When selected, 80 columns are displayed.

132 Cols When selected, 132 columns are displayed.

Note: Switching from 132 to 80 will truncate text in columns 81 to 132.

Character mapping

Refer to *Character mapping on page 195*.

Linux Terminal

Having selected the Linux Terminal emulation the **Configure Linux** tile is displayed.

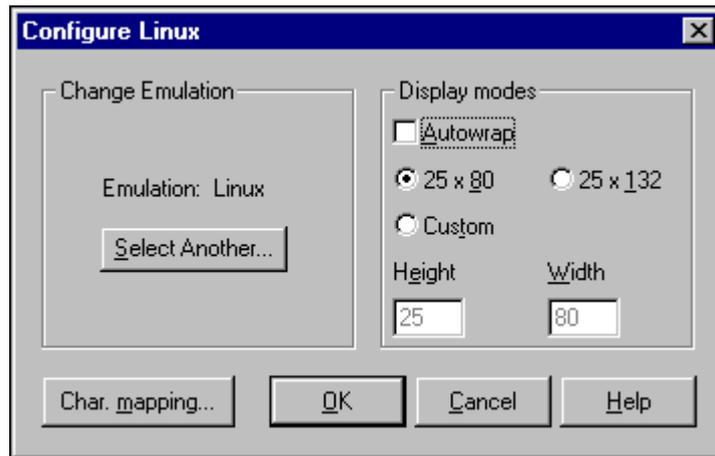


Figure 11.39: **Configure Linux** tile

Display modes

Autowrap

When selected and the cursor is in the last column, incoming text is written to the beginning of the next line. When not selected, incoming characters will overwrite the last column until an EOL character is received.

25x80 and 25x132

The 2 standard resolution modes.

Note: Switching from 132 to 80 will truncate text in columns 81 to 132.

Custom

Allows the user to customise the display area. You must specify **Height** and **Width**.

Character mapping

Refer to *Character mapping* on page 195.

McDonnell Douglas P12

Having selected the McDonnell Douglas P12 emulation the **Configure McDonnell Douglas Series** tile is displayed.

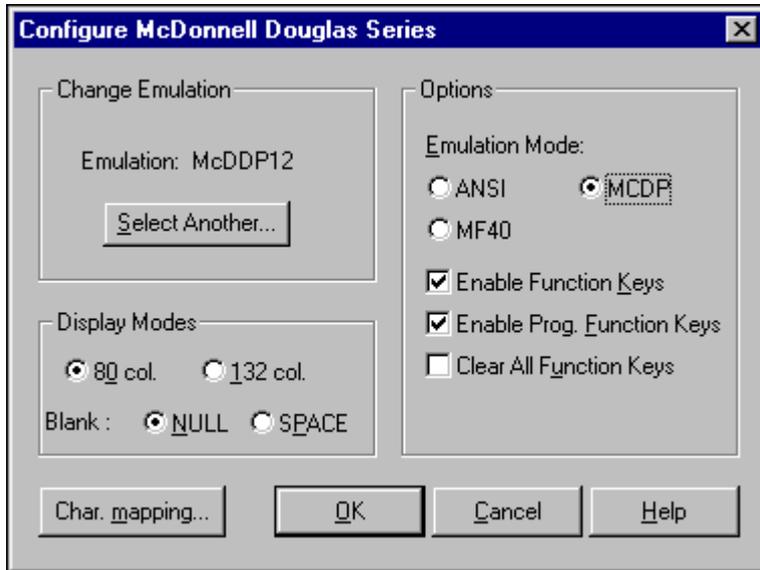


Figure 11.40: **Configure McDonnell Douglas Series** tile

Display modes

The maximum number of columns displayable on the screen can be user defined to either 80 or 132.

Note: Switching from 132 to 80 will truncate text in columns 81 to 132.

Blank: Select the **NULL** or **SPACE** character to represent blanks.

Options

| | |
|--|--|
| <u>E</u>mulation Mode: | Select the emulation mode: ANSI, MCDP or MF40. |
| Enable Function <u>K</u>ey | When selected, this causes the standard code sequences to be generated by all function keys. |
| Enable Prog. <u>F</u>unction Keys | <p>It is possible to define a different string for each of the function keys when they are used with or without the SHIFT key.</p> <p>When selected, this causes the function keys to generate the programmed string.</p> <p>When not selected, this causes the standard code sequences to be generated by all function keys. The strings are not cleared.</p> |
| Clear All <u>F</u>unction Keys | When selected, this clears the strings defined for all the programmed function keys. |

Character mapping

Refer to *Character mapping on page 195*.

Prime PT25

Having selected the Prime PT25 emulation the **Configure PT25** tile is displayed.

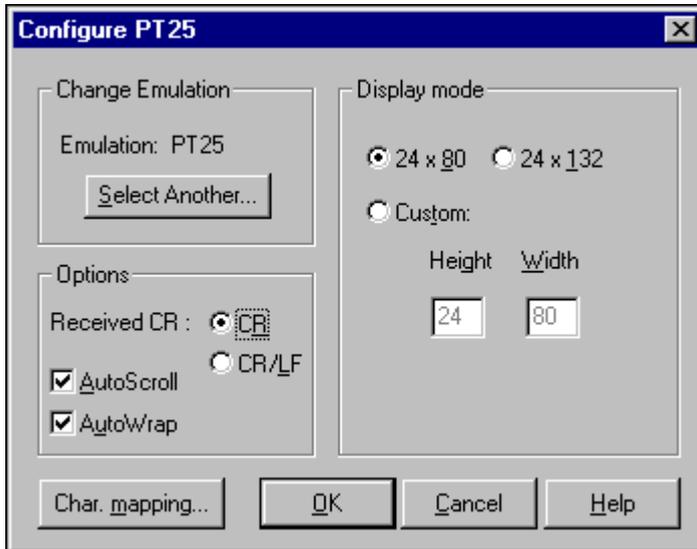


Figure 11.41: **Configure PT25** tile

Options

Received CR:

Defines how to handle received carriage return characters from the remote host.

Received carriage returns can be transmitted as a carriage return or converted to carriage return and a line feed.

AutoScroll

This affects the behaviour of the terminal when a linefeed is issued on the last line. When selected, the screen scrolls up one line and the cursor remains on the last line.

When not selected, the screen remains unchanged but the cursor wraps around to the first column of the screen.

AutoWrap

When selected and the cursor is in the last column, incoming text is written to the beginning of the next line.

When not selected, incoming characters will overwrite the last column until an EOL (end-of-line) character is received.

Display mode

Note: Switching from 132 to 80 will truncate text in columns 81 to 132.

24 x 80

(Default) The PT25 terminal has two standard screen resolution modes, one being 24 (rows) x 80 (columns).

24 x 132

The other being 24 x 132.

Custom

This option allows the user to specify the **Height** (number of rows) and the **Width** (number of columns).

When TTWIN 3 receives a remote host generated sequence to change resolution modes, the screen is erased and the cursor moves to the home position.

Character mapping

Refer to *Character mapping on page 195*.

Prime PT250S

Having selected the Prime PT250S emulation the **Configure PT250** tile is displayed.

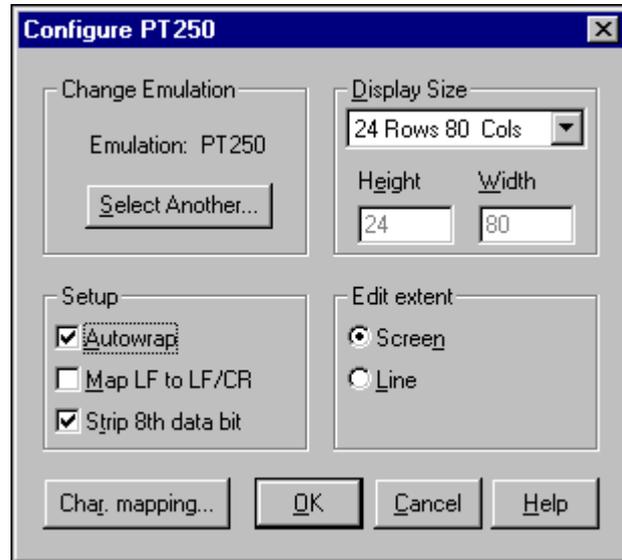


Figure 11.42: Configure PT250 tile

Setup

Autowrap

When selected and the cursor is in the last column, incoming text is written to the beginning of the next line.

When not selected, incoming characters will overwrite the last column until an EOL (end-of-line) character is received.

Map LF to LF/CR

This effects how the line feed (LF) character is interpreted in receipt from the host. Normally line feed characters move the cursor down one line (possibly scrolling the screen up), and carriage return (CR) characters move the cursor to the start of the current line.

When selected, line feed characters received from the host are translated to a LF/CR sequence.

When not selected, the line feed is not translated.

Strip 8th data bit

When selected the eighth bit on the incoming data byte is stripped.

Display Size

Use the scroll to select the display size. To customise the display select **Custom**.

Edit extent

This parameter effects how much of the screen is affected by the INSERT and DELETE character commands.

Screen

When selected, the region from the cursor to the end of the screen is moved.

Line

When selected, the whole line to the right of the cursor position is moved.

Character mapping

Refer to *Character mapping on page 195*.

QNX System Console

Having selected the QNX System Console emulation the **Configure QNX** tile is displayed.

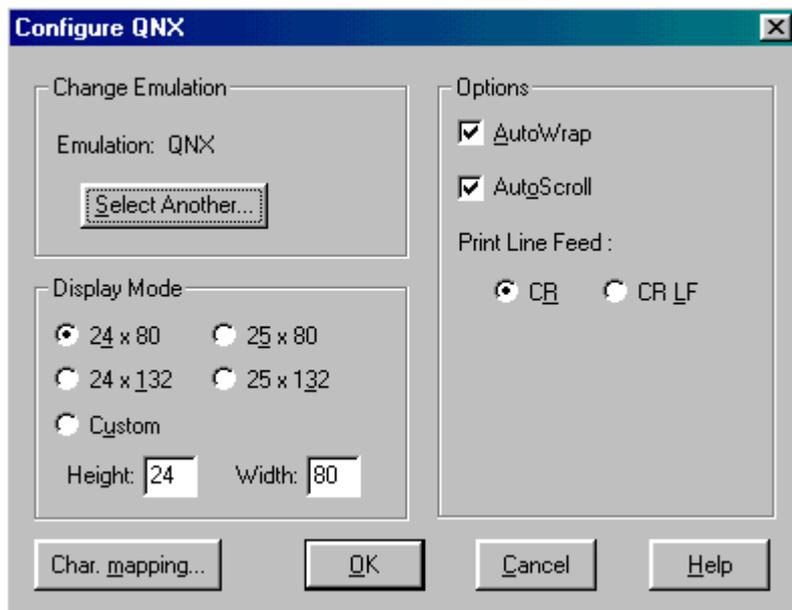


Figure 11.43: Configure QNX tile

Display size

There are 4 available standard screen resolution modes:

- 24 x 80
- 25 x 80
- 24 x 132

- 25 x 132

Note: *Switching from 132 to 80 will truncate text in columns 81 to 132.*

You can also use the **Custom** option to specify the **Height** (number of rows) and the **Width** (number of columns) of the screen.

When TTWIN 3 receives a remote host generated sequence to change resolution modes, the screen is erased and the cursor moves to the home position.

Options

AutoWrap

When selected and the cursor is in the last column, incoming text is written to the beginning of the next line.

When not selected, incoming characters will overwrite the last column until an EOL (end-of-line) character is received.

AutoScroll

This affects the behaviour of the display when a linefeed is issued on the last line.

When selected, the screen scrolls up a line and the cursor remains on the last line.

When not selected, the screen remains unchanged and the cursor wraps around to the first column of the last line of the screen.

Print Line Feed:

When printing only a carriage return will be sent when **CR** is selected. When **CR/LF** is selected a linefeed will also be sent.

Character mapping

Refer to *Character mapping on page 195*.

SCO ANSI Colour Console

Having selected the SCO ANSI Colour console emulation the **Configure SCOANSI** tile is displayed.

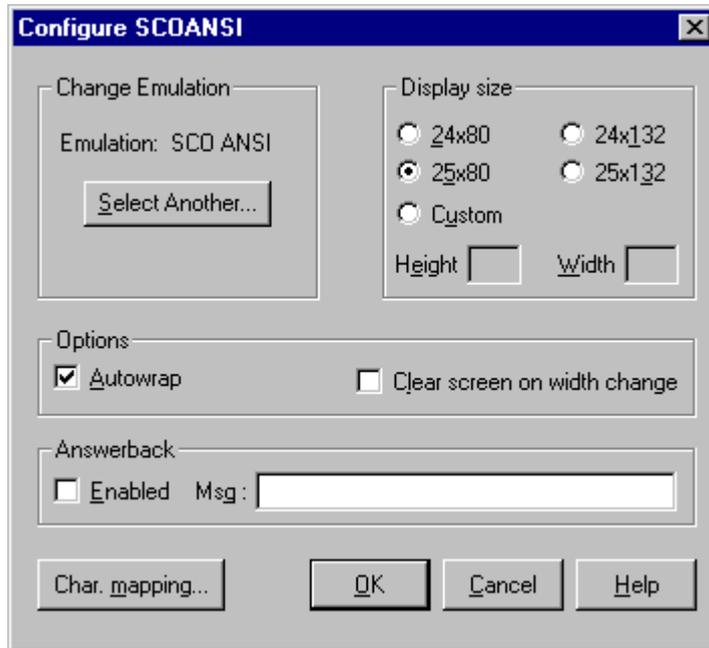


Figure 11.44: **Configure SCOANSI** tile

Display Size

The SCO ANSI Colour Console display terminal has the following standard screen resolution modes: 24 x 80, 24 x 132, 25 x 80 and 25 x 132. TTWIN 3 also supports a customised screen resolution mode.

The **C**ustom option allows the user to specify the **H**eight (number of rows) and the **W**idth (number of columns) of the display.

Options

Autowrap

When selected and the cursor is in the last column, incoming text is written to the beginning of the next line.

When not selected, incoming characters will overwrite the last column until an EOL (end-of-line) character is received.

Clear screen on width change

When selected, this will cause a screen clear whenever a display size change occurs. If history is enabled, the screen data is moved to the scroll history buffer, otherwise it is lost.

Answerback

Enabled

Transmit the string defined within the **Answerback Msg:** field when the ENQ character is received from the remote host.

Msg

The string specified here is used as the answerback message which is sent from the terminal to the host when the host sends the ENQ character.

Character mapping

Refer to *Character mapping on page 195*.

Siemens 97801

Having selected the Siemens 97801 emulation the **Configure Siemens 97801** tile is displayed.

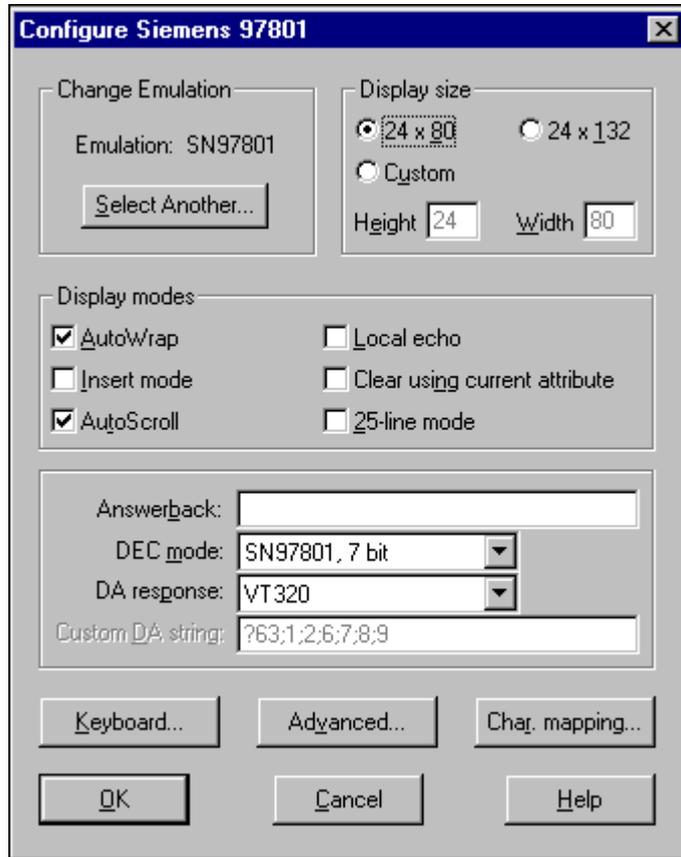


Figure 11.45: **Configure Siemens 97801** tile

Display size

The Siemens 97801 display terminal has two standard screen resolution modes: 24 x 80 and 24 x 132. TTWIN 3 also supports a customised screen resolution mode.

The **C**ustom option allows the user to specify the **H**eight (number of rows) and the **W**idth (number of columns) of the display.

When TTWIN 3 receives a remote host generated sequence to change resolution modes, the screen is erased and the cursor moves to the home position.

Display modes

Permits you to set the attributes which determine the appearance of text within the TTWIN 3 window.

Autowrap

When selected and the cursor is in the last column, incoming text is written to the beginning of the next line.

When not selected, incoming characters will overwrite the last column until an EOL (end-of-line) character is received.

Inset mode

This option determines how characters are added to the screen.

When selected, the character is inserted at the cursor, moving previously displayed characters to the right.

When not selected, new display characters replace old display characters at the current cursor position.

Autoscroll

Determines if the display scrolls up when the cursor attempts to move down beyond the last row, or if the cursor loops back up to the top row.

Local echo

When selected, as a character is typed on the keyboard it is immediately echoed to your screen.

When not selected, the entered character is sent to the remote host which in turn echoes it back. On its return the character is displayed on your screen. In this way, passwords and other sensitive information does not appear on your screen.

**Clear using
current attribute**

Clear the screen using the current attribute.

25-line mode

When selected, all 25 lines of the display screen are used as data lines.

When not selected, the 25th line is reserved for the status/system line and the rest for data

Answerback:

The string specified here is used as the answerback message which is sent from the terminal to the host when the host sends the ENQ character.

DEC mode:

TurboSoft provides within a single .DLL emulation file a set of DEC VT terminal personalities.

- **VT300 mode 7-bit**, (default mode) controls and executes standard ANSI functions.

This is the default mode of operation for a VT320 terminal.

- **VT300 mode 8-bit**, controls and executes standard ANSI functions.

This mode offers extensive non-graphics compatibility with the VT340 in an 8-bit communications environment with 8-bit controls.

- **SN97801 Mode 7-bit**, (default mode) controls and executes standard ANSI functions.

- **SN97801 Mode 8-bit**, controls and executes standard ANSI functions.

This mode offers extensive non-graphics compatibility in an 8-bit communications environment with 8-bit controls.

DA response:

Device attributes response. The DA response is a sequence sent to the host following a host request for the terminal's current available services.

The DA Response can advise the host of such attributes as terminal family type, 132 column support and printer port. The different emulation modes naturally support different attributes.

- **VT220** default setting: ?62;1;2;6;7;8;9
- **VT240** default setting:
?62;1;2;3;4;6;7;8;9
- **VT320** default setting: ?63;1;2;6;7;8;9
- **VT340** default setting:
?63;1;2;3;4;6;7;8;9;13;15;16;18;19
- **Custom** A user defined DA response can be specified through the **Custom DA string** option.

Customer DA string: Used with the **Custom** option in **DA response** to define a DA response string.

Character mapping

Refer to *Character mapping on page 195*.

Siemens Keyboard Configuration

Click on the **Keyboard...** button to display the **SN97801 Keyboard Configuration** tile.

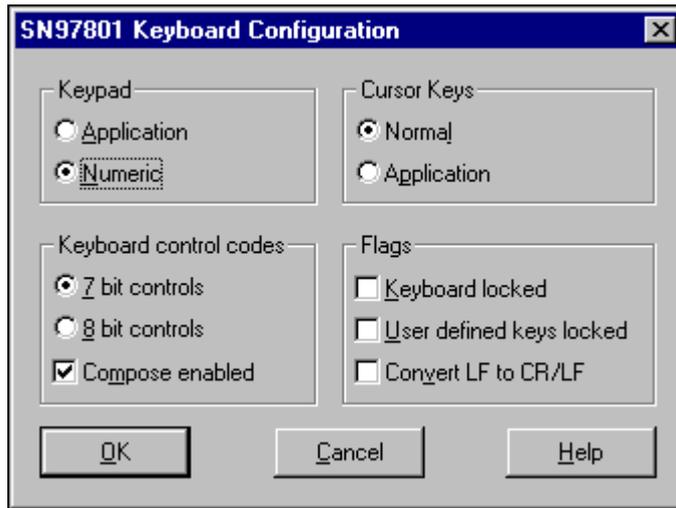


Figure 11.46: **SN97801 Keyboard Configuration** tile

Keypad

The numeric keypad generates either numeric characters or control functions. Selecting **A**pplication or **N**umeric keypad mode, determines the type of characters. The terminal emulation when first selected, or after a reset, will be set to numeric keypad mode.

Application

Selects application keypad mode. Keypad generates application control functions.

Numeric

(Default) Selects numeric keypad mode. Keypad generates characters that match the numeric, period, plus, minus, star and forward-slash keys on the main keypad.

Cursor Keys

The characters generated by the cursor keys depend on the state of the Cursor Keys mode.

| | |
|--------------------|---|
| Normal | (Default) Causes the cursor keys to generate ANSI cursor control sequences. |
| Application | Causes the cursor keys to generate application control functions. |

Keyboard control codes

This option is only supported by the Siemens 97801/ VT300 modes.

| | |
|-------------------------------|---|
| <u>7</u> bit controls | (Default) Causes all control codes returned to the application to be converted to their equivalent 7-bit code extensions. |
| <u>8</u> bit controls | Causes the terminal to return control codes to the application without converting them to their equivalent 7-bit code extensions. |
| <u>C</u>ompose enabled | The Siemens 97801 lets you use more characters than appear on your keyboard, by typing a compose sequence. A compose sequence is a series of two or three keystrokes that produce a single compose character. Pressing the COMPOSE CHARACTER key starts the compose sequence. |

Flags

Keyboard locked

When the keyboard is locked, no codes can be transmitted from the keyboard to the Host.

You can unlock the keyboard either by deselecting this option or resetting the terminal.

User defined keys locked

The lock parameter determines whether the down-loaded key definitions are locked or not, after loading.

Once the keys are locked, to unlock you must either deselect the **User defined keys locked** option or a reset is required.

Convert LF to CR/LF

When selected, causes a received RETURN to transmit as both a CR and a LF.

When not selected and a RETURN is received only a CR is transmitted.

Siemens Advanced Configuration

Click on the **Advanced...** button to display the **SN97801 Advanced Configuration** tile.

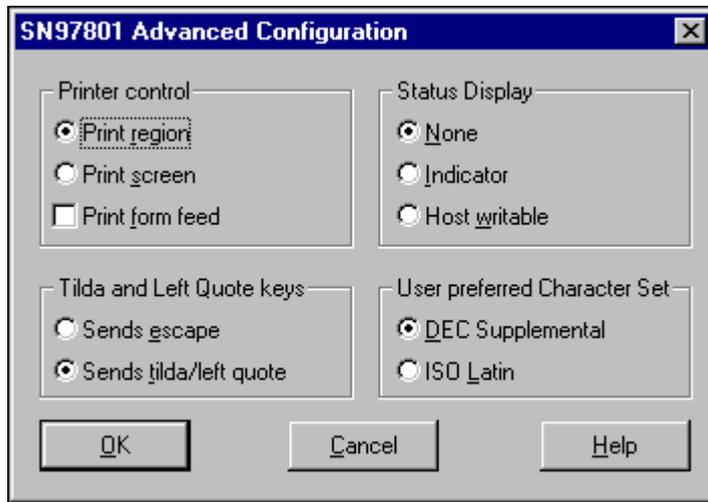


Figure 11.47: **SN97801 Advanced Configuration** tile

Printer control

Set the default print mode.

- | | |
|-------------------------------|---|
| Print <u>r</u>egion | (Default) Send just the selected region to the printer. |
| Print <u>s</u>creen | Send entire screen contents to the printer. |
| Print <u>f</u>orm feed | Send a form feed character at the end of the print job. |

Status Display

- | | |
|-----------------------------|---|
| <u>N</u>one | (Default) The status line is not displayed. |
| <u>I</u>ndicator | The status display is always visible. |
| Host <u>w</u>ritable | Host applications can write messages in place of the status line. |

Tilda and Left Quote key

This option allows the user to define the TILDA/LEFT QUOTE key (i.e., ~/ ` key) to operate either as normal or as an escape key.

- | | |
|---|---|
| Sends <u>e</u>scape | Redefine TILDA/LEFT QUOTE key to send an escape key sequence. |
| Sends <u>t</u>ilda/left <u>q</u>uote | (Default) Leave TILDA/LEFT QUOTE key as normal, i.e., left quote and with the SHIFT key, tilda. |

User preferred Character Set

Two 8-bit character sets are built into the VT220. These are:

- **DEC Supplemental** – DEC Multinational set
- **ISO Latin.**

Both 8-bit sets include the standard ASCII character set and a supplemental set.

Stratus V102

Having selected the Stratus V102 emulation the **Configure Stratus V102** tile is displayed.

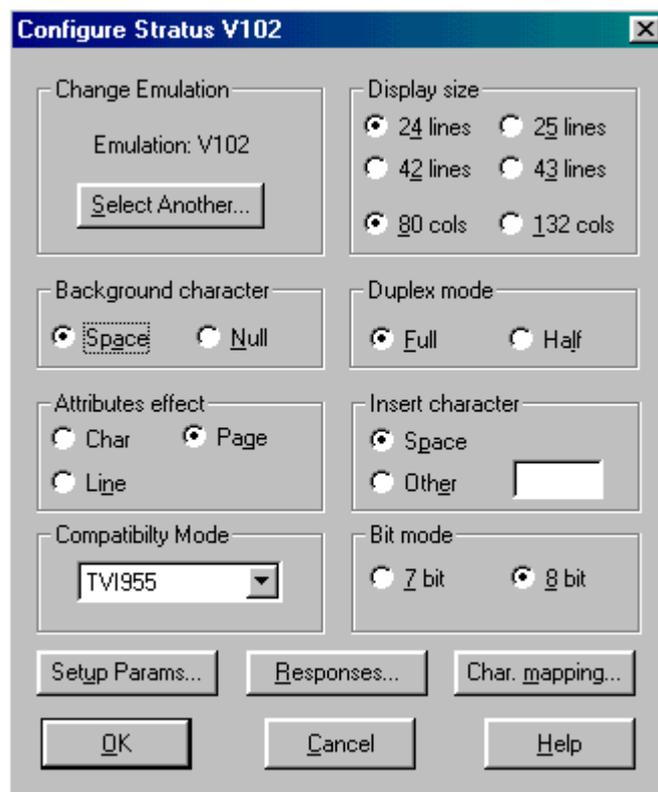


Figure 11.48: **Configure Stratus V102** tile

Background character

On a terminal reset or screen initialisation, a character referred to as the background character is used to refill the screen. Select either the **Space** character or the **Null** character.

Attributes effect

This determines whether display attributes apply to each line, or each page. Display attributes are set by the host software; they include invisible, blinking, reverse video, underline and intensity.

| | |
|-------------|---|
| Char | Assigns display attributes to the character at current cursor position. |
| Line | Assigns display attributes from the current cursor position to the end of the current line. |
| Page | Assigns display attributes from the current cursor position to the end of the current page. |

Compatibility Mode

Select either **TVI950** or **TVI955** for compatibility with either of these emulations.

Display size

This determines the screen area in columns and rows.

Duplex mode

The mode in which the terminal communicates with the host.

| | |
|-------------|--|
| Full | The terminal sends characters to the host and the host then echoes them back to the screen. In this mode, the terminal and the host can transmit simultaneously. |
|-------------|--|

Note: The VOS operating system **ONLY** supports **Full duplex mode**.

Half In half duplex mode, entered characters are displayed on the screen without being sent to the host for echo back.

Insert character

Several editing, erase, clear and scrolling functions use an insert character to clear the screen.

Space This is the default - an ASCII space.

Other The insert character can be selected from any one of the ASCII characters.

Bit mode

7-Bit The 8th bit of every byte from the host is stripped.

8-Bit No stripping occurs.

Character mapping

Refer to *Character mapping on page 195*.

Stratus V102 Setup Parameters

Click on the **Setup Params...** button to display the **Stratus V102 Setup Parameters** tile.

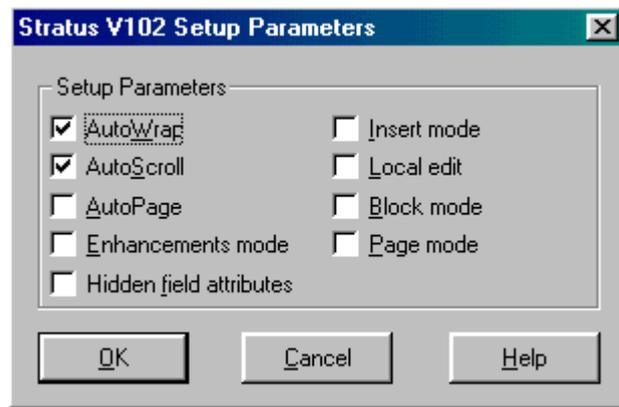


Figure 11.49: **Stratus V102 Setup Parameters** tile

AutoWrap

When selected and the cursor is currently in the last column, incoming text is written to the beginning of the next line.

When not selected, incoming characters will overwrite the last column until an EOL (end-of-line) character is received.

AutoScroll

When selected and the cursor reaches the bottom of the screen, the display page scrolls up.

When not selected, the cursor jumps back up to the top of the screen.

AutoPage

When selected and the cursor reaches the bottom of the screen, the cursor will jump to the next memory page. This flag overrides **AutoScroll**.

Enhancements mode

When selected, this option enables the sending and receiving of more control sequences than are otherwise enabled on a standard V102 terminal.

When not selected, only the basic set of V102 control sequences are sent and received.

Hidden field attributes

When selected, attributes occupy a character space. When not selected, attributes do not occupy a character space.

Insert mode

When selected, this option causes text to be inserted without overwriting existing data. As new text is entered, existing text is shifted right to the next character position.

Local edit

When selected, this option limits editing functions to the display and does not communicate them to the host system.

Block mode

When selected, no communications takes place with the host computer until the ENTER or SEND key is pressed. It does, however, respond to commands and characters received from the host.

Page mode

When selected, this allows editing functions, e.g. insert, delete etc to operate on the entire scrolling page. When not selected, limits the effects of edit functions to the current line.

Stratus V102 Responses

Click on the **Responses...** button to display the **Stratus V102 Responses** tile.



Figure 11.50: **Stratus V102 Responses** tile

Non-printable characters (e.g., linefeed) can be included in the response strings. The format is the same as with mapping a keyboard key. Refer to *Appendix A - Macros and the Macro's Assistant* on page 497.

Answerback

The terminal **answerback** is the string supplied to the host in response to an answerback enquiry from the host, by default this is blank.

Enable

When selected, the terminal sends the answerback message to the host when the host sends the ENQ character. The message field is disabled unless this is selected.

Message

The string supplied to the host as the answerback message.

Terminal ID

The **Terminal ID** is a semi-standardised string supplied to the host during negotiations.

Override

Select to override the standard response string.

Response

Enter the user defined response string. This field is greyed out unless **Override** is selected.

Stratus V103

Having selected the Stratus V103 emulation the **Configure Stratus V103** tile is displayed.

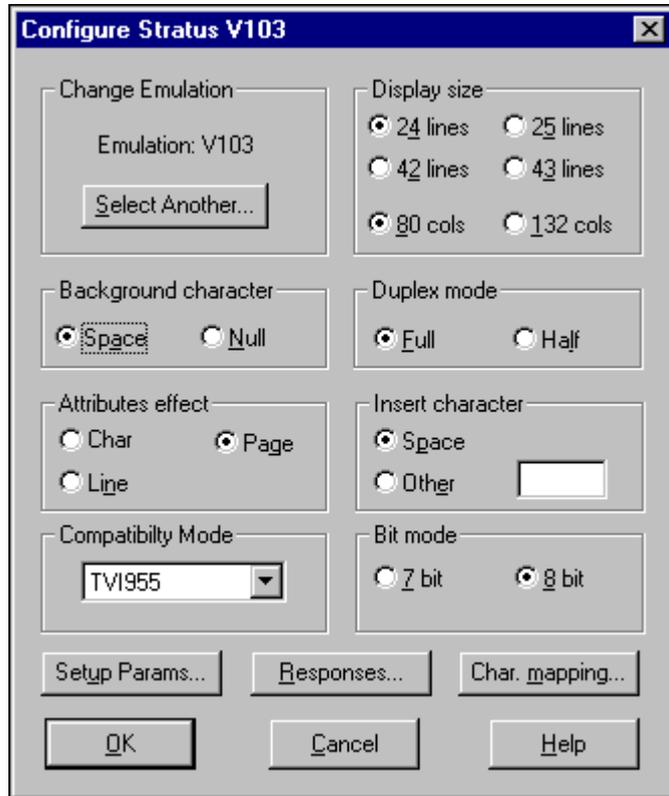


Figure 11.51: **Configure Stratus V103** tile

Background character

On a terminal reset or screen initialisation, a character referred to as a background character is used to repaint the screen.

Attributes effect

Determines whether display attributes apply to each line, or each page. Display attributes are set by the operating system or by an application; they include blank, blinking, reverse video, underline and intensity.

| | |
|--------------------|---|
| <u>Char</u> | Assigns display attributes to the character at current cursor position. |
| <u>Line</u> | Assigns display attributes from the current cursor position to the end of the current line. |
| <u>Page</u> | Assigns display attributes from the current cursor position to the end of the current page. |

Compatibility Mode

Select **TVI950** or **TVI955** for compatibility with either of these emulations.

Display size

The display size is determined by the number of lines on the screen and the number of characters on each line.

Duplex mode

The mode in which the terminal communicates with the host.

| | |
|--------------------|---|
| <u>Full</u> | The terminal sends characters to the host, and the host then echoes them back to the screen. In this mode the terminal and the host can also transmit simultaneously. |
|--------------------|---|

***Note:** The VOS operating system **ONLY** supports **Full** duplex mode.*

Half

In half duplex mode, character strings are displayed on the screen without waiting for the host to echo them back. The emulation also responds to characters sent from the host, displaying or executing them, as appropriate.

Insert character

Several editing, erase, clear and scrolling functions use an insert character to clear the screen.

Space

This is the default - an ASCII space.

Other

The insert character may be selected from any one of the ASCII characters.

Character mapping

Refer to *Character mapping on page 195*.

Stratus V103 Setup Parameters

Click on the **Setup Params...** button to display the **Stratus V103 Setup Parameters** tile.

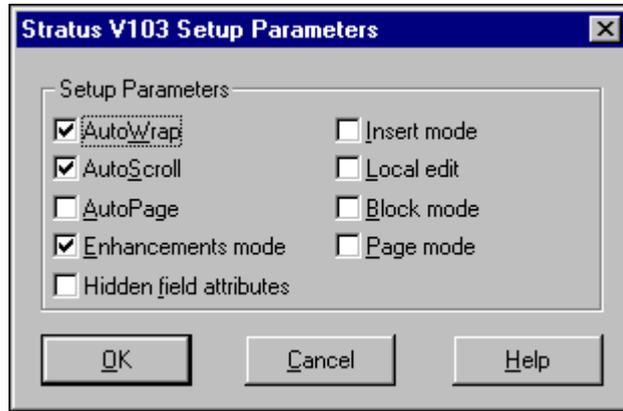


Figure 11.52: **Stratus V103 Setup Parameters** tile

AutoWrap

When selected and the cursor is in the last column, incoming text is written to the beginning of the next line.

When not selected, incoming characters will overwrite the last column until an EOL (end-of-line) character is received.

AutoScroll

When selected and the cursor reaches the bottom of the screen, the display scrolls up.

When not selected, the cursor jumps back up to the top.

AutoPage

When selected and the cursor reaches the bottom of the screen, the cursor will jump to the next memory page. This flag overrides **AutoScroll**.

Enhancements mode

When selected, this option enables the sending and receiving of more control sequences than are otherwise enabled on a standard V103 terminal.

When not selected, only the basic set of V103 control sequences are sent and received.

Hidden field attribute

When selected, the attribute occupies a character space. When not selected, the attribute does not occupy a character space.

Insert mode

When selected, this option causes text to be inserted without overwriting existing data. As new text is entered, existing text is shifted right to the next character position.

Local edit

When selected, this option limits editing functions to the display and does not communicate them to the host system.

Block mode

When selected, no communications takes place with the host computer until the ENTER or SEND key is pressed. It does, however, respond to commands and characters received from the host.

Page mode

When selected, editing functions operate on the entire scrolling page.

When not selected, the effects of editing functions are limited to the current line.

Stratus V103 Responses

Non-printable characters (for example linefeed) can be included in both the answerback and terminal ID response strings. The format is the same as with mapping a keyboard key. Refer to *Appendix A - Macros and the Macro's Assistant on page 497*.

Click on the **Responses...** button to display the **Stratus V103 Responses** tile.



Figure 11.53: **Stratus V103 Responses** tile

Answerback

The terminal **answerback** is the string supplied to the host in response to an enquiry from the host, by default this is blank.

Enable

When selected, the terminal sends the answerback message to the host when the host sends the ENQ character.

The message field is disabled unless this is selected.

Message

The string supplied to the host as the answerback message.

Terminal ID

The **Terminal ID** is a string supplied to the host during negotiations.

Override

Select to override the standard response string.

Response

Enter the user defined response string. This field is greyed out unless **Override** is selected.

Stratus V105

Having selected the Stratus V105 emulation the **Configure Stratus V105** tile is displayed.

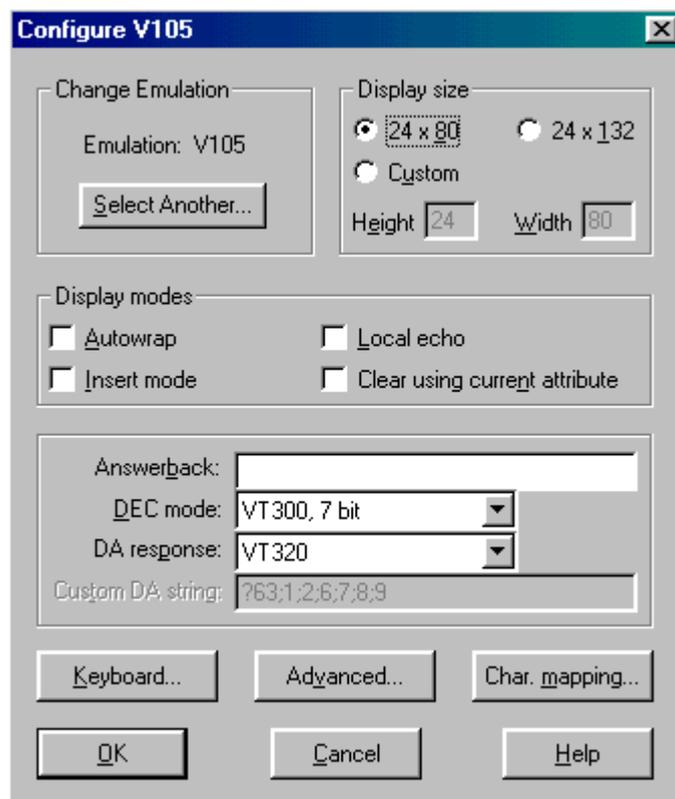


Figure 11.54: **Configure Stratus V105** tile

Display size

The Stratus V105 display terminal has two standard screen resolution modes, TTWIN 3 also supports a customised screen resolution mode.

24 x 80 and **24 x 132** The 24 (rows) x 80 (columns) and 24 x 132 are standard V105 screen resolution modes.

***Note:** Switching from 132 to 80 will truncate text in columns 81 to 132.*

Custom

This option allows the user to specify the **Height** (number of rows) and the **Width** (number of columns).

When TTWIN 3 receives a remote host generated sequence to change resolution modes, the screen is erased and the cursor moves to the home position.

Display modes

Autowrap

When selected and the cursor is currently in the last column, incoming text is written to the beginning of the next line.

When not selected, incoming characters will overwrite the last column until an EOL (end-of-line) character is received.

Insert mode

This mode determines how characters are added to the screen.

When selected, the character is inserted at the cursor, moving previously displayed characters to the right.

When not selected, new display characters replace old display characters at the current cursor position.

Local echo

If selected, as a character is typed on the keyboard it is immediately echoed to your screen.

If disabled, the entered character is sent to the remote host which in turn echoes it back. On its return the character is displayed on your screen. In this way, passwords and other sensitive information do not appear on your screen.

Clear using current attribute

Clears the screen using the current attribute.

Answerback:

The string specified here is used as the answerback message which is sent from the terminal to the host when the host sends the ENQ character.

DEC mode:

The DEC VT52 and VT100 terminals are subsets of the VT320 terminal. A single .DLL emulation file provides a set of DEC VT terminal personalities.

- **VT52 mode** is a text mode that executes DEC proprietary functions, not ANSI functions.

This mode restricts use of the keyboard to VT52 keys. All data is restricted to 7 bits.

- **VT100 mode 7-bit** executes standard ANSI functions.

This mode restricts use of the keyboard to VT100 keys. All data is restricted to 7 bits.

- **VT100 mode 8-bit** executes standard ANSI functions.

This mode is compatible with an 8-bit host data stream.

- **VT300 mode 7-bit**, (default mode) controls and executes standard ANSI functions.

This is the default mode of operation for a VT320 terminal.

- **VT300 mode 8-bit**, controls and executes standard ANSI functions.

This mode offers extensive non-graphics compatibility with the VT340 in an 8-bit communications environment with 8-bit controls.

DA response:

Device attributes response. The DA response is a sequence sent to the host following a host request for the terminal's current available services.

The DA response can advise the host of such attributes as terminal family type, 132 column support and printer port. The different emulation modes naturally support different attributes.

- **VT100** default setting: ?1;2
- **VT101** default setting: ?1;0
- **VT102** default setting: ?6
- **VT220** default setting: ?6;2;1;2;6;7;8;9
- **VT240** default setting:
?6;2;1;2;3;4;6;7;8;9
- **VT320** default setting: ?6;3;1;2;6;7;8;9
- **VT340** default setting:
?6;3;1;2;3;4;6;7;8;9;13;15;16;18;19
- **Custom** A user defined DA response can be specified through the **Custom DA string** option.

Custom DA string:

Used with the **Custom** option in **DA Response** to define a DA response string.

Character mapping

Refer to *Character mapping on page 195*.

Custom DA string:

Used with the **Custom** option in **DA Response** to define a DA response string.

Stratus V105 Keyboard Configuration

Click on the **Keyboard...** button to display the **Stratus V105 Keyboard Configuration** tile.

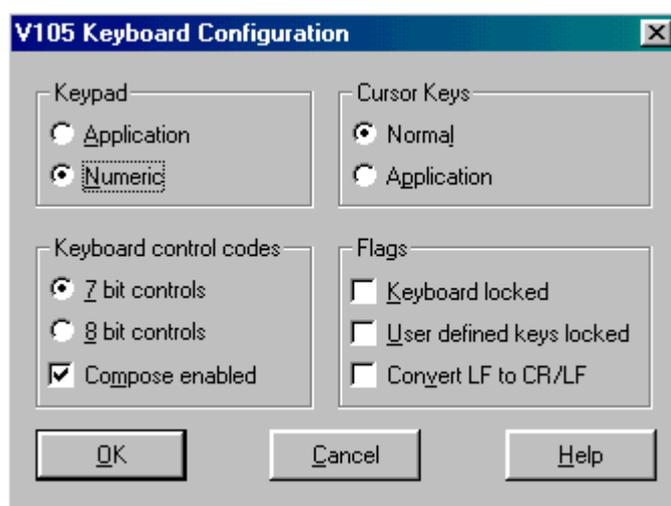


Figure 11.55: **Stratus V105 Keyboard Configuration** tile

Keypad

The numeric keypad generates either numeric characters or control functions. Selecting **A**pplication or **N**umeric keypad mode, determines the type of characters. The terminal emulation when first selected, or after a reset, will be set to Numeric keypad mode.

Application

Selects Application keypad mode. The keypad generates application control functions.

Numeric (Default) Selects Numeric keypad mode. The keypad generates characters that match the numeric, period, plus, minus, star and forward-slash keys on the main keypad.

Cursor Keys

The characters generated by the cursor keys depend on the state of the **Cursor Keys** mode.

Normal (Default) Causes the cursor keys to generate ANSI cursor control sequences.

Application Causes the cursor keys to generate application control functions.

Keyboard control codes

This option is only supported by the VT300 modes as both the VT52 and VT100 operate strictly in a 7-bit mode.

7 bit controls (Default) Causes all control codes returned to the application to be converted to their equivalent 7-bit code extensions.

8 bit controls Causes the terminal to return control codes to the application without converting them to their equivalent 7-bit code extensions.

Compose enabled The Stratus V105 lets you use more characters than appear on your keyboard, by typing a compose sequence.

A compose sequence is a series of two or three keystrokes that produce a single compose character. Pressing the COMPOSE CHARACTER key starts the compose sequence.

Flags

Keyboard locked

When the keyboard is locked, no characters can be entered at the keyboard Host.

You can unlock the keyboard either by deselecting this option or resetting the terminal.

User defined keys locked

The lock parameter determines whether the downloaded key definitions are locked or not, after you load them.

To unlock the keys you must either deselect **User defined keys locked** or perform a reset.

Convert LF to CR/LF

When selected, this causes a keyboard entry new line to transmit as both a CR and a LF.

When not selected and a keyboard entry new line is received only a CR is transmitted.

Stratus V105 Advanced Configuration

Click on the **Advanced...** button to display the **Stratus V105 Advanced Configuration** tile.

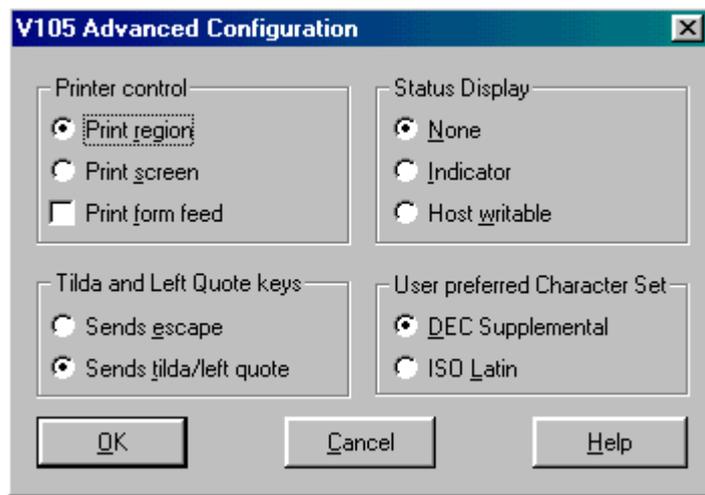


Figure 11.56: **Stratus V105 Advanced Configuration** file

Printer Control

Configures or Sets up the default **Stratus V105** print modes.

- | | |
|-------------------------------|---|
| Print <u>r</u>egion | (Default) Send just the selected region to the printer. |
| Print <u>s</u>creen | Send entire screen contents to the printer. |
| Print <u>f</u>orm feed | Send a form feed character at the end of the print job. |

Status Display

| | |
|-----------------------------|---|
| <u>N</u>one | (Default) The status line is not displayed. |
| <u>I</u>ndicator | The status display is always visible. |
| Host <u>w</u>ritable | Host applications can write messages in place of the status line. |

Tilda and Left Quote key

This option allows the user to define the TILDA/LEFT QUOTE key (i.e., ~ / ` key) to operate either as normal or as an escape key.

| | |
|---|---|
| Sends <u>e</u>scape | Redefine the TILDA/LEFT QUOTE key to send an escape key sequence. |
| Sends <u>t</u>ilda/left <u>q</u>uote | (Default) Leave the TILDA/LEFT QUOTE key as normal, i.e., left quote and with the SHIFT key, tilda. |

User preferred Character Set

Two 8-bit character sets are built into the **Stratus V105**. These are:

- **DEC Supplemental** – DEC Multinational set
- **ISO Latin.**

Both 8-bit sets include the standard ASCII character set and a supplemental set.

Tandem T653X Series

Having selected the Tandem T653X emulation the **Configure Tandem T653X** tile is displayed.

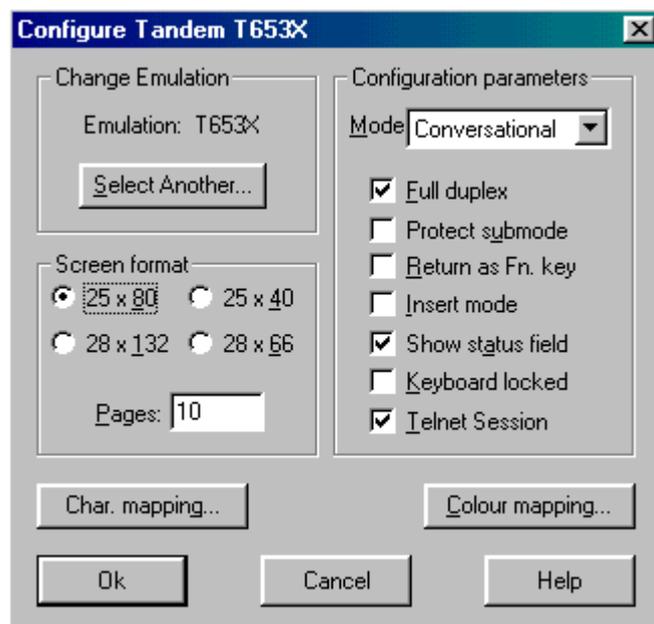


Figure 11.57: **Configure Tandem T653X** tile

Screen format

The Tandem T653X terminal has four standard screen resolution modes:

Note: Switching from 132 to 80 truncates text in columns 81 to 132.

- 25 x 40
- 25 x 80
- 28 x 132

- 26 x 66.

When TTWIN 3 receives a remote host generated sequence to change resolution modes, the screen is erased and the cursor moves to the home position.

Pages The Tandem T653X allows multiple page display.

Configuration parameters

Mode There are 2 modes:

- **Conversational.** (Default) Data is transmitted to the host one character at a time.
- **Block.** Data is transmitted to and from the host in blocks. Block mode allows the user to edit locally before sending the data to the host.

Full duplex This option is used with **Conversational** mode. When selected (full duplex), characters entered on the keyboard are **not** processed until they are echoed back by the host.

When not selected (half duplex), characters entered on the keyboard are echoed on the screen (without waiting for the host) and sent to the host.

Protect submode This option is used with **Block** mode. When selected, the Host application controls the format of the data on the screen and the type of characters that can be entered from the keyboard.

Return as Fn. key This option is used with **Block** mode and determines whether the RETURN key is treated as an additional function key.

- Insert mode** When selected, all characters entered from the keyboard are inserted by shifting the existing characters to the right.
- Show status field** When selected, the status field is displayed at the bottom of the screen.
- Keyboard locked** When selected, the keyboard is disabled.
The cursor is no longer displayed and all keys strokes (except CAPS LOCK, NUM LOCK, CTRL_SCROLL LOCK, CTRL_END, CTRL_ALT_DEL, CTRL_BACK SPACE and ALT_BACK SPACE) will be ignored. The emulation will continue to display normally while the keyboard is disabled.
- Telnet Session** Select this option if a Telnet session is required.

Character mapping

Refer to *Character mapping on page 195*.

Tandem Colour Configuration

Click on the **Colour Mapping** button to display the **T653X Colour Mapping Defaults** tile.

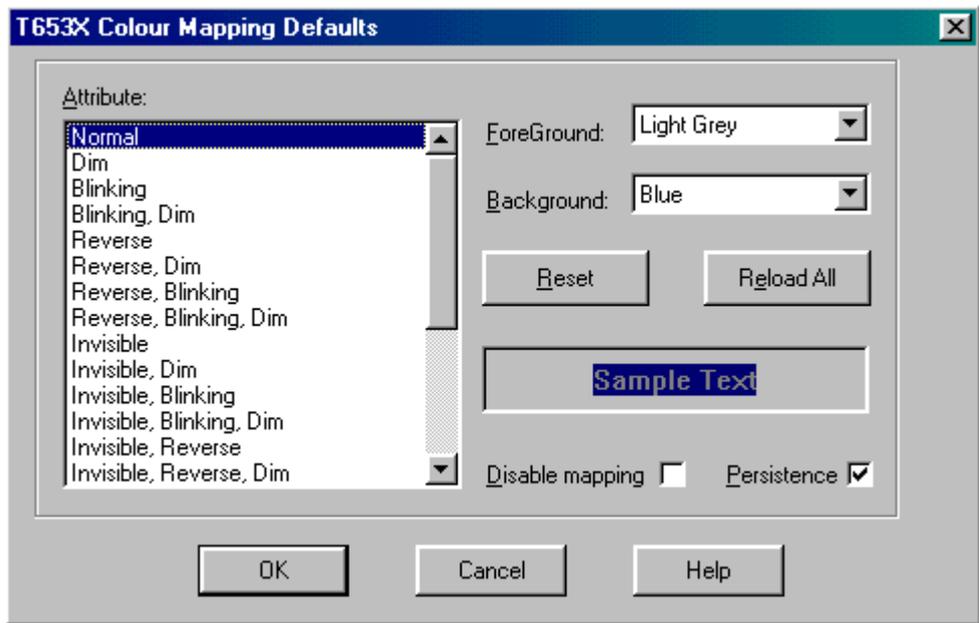


Figure 11.58: T653X Mappings Default tile

Attributes

A list of attributes that specify how characters appear on the screen. To change an attribute, scroll through the list and highlight the required attribute. To change the foreground or background colour, click on the drop down menu of the **Fore**ground or **Back**ground field and select the new colour.

The result is displayed in the **Sample Text** box.

Reset Click on the **Reset** button to re-instate the default colour mapping for the selected attribute.

Reload All Click on the **Reload All** button to reinstate the session file colour settings for all attributes.

**Disable
mapping**

If the **Disable mapping** option is checked, attributes receive only their intrinsic interpretations. For example, underscore simply controls underlining. Any colour mapping that has been set is ignored.

Persistence

If the **Persistence** option is checked, colour mappings are saved to the session file as soon as **OK** is clicked.

Televideo 955

Having selected the Televideo 955 emulation the **Configure TeleVideo 955** tile is displayed.

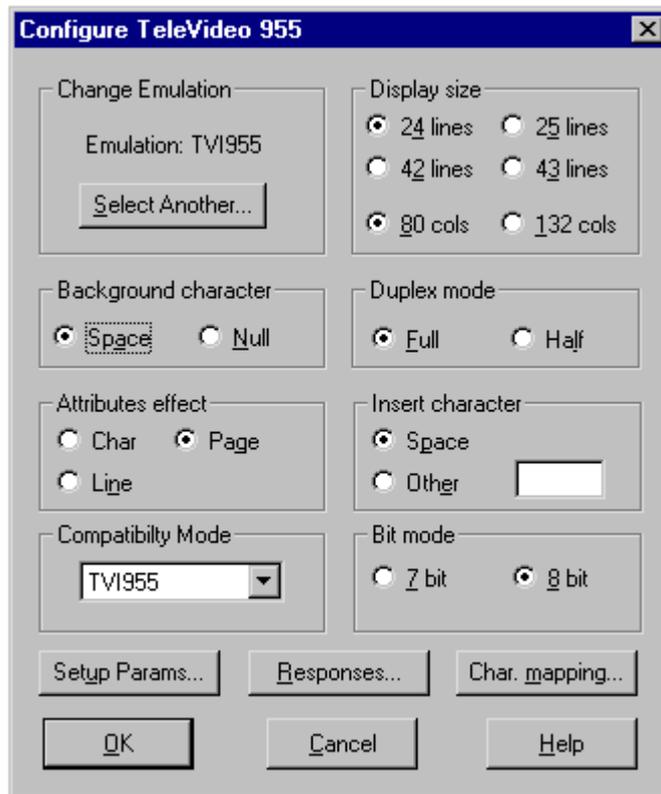


Figure 11.59: **Configure TeleVideo 955** tile

Background character

On a terminal reset or screen initialisation, a character referred to as a background character is used to repaint the screen. Select either the **Space** character or the **Null** character.

Attributes effect

This determines whether display attributes apply to each line, or each page. Display attributes are set by the host operating system or by the application; they include blank, blinking, reverse video, underline and intensity.

| | |
|-------------|---|
| Char | Assigns display attributes to the character at current cursor position. |
| Line | Assigns display attributes from the current cursor position to the end of the current line. |
| Page | Assigns display attributes from the current cursor position to the end of the current page. |

Compatibility Mode

Select either **TVI950** or **TVI955** for compatibility with either of these emulations.

Display size

This determines the screen area in columns and lines.

Duplex mode

The mode in which the terminal communicates with the host.

| | |
|-------------|--|
| Full | The terminal sends characters to the host and the host then echoes them back to the screen. In this mode, the terminal and the host can transmit simultaneously. |
|-------------|--|

Note: *The VOS operating system **ONLY** supports **Full duplex mode**.*

Half In half duplex mode, character strings are sent to the Host and displayed on the screen without waiting for the host to echo them back. The emulation also responds to characters sent from the host, displaying or executing them, as appropriate.

Insert character

Several editing, erase, clear and scrolling functions use an insert character to clear the screen.

Space This is the default - an ASCII space.

Other The insert character can be selected from any one of the ASCII characters.

Bit mode

7-Bit The 8th bit of every byte from the host is stripped.

8-Bit No stripping occurs.

Character mapping

Refer to *Character mapping on page 195*.

Televideo 955 Setup Parameters

Click on the **Setup Params...** button to display the **Televideo 955 Setup Parameters** tile.

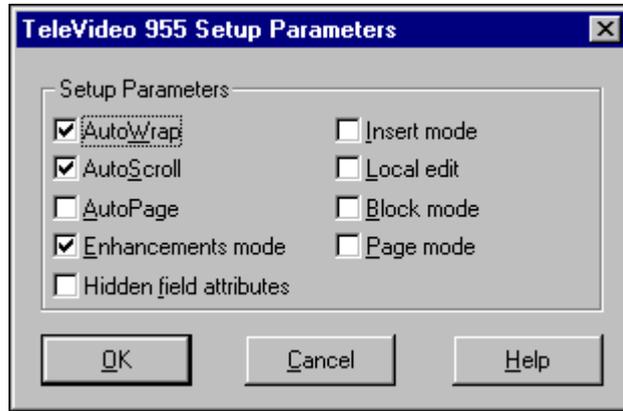


Figure 11.60: **Televideo 955 Setup Parameters** tile

AutoWrap

When selected and the cursor is in the last column, incoming text is written to the beginning of the next line.

When not selected, incoming characters will overwrite the last column until an EOL (end-of-line) character is received.

AutoScroll

When selected and the cursor reaches the bottom of the screen, the display scrolls up.

When not selected, the cursor jumps back up to the top.

AutoPage

When selected and the cursor reaches the bottom of the screen, the cursor will jump to the next memory page. This flag overrides **AutoScroll**.

**Enhancements
mode**

When selected, this option enables the sending and receiving of more control sequences than are otherwise enabled on a standard TVI955 terminal.

When not selected, only the basic set of TVI955 control sequences are sent and received.

**Hidden field
attribute**

When selected, the attribute occupies a character space. When not selected, the attribute does not occupy a character space.

Insert mode

When selected, this option causes text to be inserted without overwriting existing data. As new text is entered, existing text is shifted right to the next character position.

Local edit

When selected, this option limits editing functions to the display and does not communicate them to the host system.

Block mode

When selected, no communications takes place with the host computer until the ENTER or SEND key is pressed. It does, however, respond to commands and characters received from the host.

Page mode

When selected, this allows editing functions to operate on the entire scrolling page. When not selected, limits the effects of edit functions to the current line.

Televideo 955 Responses

Click on the **Responses...** button to display the **Televideo 955 Responses** tile.



Figure 11.61: Televideo 955 Responses tile

Non-printable characters (e.g., linefeed) can be included in the response strings. The format is the same as with mapping a keyboard key. Refer to *Appendix A - Macros and the Macro's Assistant on page 497*.

Answerback

The terminal **answerback** is the string supplied to the host in response to an enquiry from the host, by default this is blank.

Enable

When selected, the terminal sends the answerback message to the host when the host sends the ENQ character. The message field is disabled unless this is selected.

Message

The string supplied to the host as the answerback message.

Terminal ID

The **Terminal ID** is a string supplied to the host during negotiations.

Override

Select to override the standard response string.

Response

Enter the user defined response string. This field is greyed out unless **Override** is selected.

UNIX ANSI Console

Having selected the UNIX ANSI Console emulation the **Configure Ansi Terminal 386** tile is displayed.

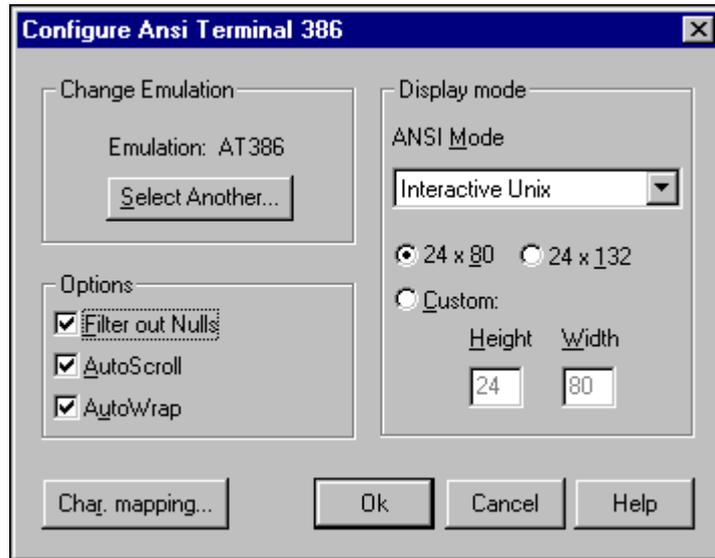


Figure 11.62: **Configure Ansi Terminal 386** tile

Options

Filter out Nulls

When selected, all received NULL characters are removed from the received data stream prior to passing it to the emulation.

AutoScroll

This affects the behaviour of the display when a linefeed is issued on the last line. When selected, the screen scrolls up a line and the cursor remains on the last line. When not selected, the screen remains unchanged and the cursor wraps around to the first column of the last line of the screen.

AutoWrap

When selected and the cursor is in the last column, incoming text is written to the beginning of the next line.

When not selected, incoming characters will overwrite the last column until an EOL (end-of-line) character is received.

Display mode

ANSI Mode

Support for several different 386 UNIX products is provided within the ANSI Terminal emulation by way of the ANSI Mode option. The supported 386 UNIX products are:

- Interactive UNIX,
- Bell Tech. UNIX,
- AT&T UNIX.

24 x 80

(Default) The ANSI Colour terminal has two standard screen resolution modes, one being 24 (rows) x 80 (columns).

24 x 132

The second standard screen resolution mode is 24 x 132.

Custom

This option allows the user to specify the **Height** and the **Width**.

***Note:** Switching from 132 to 80 will truncate text in columns 81 to 132.*

When TTWIN 3 receives a remote host generated sequence to change resolution modes, the screen is erased and the cursor moves to the home position.

Character mapping

Refer to *Character mapping on page 195*.

UNISYS (Burroughs) T27 Emulation

The T27 emulation provides a single-environment rendition of Unisys' Burroughs-originated T27 terminal.

The emulation is designed for use with Telnet and Burroughs Poll/Select protocols. Selecting any comms module other than Serial (ie. nominally Telnet) configures the emulation for raw data operation. Selecting the Serial comms module configures the emulation to send and receive data packetised for Poll/Select.

Having selected the UNISYS (Burroughs) T27 Emulation, the **Configure UNISYS T27** tile is displayed.



Figure 11.63: **Configure UNISYS (Burroughs) T27 Emulation** tile

Configure Unisys T27

Screen & Page

The T27 emulation has five standard screen resolution modes:

24 x 80 (default)

12 x 80

24 x 40

12 x 40

24 x 132

While possible, *host-initiated* resolution switching is not a normal feature of T27 operation and is not currently supported by the emulation.

Options

Keyboard buffering When enabled, key input is accepted even when the emulation is waiting for host action. Keystrokes are queued and played back at the appropriate time. When buffering is not enabled, keystrokes are discarded.

Tabs ruler When checked, this causes the separator line between the Environment Window Area and the first (*Application*) status line to display a ruler-style visual indication of tab stop settings.

App status line only Allows the sizes of the Environment Window Area and the display font to be maximized at the expense of the indications available on the second and third (Environment and System) status lines.

Line at a time Xmit With this option *on*, Transmit causes the emulation to send only the line containing the keyboard cursor. This can confer a characteristic like a simple teletype terminal.

Reveal field delimiters When checked, field delimiters are shown as graphics symbols, otherwise as they are shown as space characters.

Insert

The combo box allows the default insert mode to be specified. Insert mode is not cleared upon arrow-key or other non-printing keypresses. The mode can also be selected with the Insert key and, whilst in Insert Mode, can be toggled between Line Mode and Page Mode with Alt-Insert.

The **Addr** edit-box accepts a Poll/Select address specification. Only the first two characters are considered. Each may be in the range 20H through 7FH, with the first character the 'most significant'.

For example, the first three terminals or emulators in a particular group might be assigned addresses '18', '19' and '1:'. This control is greyed-out if the emulator is set for Telnet operation.

The **PPTA** edit-box accepts a Poll/Select address specification for the pass-through printer pseudo-device. Clearing the entry disables the **PPT** device (note, however, that **SPACE** is a valid address character). This control is greyed-out if the emulator is set for Telnet operation.

T27 Advanced Configuration

Click on the **Advanced...** button to display the **T27 Advanced Configuration** tile.

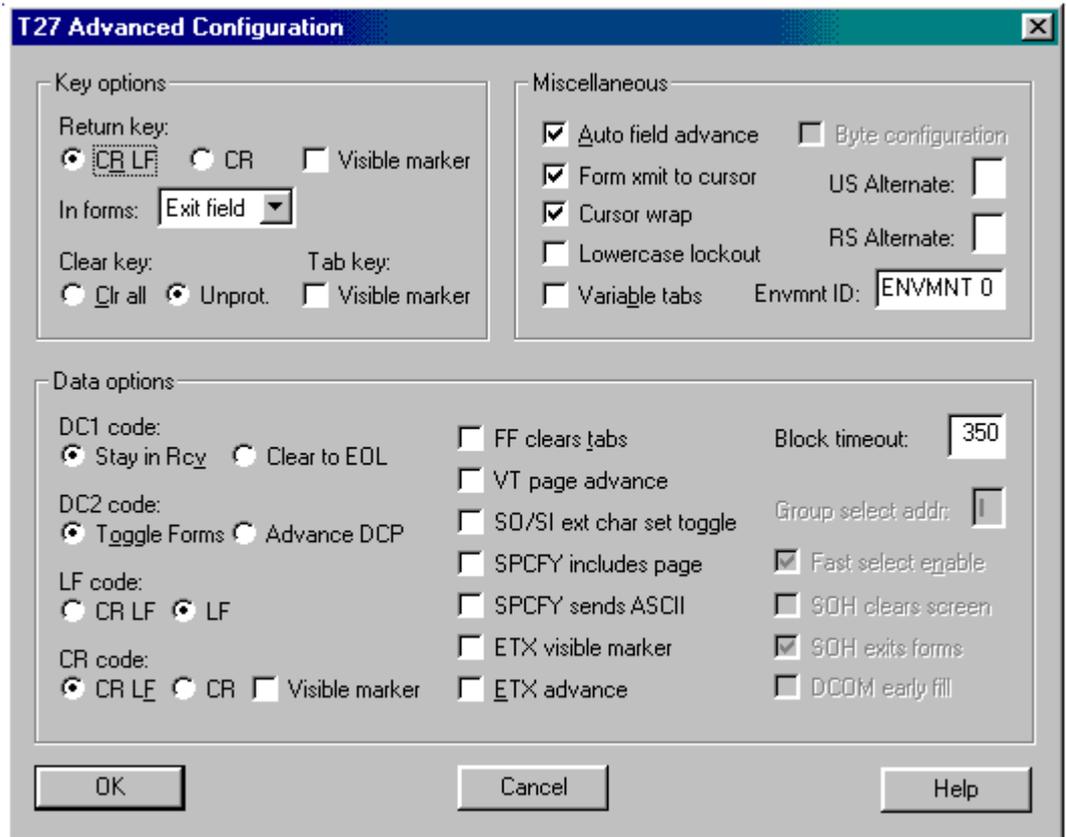


Figure 11.64: T27 Advanced Configuration tile

Key options

Return key

CR LF

The T27 interprets the RETURN key as signifying either a new-line, or

CR

Simply a carriage-return operation

Visible marker

Return doesn't normally entail additional on-screen indication, however a C_R marker can be written.

In forms

Return can be actioned either as positioning to the **Next Line**, possibly still within the current field, or as explicitly positioning beyond the current field (**Exit Field**).

Clear key

Unprot

The CLEAR key action can be set to clear either unprotected only

Clr all

OR both unprotected and protected areas.

Tab key

Visible marker

TAB moves the cursor to the next tabstop or, in forms mode, to the next field. It doesn't normally entail additional on-screen indication, however a H_T marker can be written.

Miscellaneous

- Auto field advance** If checked, the cursor jumps to the next field when ever it moves past the rightmost character in a left-justified field.
- Form xmit to cursor** If checked, and ignoring other influences, in Forms Mode, a transmit operation sends all data from the mobile home position to the cursor. Otherwise, the send is to end-of-page.
- Cursor wrap** When checked, cursor movement past one extent of the screen area takes the cursor to the opposite extent of the screen.
- Lowercase lockout** Characters entered at the keyboard are normally displayed in the case in which they are typed. This option allows them to be forced to uppercase.
- Variable tabs** Tab stops default to 1, 9, 17, etc. When this option is checked, a tab stop can be programatically set at any horizontal position within range.
- Byte configuration** This control is not currently used and is always greyed-out.
- US Alternate** This box accepts a *single key* character that can subsequently be used as a placeholder for the start delimiter of regular left-justified fields. Only the first character of the entry is significant. When Forms Mode is entered (CTRL-SHIFT-W at the keyboard), occurrences of this character are translated to the real delimiter. Field delimiters can be entered directly using *compose sequences*:

Ctrl-Shift-H ? enters US (LJ)

Ctrl-Shift-H = enters **GS (RJ)**

Ctrl-Shift-H < enters **FS (protected)**

Ctrl-Shift-H > enters **RS (field-end)**

RS Alternate

Accepts a *single key* character to be used as a field-end delimiter. When Forms Mode is entered, occurrences of this character are translated to the real delimiter. Only the first character of the entry is significant. **Ctrl-Shift-H >** enters the **RS** delimiter directly.

Envmnt ID

This field allows the Environment ID, normally displayed in reverse video at the right-hand end of the separator line, to be customised.

Data options

DC1 code

Stay in Rcv

The T27 *terminal* can interpret the DC1 code (11H) as an instruction to stay in Rcv mode at the end of a host write. It also has a **Rcv Mode Hold** option that provides this behaviour continuously. Otherwise, at end of write, the T27 switches to Local mode. The *emulation* doesn't fully implement separate Rcv, Local and Xmit modes, being always in a combined Rcv / Local mode unless transmitting. Consequently the Stay in Rcv choice has no effect other than to disable the alternate choice.

Clear to EOL

DC1 causes a clear-to-end-of-line operation.

DC2 code

Toggle Forms

The T27 can interpret the DC2 code (12H) as a command to toggle Forms Mode

Advance DCP

or to advance the DCP (host write pointer) by one position.

LF code

CR LF

The T27 can expand a received LF (0AH) to a CR,LF pair (ie. carriage-return, linefeed)

LF

No expansion is performed.

CR code

CR LE

The T27 can expand a received CR (0DH) to a CR,LF pair

CR

No expansion is performed.

Visible marker

The CR code doesn't normally produce any additional on-screen indication, however a C_R marker can be written.

FF clears tabs

Allows the FF (0CH - Clear Page) command code to be used to also clear variable tabstop settings.

VT page advance

Allows the VT (0BH - Vertical Tab) command code to be used to execute a vertical tab. Page height must be the default 32 lines and the tabstops are at rows 1, 9, 17, 25. Otherwise, VT toggles the tabstop at the current cursor column.

| | |
|----------------------------------|---|
| SO/SI ext char set toggle | When checked, the SO (0EH) and SI (0FH) codes are active as Shift-Out and Shift-In. Characters received bracketed by SI and SO command codes are translated to the corresponding high-bit-set character. |
| SPCFY includes page | The default SPCFY key (Ctrl-Shift-Numpad5) action is to send cursor column and row parameters to the host. It can optionally send column, row and page. |
| SPCFY sends ASCII | The default SPCFY sequence uses binary encoding of the cursor parameters. This checkbox allows ASCII encoding to be selected. |
| ETX visible marker | The ETX code may be written to a page to modify Transmit behaviour. The codes can optionally be displayed with a special glyph. |
| <u>ETX</u> advance | If checked, cursor position is advanced after ETX is written. |
| Block timeout | It is necessary for the emulation to be aware when a write from the host has concluded. For Telnet comms where no protocol-based indication is available, the emulation assumes that a write is complete when a timeout period elapses after the last character is received. The timeout period can be from 1 - 999 milliseconds. |

T27 Poll Select

Poll/Select

To enable **Poll/Select** use, it is only necessary to select the Serial comms module. This allows activation of the emulation's packet decoding/encoding logic and of certain configuration features. Device addresses must be specified in the **Addr** and/or **PPTA** edit-boxes.

The Environment Status Line is modified to include a **Poll Indicator**, just to the left of **COL**, which is interpreted as follows:

| | |
|---|--|
| / | <i>Poll at configured address</i> |
| - | <i>No poll activity</i> |
| \ | <i>Poll at foreign address</i> (only overwrites _) |
| > | <i>Poll at PPT address</i> |

The **System Status Line** is modified to include a **Transmit indicator** at column 6. The indicator activates when **Transmit data** has been assembled and clears once the host acknowledges successful receipt.

The setup of TTWIN 3's RS-232 serial communications parameters must match those of the host. This will usually be 7-bit data, even parity, 1 stop bit and 19,200 or 9,600 bps. Flow control will usually be Hardware RTS/CTS, possibly DTR/DSR, or occasionally, no flow control at all. It is recommended that Software flow control be disabled.

T27 Advanced Configuration Poll/Select Data

| | |
|---------------------------|---|
| Group select addr | This is the single character address that the emulation will look for when deciding whether to accept a Group Select message. Valid characters are codes 0x20 - 0x7f with the exception of 'p', 'q', 's' and 't'. Specification of an invalid character causes 0x04 to be stored. |
| Fast select enable | This option's current purpose is simply to allow or prevent the interpretation of Fast-Select sequences by the emulation. This behaviour may change. |
| SOH clears screen | This option provides for an automatic Clear Page operation to be performed for each block of application data from the host. Disabled by default but often required enabled. |
| SOH exits forms | This option provides for automatic exiting of Forms Mode on each new block of application data from the host. |
| DCOM early fill | If checked, the emulation interprets host data and commands as they are received, without waiting for block validation. It should normally be left unchecked. This can be particularly important for successful remote operation and also for PPT. |

The **Poll/Select** protocol implementation is sensitive to actions that increase TTWIN 3's processing overhead or that cause the processing of communication characters to be deferred. Such actions include normal menu and dialog operations and these should be avoided during **Receive** and **Transmit**.

T27 PPT (Printer Pass-through)

PPT is only available in Poll/Select mode

To enable the PPT device, it is necessary to specify a valid device address in the **PPTA** edit-box. Related configuration options are available in TTWIN 3's Printer Configuration tile (**Configure | Printer**).

Print in raw data mode

This will normally be checked for T27 PPT operation. No end-of-line translations are applied and host command sequences in the data are preserved, allowing direct host control of printer functions and features. *Strings* settings are still applied.

Strings

The Strings dialog allows start-of-job and end-of-job printer command sequences to be specified. A common use is to place an 80-column printer into compressed print mode for the duration of a 132-column print job. The end-of-job string typically also includes the printer command for a form-feed operation.

Print Packet Period

To correctly apply **Strings** settings, the emulation must determine when end-of-print-job has occurred. This can only be done with a timeout mechanism and the timeout period is entered here.

If no **Strings** are set and output is to a real printer (rather than to file), a recommended minimum is 2 seconds; this avoids unnecessary OS printer device opens and closes. If the *open* operation is found to cause the printer to reset, it may be necessary to choose a timeout as if **Strings** were set (ie. at least 8 - 10 seconds).

***Note:** Final data isn't flushed until timeout expiry (when the printer is closed).*

When the PPT device is used, the **System Status Line** displays an indication of the number of characters written to T*TWIN 3's internal print buffer. As print data can include compression sequences, the final count can exceed the source size.

Wang 2110

Having selected the Wang 2110 emulation the **Configure WANG 2110** tile is displayed.

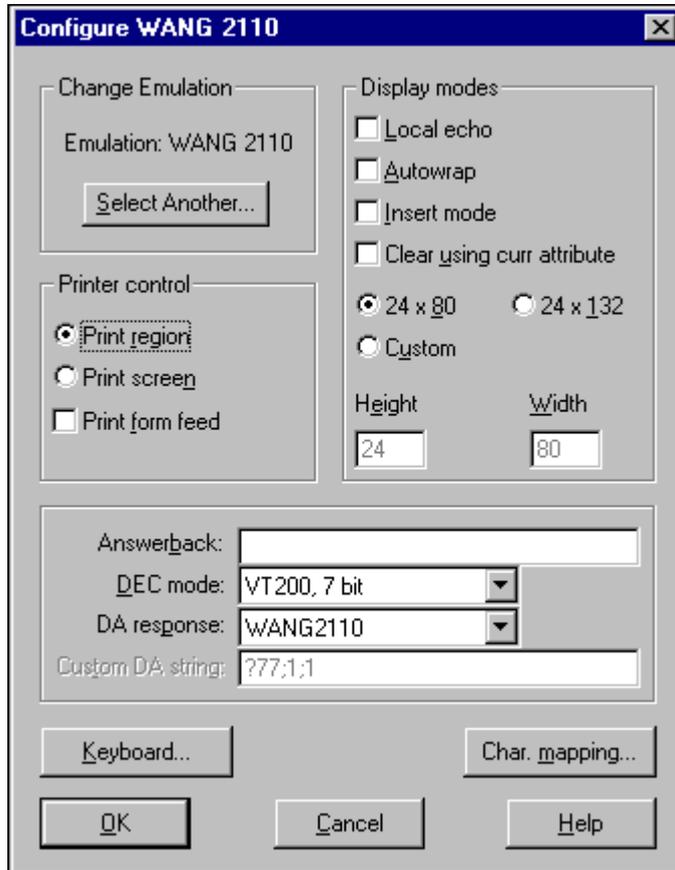


Figure 11.65: **Configure WANG 2110** tile

Printer control

Set the default WANG2110 print mode.

| | |
|-------------------------------|---|
| Print <u>r</u>egion | (Default) Send just the selected region to the printer. |
| Print <u>s</u>creen | Send the entire screen contents to the printer. |
| Print <u>f</u>orm feed | Send a form feed character at the end of the print job. |

Display modes

The allows you to set the attributes which determine the appearance of text within the TTWIN 3 window.

| | |
|--------------------------|---|
| <u>L</u>ocal Echo | <p>When selected, as a character is typed on the keyboard it is immediately echoed to your screen.</p> <p>When not selected, the entered character is sent to the remote host which in turn echoes it back. On its return the character is displayed on your screen. In this way, passwords and other sensitive information does not appear on your screen.</p> |
| <u>A</u>utowrap | <p>When selected and the cursor is in the last column, incoming text is written to the beginning of the next line.</p> <p>When not selected, incoming characters will overwrite the last column until an EOL (end-of-line) character is received.</p> |

Insert Mode

This option determines how characters are added to the screen.

When **Insert Mode** is selected, the character is inserted at the cursor, moving previously displayed characters to the right.

When not selected, new display characters replace old display characters at the current cursor position.

Clear using curr attribute

Clear the screen using the current attribute.

24 x 80

(Default) WANG2110 has two standard screen resolution modes, one being 24(rows) x 80(columns).

24 x 132

The second standard screen resolution mode is 24 x 132.

Custom

This option allows the user to specify the **Height** (number of rows) and the **Width** (number of columns).

***Note:** Switching from 132 to 80 truncates text in columns 81 to 132.*

When TTWIN 3 receives a remote host generated sequence to change resolution modes, the screen is erased and the cursor moves to the home position.

Answerback:

The string specified here is used as the answerback message which is sent from the terminal to the host when the host sends the ENQ character.

DEC mode:

The Wang 2210 emulation supports four operating modes. The DEC VT52 and VT100 terminals are subsets of the VT220 terminal. Turbosoft has been able to harness this by providing within a single .DLL emulation file a set of DEC VT terminal personalities.

- **VT52 mode** is a text mode that executes DEC proprietary functions, not ANSI functions.

This mode restricts use of the keyboard to VT52 keys. All data is restricted to 7 bits.

- **VT100 mode 7-bit** executes standard ANSI functions.

This mode restricts use of the keyboard to VT100 keys. All data is restricted to 7 bits.

- **VT100 mode 8-bit** executes standard ANSI functions.

This mode is compatible with an 8-bit host data stream.

- **VT200 mode 7-bit**, executes standard ANSI functions.

This is the default mode of operation for a Wang 2110 terminal. It offers extensive non-graphics compatibility with the VT240 in an 8-bit communications environment with 7-bit controls.

- **VT200 mode 8-bit**, controls and executes standard ANSI functions.

This mode offers extensive non-graphics compatibility with the VT240 in an 8-bit communications environment with 8-bit controls.

DA response:

Device attributes response. The DA response is a sequence sent to the host following a host request for the terminal's current available services.

The DA Response can advise the host of such attributes as terminal family type, 132 column support and printer port. The different emulation modes naturally support different attributes.

- **VT100** default setting: ?1;2
- **VT101** default setting: ?1;0
- **VT102** default setting: ?6
- **VT220** default setting:
?62;1;2;6;7;8;9
- **VT240** default setting:
?62;1;2;3;4;6;7;8;9
- **WANG2110** default setting:
?62;1;2;6;7;8;9
- **WANG2110A** default setting: ?77;2;1
- **Custom** A user defined DA response can be specified through the **Custom DA string** option.

Custom DA string:

Used with the **Custom** option in **DA response** to define a DA response string.

Character mapping

Refer to *Character mapping on page 195*.

Wang 2110 Keyboard Configuration

Click on the **Keyboard...** button to display the **WANG 2110 Keyboard Configuration** tile.



Figure 11.66: **WANG 2110 Keyboard Configuration** tile

Keypad

The numeric keypad generates either numeric characters or control functions. Selecting **A**pplication or **N**umeric keypad mode, determines the type of characters. The terminal emulation when first selected, or after a reset, will be set to numeric keypad mode.

Application

Selects application keypad mode. Keypad generates application control functions.

Numeric (Default) Selects numeric keypad mode. Keypad generates characters that match the numeric, period, plus, minus, star and forward-slash keys on the main keypad.

Cursor Keys

The characters generated by the cursor keys depend on the state of the Cursor Keys mode.

Normal (Default) Causes the cursor keys to generate ANSI cursor control sequences.

Application Causes the cursor keys to generate application control functions.

Keyboard control codes

This option is only supported by the VT200 modes as both the VT52 mode and VT100 mode operate strictly in a 7-bit mode.

7 bit controls (Default) Causes all control codes returned to the application to be converted to their equivalent 7-bit code extensions.

8 bit controls Causes the terminal to return control codes to the application without converting them to their equivalent 7-bit code extensions.

Tilda & Left Quote key

This option allows the user to define the TILDA/LEFT QUOTE key (i.e., ~/ ` key) to operate either as normal or as an escape key.

Sends escape Redefines the TILDA/LEFT QUOTE key to send an escape key sequence.

**Sends tilda/left
quote**

(Default) Leaves the TILDA/LEFT QUOTE key as normal, i.e., left quote and with the SHIFT key, tilda.

Flags

Keyboard locked

When the keyboard is locked, no codes can be transmitted from the keyboard to the host. You can unlock the keyboard either by deselecting this option or resetting the terminal.

**User defined keys
locked**

The lock parameter determines whether the down-loaded key definitions are locked or not, after loading. Once the keys are locked, to unlock you must either deselect the **User defined keys locked** option or a reset is required.

**Convert LF to
CR/LF**

When selected, causes a received RETURN to transmit as both a CR and a LF.

When not selected and a RETURN is received only a CR is transmitted.

Wyse Series

Having selected the Wyse Series emulation the **Configure Wyse Emulation** tile is displayed.

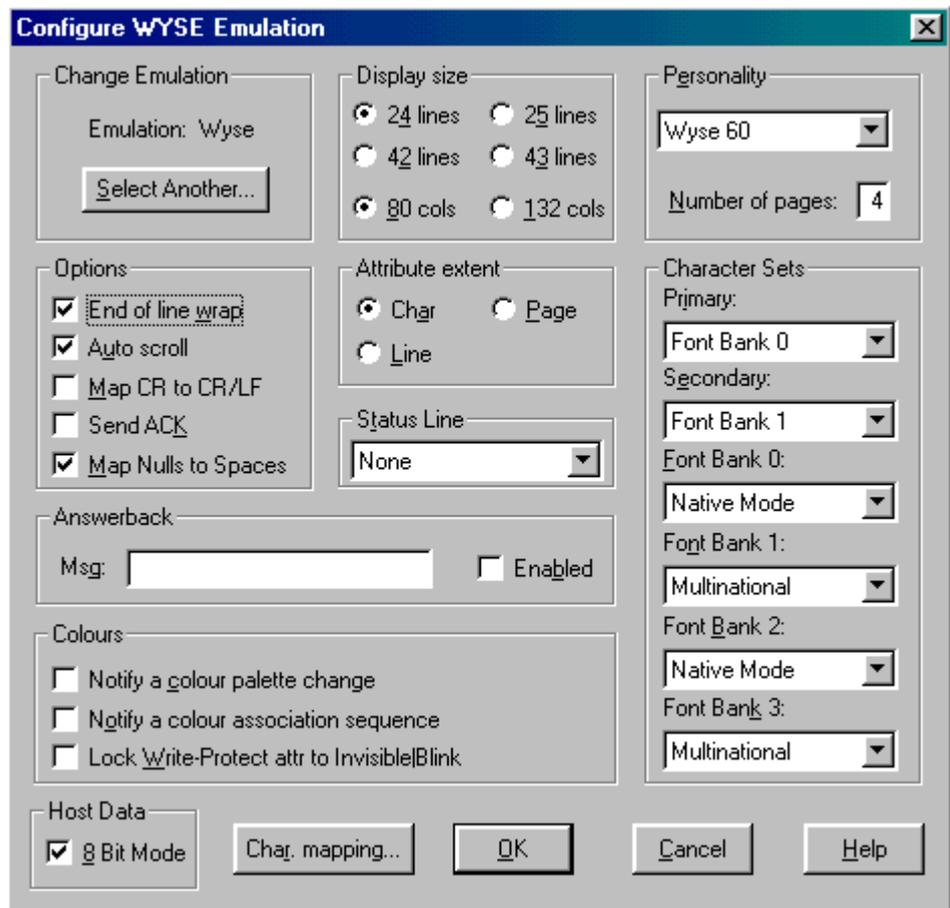


Figure 11.67: **Configure Wyse Emulation** tile

Options

End of line wrap

This affects the behaviour of the terminal when a character is inserted in the last column of the screen. When selected, the cursor wraps around to the first column of the next line. When not selected, the cursor remains in the last column position on the same line and all following characters overwrite into the same position.

Auto scroll

This affects the behaviour of the terminal when a linefeed is issued on the last line. When selected, the screen scrolls 1 line and the cursor remains on the last line.

When not selected, the screen remains unchanged but the cursor wraps around to the first column of the screen.

Map CR to CR/LF

This option determines the effect of received carriage return (CR) codes.

When selected, all received CR codes move the cursor to the first column position on the next line i.e., it is interpreted as a CR followed by a line feed (LF).

When not selected, all received CR codes simply move the cursor to the first column of the current line.

Send ACK

When selected the terminal will send an ACK character on receipt of an ENQ character from the host.

When not selected the terminal will ignore ENQ characters.

***Note:** You can configure this for the Wyse 60 personality, the Wyse 50+, like the real terminal, forces SEND ACK to be selected at all times.*

Map Nulls to Spaces When selected NULLs are converted to spaces.

Display size

The display size is determined by the number of lines on the screen and the number of characters on each line. Select the required number of lines and columns.

***Note:** Switching from 132 to 80 will truncate text in columns 81 to 132.*

Attribute extent

This determines the extent effected by changing the current display attribute.

Char

All characters after the current cursor position will have the new attribute.

Line

The existing line will inherit the new attribute.

Page

The entire page will inherit the new attribute.

Status Line

Across the bottom of the TTWIN 3 window will be displayed various status details. There are three choices:

- **Standard**
- **Extended**
- **None** - Hides the status line.

Personality

The Wyse module supports various modes of Wyse emulations.

- | | |
|--------------------------------|--|
| Wyse 50+ | Select to operate in Wyse 50 mode |
| Wyse 60 | Select to operate in Wyse 60 mode |
| Wyse 350 | Select to operate in Wyse 350 mode (colour enhanced). |
| <u>Number of pages:</u> | The Wyse terminal offers the ability to store multiple pages of information. The number of pages you require can be given here. As each page will use part of your systems memory, set this to 1 (one) unless really required. |

Character Sets

The primary/secondary sets and font banks of the Wyse series emulation module work in a pyramidal fashion. Any of the available character sets can be selected into font banks 0 to 3, and any of these font banks can then be selected into the primary or secondary set.

When connected, the host application can choose either the primary or secondary set, thus utilising the character set for the selected font bank. This is used in the 7bit/G0/Left Page with the 8bit/G1/Right Page assigned the character set from the next font bank.

For example, let us assume that we have selected the Multinational set in Font Bank 0, Graphics 1 set in Font Bank 1 and Native Mode set in Font Bank 2, and then selected Font Bank 0 as the Primary set and Font Bank 1 as the Secondary set. If the host application were to choose the Secondary set, the Graphics 1 Character set would be

used with the Native Mode Character set used for 8 bit characters, should that option be enabled.

Answerback

Enabled

Transmit the string defined within the **Answerback Msg:** field when the ENQ character is received from the remote host.

Msg

The string specified here is used as the answerback message which is sent from the terminal to the host when the host sends the ENQ character.

Colours

To implement the large array of colours associated with a Wyse 350 terminal, this emulation takes advantage of the Override Colour feature in the TTWIN 3's **Colour configuration** tile. This mimics the use of attributes to associate and display colours in a Wyse 350 terminal. To aid in the set-up of the colour associations, three checkboxes are available:

Notify a colour palette change

Allows an administrator to know what palette, if any, is been asked for by the host application. The palette can be set-up as a colour scheme in the Colour configuration tile. The user can also be notified when to change the colour scheme for an application when colours are important to its usage.

Notify a colour association sequence

Applications sometimes add their own flavours to the standard Wyse 350 colour palettes. This option allows the administrator to change the colour schemes accordingly.

Lock Write-Protect attr to Invisible|Blink TTWIN 3 does not have a **Write-Protect** as a standard overridable attribute. This option maps this attribute to a rare attribute, **Invisible** and **Blink**, to enable a colour to be associated with it. Note that when this option is selected, any application request for a change of Write-Protect attribute will be ignored.

Host data

8 Bit Mode This option allows the display of 8 bit characters (i.e. enables G1/Right Page space).

Character mapping

Refer to *Character mapping on page 195*.

Chapter 12

Colours

The **Colours...** option on the **C**onfigure menu allows you to select the colour and appearance of your normal text, attribute combinations, and all text styles, such as bold, underline and reverse.

When you select **Colours...** from the **Configure** menu the **Colour configuration** tile appears, see *Figure 12.1*.

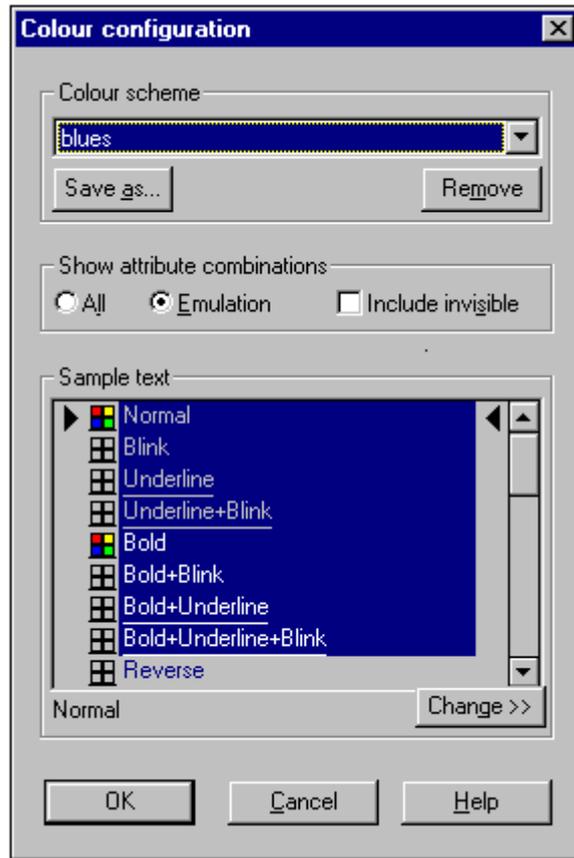


Figure 12.1: **Colour configuration** - selection tile

The **Colour configuration** tile allows you to choose your preferred colour scheme and then to scroll through the **Sample text** list to view the appearance of the chosen colour scheme.

Colour scheme

The available, predefined, visual attribute colour mappings are displayed by clicking on the drop down menu. All listed colour schemes are stored in your TTWIN . CLR file, allowing several predefined sessions to use the same colour scheme.

Click the **Save as...** button to save a new colour scheme or make a backup copy of an existing scheme.

A new colour scheme is created using the **Change>>** button. Refer to the section *Creating and Changing a Colour Scheme on page 384*.

Click the **Remove** button to remove a listed colour scheme that is no longer required.

Note: *You can not retrieve the colour scheme once it has been removed!*

The **Remove** option is disabled when the **custom** colour scheme is selected.

Show attribute combinations

This portion of the configuration tile enables you to tailor those attribute combinations that will be shown in the **Sample text** box. This allows for the fact that some emulations only support a subset of the available attributes. Also you may not want to show attribute combinations that have invisible as one of the attributes.

All

Clicking the mouse button on **All** enables all combinations of attributes to be selected in the **Sample text** box.

Emulation

Clicking on the **Emulation** button makes only those attributes which are used by the current emulation available for mapping.

***Note:** If you save this colour scheme, it may not be very useful for another emulation.*

For example, VT220 does not support Dim while Wyse60 does. Hence with the **Emulation** option, a colour scheme created with VT220 as the current emulation will not include any user defined Dim attribute colour mappings if later used with the Wyse60 emulation.

Include invisible

Clicking the mouse button on the **Include invisible** button will show or hide any attribute combinations that have invisible as one of the attributes.

Sample text

The **Sample text** box contents allows you to see what the selected colour scheme attributes look like. Click on an attribute you wish to edit. The **Attribute** combination that is currently being modified is marked by two arrow heads at the left and right sides.

Creating and Changing a Colour Scheme

To create a new scheme, click on the drop down menu on the **Colour scheme** field. Then select either an existing colour scheme to modify or simply choose the **(custom)** colour scheme to start afresh.

To change an existing colour scheme, click on the drop down menu on the **Colour scheme** field. Then select the colour scheme you wish to modify.

Having selected the colour scheme, click on the required attribute combination in the **Sample text** box. Arrows will appear on the left and right of the currently selected attribute combination.

To change the selected attribute combination, click on the **Change>>** button. This will expand the **Colour configuration** tile to include the attributes and colour palette, (see *Figure 12.2*).

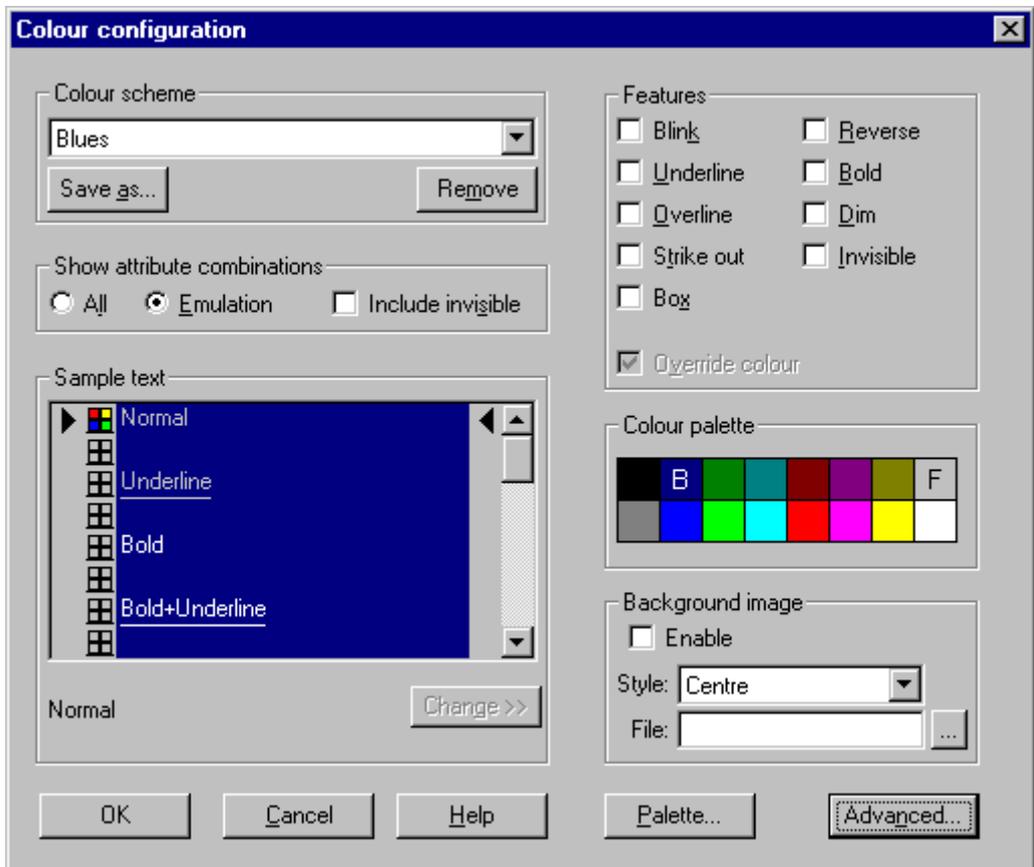


Figure 12.2: **Colour configuration** (modification screen)

From here you can assign your preferred colour mappings to the available attributes as well as the various features for underline, overline and/or strike through features.

Features

The **Features** box allows any aspect of the attribute combination to be added or removed.

Clicking the mouse on the checkbox next to the features will include or exclude this feature from the current selected attribute combination. The features are:

- **Blink**
- **Underline**
- **Overline**
- **Strike Through**
- **Box**
- **Reverse**
- **Bold**
- **Dim**
- **Invisible**

Oyerride colour

The **Oyerride colour** option determines whether the colours used when mapping the attribute combinations are those used by the normal attribute, or are an independent set of colours.

If selected, the colours are independent. Any change to the colour set used by the normal attribute will have no effect on this attribute combination and visa versa.

When colours are overridden, the four square box to the left of the attribute combination name is coloured, otherwise it is grey.

Note: **Oyerride colour** must be selected before you select the new colour from the **Colour palette**.

Colour palette

The **Colour palette** represents those colours that are available for use in mapping attribute combinations. The actual number of colours in the palette display is fixed at 16.

The **foreground** colour of the attribute being changed, may be selected from the palette by clicking the **left** mouse button on the colour required. The letter **F** marks the selected colour as the foreground colour.

Similarly, the **background** colour may be changed by clicking the **right** mouse button on the colour required. The letter **B** marks the colour as being as the background colour.

Remember, if you want to override the colours used by the normal attribute you must select **Override colour** before changing the foreground or background colour.

(Changing the foreground or background colours will change the name of the **colour scheme** to custom. If you want to change an existing colour scheme you must specify the name of the colour scheme when you save your changes.)

Background Image

TTWIN 3 can display a bitmap graphics file (bmp) as the background of each session. The **Style** setting allows the bitmap to appear in the following ways:

- | | |
|----------------|--|
| Centre | Will display the bitmap centred in the TTWIN 3 window, no resizing is done to the image. |
| Tile | Will fill the background with as many copies of the bitmap as is required. |
| Stretch | Will resize the bitmap so that it fills the entire background area. |

The **File** option contains the full path and filename of the bitmap to be used and the ... button allows you to browse for the required bitmap.

Palette Configuration

Clicking on the **Palette...** button activates the **Configure palette** tile, see *Figure 12.3*.

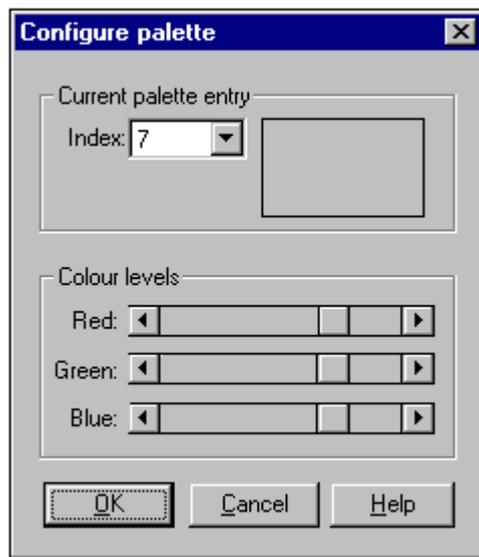


Figure 12.3: **Configure palette** tile

The colours that make up the palette may be changed through this tile.

The colours in the palette are organised into groups of sixteen, shown as two banks of eight. On the smaller palettes, the banks are displayed one per row, the upper bank being shown first, the lower bank next. On larger palettes (over 64 colours) the banks are displayed two to a row with the upper bank first and the lower next.

Current palette entry

A preview of the currently selected palette entry is given beside the **Index:** entry box.

Index:

By default, the index number in the **Index:** field is that of the foreground colour.

Each colour in the colour palette is given an index number. Starting with the top left hand colour as 0 then reading left to right the numbers increase by 1. For example, in a 16 colour palette, the top row is 0 to 7 and the second row is 8 to 15.

To change to a different colour in the **Colour palette**, click on the drop down menu on the **Index:** field.

Colour levels

Having selected the **Current palette entry**, you can vary the colour of that entry by varying the **Colour levels**.

By moving the sliders for **Red**, **Green** and **Blue**, the saturation of these colour components in the palette colour is changed. Moving the sliders to the right increases the saturation.

Red:, Green:, Blue: The percentage of red, green and blue saturation (respectively) in the new user configured colour.

The preview window next to the **Index:** field shows the new colour.

When the colour is as required, click on the **OK** button. This will move the new colour into the **Colour palette**, replacing the previous colour. All attributes that use this colour are changed

Advanced Colour Configuration

You can set preferences for the way the screen features are shown, the way the bold and dim attributes are determined and also which box style to use.

Clicking on the **Advanced...** button on the **Colour configuration** tile activates the **Advanced colour configuration** tile, see *Figure 12.4*.

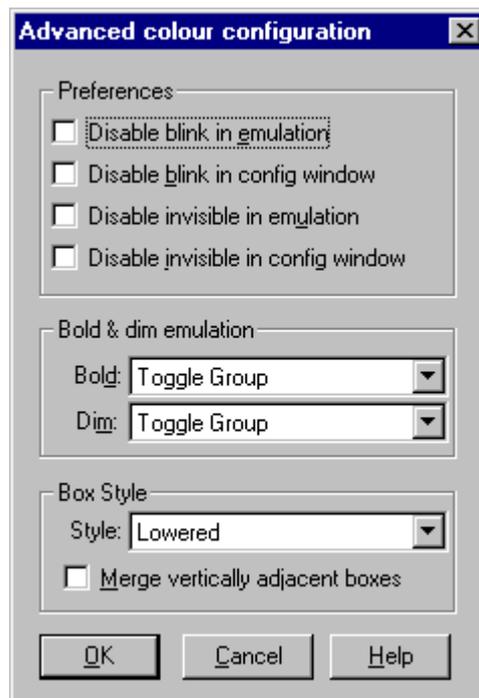


Figure 12.4: **Advanced colour configuration** tile

Preferences

Disable blink in emulation

This enables or disables blinking in an emulation. If selected, text in an emulation that has the blink attribute will not blink.

**Disable blink in
config window**

This enables or disables blinking in the config window. If selected, text in the **Colour configuration** tile that has the blink attribute will not blink.

**Disable Invisible in
emulation**

This enables or disables invisibility in an emulation. If selected, text in an emulation that has the invisible attribute will remain visible.

**Disable invisible in
config window**

This enables or disables invisibility in the config window. If selected, text in the **Colour configuration** tile that has the invisible attribute will remain visible.

Bold & dim emulation

The **Bold** and **Dim** attributes are generated from the normal colour by means of an algorithm. The available methods being:

- **Next colour.** Select the colour with an index number one higher than the colour of the text that is bold. If the colour is the last in the palette, use the first in the palette.
- **Previous colour.** Select the colour with an index number one lower than the colour of the text that is bold. If the colour is the first in the palette, use the last colour in the palette.
- **Next group.** Select the colour in the same position as that of the bold text, but in the next group. If on the last group, don't change.
- **Previous group.** Select the colour in the same position as that of the bold text, but in the previous group. If on the first group, don't change.
- **Toggle group.** Select the colour in the same position as that of the bold text, but in either the lower or upper bank depending on the bank the colour is in.

Bold: Click on the drop down menu on the **Bold** field, to select the method by which the **Bold** is determined.

Dim: The **Dim** attribute is built up in a similar way to the **Bold** attribute. Click on the drop down menu on the **Dim** field and select from the list of algorithms.

Box Style

The box style will apply to any attribute that has the box feature enabled.

The available styles are:

- **Lines.** This will put a single pixel box around each character whose attribute has the box feature enabled.

- **Raised.** This will put a raised box around each character whose attribute has the box feature enabled.
- **Lowered.** This will put a lowered box around each character whose attribute has the box feature enabled.
- **Raise (shallow).** This will put a shallow raised box around each character whose attribute has the box feature enabled.
- **Lowered (shallow).** This will put a shallow lowered box around each character whose attribute has the box feature enabled.
- **Merge vertically adjacent boxes.** If checked, then any groups of vertically adjacent rows will appear as a single box, when unchecked each row of characters will be boxed.

Note: Horizontally adjacent characters will not be separated by a vertical line.

Saving a Colour Scheme

After creating a new colour scheme or editing an existing colour scheme, click on the **Save As...** button on the **Colour configuration** tile. The **Save Colour Scheme** tile will appear, see *Figure 12.5*.

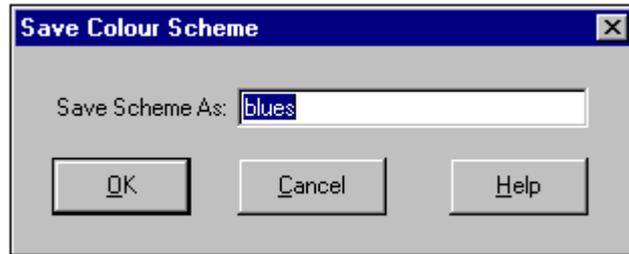


Figure 12.5: **Save Colour Scheme** tile

Enter the name for the colour scheme in the **Save Scheme As** field on the **Save Colour Scheme** tile.

Chapter 13 | Keyboard

TTWIN 3 allows you to have as many different keyboard configurations as you require. You can have a different keyboard configuration for each application and/or emulation.

To assist you in the configuration of your keyboard, a standard keyboard mapping file is automatically installed with each emulation. If you wish, you can customise this file or design your own. There are also alternative keyboard mapping files available on request from Turbosoft. (*Refer to page 1 of this manual for contact details*).

With TTWIN 3 you have the ability to program just about any key to match an emulation key, to send a string or macro sequence, or to launch a TTWIN 3 script.

Global Mappings versus Emulation Mappings

TTWIN 3 provides both global and emulation key mappings. Because global mappings are saved in the .TWC file, you can use global mappings to enforce a certain key mapping for all the emulations that are also held in that .TWC file.

Beneath the global level there is an emulation level where mappings for individual emulations can be defined. The emulation mappings are saved in a `.KEY` file, the key definition file, which forms part of the emulation environment.

A global mapping always take precedence over an emulation mapping i.e., global mappings override whatever that key is mapped to do in an emulation mapping.

If you only ever want to communicate with one host application using one emulation then global mappings or emulation mappings will achieve this. However, if you want to communicate with different applications, perhaps on different hosts, you may wish to map some keys globally and some keys to the emulations.

Or you may want to communicate with one host and with one emulation, but the host has two applications that require different mappings for one or more keys. The majority of keys could then be held as global mappings, with the remaining as emulation mappings.

***Note:** As global key mappings are saved in the `.TWC` file or session file, you will need to configure the keyboard for each session file that you use.*

Keyboard Mapping

In keyboard mapping it is important to distinguish between *physical keys* and *emulation keys*. The *physical keys* are the keys on the physical keyboard attached to your PC. *Emulation keys* are the keys found on the terminal being emulated. This may, for example, include the GOLD PF1 key on a VT220 terminal.

There are two approaches to mapping the keyboard.

- **Mapping an emulation key.** When mapping an emulation key it is only possible to map a physical key to the emulation key. However, this can prove to be far easier than trying to work through physical PC key mappings, although clearly it is not possible to create global mappings this way.

OR

- **Mapping a physical key.** You can map either a string or an emulation key to a physical key. Both global and emulation mappings are possible this way. Global mappings take precedence over emulation mappings.

While global mappings are typically used for string assignments they may also be used to run macros, initiate scripts, or to map escape sequences to the keys.

Configuring the Keyboard

When you select the **Keyboard...** option from the **Configure** menu the **Configure Keyboard** tile is displayed. The physical keyboard is always shown in the top of the tile and the emulation keyboard is always shown in the bottom of the tile.

The standard mappings are automatically set for the emulation that you have chosen. If you require an alternative keyboard mapping, please contact Turbosoft with your request. (*Refer to page 1 of this manual for contact details*).

There are two ways to display the emulation and physical keyboards:

- as a graphical representation of the keyboard, see *Figure 13.1 (top)*.

OR

- as a list of keys, see *Figure 13.1 (bottom)*.

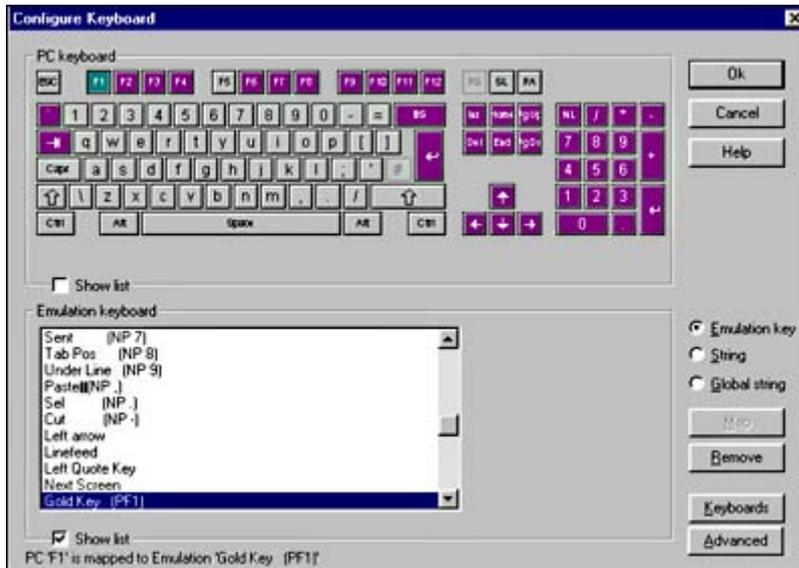


Figure 13.1: **Configure Keyboard** tile

Select (or deselect) **Show List** to display a list of the keys on the keyboard (or to display a graphical interface). This option appears twice: one for the physical keyboard, the other for the emulation keyboard. (See *Figure 13.1*)

You can choose to display one or both keyboards in either format.

Whichever display you use, the procedure for mapping your keyboard is the same.

In the graphical representation the keys are coloured as follows:

- purple keys (illustrated in dark grey) have an existing mapping to a key, string or global string,
- green keys (illustrated in dark grey) are the currently selected keys and the corresponding mapping,
- greyed out keys are not available for mapping.

Selecting Your Keyboards

Click on the **Keyboards** button to select and/or change either of the keyboards. Then click on the appropriate drop down menu on the tile displayed and select the physical (or emulation keyboard) from the list.

A number of keyboards are supported. By default, the standard keyboard for your emulation is automatically selected.

Advanced Keyboard Options

Click on the Advanced button to display the **Advanced Setup** tile. This allows you to customise the behaviour of the Numeric Keypad and Caps Lock.

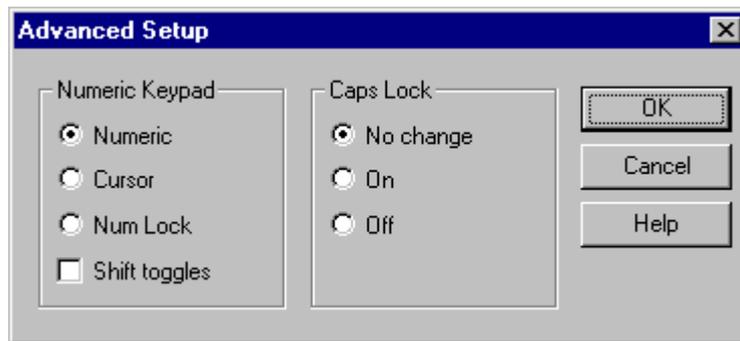


Figure 13.2: Advanced Setup tile

Numeric Keypad

The Numeric Keypad section allows you to control the behaviour of the Num Lock.

Numeric

Sets the Numeric Keypad to Numeric mode, overriding the state of the Num Lock.

| | |
|----------------------|---|
| Cursor | Sets the Numeric Keypad to Cursor mode, overriding the state of the Num Lock. |
| Num Lock | The Num Lock key works like a normal Num Lock key, toggling between Numeric and Cursor modes. |
| Shift Toggles | Allows you to use the Shift key to toggle between Numeric and Cursor modes. |
| Off | Turns off the Caps Lock as TTWIN is started. |

Caps Lock

The Caps Lock section allows you to control the state of the Caps Lock when a TTWin session is started.

| | |
|------------------|---|
| No Change | No change is made to the Caps Lock. |
| On | Turns on the Caps Lock as TTWIN is started. |

Mapping Emulation Keys

To assign a physical key(s) to an emulation key(s) follow these 6 steps:

***Note:** You can use the SHIFT, ALT and CTRL keys together with a physical or emulation key, if required.*

1. Select **Keyboard...** from the **Configure** menu.
(Make sure that the correct emulation and physical keyboards are selected.)
2. Click on the emulation key(s), in the bottom half of the tile, you wish to map.

The physical key along with the shift state currently mapped to the selected emulation key(s) is highlighted in the top of the tile.

3. Click on the physical key(s), in the top half of the tile, you want to assign to the selected emulation key.
4. To save the mapping, click on the **Map** button.
Emulation mappings are saved in a key definition file. By default this is the file `DEFAULT.KEY` in the `CONFIG` sub-directory.
5. Repeat the above steps for all the emulation keys you need to map.
6. To save session settings, you **must** also save the `.TWC` file by selecting **Save** from the **File** menu.

For example, to map the physical PC sequence `CTRL_SHIFT_F6` to the currently selected emulation key, using the graphical interface, click on the `SHIFT` key, the `CTRL` key and the `F6` key PC keys. (If you are using the list display, scroll down the physical key list and select the `F6` key, finally check the **Shift** and **Ctrl** boxes.) See *Figure 13.3*.

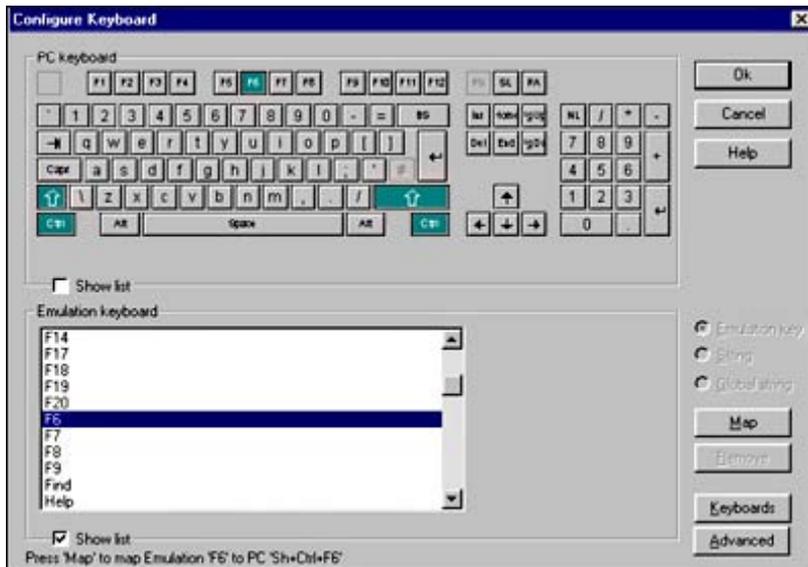


Figure 13.3: Mapping the physical key sequence `CTRL_SHIFT_F6`

Mapping Physical Keys

You create mappings for physical keys in three ways, with:

- an emulation key from the current emulation, e.g., the VT220 PF1 key
- a global escape sequence, string or macro, e.g., ^ [[1M - the ANSI sequence for **bold** text.
- an emulation specific escape sequence, string or macro.

***Note:** Global mappings take precedence over emulation mappings.*

To map an emulation key, global or emulation string to a physical key or key sequence, follow these 8 steps:

***Note:** You can use the SHIFT, ALT and CTRL keys together with a physical or emulation key, if required.*

1. Select **Keyboard...** from the **C**onfigure menu. (Make sure that the correct emulation and physical keyboards is selected.)
2. Click on the physical key(s), in the top half of the tile, you wish to map.

The emulation key(s), global or emulation string currently mapped to the selected physical key(s) is highlighted or displayed in the top of the tile.

3. Select one of:
 - **E**mulation key - Go to step 4.
 - **S**tring - Go to step 5.
 - **G**lobal string - Go to step 5.

4. **E**mulation key

Click on the emulation key(s), in the bottom half of the tile, you want to assign to the selected physical key(s).

5. String or Global string

You can assign an ASCII data string, an escape sequence or a macro to the physical key(s).

Enter the string or macro in either the **String** or **Global string** field. For information on macros and macro strings refer to *Appendix A - Macros and the Macro's Assistant on page 497*.

6. To save the mapping, click on the **Map** button.

Emulation mappings are saved in a key definition file. By default this is the file `DEFAULT.KEY` in the `CONFIG` sub-directory.

7. Repeat the above steps for all the physical keys you need to map.

8. To save session settings and global mappings, you **must** also save the `.TWC` file by selecting **Save** from the **File** menu.

For example, to map the ANSI BOLD escape sequence (`ESC [1m`) to `CTRL_F6` for the current emulation, follow these steps:

1. Click on the **CTRL** key and the **F6** key on the PC keyboard (top of the tile).
2. Select **String**.
3. In the **String** field enter the string:

`\x1b[1m`

where `\x1b` represents the hex value for `ESCAPE` character. (Hex values are prefixed by `\x`) See *Figure 13.4*.

4. Click on the **Map** button to save the mapping.
5. To save the session settings, select **Save** from the **File** menu.

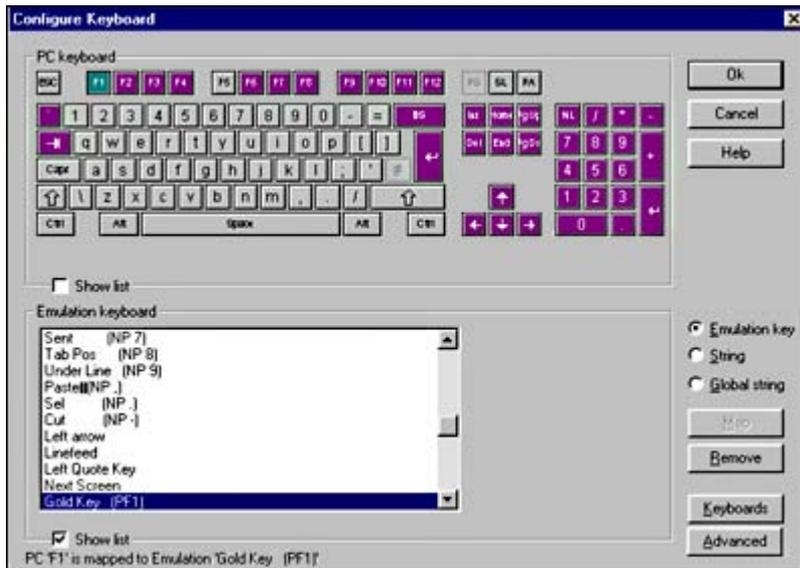


Figure 13.4: Mapping a string assignment for `CTRL_F6`

Removing a Mapping

Click on the **R**emove button to remove a mapping.

Alternatively, re-map **BOTH** the physical key(s) and the emulation key(s).

Saving a Mapping

To save a mapping click on the **M**ap button. Emulation mappings are saved in a key definition file, i.e., a `.KEY` file. By default this is the file `DEFAULT.KEY` in the `CONFIG` sub-directory.

You **MUST** also save the `.TWC` file using the **S**ave option on the **F**ile menu to secure session settings and global string mappings.

Chapter 14 | Hotspots

Hotspots allow the user to attach a mouse driven event to a screen region. The screen region can be either:

- A fixed area of the TTWIN 3 display screen.
For example, the HP terminals use a fixed area across the bottom of the screen to act as status labels for the function keys. In this case, you would use a hotspot with a permanent location based on the screen coordinates of the specified status label.
Or
- A particular word or character sequence displayed anywhere on the screen.
For example, the IBM3270 class of terminals are often used with host applications that use the F3 key to EXIT. The string 'F3 = Exit' may be located anywhere on the screen. In this case, you would use a string matched hotspot that would look for the string "F3 = Exit".

Hotspots can be either configured to autoexecute, or activated by clicking the mouse button on the defined screen region.

The appropriateness of hotspots for the TTWIN 3 user will very much depend upon the nature of the applications that you are running.

If your applications are menu based then you will find that hotspots allow you design a more user-friendly environment.

Configuring Hotspots

To configure a hotspot select the **H**otspots... option from the **C**onfigure menu. The **C**onfigure Hotspots tile is then displayed.

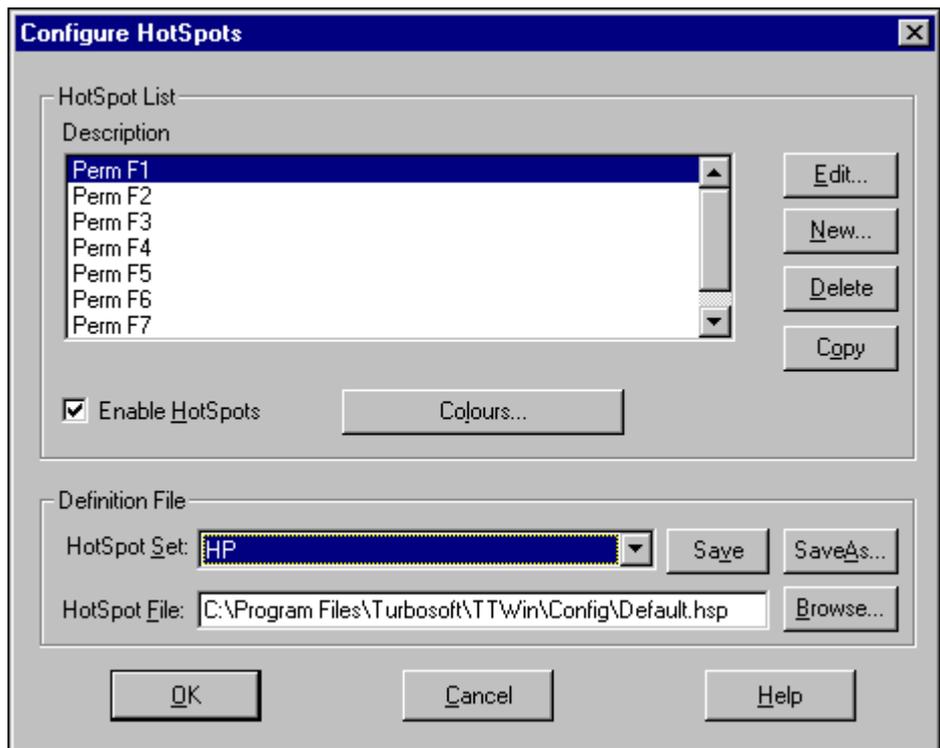


Figure 14.1: **Configure HotSpots** tile

HotSpot List

| | |
|------------------------|---|
| Description | This is a list of the hotspots in the hotspot set shown in the HotSpot Set field. |
| Enable HotSpots | This option allows you to turn on and off the currently displayed hotspot set. To enable the currently displayed hotspot set you must tick this box. |

Definition File

| | |
|----------------------|--|
| HotSpot Set: | Different emulations or applications may require different configurations of hotspots. To accommodate this, hotspots are held as sets individually within the file. Each set can contain as many hotspots as you require for the particular emulation/application. |
| HotSpot File: | TTWIN 3 keeps all the hotspot sets in .HSP files. The hotspot definition file can contain any number of hotspot sets. By default, the file is DEFAULT.HSP (located in the CONFIG sub-directory). |

Creating, Copying and Editing Hotspots

Using the drop down menu on the **HotSpot Set** field, select the hotspot set.

***Note:** To create a new hotspot set you must edit an existing hotspot set by adding new hotspots, deleting unwanted hotspots and editing existing hotspots. Finally, saving it with a new name.*

To create a new hotspot click on the **New...** button.

To copy an existing hotspot, select the hotspot from the **HotSpot List** then click on the **Copy** button.

To edit a hotspot, select the hotspot from the **HotSpot List** then click on the **Edit...** button.

When you click on either the **New...** button to create a new hotspot, the **Copy** button to copy a hotspot or the **Edit...** button to edit an existing hotspot, the **Configure HotSpot** tile is displayed.

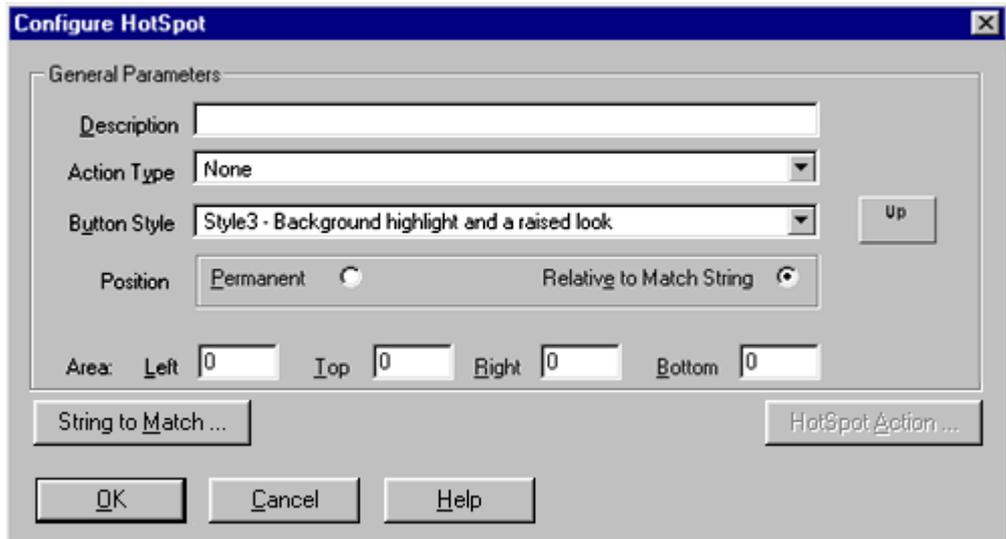


Figure 14.2: Configure HotSpot tile

General Parameters

Description

Enter a description for the hotspot. The description is also used as the name of the hotspot.

Action Type

Click on the drop down menu on the **Action Type** field. Then select from the list of available **Action Types**, which are:

- **None**
- **Send Key.** Transmits to the host the name of a virtual key from the emulation. The **Send Key** must be specified as the **HotSpot Action....** Refer to *Specifying the Hotspot Action on page 412*.
- **Send String.** This will send the literal string that you enter. As with other TTWIN 3 string functions, macros may be embedded.

The **Send String** must be specified as the **HotSpot Action....** Refer to *Specifying the Hotspot Action on page 412*.

For example, `HELLO\p010\x0d` will send "Hello" then pause for 1 second and then send a carriage return.

- **Send Emulation Msg.** This feature is not implemented.
- **Send Menu Command.** This allows a TTWIN 3 menu event to be activated by the hotspot. The **Send Menu Command** must be specified as the **HotSpot Action....** *Specifying the Hotspot Action on page 412*.

Button Style

Click on the drop down menu on the **Button Style** field, Then select a button style from the 8 predefined styles. The example button immediately to the right provides a preview of the selected style

Position

The position of the hotspot can be either **Permanent** or **Relative to Matched String**. **Permanent**. Once configured and enabled the section of the screen will always be a hotspot and a mouse click in this area will always trigger the hotspot action.

A good example of the use of permanent hotspots is in the HP2392 emulation where the lower 2 lines of the screen contain 8 labels for the eight function keys.

Relative to Match String. This indicates that TTWIN 3 is to constantly search an area of the screen to see if it contains the text declared using the **String to Match...** option. Refer to *Specifying the Hotspot Match String on page 411*.

Area:

These fields are used to define the area in which the hotspot is to be located. The screen co-ordinates are entered in as row and column values.

If **Permanent** is selected, the co-ordinates for the hotspot are entered.

For example, if you are using a HP2392 emulation with fixed status labels for the function keys, F1 to F8, then you could define **Permanent** hotspots for each status label. The status labels appear in the bottom two rows and are seven columns wide, so the co-ordinates for the F1 status label would be **Left: 0 Top: 24 Right: 7 Bottom: 25**.

If **String to Match** is selected then the co-ordinates of area where TTWIN 3 is to search for the string are entered.

For example, if you have specified a hotspot to match the string "Menu", but only if it occurs on row 1 or row 2 of an 80 column wide display you need to set the **Area:** to **Left: 0 Top: 0 Right: 80 Bottom: 2**.

Specifying the Hotspot Match String

If you select the hotspot **Position** to be **Relative to Match String** then you **MUST** specify a **String to Match...**

When you click on the **String to Match...** button the **Configure HotSpot Match String** tile is displayed.

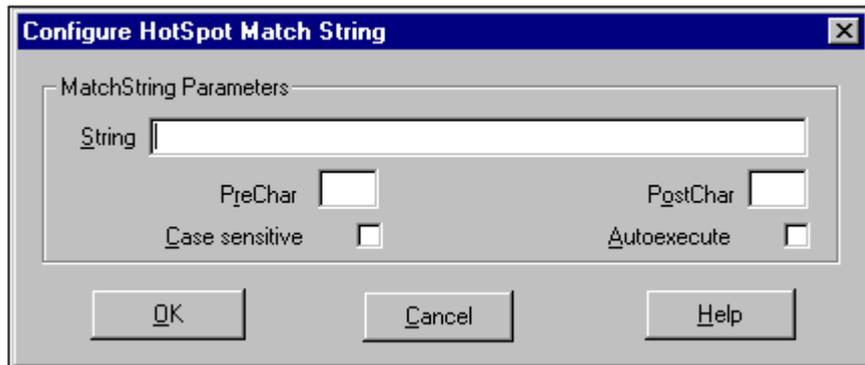


Figure 14.3: **Configure HotSpot Match String** tile

MatchString Parameters

- | | |
|------------------------------|--|
| <u>S</u>tring | The exact string that you wish to match. |
| <u>P</u>reChar | Any character that will always proceed the string. The string is only to be matched if it follows the character specified. |
| <u>P</u>ostChar | Any character that will always follow the string. The string is only to be matched if it is followed by the character specified. |
| <u>C</u>ase sensitive | If you require the match string to be case sensitive. |

Autoexecute

TTWIN 3 will autoexecute if it detects the string. For example, the string “Login:” could be used to trigger the sending of a username or to launch a script to log the user in.

Specifying the Hotspot Action

When you click on the **HotSpot Action...** button the **Configure Hotspot Action** tile is displayed.

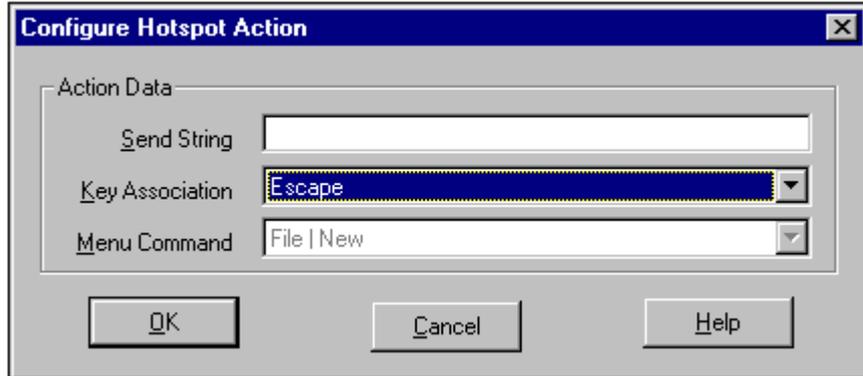


Figure 14.4: **Configure HotSpot Action** tile

The action available is predetermined by the selected **Action Type**. *Figure 14.4* shows the **Key Association** field enabled indicating that **Send Key** is the currently selected the **Action Type**.

Action Data

Send String

This option is enabled when the **Action Type** is set to **Send String**. If selected this string will be sent to the host when the hotspot is activated. If a carriage return is necessary then include `\r` on the end of the string.

For example, `\S login.tsl` will launch the TTWIN 3 script `LOGIN.TSL` from the default scripting directory.

Refer to *Appendix A - Macros and the Macro's Assistant on page 497* for information on macro strings.

Key Association

This option is enabled when the **Action Type** is set to **Send Key**, see *Figure 14.4*. If selected the key associated with the hotspot will be sent to the host when the hotspot is activated.

Using the drop down menu, select the emulation key. All the emulation keys for current emulation are listed.

This is particularly useful where keyboard keys have been assigned a mapping using TTWIN 3 keyboard configuration, as the host mapped value will be sent by the hotspot.

Refer to *Chapter 13 - Keyboard on page 395*.

Menu Command

This option is enabled when the **Action Type** is set to **Send Menu Command**. If selected the menu command associated with the hotspot will be sent to the host when the hotspot is activated.

Using the drop down menu, select a menu item from the list of the available TTWIN 3 menu items.

Setting the Hotspot Colour

The colour of the hotspot set can be adjusted to suit your preference. It will, however, depend upon a number of factors, for example, the video drivers and colour resolution of your *Windows* setup.

Hotspots can take either the screen colour or you may override the screen colour.

Click on the **Colours...** button set the colour of the selected hotspot. The **Configure HotSpots Colours** tile will appear.

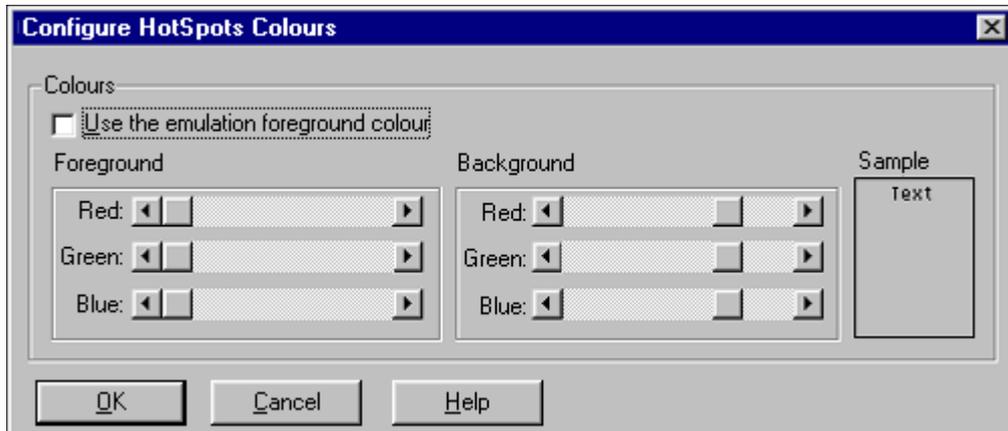


Figure 14.5: **Configure HotSpots Colours** tile

Colours

Use emulation foreground colour

This automatically sets the text colour to the normal colour for text and only allows the colour of the background to be altered.

Red:, Green: and Blue:

By moving the sliders for **Red**, **Green** and **Blue**, the saturation of these colour components is changed. Moving the sliders to the right increases the saturation.

The sliders for **Foreground** change the colour of the text. The **Foreground** colour can not be changed if **Use emulation foreground colour** is selected.

The result is displayed in the **Sample** box.

***Note:** The foreground and background colours will affect **all** the hotspots in the set.*

Saving the Hotspot Set

***Note:** You **must** also save the .TWC file to ensure that the hotspot set is saved in the session file.*

Click on the **Save** button to save the hotspots in the **HotSpot List**. The hotspots are saved in the hotspot set specified in the **HotSpot Set** field. By default, the hotspot set is saved in the DEFAULT.HSP file located in the CONFIG sub-directory.

OR

Click on the **Save As...** button to save the hotspots in the **HotSpot List** in a new hotspot set. The **Save HotSpot Set** tile is displayed.

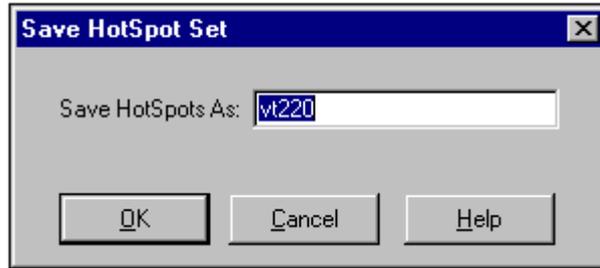


Figure 14.6: **Save HotSpot Set** tile

Save HotSpot As: Enter a name for the hotspot set. By default, the hotspot set is saved in the DEFAULT.HSP file located in the CONFIG sub-directory.

Deleting Hotspots

To delete an existing hotspot, select the hotspot from the **Hotspot List**, then click on the **Delete** button.

Chapter 15 |

Menu

TTWIN 3 utilises a fully configurable menu system, allowing full control over the range of actions available via the Menu bar. As a result, each TTWIN installation can be configured to provide the exact menu set required for the particular installation. In addition to the normal range of predefined menu items, the Macro Assistant can be used to integrate additional options such as macro's, text strings, scripts, key sequences with the standard menu items. Alternatively if greater administrative control of TTWIN 3 configurations is required the Menu can be configured so that a limited range of menu items is available.

By default TTWIN 3 is shipped with a Standard menu (containing a full set of menu selections) and a Popup menu (containing a limited set of menu features for use with via a mouse click). These menus can be retained, removed, augmented or modified to suit a site's individual requirements.

Configuring Menus

When you select **Menu...** from the **Configure** menu, the **Menu Editor** tile is displayed. The Menu Editor tile contains two tabs; **Menus** and **Config**. The Menus tab displays a list of the existing menus and allows you to create, rename, delete or reset menus. It also allows you to

nominate which of the available menus will be displayed as the main or popup menu. The Config tab allows you to modify the selected menu to suit your requirements. Each of these tabs is described in further detail below.

Menu tab

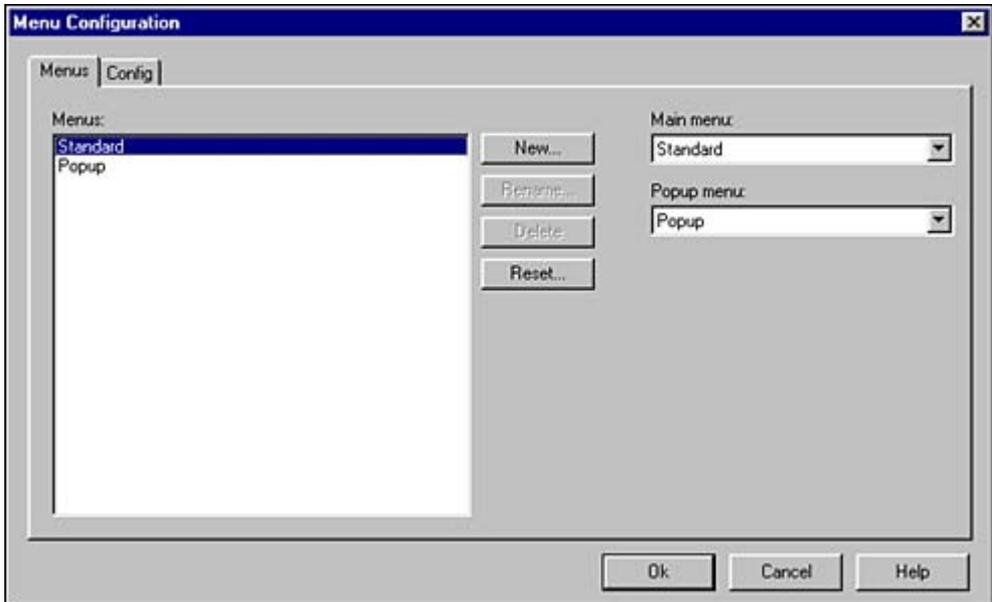


Figure 15.1: **Menu Editor** tile

Menus

The **Menus** list shows all of the defined menus for this installation of TTWIN 3. The order in which the menus are listed is the order in which they are created. The menus can be selected for subsequent action by highlighting with the mouse.

New...

The **New...** button is used to create a new menu. When selected this will display the **New Menu** tile, which will ask for the name to be given to the new menu. Once a name has been entered, pressing **OK** will create the new menu. The menu will then need to be configured and selected before it is available for use.

Rename...

The **Rename...** button is used to rename an existing TTWIN 3 menu. To rename a menu, highlight the menu in the Menus list and then select the **Rename...** button. This will display the **Rename Menu** tile. Enter the new name for the menu and press **OK** to confirm the name change, or press **Cancel** to return to the **Menu Editor** tile with no change.

***Note:** The Standard and Popup menus supplied by Turbosoft cannot be renamed as they are default values. If either of these menus is selected the **Rename...** button will not be available.*

Delete

This is used to delete a selected TTWIN 3 menu from the Menu list. Once the menu has been deleted it is no longer available for use within TTWIN 3. To delete a TTWIN 3 menu, highlight the menu in the Menu list then select the **Delete** button. A confirmation tile will then be displayed, pressing **OK** will delete the menu while cancel will return you to the Customise Menus tile and the menu is not deleted. Once you have pressed **OK** the menu cannot be recalled. If you choose to delete a menu that is currently selected as the Main or Popup menu, it is replaced by the appropriate default menu

Reset...

The **Reset...** button is only available for the Turbosoft supplied Standard and Popup menus. It is used to set the menu back to default values. This option is not available for other menus.

Main menu

This is used to select the menu that will be displayed as the Main menu at the top of the TTWIN 3 window. Only one menu can be selected at any one time. The same menu can be used for both the Main and Popup menu.

Popup menu

This is used to select the menu that will be displayed as the Popup menu should this mouse command be used. Only one Popup menu can be selected at any one time. The same menu can be used for both the Popup and Main menu.

Config Tab

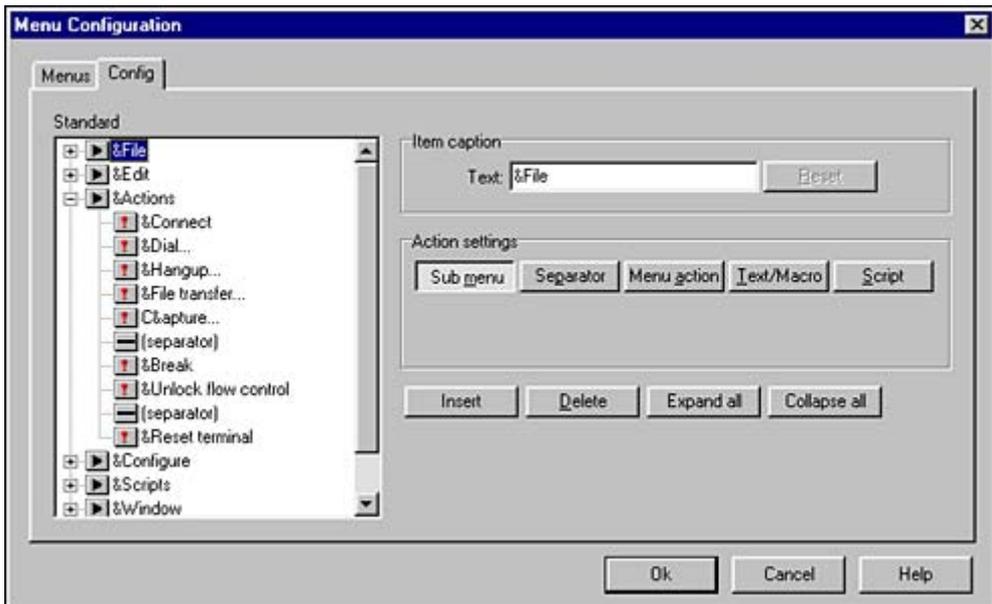


Figure 15.2: **Menu Editor** tile

Configuration Tile

This window is used to show the current structure of the selected menu. The name of the selected menu is displayed at the top of the window. The window itself contains an interactive tree structure that shows the menu items and their hierarchical structure. The location of the highlight bar in this window will determine the position at which further commands such as inserts and deletes will occur. An icon to the left of each entry indicates the menu item type of that entry. The available types (and icons) are:

- Sub_menu 
- Separator 
- Menu action 
- Text/Macro 
- Script 

Item caption

This is the text that will be displayed for the selected menu item. This is not available if the menu item is a separator. The **&** character indicates which letter of the text will be used as the shortcut key. If no **&** is entered when the menu is saved then the shortcut key will be automatically selected. Alternatively the shortcut key can be nominated by entering an **&** before the desired character in the text field.

Action settings

These functions are used to define the menu item type for the selected menu entry. The available menu item types are:

- **Sub menu** – this creates a menu item under which additional menu items can be grouped. When this item is selected the sub-menu is displayed (See *Figure 15.2*).
- **Separator** – this places a **Separator bar** in the menu at this location. No other action is performed.

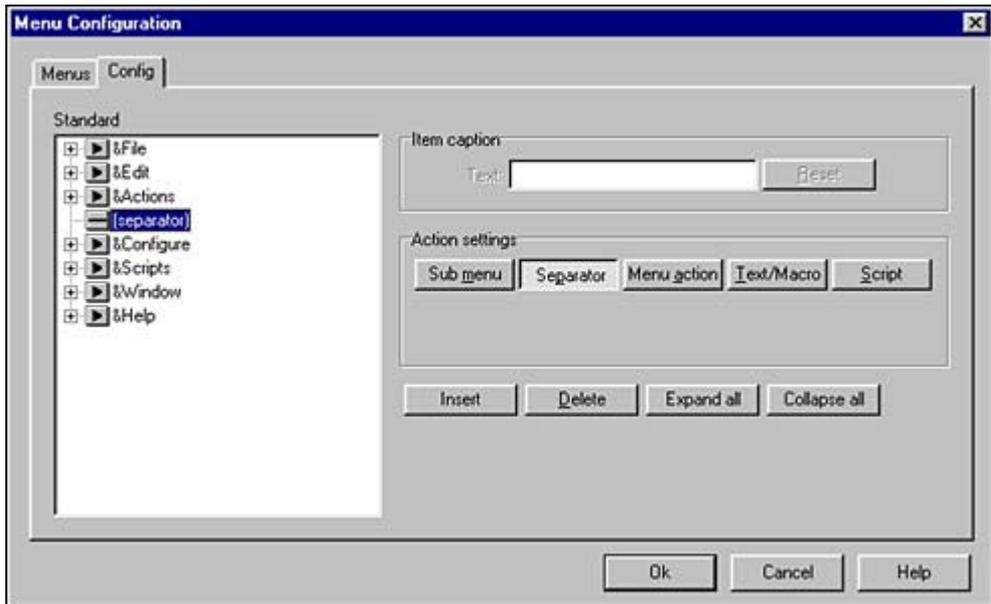


Figure 15.3: Menu Editor tile showing Separator action

- **Menu action** – this is used to assign a predefined menu action to this item.

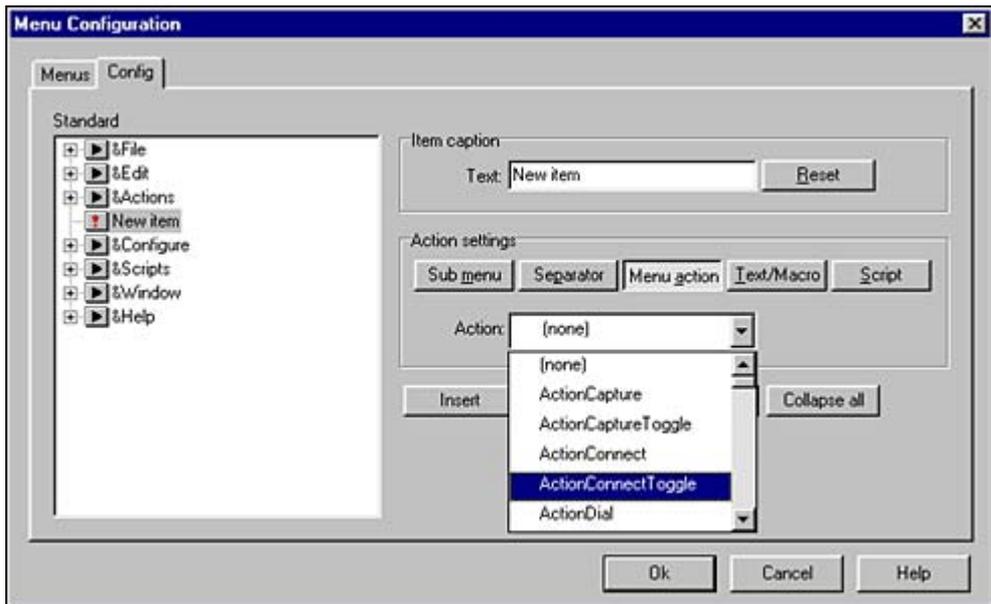


Figure 15.4: **Menu Editor** tile showing Menu action selection

- **Text/Macro** – this is used to assign a text string or macro to the menu item. The **Macro Assistant** can be invoked to help create the entry.

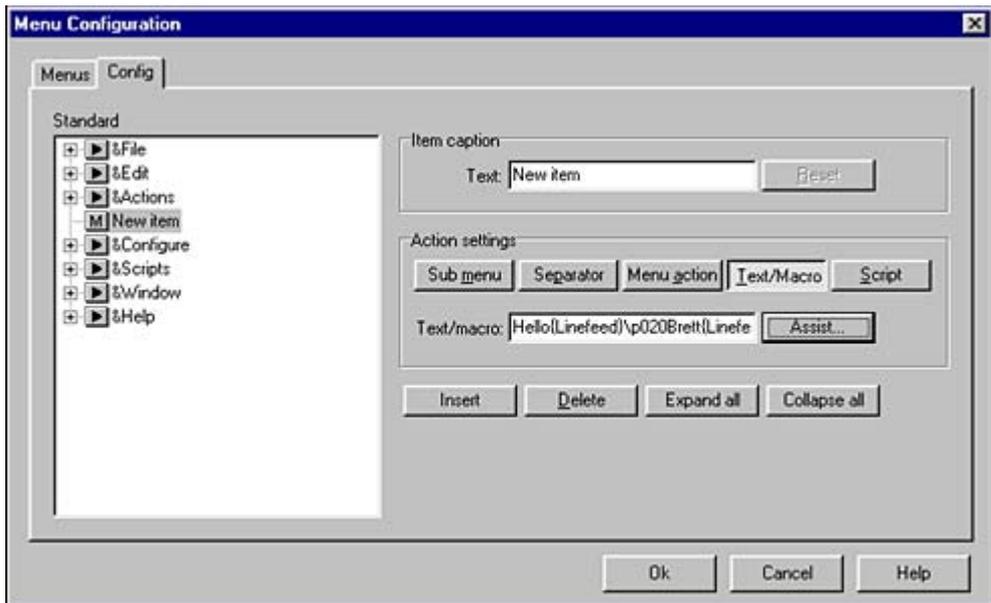


Figure 15.5: **Menu Editor** tile showing Text/Macro configuration

- **Script** – this selects a TTWIN 3 script as a menu item. When the menu item is selected the script is executed.

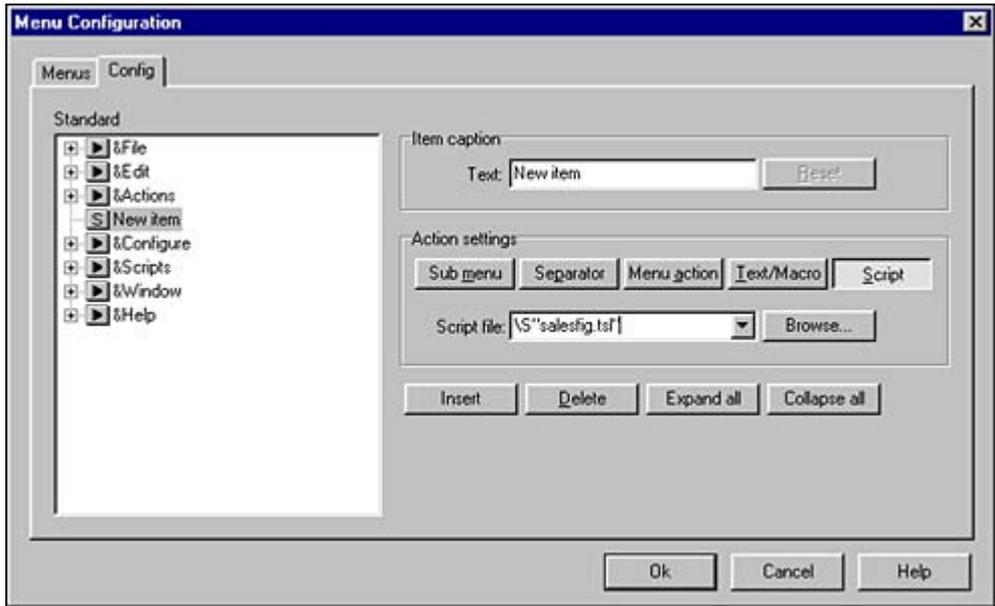


Figure 15.6: **Menu Editor** tile showing Script selection

Insert

This is used to insert a new menu item in the menu. When selected three positioning options will dictate the placement of the menu item. The options are;

- **Insert before** – the new menu item will be inserted before the currently selected menu item.
- **Insert after** – the new menu item will be inserted after the currently selected menu item.
- **Insert child** – the new menu item will be inserted as a sub-entry of the currently selected menu item. This is only available when the currently selected menu item is of the type **Sub-menu**, or when a new menu has been created and no menu items have been added.

Delete

This is used to delete the currently selected menu item. If the selected item is of the type **Sub-menu** then all sub-menu items will also be deleted.

Expand all

This is used to expand all of the sub-menus in the current menu to their fullest extent.

Collapse all

This is used to collapse all sub-menus in the current menu to their fullest extent.

Chapter 16 |

Toolbars

Through the use of **Toolbars**, a single mouse click can be used to action tasks that are otherwise lengthy, complex or repetitive. Buttons on toolbars can be used to replace standard TTWIN 3 menu commands or to action macros, scripts or other commands. Any number of Toolbars can be configured in a range of screen locations, and the Toolbar can contain buttons displaying icons, text or a combination of both.

By default TTWIN 3 is shipped with a Standard toolbar docked to the top of the TTWIN 3 window. This toolbar can be retained, removed or modified to suit a site's individual requirements.

***Note:** TTWIN 3 toolbars are not compatible with Button bars from previous versions of TTWin due to the substantial differences in their operation and capabilities. Should you be migrating from an older version of TTWIN to TTWIN 3 then you will need to create new toolbars. Please contact TurboSoft Support if you experience difficulties in this area.*

Configuring Toolbars

When you select **Toolbars** from the Configure menu you will be presented with a sub menu containing two choices, **Customize...** and **Custom Actions....** When you select **Customize...**, the **Customize**

Toolbars tile is displayed. The Customize Toolbars tile contains three tabs; **Toolbars**, **Commands** and **Options**. The Toolbars tab displays a list of the existing toolbars and allows you to **create**, **rename** and **delete** toolbars. The Commands tab displays the available buttons (commands) that can be added to a toolbar. The Options tab allows customisation of various options that control the behaviour and appearance of the toolbars. Each of these tabs is described in further detail below.

Toolbars Tab

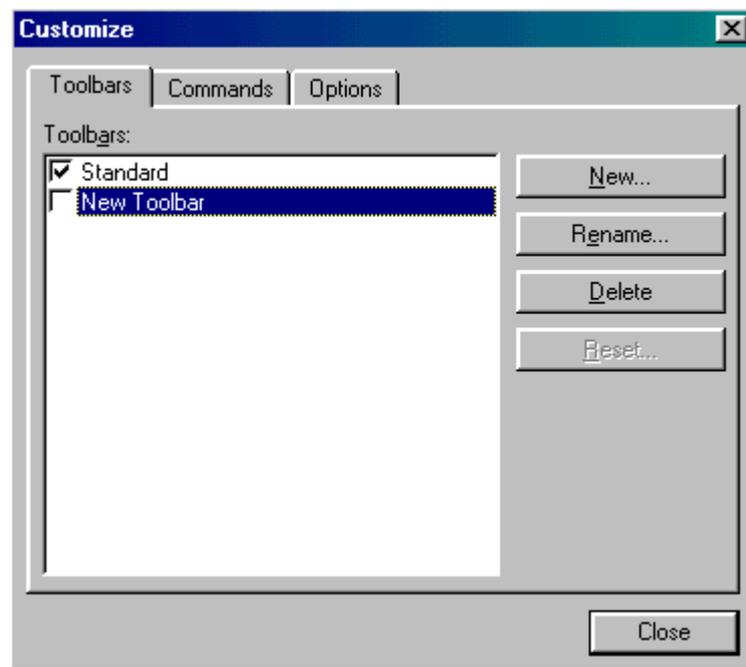


Figure 16.1: **Customise toolbars** tile

Toolbars

The **Toolbars** list shows all of the defined toolbars for this installation of TTWIN 3. The order in which the toolbars are listed is the order in which they are created. The toolbars can be selected for subsequent action by highlighting with the mouse. In addition, each toolbar has a **checkbox** that indicates if that toolbar is currently visible in TTWIN 3. The checkbox can be used to either hide or show that toolbar within TTWIN 3.

New...

The **New...** button is used to create a new toolbar. When selected this will display the **New Toolbar** tile, which will ask for the name to be given to the new toolbar. Once a name has been entered, pressing **OK** will create the toolbar. By default it will be visible and placed as a floating toolbar to the top left of the **Customise Toolbars** tile. This enables subsequent editing of the toolbar.

Rename...

The **Rename...** button is used to rename an existing TTWIN 3 toolbar. To rename a toolbar, highlight the toolbar in the Toolbars list and then select the **Rename...** button. This will display the Rename Toolbar tile. Enter the new name for the toolbar and press **OK** to confirm the name change, or press **cancel** to return to the **Customize Toolbars** tile with no change.

Delete

This is used to delete a selected TTWIN 3 toolbar from the Toolbars list. Once the toolbar has been deleted it is no longer available for use within TTWIN 3 and cannot be recalled. To delete a TTWIN 3 toolbar, highlight the toolbar in the Toolbars list then select the **Delete** button. A confirmation tile will then be displayed, pressing **OK** will delete the toolbar while **Cancel** will return you to the **Customise Toolbars** tile and the toolbar is not deleted.

Reset

The **Reset** button is only available for the Turbosoft supplied Standard toolbar. It is used to set the toolbar back to default values. This option is not available for other toolbars.

Commands Tab

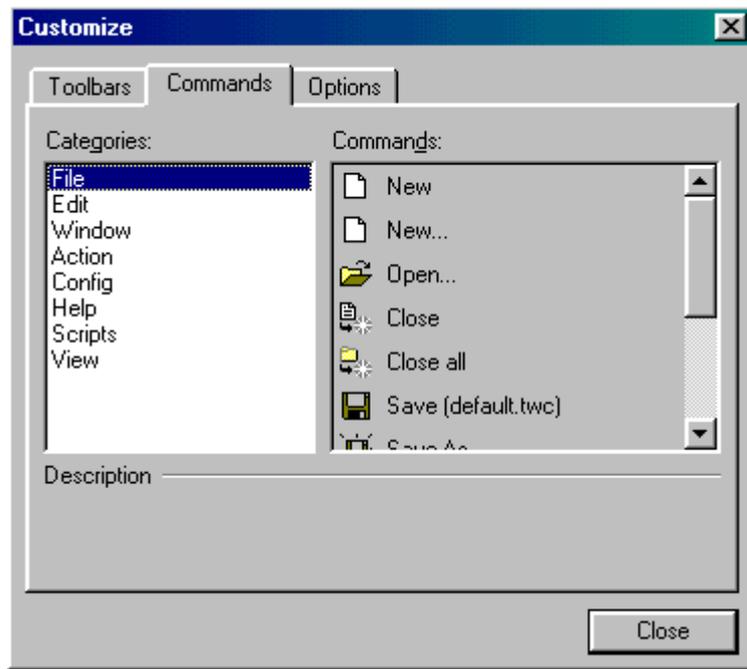


Figure 16.2: **Customise Commands** tile

Categories

This is a list of the categories of commands that are available for inclusion as buttons on a toolbar. When a category is selected the available commands for that category are displayed in the Commands list.

Commands

This is a list of all commands that are available within the selected Category. Each of the commands represents a toolbar button that can be dragged and dropped onto the desired location on a toolbar.

Description

This displays the ToolTip of the command that is currently selected in the Commands list. The ToolTip will be displayed when ToolTips are enabled and the mouse pointer is held motionless over the button.

Options Tab

Personalised Menu's and Toolbars

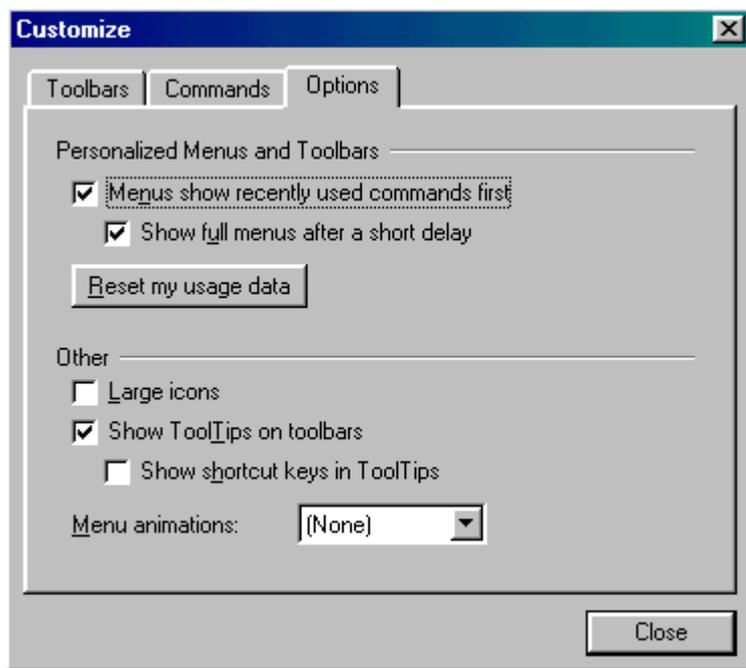


Figure 16.3: **Customise Options** tile

These options allow the behaviour and operation of the Menus to be modified.

Menus show recently used commands first

When selected the TTWIN 3 menus will display only those menu items that are most frequently selected.

Show full menu's after a short delay

This is only available if the **recently used** option (above) is selected. This setting will display the full menu after a short delay.

Reset my usage data

This button will reset all menu usage data to initial defaults.

Other

These options are used to modify the appearance of the toolbars.

Large Icons

This uses a larger button size in place of the standard toolbar buttons.

Show ToolTips on toolbars

This implements a **ToolTip** for each button. A **ToolTip** is a brief text message that is displayed when the mouse pointer is placed over the button and held stationary for a short period of time.

Menu animations

This option changes the way that menus are displayed. The available options are:

- **None.** No animation takes place, the sub-menu just appears.
- **Slide.** The new menu slides into place from the top down.
- **Unfold.** The menu grows from left-to-right and top-to-bottom simultaneously.
- **Random.** Random selection of the available styles occurs.

Customising Toolbar Buttons

In addition to the **Tabs** that are described above, further editing of the toolbars is available via a **Right Click** on the individual toolbar buttons while the **Customize Toolbars** tile is displayed. This will display the **Button Edit** menu, displaying those options that are available for configuring the individual buttons on a toolbar.

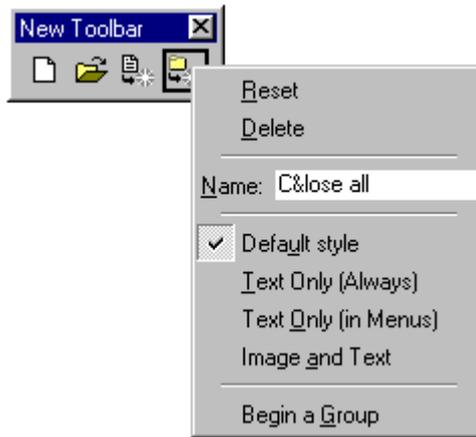


Figure 16.4: **Button edit** tile

The options include:

| | |
|----------------------------|--|
| Reset | Resets the button to default values |
| Delete | Removes the button from the toolbar |
| Name | Allows the Name of the button to be edited |
| Default Style | Displays the button in the default style ie as an icon |
| Text only (always) | Displays the button by Name wherever it occurs |
| Text only (in menu) | Displays the button by Name in menus only |
| Image and text | Displays both the Icon and Name of the button |

Begin a Group

Places a separator bar on the toolbar ahead of this button

Positioning Toolbars

Once a toolbar has been configured as required, it can be placed anywhere on the screen that is most suited to the client's requirements. Toolbars can be either **"docked"**, in which they form part of the border around the display area, or they can be **"floating"**, where they appear in a separate window. In either case the operation of the toolbar and its buttons remains the same. *Figure 16.5* illustrates the various toolbar locations available in TTWIN 3.

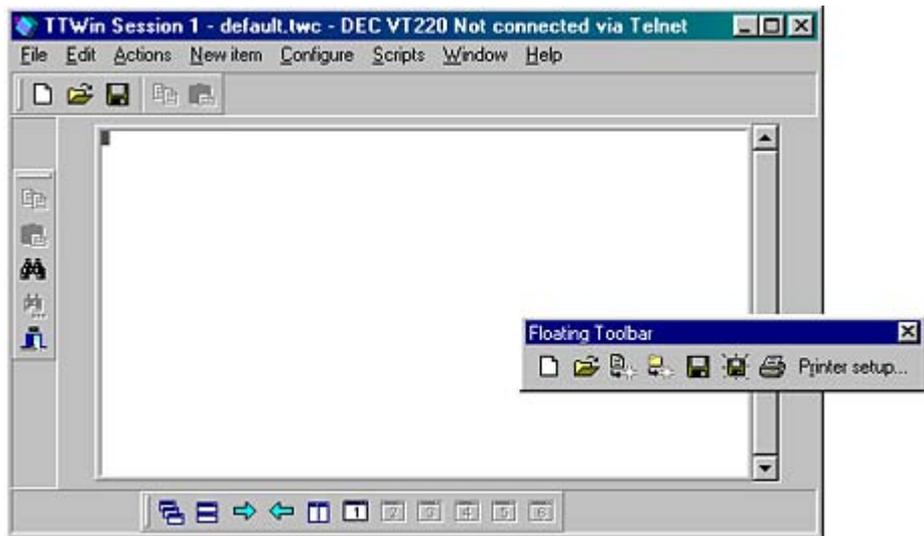


Figure 16.5: **Example toolbar locations** tile

To position a docked toolbar, place the mouse pointer over the move handle (the vertical bar at the left of the toolbar)

and drag the toolbar to its new location. As the toolbar is moved, TTWIN 3 will preview its appearance based on the toolbar's current location (ie if it is in the middle of the screen it will appear as a **floating** toolbar, if it is at the top of the screen it will appear as a **docked** toolbar). To reposition a floating toolbar, you place your mouse pointer over the toolbar's title bar and then move it as described above.

If it is decided to use floating toolbars, please note that they will only be visible when the parent TTWIN 3 application has screen focus. If a different window is selected the floating toolbar is not displayed on the screen.

When a TTWIN 3 session is closed, the status and location of all toolbars is recorded so that the next time a TTWIN 3 session is started the toolbar configuration is restored.

Custom Actions

When you select **Custom Actions...** the **Custom Actions** tile is displayed. This tile allows you to create new custom actions, edit existing custom actions and also delete custom actions.

Custom Actions

The **Custom Actions** list shows all of the defined custom actions for this installation of TTWIN 3. The custom actions can be selected for subsequent action by highlighting with the mouse.

New...

The **New...** button is used to create a new custom action. When selected this will display the **Edit Custom Action** tile and also add a new entry to the **Custom Actions** list.

Edit

The **Edit...** button is used to modify the properties of a custom action. The **Edit Custom Action** tile allows you to modify the following:

- **Caption field** This is the name that will appear in the custom actions list.
- **The Hint** This will popup when the mouse pointer is held over the button on the toolbar.
- **The Description** This appears in the Customise Toolbars commands tile when the custom action is selected.
- **The Macro text** This field contains the macro text and commands that will be executed when the toolbar button is selected, the macro assistant is available to assist with the generating your macro's.
- **The Bitmap File** This field contains the file name and path to the bitmap file that will be displayed in the toolbar button, clicking the browse button will open a browse tile.

Delete

The **Delete...** button is used to permanently remove the selected entry from the Custom Actions list. A confirmation tile will then be displayed, pressing the **OK** button will delete the action while **cancel** will return you to the Custom Actions tile.

Chapter 17

General Preferences

General Preferences... covers all those system values needed to operate TTWIN 3 successfully on your system. These preferences apply to all TTWIN 3 sessions.

Setting General Preferences

When you select **Preferences...** from the **Configure** menu the **Preferences** dialog appears. Clicking on the **General** tab will display the **General Preferences** tile.

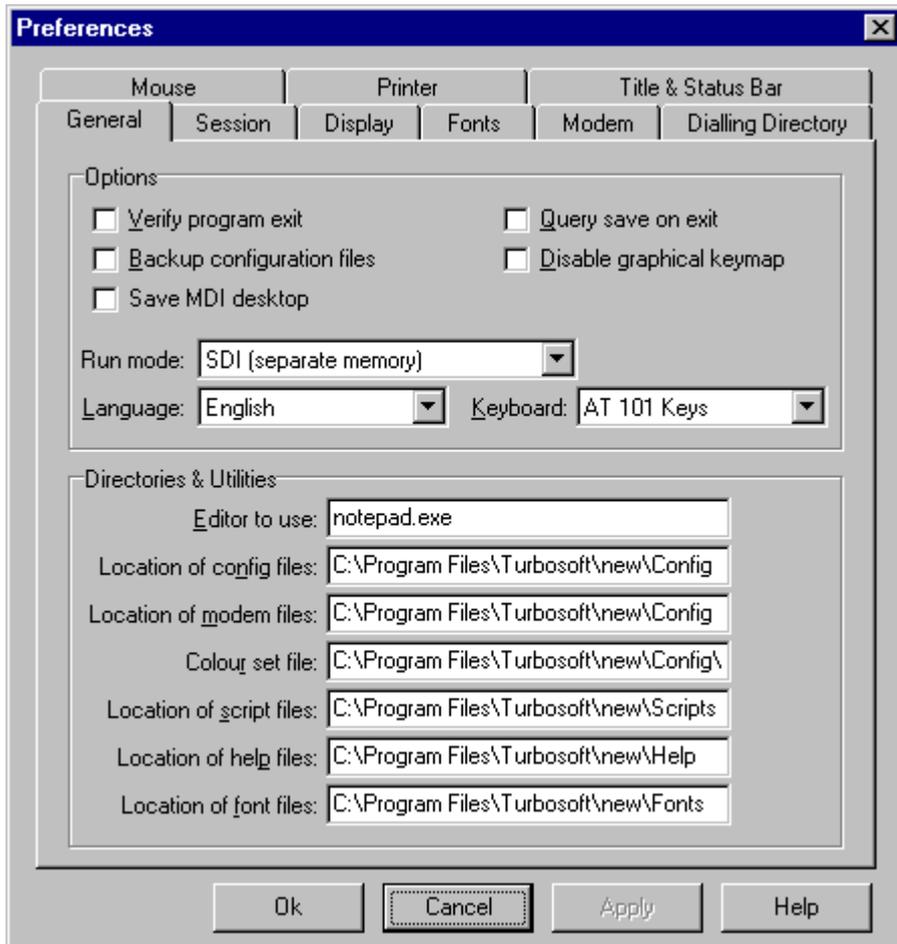


Figure 17.1: **General Preferences** tile

Options:

| | |
|-----------------------------------|--|
| Verify program exit | If selected, TTWIN 3 will ask for confirmation before closing when an exit command is issued. |
| Backup configuration files | If selected, then, whenever changes are made to any operation files, such as .TWC files, TTWIN 3 creates a backup. The backup file has .BAK extension. |
| Save MDI desktop | If selected, the desktop layout of a session in MDI mode will be retained on exit and applied the next time TTWIN 3 is run in MDI mode. |
| Query save on exit | If selected, and changes have been made to the current session, TTWIN 3 will prompt you to save these changes when you exit. |
| Disable graphical keymap | If selected, the TTWIN 3 graphical keyboard mapping utility is disabled and the TTWIN 3 classic menu driven keyboard mapping interface is used. |
| Run mode | <p>This specifies the run mode to be used by TTWIN 3:</p> <ul style="list-style-type: none">• MDI• SDI• SDI (separate memory) <p>Please refer to <i>Appendix C - Glossary on page 509</i> for detailed descriptions of the three run modes. Any change to the run mode is not implemented until all TTWIN 3 sessions are restarted.</p> |
| Language | TTWIN 3 supports several languages. Use the drop down menu to select the required language. All menus and menu options will appear in the chosen language. |

Keyboard

TTWIN 3 supports a range of different physical keyboards. The default keyboard is a US 101 key. Use the drop down menu to select your keyboard.

Directories & Utilities:

When you install TTWIN 3 you can change the default location of the config, help, font, script, and buttons files. The locations given here are the default locations for these files

Editor to use:

The text editor to be used whenever text editing is to take place.

Location of **config files:**

TTWIN 3 allows predefined sessions containing emulation, communication, file transfer and general settings to be created and stored within a file.

Predefined sessions can then be recalled at a later date as required.

These files have an extension of .TWC. The default directory is CONFIG, a sub-directory of the TTWIN 3 directory.

Location of **Modem defns:**

A database of available modems and their appropriate configuration strings are stored in a file called MODEM.CFG. The default directory for storing this file is the sub-directory CONFIG.

Colour set file:

Colour schemes defined for your TTWIN 3 sessions are held in a single file, the default file is called TTWIN.CLR. The default directory for the .CLR file is the sub-directory CONFIG.

Location of **script files:**

All TTWIN 3 scripts are held in a common directory. The default directory is SCRIPTS, a sub-directory of the TTWIN3 directory.

Location of help files:

The default directory for all help files is HELP, a sub-directory of the TTWIN3 directory.

Location of font files:

The default directory is FONTS, a sub-directory of the TTWIN3 directory.

Chapter 18 |

Session Preferences

The connect and disconnect actions, startup options, along with the menu control features of your current session are defined here. When you select the **Session** tab of the **Preferences** tile, the **Session Preferences** dialog is displayed.

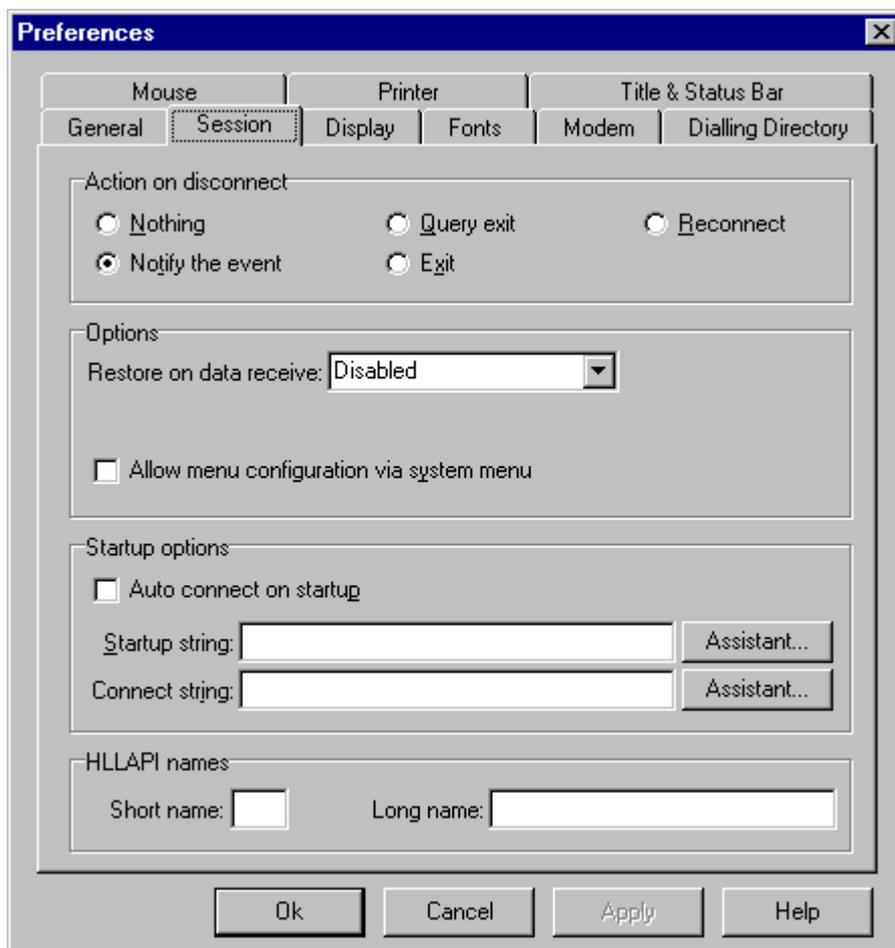


Figure 18.1: **Session Preferences** tile

Action on Disconnect

When a disconnection of the remote host is issued (logout, ^D, exit, quit - all these commands are remote system dependent) several options are available.

| | |
|--------------------------------|---|
| <u>N</u>othing | No tiles to indicate the close of the connection are generated. The connection is quietly closed. The only indication of a closed connection is that the Title bar (if configured) displays Not Connected . On disconnection you stay in TTWIN 3. |
| <u>N</u>otify the event | A tile will appear notifying you that the connection has been closed. The Title bar (if configured) displays Not Connected and you stay in TTWIN 3. |
| <u>Q</u>uery Exit | TTWIN 3 asks if you would like to exit TTWIN 3. |
| <u>E</u>xit | Closes down TTWIN 3 altogether without any notification. |
| <u>R</u>econnect | TTWIN 3 attempts to re-establish a connection. |

With both **Query Exit** and **Exit**, if changes have been made to the current session definition file **AND** the **Query save on exit** option in **Global Preferences...** is selected then, TTWIN 3 will ask you to save the changes. (Refer to *Chapter 17 - General Preferences on page 439*).

This request can be overridden by deselecting the **Query save on exit** option. However, if the **Query save on exit** option is not selected and changes are made then you must remember to save the .TWC file before exiting TTWIN 3. The .TWC file is saved using the **Save...** option on the **File** menu.

Options

Allow selection via system menu

When selected, the **Menu** option is added to the *Windows* Control Command menu. The *Windows* Control Command menu is displayed by clicking on the icon in the extreme top left corner of the TTWIN 3 window, (see *Figure 18.1*). The **Menu** option allows for TTWIN Menu's to be configured, even if the **Menu** has been set to none.

Restore on data receive

This option controls how TTWIN 3 behaves when it is not the foreground application and data is received. The following options are available;

- **Disabled.** Nothing occurs on data receipt.
- **Bring to front.** TTWIN 3 is brought to the foreground.
- **Flash once.** The TTWIN 3 task bar entry flashes each time data is received.
- **Flash continuously.** The TTWIN 3 task bar entry flashes continuously until TTWIN 3 is brought to the foreground.

Startup Options

The **Startup options** determine how TTWIN 3 behaves when first started. These options provide a simple yet effective means of automating the procedure for logging on to your remote host..

Auto connect on startup

If selected, TTWIN 3 automatically attempts to connect to your remote host as defined in the given .TWC session definition file.

- Startup string:** This is a macro, that is executed as soon as the TTWIN 3 is loaded i.e., prior to attempting to connect to the host.
- Connect string:** This string is executed every time you connect, so if you disconnect and then reconnect the string will be executed again.
- As an example, suppose that you wish to have a login script start automatically every time you start TTWIN 3. Then enter the string **\S login**, where the **\S** instructs TTWIN 3 to run the script called **LOGIN.TSL**. The script must be in the scripts directory as defined in Global Preferences or the full path given. (Refer to *Chapter 17 - General Preferences on page 439*).

For details on constructing startup and connect strings, refer to *Appendix A - Macros and the Macro's Assistant on page 497*.

Ensuring Security

For the highest level of security, you need to disable the TTWIN 3 menus. In order to provide some functions to the end user, it is suggested that either a customised popup menu be used via a mouseclick (Refer to *Chapter 23 - Mouse on page 476*), or a toolbar incorporating only the required functions be setup (Refer to *Chapter 16 - Toolbars on page 428*).

Note: *Note: If you wish to remove all toolbars and menu's, you **MUST** select **Auto connect on startup** in Session Preferences. Refer to - Startup Options on page 447.*

Chapter 19 |

Display

Several tools are provided for simplifying and improving the display area of TTWIN 3. These include the control of the cursor style and appearance, the display area layout, scrolling configuration and the scroll history feature. The **Display** dialog on the **Preferences** tile enables you to control the display of these elements.

When you select the **Display** tab the **Display Configuration** tile appears.

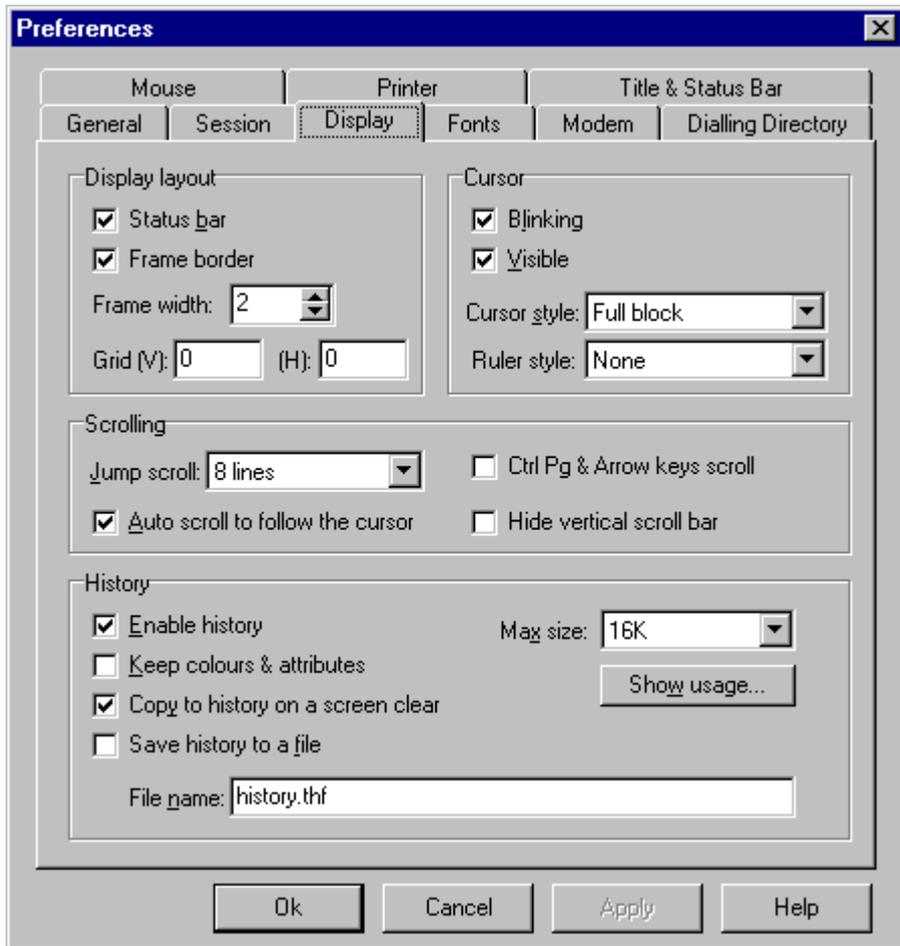


Figure 19.1: Display Configuration tile

Display Layout

This box gives you control over the TTWIN 3 active screen region..

| | |
|----------------------------------|---|
| <u>S</u>tatus Bar: | This enables you to display or hide the TTWIN 3 Status bar. |
| <u>F</u>rame Border | This enables you to activate or remove the border area between the active display area and the TTWIN 3 window. |
| <u>F</u>rame <u>W</u>idth | This allows you to specify the thickness of the frame border used around the display area. |
| <u>G</u>rid | Places a grid over the emulation screen with the entered Horizontal and Vertical Grid spacing. Major and minor Grid spacing can be set by a comma separator. |
| <u>C</u>ursor | |
| <u>B</u>linking | Sometimes locating your cursor on the screen can be a daunting task. Setting the cursor to blink makes finding it quite easy. By default, the cursor is set to blink. |
| <u>V</u>isible | Deselect this option if you have an application where the cursor must be invisible. |

Cursor Style

The actual shape of the cursor can be set to suit particular applications running on your remote system. The cursor styles available are:

- **Small Block.** A half height block filling the lower half of a character.
- **Full Block.** A full character solid block.
- **Horizontal Line.** An underscore character.
- **Vertical Line.** A centred horizontal full character height line.

Note: Some applications and Host systems can and do override these cursor settings.

Ruler Style

Displays a ruler that indicates the current cursor position. The ruler styles are:

- **None.** No ruler displayed.
- **Vertical.** A vertical line is drawn through the emulation screen just to the left of the current cursor position.
- **Horizontal.** A horizontal line is drawn through the emulation screen just under the current cursor position.
- **Crosshair.** A horizontal and vertical line are drawn through the emulation screen and intersect at the bottom left corner of the current cursor position.

Scrolling

This option controls the rate at which scrolling of the screen is performed.

- Jump scroll:** By clicking on the drop down menu on the **Jump scroll** field, the available scroll rates are displayed. Setting this to 4, for example, will cause the display to be updated whenever 4 lines have been scrolled.
- Auto scroll to follow the cursor** When selected any downward cursor movement will result in the screen scrolling to follow.

History

The scroll history facility enables information that has scrolled off the screen to be viewed

- Enable history** Select to enable the scroll history feature.
- Use ctrl PgUp / PgDn for history scrolling** When selected, this option allows you to use the CTRL_PGUP and CTRL_PGDN key combinations to move up or down through the scroll history buffer.
- Max size:** By default, this is 16K. To change the default, click on the drop down arrow on the **max size** field.
Available values are: 8k, 16k 32k, 64k, 128k, 256k, 512k and 1MB.
- Keep colours & attributes** When selected, all screen colours or attributes are retained in the scroll history. Otherwise, information scrolled off the screen is saved as ASCII text.

- Copy to history on a screen clear** When selected and you are using an application or mode of operation which clears the screen, the screen is copied to the scroll history before the clear operation.
- Save history to a file** Select this option to save the history to a file.
- File name** By default, the history is saved to the file HISTORY.THF located in the CONFIG sub-directory. To change this name, enter the new name into the **File name:** field.

To view exactly how much history has been saved, click on the **Show Usage...** button. The **History buffer usage** tile (*Figure 19.2*) details exactly how much data has been copied to the history buffer.

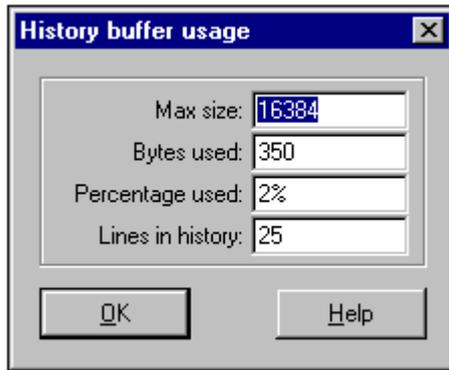


Figure 19.2: **History buffer usage** tile

- Max size:** The amount of space allocated to the scroll history buffer. If you are saving the scroll history to a file ensure that you have enough free disk space on the destination drive.
- Bytes used:** The current size of scroll history buffer usage.

Percentage used: The percentage of the allocated scroll history buffer currently occupied with data.

Lines in history: The number of lines in current scroll history data.

Chapter 20 |

Fonts

The appearance of TTWIN can be altered quite dramatically by selecting a new font, font style or font size. Select the **Font** tab from the **Preferences** dialog to change the font, font style or font size. The **Font Configuration** tile is then displayed.

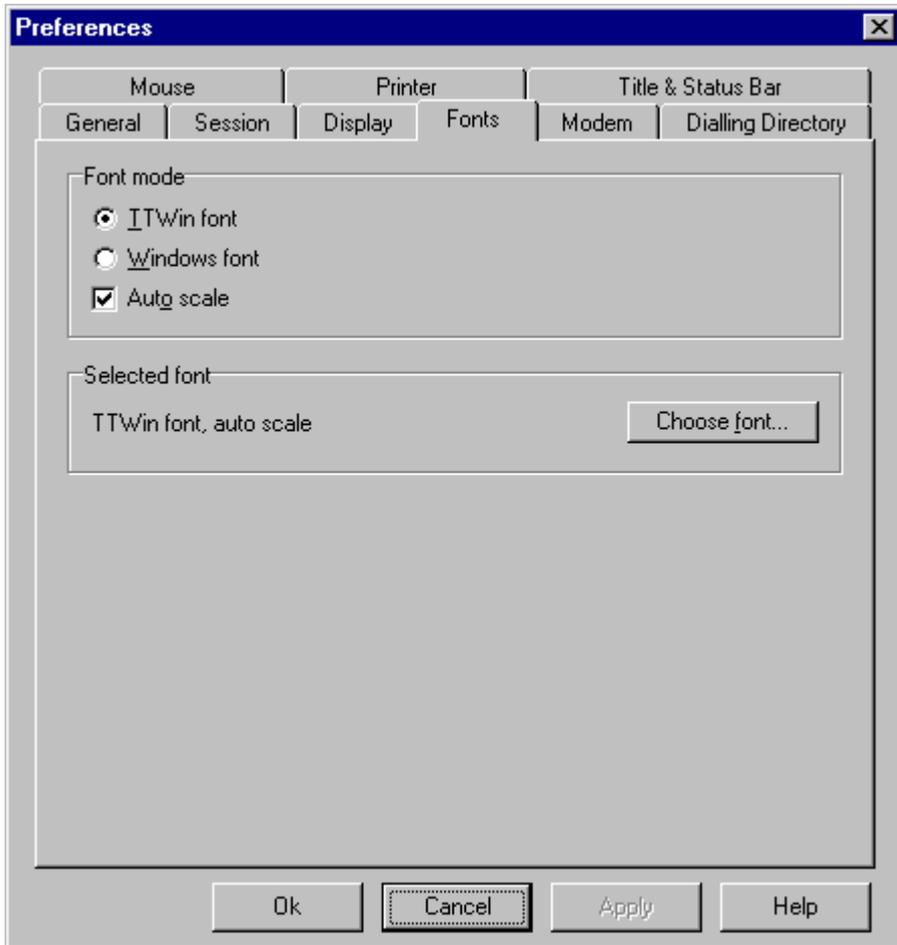


Figure 20.1: **Font Configuration** tile

Font Mode

TTWIN is supplied with a specially prepared font set but you can also use *Windows* supplied fonts, if desired.

TTTWIN font

The specially prepared TTWIN font set.

TTWIN provides all the fonts required for the TTWIN emulations. If you choose to select a *Windows* font in place of the TTWIN font set there is no guarantee of a stable and accurate terminal emulation.

Windows font

Should you find the supplied TTWIN font sets not to your liking, then the *Windows* fonts offer locally available system font sets, such as the familiar `Courier` and Times Roman.

Auto scale

Using the currently selected font set, whenever the TTWIN window is resized by the user, the font is scaled to best fit the new active window region.

When using automatic font scaling with TTWIN fonts, the **Fonts...** option is disabled.

Selected font

The currently selected font is shown along with its size. If **Auto scale** is selected then only the font style is displayed.

Changing the Font Set, Font Size or Font Style

After choosing to use either *Windows* fonts or TTWIN fonts, the **Choose font...** option enables you to change the font set, the font style and/or font size.

Note: *When using TTWIN's automatic scaling font set, the **Choose font...** option is disabled, see Figure 20.1.*

The operation of the **Choose font...** option depends on whether you have selected TTWIN fonts or *Windows* fonts.

If TTWIN font is selected:

Use the **Choose font...** option to change the selected TTWIN font size.

When you click on the **Choose font...** button, you will be presented with a complete list of the TTWIN font sets, see *Figure 20.2*.

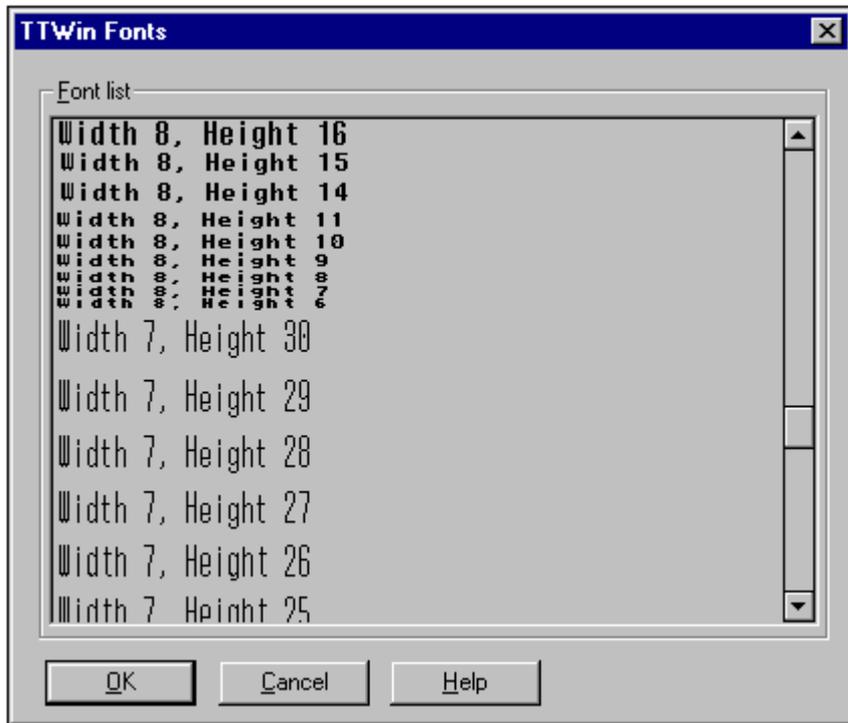


Figure 20.2: TTWin Fonts tile

Choose the new font size then click on **OK**.

If Windows font is selected:

Use the **Choose font...** option to change the font, font style and/or font size.

When you click on the **Fonts...** button you are presented with the **Font** tile, see *Figure 20.3*.

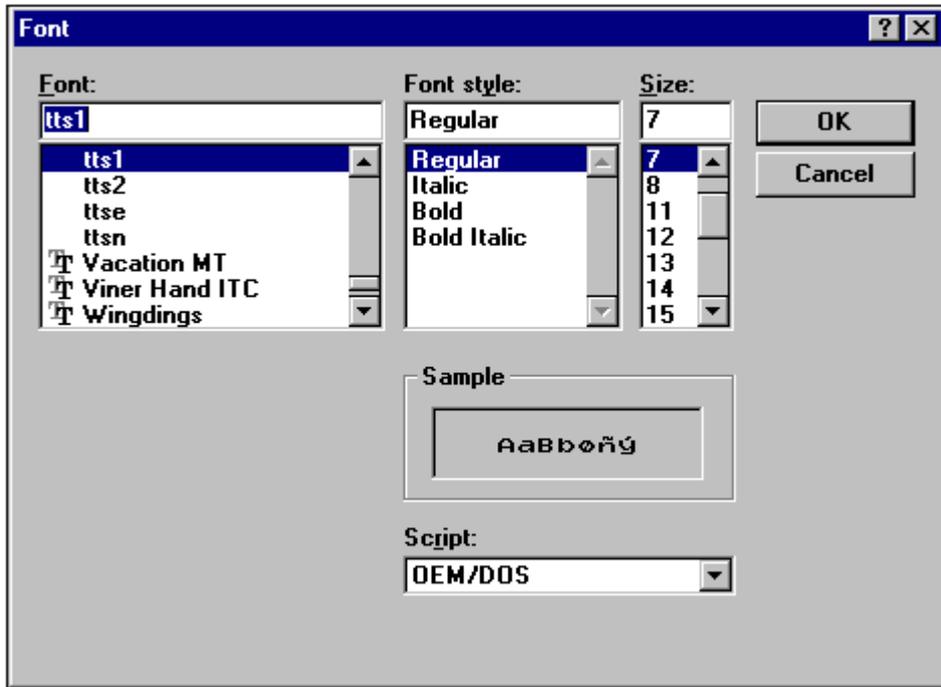


Figure 20.3: **Font** tile (*Windows*)

The tile shows a list of the available *Windows* fonts. By scrolling through this list you can choose the font you require. The list of available fonts depends on the set of fonts installed on your system.

You may also select the style and size from the appropriate list. The appearance of the selected font can be seen in the **Sample** box.

Chapter 21 |

Modem

As well as being able to communicate via a wide range of network communications protocols, TTWIN 3 can also be used over a modem. The modem configuration allows you to optimize TTWIN 3 for your specific modem.

Select the **Modem** tab from the **Preferences** dialog to display the **Modem Configuration** tile.

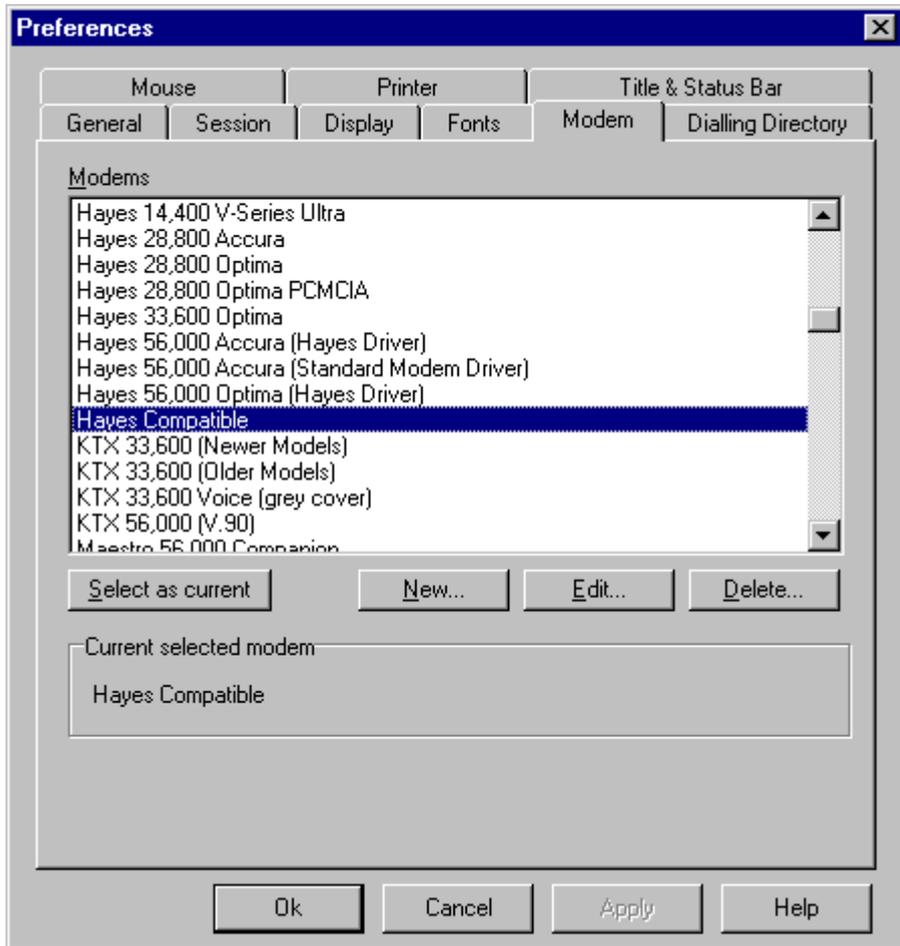


Figure 21.1: **Modem Configuration** tile

The **Modem Configuration** tile will let you set up your modem so that you can access your remote host over a dial-up connection, using **Serial Comms** communications.

Modems

A list of the defined modems.

TTWIN 3 comes with a range of predefined modems. If your modem is not in the list, you will need to create a new modem definition. See *Defining a new Modem Entry on page 463*.

Selecting a Modem

To set-up TTWIN 3 to communicate with your particular modem, you need to scroll through the list of defined modems on the **Modem Configuration** tile (*Figure 21.1*).

When you locate your modem, highlight it then click on the **Select as current** button to load those details as the current modem.

Whenever you use the **Dial...** option under the **Actions** menu, the currently selected modem settings will be assumed for your attached modem.

Should your modem not appear in the **Modems** list, then you need to define a new modem entry.

Defining a new Modem Entry

While your particular modem may not appear in the **Modems** list that is supplied, it is possible that there is an existing modem entry which has very similar characteristics to your modem.

For example, all Hayes compatible modems follow the same set of modem commands (referred to as the *AT command* set) for initialising, dialing and hanging up the modem. The difference will be in the usage of these commands.

The *Hayes compatible 2400 Modem* entry can be used on any standard 2400 baud Hayes compatible modem, unfortunately the more expensive and elaborate modem features may not be utilised. To use these extra features another entry is required including extra Hayes commands. Please refer to the manual supplied with your modem for the applicable commands.

To define a new modem entry, click on the **New...** button. This will display the **New Modem** tile (*Figure 21.2*).



Figure 21.2: **New Modem** tile

Use the **Based on:** drop down menu to select the modem most like the one you wish to create, then enter the name of your new modem entry. Selecting **OK** will take you to the **Edit Modem** tile to edit the parameters for your new modem entry. The initial parameters presented will be those of the modem the new entry is based on.

Editing Modem Details

TTWIN 3 must be given the specific commands for your local modem to automate the connection to a remote modem.

The **Edit Modem** tile (*Figure 21.3*) allows you to set-up a modem entry for your **Modems** list. The **Edit Modem** tile can be reached by two different approaches:

- **To edit an existing entry.** Highlight the modem entry in the **Modems** list you wish to modify, then click on the **Edit...** button.
- **To create a new modem entry.** Highlight the modem entry in the **Modems** list most similar to yours then click on the **New...** button. After entering the description for the new entry you are automatically placed in the **Edit Modem** tile.

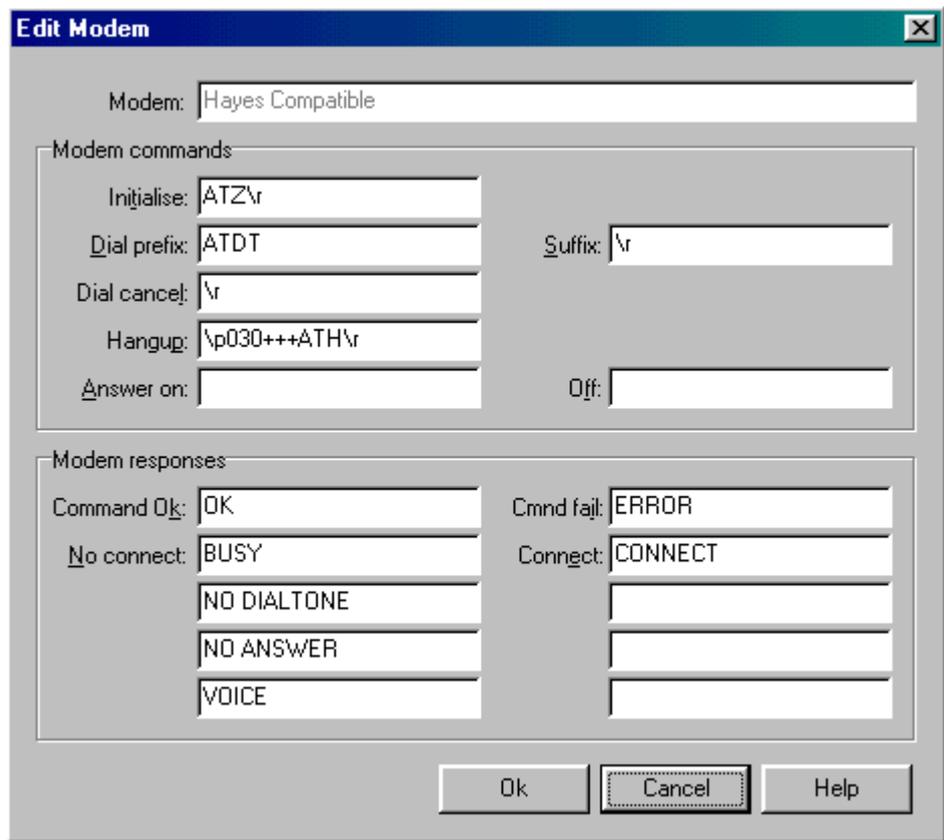


Figure 21.3: Edit Modem tile

The **Edit Modem** tile contains the various commands required to dial, connect, communicate and hang-up the remote modem.

Modem name

A descriptive name to be used for the modem on the current **Edit Modem** tile.

Modem commands

The following set of commands will allow TTWIN 3 to communicate both to, and through, your modem.

Initialise: Modem initialisation string. This string consists of an array of modem commands, which set up the way the modem is to handle the dialing out, connecting and communicating. Refer to your modem's reference guide for further details.

Dial prefix: The dial prefix tells the modem how to handle the phone number. It is sent to the modem prior to sending the remote modem's phone number.

For example, ATDT is a Hayes command instructing the modem to tone dial the supplied number (ATDP is pulse dial). If a pause is required in the phone number then the **Dial prefix** field may look something like this:

```
atdt0\p010
```

In this example, after the ATDT, you dial a 0 (zero) then pause for 1 second before dialing the phone number given in the **Dial...** option of the **Actions** menu.

Suffix: After the phone number has been passed to the modem, a suffix needs to be sent to tell the modem to action the command. Typically this is `\r`, a carriage return.

For example, referring to the **Dial prefix:** and **Suffix:** in *Figure 21.3*, sending a `\r` causes the sequence `ATDT<phone_number>` to be executed.

Dial cancel:

If the user, for any reason, wants to cancel the dialing, the dial cancel sequence will terminate the process.

Hangup:

When you have finished communicating with the remote host, you must transmit a hang-up sequence to close down the connection.

The string transmitted is executed as a macro and as such can involve a set of instructions for closing down the connection to the remote host and then closing down the modem connection.

For example, with the string

logout\r\p030+++ATHO\r

sends a logout command then a 3 second pause, followed by a Hayes command of +++ (3 pluses) which enables the modem's command mode down the modem connection and lastly, issues the modem specific hangup command.

**Answer on: and
Off:**

This option controls whether or not your modem responds to incoming calls. Enter the modem commands to turn answer mode on and off.

Modem responses

When you ask your modem to dial a remote host, one of several outcomes will occur:

- the remote modem answers
- the remote modem is engaged,
- there is no answer,
- a person answers the call.

For the modem to be able to react to any of these situations the **Modem responses** are used.

Command ok:

When you send a command to your modem, it should reply to signify that the command was received and interpreted without a problem.

For example, a Hayes compatible modem this is OK.

Cmnd fajl:

If your modem can not interpret a command, it should return with an error.

For example, a Hayes compatible modem this is the string ERROR)

No connect:

If the local modem does not connect to the remote modem successfully, it needs to be able to return a message, which, to some degree, is informative of the problem.

For example, a Hayes compatible modem will return such strings as BUSY, NO DIALTONE, NO ANSWER or VOICE.

Connect:

If your modem is successful in connecting to the remote modem, a string is returned to indicate this.

For example, a Hayes compatible modem such a string could be `CONNECT 1200`, indicating the remote modem has requested and your modem has agreed to communicate at a baud rate of 1200.

Deleting a Modem Entry

To remove a modem entry from the list, highlight the entry, and click on the **Delete...** button.

Chapter 22 |

Dialing Directory

If you need to regularly access various dial-in locations, the dialing entries table allows you to store and recall their modem numbers.

When you select the **Dialing directory** tab from the **P**references dialog the **Dialing Directory** tile is displayed.

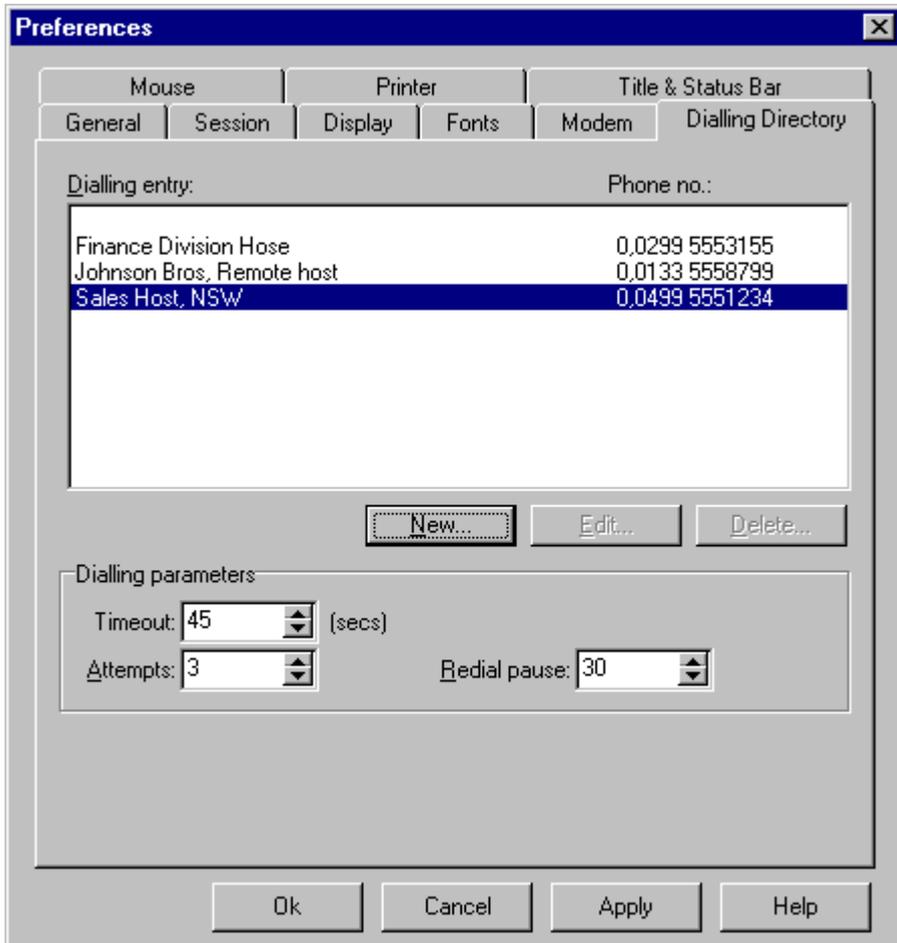


Figure 22.1: Dialing Directory tile

Dialing entries

A list of all the current predefined dialing entries showing the description and number to be dialed.

Dialing parameters

These parameters are specific to normal modem operation and effect all modems and dialing entries.

**Timeout:
(secs)** The time that you want to give your modem to achieve a connection with the remote modem.

Atempts The number of times you want your modem to attempt to make a connection.

Redial pause: The time, in seconds, TTWIN 3 waits before attempting to redial the specified remote host.

Entering or Editing a Dialing Entry

The **Dialing Entry** tile allows for either a new entry to be input or an existing entry to be modified.

Select the **New...** button to enter a new dialing entry, **or** highlight an entry and select the **Edit...** button to alter an existing entry.

A **Dialing Entry** tile, similar to that shown in *Figure 22.2*, will be displayed.

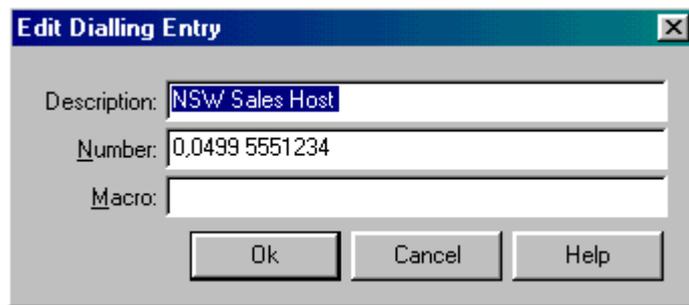


Figure 22.2: **Dialing Entry** tile

- Description:** The description of the dialing entry. For a new entry the **OK** button is disabled until something is entered into the **Description** field.
- Number:** The phone number to be dialed. This should include any dialing prefix's that may be required. As this number is passed to the modem, any modifier of the selected modem's **Dial** command can be passed as well, e.g., comma's. *Please refer to your modem manual for details.*

Macro:

Enter the macro to be executed when a connection is established.

Macros provide the ability to execute several operations consecutively by means of one initiating action.

For example, a macro (see *Figure 22.2*) can be executed after the remote modem returns a valid **Connect** string. (Refer to *Chapter 21 - Modem on page 461* for more information).

Macros are constructed with standard text, ASCII control codes (referred to as non-printable characters) and special TTWIN 3 codes. For examples of how macros are constructed and examples of commonly used macros see *Appendix A - Macros and the Macro's Assistant on page 497*.

When the details for the entry are complete, click the **OK** button.

Deleting a Dialing Entry

To delete a dialing entry that is no longer in use, first select the entry.

Having selected the entry you wish to remove click on the **Delete...** button to remove the entry from the dialing directory list.

Chapter 23 |

Mouse

The mouse operation in TTWIN 3 can be configured to associate a variety of events, actions or tasks with mouse clicks or mouse and keyboard combinations. This provides the ability to configure the mouse with a large range of functionality and customise it to individual site requirements.

The Mouse Configuration dialog is available when you select the Preferences option on the Configure menu.

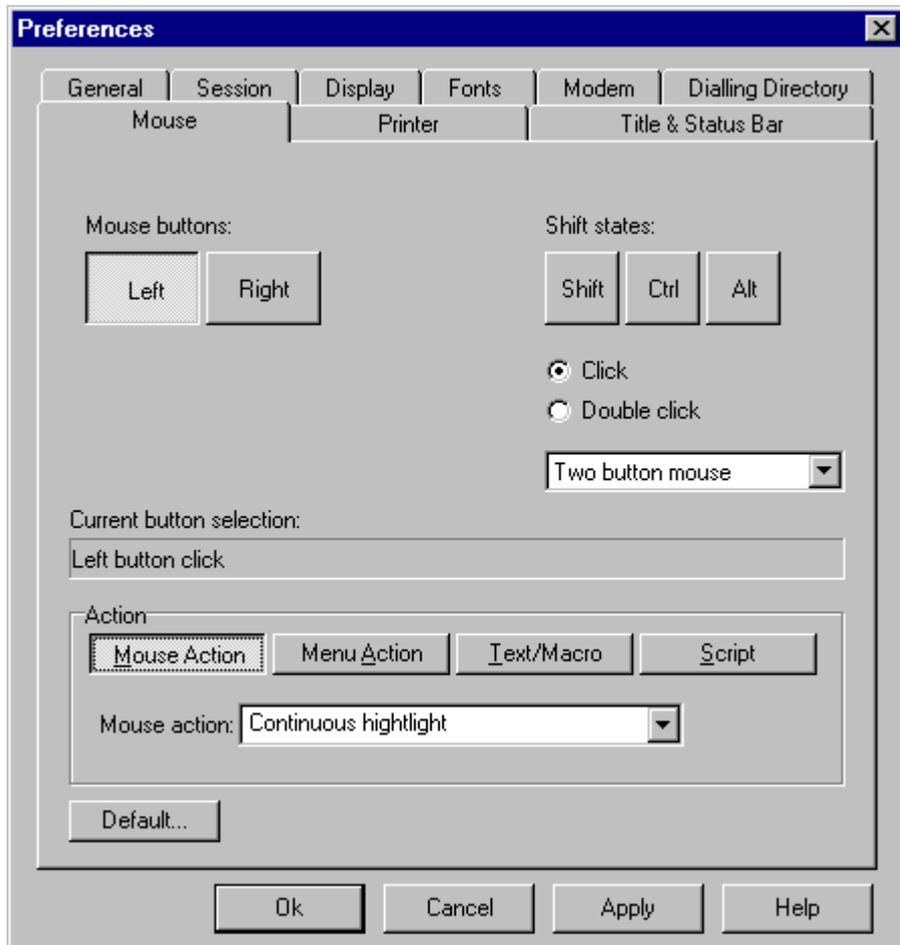


Figure 23.1: Configure Mouse tile

The Mouse configuration tile is divided into two main sections. The upper section is used to select the mouse event to be configured, whilst the lower section is used to select the action to take place when the mouse event occurs.

Mouse buttons

This displays the mouse buttons that are available for configuration. If you are configuring a two-button mouse then Left and Right buttons will be available for selection. If you are configuring a three-button mouse then Left, Middle and Right buttons will be available for selection. By clicking on the desired button it becomes selected for configuration. The "Current button selection:" window will also indicate which button has been selected.

Shift states

This displays the various shift states that can be applied to the selected mouse button, resulting in the unique mouse event that can be configured. By clicking on the various shift state buttons they will be added to the selected mouse button to create the unique mouse event that you wish to configure. The **Current button selected:** window will indicate the shift states that have been selected.

Click / double click option

This option can be used to determine the type of mouse click that will be used to activate this mouse event. The **Current button selection:** window will indicate which click option has been selected.

Mouse selection option

This option can be used to set the mouse type as either a two-button or a three-button mouse. The number of mouse buttons available for configuration in the Mouse buttons: section is determined by this setting.

Current button selection

This window is used to display the current mouse event that is to be configured. It reflects the current mouse button selected, and shift states that have been applied and the type of mouse click that will be used.

Action

This section is used to determine the type of action that is to be associated with the mouse event that has been configured above. There are four possible types of action that can be selected, and when selected the appropriate selection process for that action is displayed.

Mouse action. These are unique mouse controlled actions that include:

- **Not assigned:** The mouse action is ignored.
- **Rectangular highlight:** This highlights a rectangular portion of the display area.
- **Continuous highlight:** This highlights a continuous line of text from the display area. The selection starts at the row and column location corresponding to the mouse pointer location when the command was issued and includes all partial and complete lines of text up to the location at which the mouse button is released.

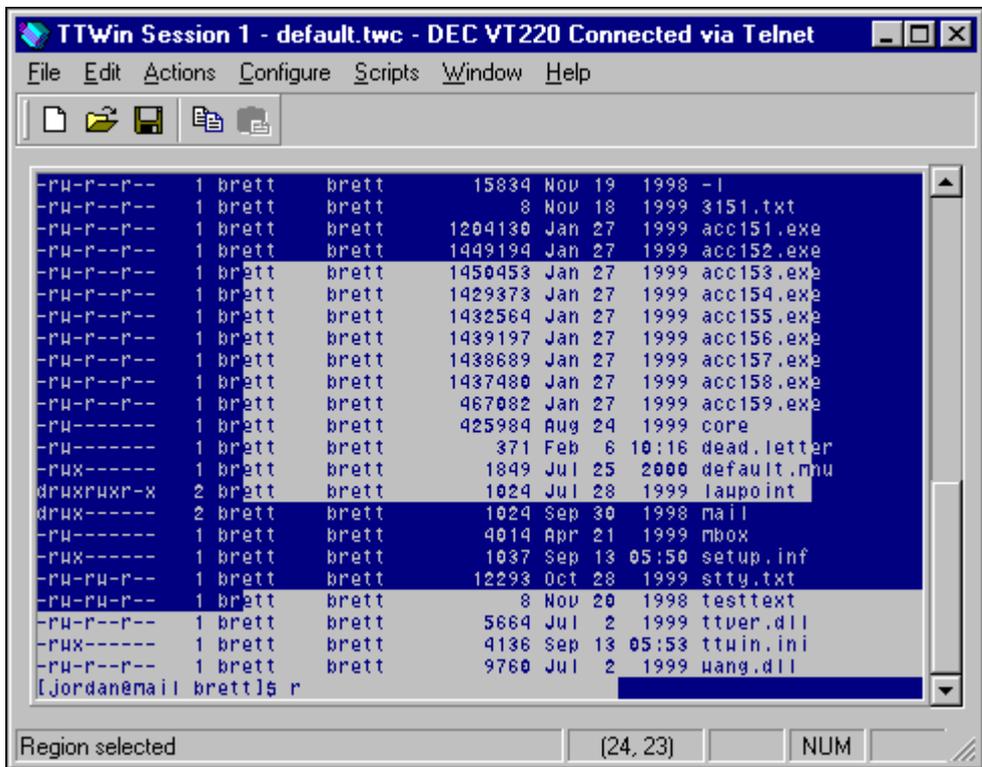


Figure 23.2: Rectangular and Continuous Highlights tile

- **Highlight word:** This highlights the word that is currently located under the mouse pointer.
- **Send word:** This copies the word currently under the mouse pointer to the current location of the cursor.

- **Popup menu:** This displays the currently defined Popup menu at the current mouse pointer location. Refer to *Chapter 15 - Menu on page 417* for creating and defining Popup menus.
- **Move cursor:** This will move the cursor to the current mouse pointer location.

Note: This option only works with block mode emulations, it is not available on every emulation.

Menu action

This enables any standard Menu action to be assigned to the mouse event. The Menu action can be selected from the drop-down list.

Text / Macro

This enables a text string (or Macro) to be assigned to the mouse event. The string can be entered directly or the Macro Assistant can be used by selecting the Assist button. For more details on the operation of the Macro Assistant feature. Refer to *Appendix A - Macros and the Macro's Assistant on page 497*.

Script

This allows a T*TW*IN Basic script to be assigned to a mouse event. The script that is to be run can be selected either via a Drop-down menu or via a Browse button.

Default Button

This will reset all mouse mappings back to their "factory" default values. The default values will replace all mappings including those saved in the T*TW*IN 3 session (twc) file.

Chapter 24 | ***Printer*** |

In order to simplify the printing operation, TTWIN 3 printer configuration provides the facility to send print control sequences over and above that which is offered in *Windows*.

Select the **Printer...** option from the **Preferences** file. The **Printer Configuration** tile is then displayed.

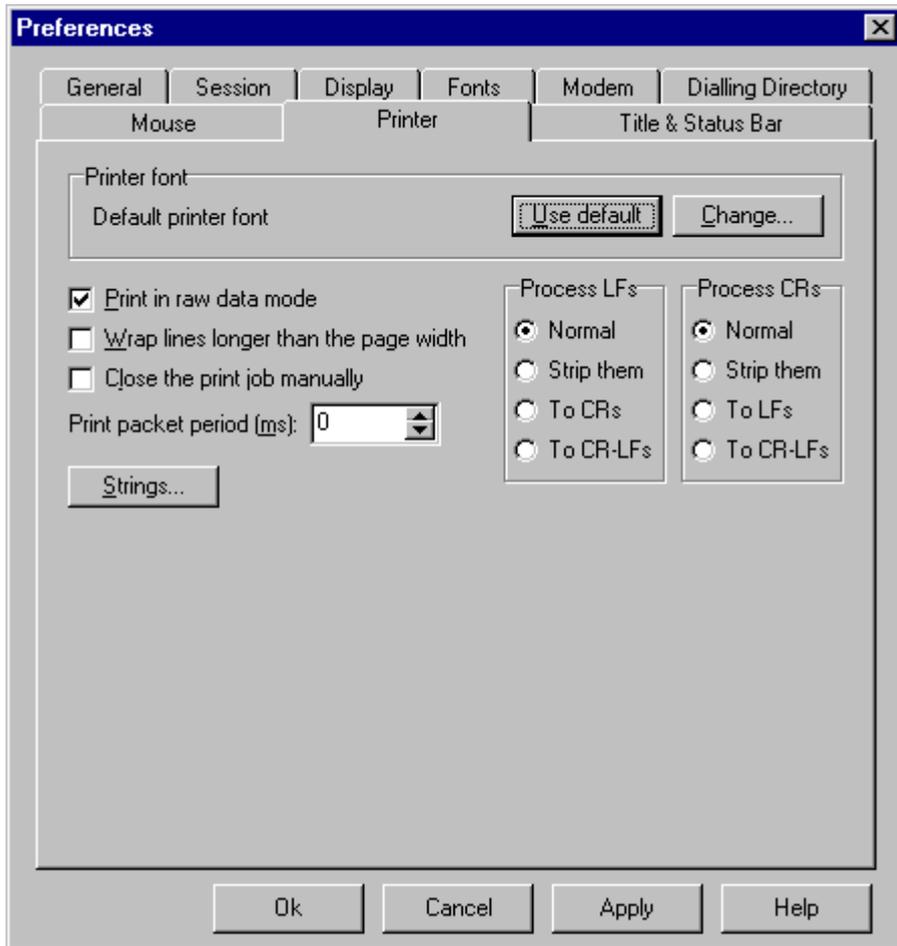


Figure 24.1: **Printer Configuration** tile

Printer Font

This indicates the selected font for any print job.

Click on the **Use default** button to use the default font of the currently selected printer.

Click on the **Change** button to select a font other than the default. When you click on the **Change** button you are presented with the **Font** tile, see *Figure 24.2*.

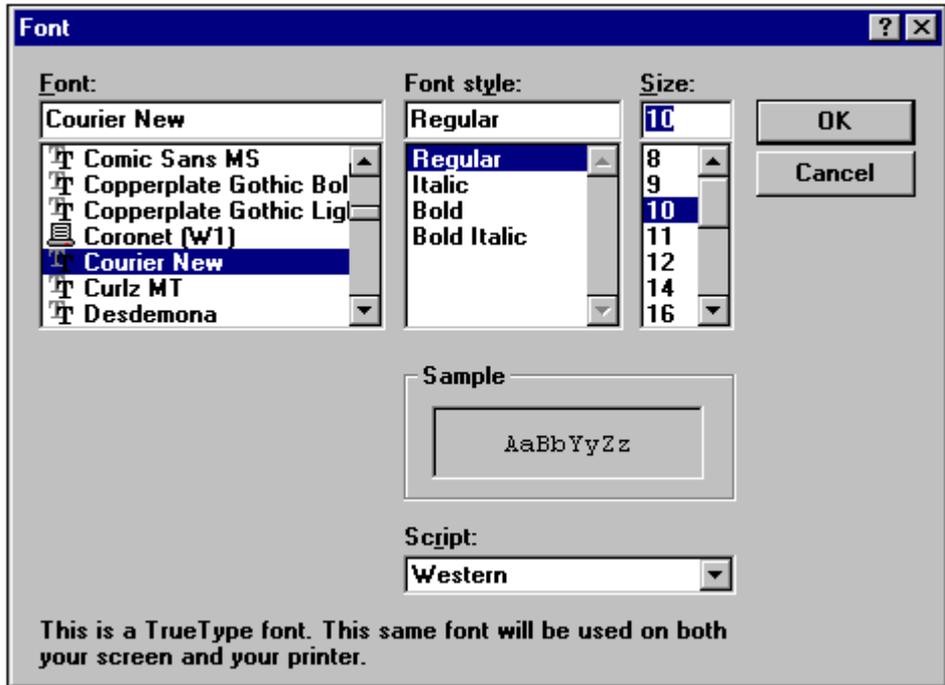


Figure 24.2: **Font** tile (printer)

The **Font** tile shows a list of the available *Windows* fonts. By scrolling through this list you can choose the font you require. You may also select the style and size from the appropriate list. The appearance of the selected font can be seen in the **Sample** box.

Note: *The contents of this list will vary from system to system, depending on the set of fonts installed in Windows.*

Other Options

Print in raw data mode

Printing raw data involves the print job data stream being sent directly to your selected printer with no TTWIN 3 intervention.

When printing in raw data mode, the **Process LFs**, **Process CRs** and **Wrap lines longer than the page width** options will have no effect.

Wrap lines longer than the page width

Lines longer than the width of the print page are wrapped on a new line.

Close the print job manually

There may be times when you need to close the print job manually. This can be done through TTWIN 3. If this option is selected, you can use the **Close print run...** option on the **File** menu to close the print job.

Print Packet Period (ms)

The time, in milliseconds, between printer packets. TTWIN 3 queues printer data and downloads it to your *Windows* printer driver in small packets.

Adjust the rate to suit your driver.

Process LFs

This parameter determines how TTWIN 3 handles linefeeds sent by the host.

Normal

Linefeeds are processed normally.

Strip them

Linefeeds are removed.

To CRs

Linefeeds are converted to carriage returns.

To CR-LFs

On receipt of a linefeed, a carriage return is performed as well as a linefeed.

Process CRs

This parameter determines how TTWIN 3 handles carriage returns sent by the host

| | |
|-------------------|--|
| Normal | Carriage returns are processed normally. |
| Strip them | Carriage returns are removed. |
| To LFs | Carriage returns are replaced with linefeeds. |
| To CR-LFs | On receipt of a carriage return, a linefeed is performed as well as a carriage return. |

Print Strings

Print strings are used to control the operation of the printer. Refer to your printer's reference manual for information on your printer's control strings. Refer also to *Appendix A - Macros and the Macro's Assistant on page 497*.

When you click on the **Strings...** button the **Advanced Printer Configuration** tile is displayed.



Figure 24.3: **Advanced Printer Configuration** tile

Printer Strings

String to print at start of job

The string entered here is sent to the printer prior to the print job being sent. This is typically used to initialise the printer.

String to print at end of job

This string is sent to the printer after the end of the print job.

Assistant button

Start the String Assistant. Please see *Appendix A - Macros and the Macro's Assistant on page 497*.

Chapter 25 | Title & Status Bar

The **Title & Status Bar** tab allows you to specify the details that appear in the Title bar of each TTWIN 3 session. This is particularly useful when there are multiple sessions connected to the same host. By using individual session titles, or by using session number variables, each session can have a unique title. This makes control of the various sessions far easier and therefore more efficient.

In addition, a **Minimised title** can now be defined. This title is used whenever TTWIN 3 is minimised to the taskbar, and does not need to be the same as the main title. The title details are saved in the .TWC file, and whenever that particular session file is used to start TTWIN 3 the title details will be used

When you use the *Windows* Sequence ALT+TAB to switch between active *Windows* applications, the main title details of any TTWIN 3 sessions will be displayed.

To add a title to a session, select the **Title & Status Bar** tab on the **Preferences** dialog. The **Title & Status Bar Configuration** tile will then be displayed.

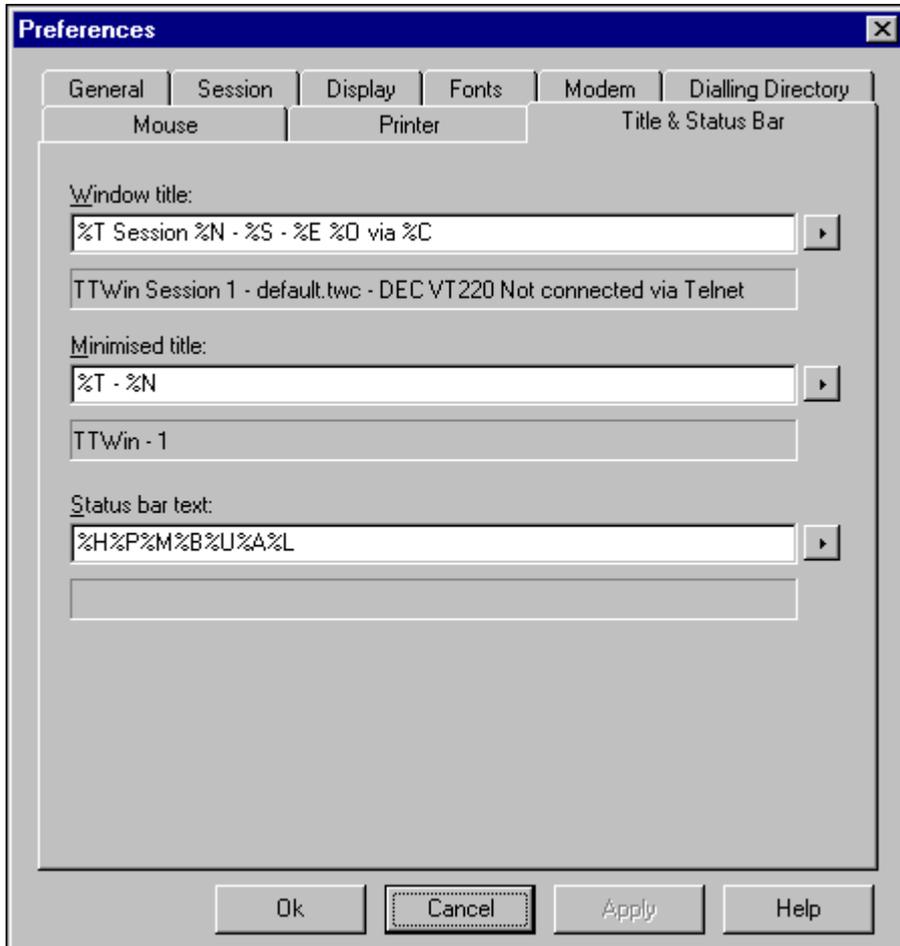


Figure 25.1: The **Title Configuration** tile

| | |
|------------------------|---|
| Window title | This item is used to enter the details that are to appear on the Title bar of the TTWIN 3 session. Any combination of text and title variables can be used. Please refer to the section on <i>Title variables on page 491</i> for further details on their scope and usage. |
| Minimised title | This item is used to enter the details that are to appear in the minimised title. This title is displayed on the <i>Windows</i> Taskbar when the TTWIN 3 session is minimised. Any combination of text and title variables can be used to create the title. Please refer to the section on <i>Title variables on page 491</i> for further details on their scope and usage. |
| Status Bar text | This item is used to enter the details that are to appear on the status bar of the TTWIN 3 session. Any combination of text and title variables can be used. Please refer to the section on <i>Title variables on page 491</i> for further details on their scope and usage. |
| Example | This displays the currently selected title as it would appear when implemented in that session. All of the tokens are translated as per current session details. |

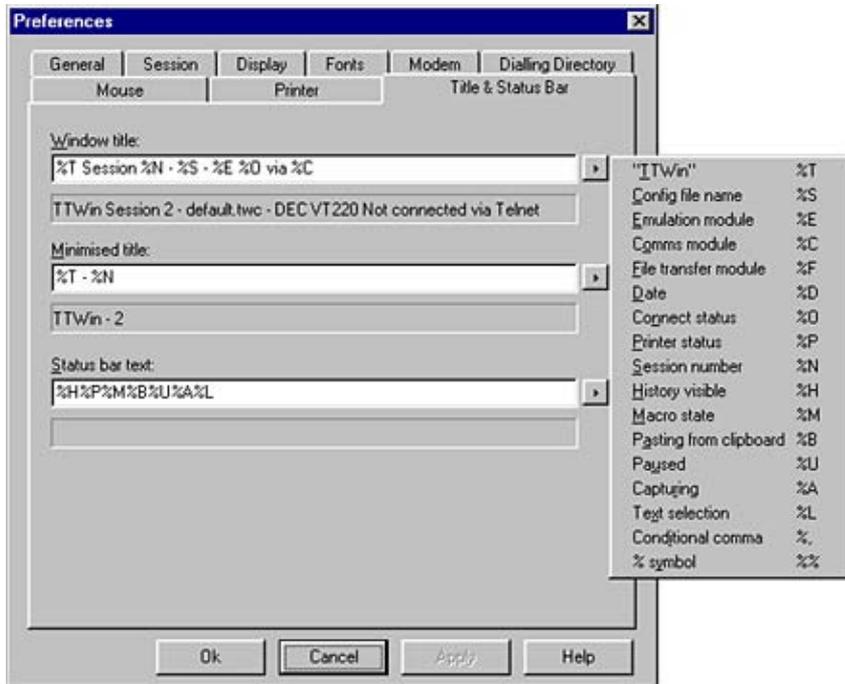


Figure 25.2: Configuring TTWin 3 titles

Title variables

In order to make the TTWIN 3 title more flexible a number of special **variables** are available. These variables allow the title to reflect session details that may change during the course of a session, or that may be different between sessions. The variables available are:

TTWin Inserts the text string **TTWin** into the title.

| | |
|-----------------------------|---|
| Config file name | Inserts the name of the session file into the title. |
| Emulation module | Inserts the current Emulation module into the title. This variable is updated in the title if the Emulation module for that session is changed. |
| Comms module | Inserts the current Comms module into the title. This variable is updated in the title if the Comms module for that session is changed. |
| File transfer module | Inserts the current File Transfer module into the title. This variable is updated in the title if the File Transfer module for that session is changed. |
| Date | Inserts the current date in the title. |
| Connect Status | Inserts the current connection status into the title bar. If the session is connected to a host this will read Connected. If the session is disconnected from the host it will read Not Connected. This variable is updated in the title bar whenever the connection status changes. |
| Printer Status | Inserts the current printer status into the title bar. |
| History visible | Inserts the current state of the visible T*TWIn 3 window into the title bar. If history is being viewed then 'Viewing history' will be displayed. |
| Macro state | Inserts the current state of T*TWIn 3's macro language into the title bar. If a T*TWIn 3 macro is currently executing then 'Macro running' will be displayed. |

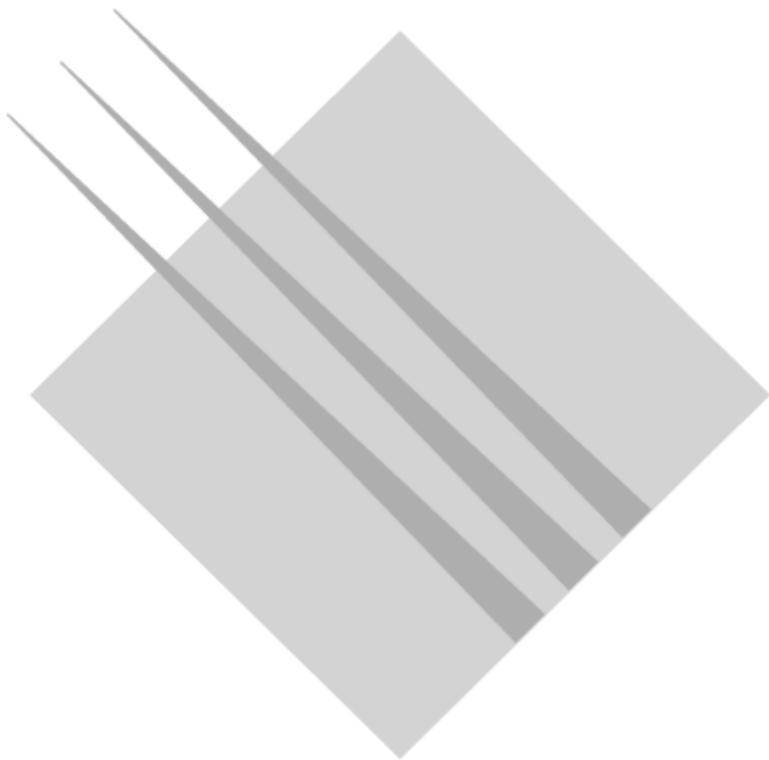
| | |
|-------------------------------|--|
| Pasting from clipboard | Inserts the current state of the pasting mechanism into the title bar. If TTWin 3 is pasting from the clipboard to the emulation window, then 'Pasting' will be displayed. |
| Paused | Inserts the current state of the emulation into the title bar. If TTWin 3 enters a pause state either by user input or host action the 'paused' will be displayed. |
| Capturing | Inserts the current state of the TTWin 3 capture mechanism. If TTWin 3 is currently capturing data then 'capturing' will be displayed. |
| Text selection | Inserts the current date of TTWin 3's text selection mechanism into the title bar. If the mouse is being used to select text within the TTWin 3 emulation window, then 'Region Selected' will be displayed. |
| Conditional comma | Inserts a comma between the currently displayed option and the previously displayed option. The comma is removed when the currently displayed option ceases displaying. |
| Session number | Inserts an integer representing the instance of TTWIN 3 when the session was started. The number is 1 if no previous sessions are running, and is the largest session number + 1 if more than one session is running. This session number does NOT reflect the total number of open sessions nor is it an indicator of the Session ID when using such tools as OCX etc. |

% Symbol

Inserts the text character **%** into the title. This is required as a separate entry as the % symbol is used by TTWIN 3 to represent title variables. This variable adds a "%%" to ensure it is read as a text character.



PART FIVE
APPENDICES



Appendix A | Macros and the Macro's Assistant

Macros can be simply described as a string that provides the ability to execute several operations consecutively from one initiating action. This is done by constructing the macro from a combination of text and "tokens", these "tokens" representing such functions as ASCII control codes, emulation keys, predefined TTWIN 3 functions and so on.

The **Macro Assistant** allows for text strings and Macros to be created via a graphical interface. This interface allows the elements of the Macro to be selected from a list of valid entries and for the resulting string to be easily viewed, understood and modified if required. In addition the Macro Assistant ensures that the elements of the Macro are correctly entered and formatted.

TTWin Macro Commands

Note: In the following table ' ' is used as the delimiter. Any delimiter can be used.

| Code | Description |
|-----------------|-------------|
| <code>\b</code> | Backspace |

Code

`\c' <action><command><parameters>'`

Description

(Macro only) Executes a send, receive or dial command.

where *<action>* is the action to be taken on command failure:

- a abort
- c continue

<command> is the command to execute:

- d dial
- r receive a file
- s send a file,

<parameters> is a list of parameters, separated by commas, for the command. The number of parameters depends on *<command>* as follows:

| Command | Number | Description |
|---------|--------|-------------------------------|
| d | 1 | phone number |
| s | 1 | local filename |
| | 2 | remote filename (optional) |
| r | 1 | local filename |

All omitted parameters are taken as null.

To dial the number 0298765431 with the command aborted if the remote modem does not respond the command would be,

`\cad 0298765431`

| Code | Description |
|---------------------------|---|
| <code>\e' var'</code> | (Macro only) Environment variable. Through this command you can recall system environment settings, such as DOS variable values. For example, <code>\e PATH</code> would return your current DOS PATH settings. |
| <code>\E' command'</code> | Executes a <i>Windows</i> command. |
| <code>\f</code> | Form feed |
| <code>\M</code> | Locate mouse pointer to cursor location. |
| <code>\n</code> | New line |
| <code>\pNNN</code> | (Macro only) Pause for <i>NN.N</i> seconds. For example, <code>\p020</code> would give you a 2 second pause. |
| <code>\r</code> | Carriage return |
| <code>\S' script'</code> | (Macro only) Runs the script <code>SCRIPT.TSL</code> . |
| <code>\t</code> | Tab |
| <code>\xNN</code> | The ASCII hexadecimal value, <i>NN</i> , of the character. For example, the hex value of ESC is 1b hence ESC is represented as <code>\x1b</code> . |

The following macro is for a UNIX system,

```
cd ~\n\p020ls -las\n
```

where:

| | |
|------------------------|--|
| <code>cd ~\n</code> | change to the user's home directory |
| <code>\p020</code> | pause for 2.0 seconds |
| <code>ls -las\n</code> | generate an extended directory listing |

The Macro Assistant

The Macro Assistant is a graphical interface that can be used for creating Macros to be used as required throughout T^TWIN 3.

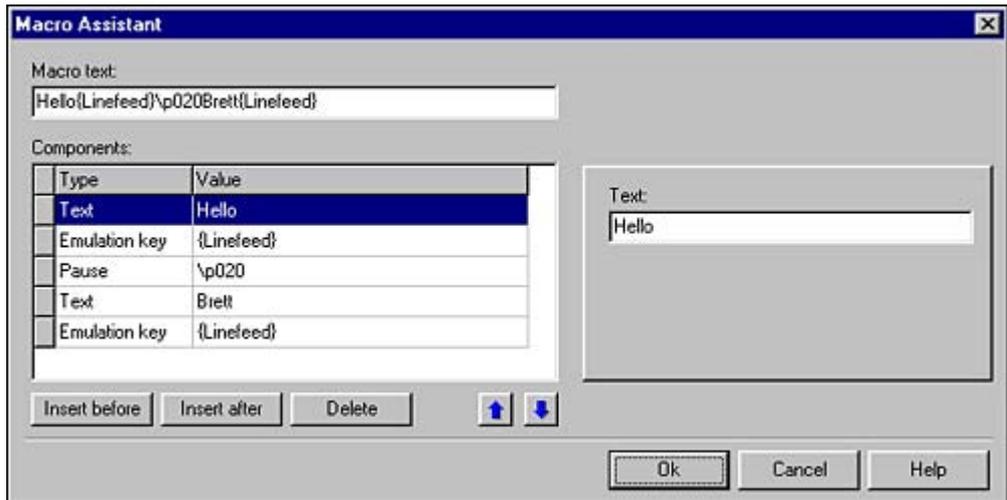


Figure A.1: The **Macro Assistant** tile

Macro text

This dialog box is used to display the text of the Macro in question. As the Macro is created the display reflects the changes that are made. In addition the Macro text can be edited directly, and any changes that are made are interpreted and listed in the Components section of the tile.

Components

This list identifies each of the components of the macro, displaying the type of component and its value. If you select a component of the Macro from this list, its Edit dialog will be displayed to the right of the list.

Components of the Macro can be rearranged using either the drag&drop buttons to the left of the entries, or by selecting the appropriate entry and using the up/down arrows to adjust its location. By default a blank Text component is placed in this list when the Macro Assistant is started.

Component types

Several different component types are available in the Macro Assistant. These include:

- **Text.** This is used to enter standard text.
- **Ch^{aracter}.** This is used to enter either special characters such as LF, CR etc or to enter Hexadecimal values. See Macro Commands for details.
- **Pause.** This adds a pause to the Macro. See Macro Commands for details.
- **Script.** This adds a TWin Basic script to the Macro, for execution when the Macro is run. See Macro Commands for details.
- **Environment var.** This is used to recall system environmental settings. See Macro Commands for details.
- **External command.** This is used to execute a Windows command. See Macro Commands for details.

- **Function.** This is used to execute a send, receive or dial command. See Macro Commands for details.
- **Mouse to cursor.** This is used to relocate the mouse pointer to the current cursor location in the display area. See Macro Commands for details.
- **Emulation key.** This is used to add a predefined Emulation key to the Macro. The Emulation keys that are available to the Macro are dependent on the currently selected emulation module, and a key that is available in one module may not be valid in a different module.

Insert before button

The **Insert before** button is used to add a new component to the Macro, causing it to be placed ahead of the highlighted entry in the Components list. When selected, a list of valid component types is displayed. Once a component type is chosen, an entry is placed in the Components list and

the Edit dialog for that component type is displayed to the right of the tile. This Editor can then be used to set the appropriate values for that component.

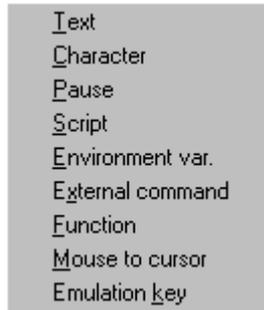


Figure A.2: **Macro Assistant Insert Function** tile

Insert after button

The **Insert after** button is used to add a new component to the Macro, causing it to be placed after the highlighted entry in the Components list. When selected, a list of valid component types is displayed. Once a component type is chosen, an entry is placed in the Components list and the Edit dialog for that component type is displayed to the right of the tile. This Editor can then be used to set the appropriate values for that component.

Delete button

The **Delete** button removes the selected component from the Components list, and therefore from the Macro. If only one component is listed when the Delete button is pressed, that component is removed and a blank Text component is added.

Host Initiated Macros

Note: This section only applies if you are able to modify applications or write programs for your host.

It is possible to automatically trigger events in TTWIN 3 in response to sequences sent from the host. One way to do this is to use a host initiated macro.

The first step is to set up a macro trigger sequence in the TTWIN 3 session configuration file (i.e., DEFAULT.TWC). Sending the trigger sequence from the host is dependant upon the host's operating system. You will need to be familiar with the operating system on your host.

For example in a UNIX environment you can use an ECHO command in a shell script.

If after consulting your operating system literature you require further assistance please contact Turbosoft for guidance. (Refer to the inside front cover for contact details.)

Defining Host Initiated Macros

There are 2 sections in the definition of a host initiated macro:

- Trigger sequence
The trigger sequence is defined with the **MacroSeq** profile string. It is recommended that you define a sequence that is unlikely to occur. For this reason ESC is not a good character to start the sequence.
The default trigger sequence is `\x1f~`, where `\x` indicates that the next two characters are a hex value, i.e., 1F.
- Macro
Up to 10 macros can be defined with the **MacroN** profile string. Alternatively, a delimited macro can be sent in the host stream prefixed by *m*.

You need to modify your .TWC file by adding the profile strings to the [Session] section as follows,

[Session]

...

...

MacroSeq=xxxxxxx

MacroN=macro_n

where **xxxxxxx** is any sequence of characters. If **MacroSeq=xxxxxxx** is omitted the default trigger sequence, **\x1f~**, is expected.

N, a number from 0 to 9 (inclusive), is the number of the macro to be executed.

macro is a macro.

The Interpretation of the Input Stream

When running the session, TTWIN 3 scans the input stream for the trigger sequence defined with the **MacroSeq** profile string. If a trigger sequence is not defined, TTWIN 3 scans for the default trigger sequence, **\x1f~**.

After recognising the trigger, TTWIN 3 looks for the next character and responds as follows:

| Character | Response |
|------------------|---|
| 0 | The macro defined by the profile string Macro0= is executed. |
| ... | ... |
| 9 | The macro defined by the profile string Macro9= is executed. |
| m | TTWIN 3 continues to scan the input stream for a delimited macro. When the macro is completely read, it is played back. |

For example, given the following session settings,

```
[session]
```

```
...
```

```
[session]
```

```
...
```

```
MacroSeq=\x1f~
```

```
Macro0=\cad+022813005+      - dial the number 022813005
```

```
Macro1=\S'script1.tsl'     - run a TTWIN script called script1.tsl
```

If TTWIN 3 receives `\x1f~0` from the host, **Macro0** is executed and TTWIN 3 attempts to dial 022813005.

If TTWIN 3 receives `\x1f~1` from the host, **Macro1** is executed and the script `SCRIPT1.TSL` runs.

If TTWIN 3 receives `\x1f~m` from the host, TTWIN 3 continues to read the input stream for the macro. The input stream `\x1f~m_\cad+022813005+_` would produce the same result as `\x1f~0`.

Appendix B

Installing the Pick File Transfer Host Components

File transfers between workstations running TTWIN 3 and host systems running the Pick database / operating system are different from all other file transfers handled by TTWIN 3 in that they are always fully controlled from the host environment. In order for this to operate correctly a number of modules provided by TurboSoft need to be uploaded from the workstation to the host system. These proprietary modules are unique to TTWIN 3 and will not run with any other file transfer product.

There are several tasks involved in preparing the Pick file transfer for use. In summary these can be described as preparing a TTWIN 3 account on the host environment and then the uploading of the host files. The instructions below will allow you to complete this task.

1. Run TTWIN 3, select the configuration file that you use to access your Pick host and then select **Pick File Transfer** as your File Transfer module. Save your configuration file to ensure the modifications are not lost.
2. Connect to your host environment and create an account TTWIN.23 on your host system. For example, in D3 use the command;

`create-account TTWIN.23`
3. Log to this newly created account and create the file 'TT.PROGS'. This is a program file and needs to be type 1 on

systems where this is applicable. For example, in D3 use the command;

```
CREATE-FILE TT.PROGS 1 48
```

or on UniVerse systems;

```
CREATE.FILE TT.PROGS 1
```

4. On UniVerse hosts, you must temporarily turn off case inversion if active. Issue the command `PTERM CASE NOINVERT`. This is only necessary for the duration of the install, and should be reset after the host modules are installed..
5. From the TTWIN 3 Menu bar select **Scripts**, and from the drop down menu choose the **Load Pick Host Software** script. This will begin the upload of the host modules
6. Select the type of Pick system that you are installing to. If your system is not present, please contact Turbosoft on +61 2 8396 3000 or email to support@ttwin.com for assistance.

Appendix C | Glossary

802.2 IEEE standard specification for Logical Link Control, which defines services for the transmission of data between two hosts at the Data Link layer of the OSI seven layer model.

802.3 IEEE standard specification for what is commonly referred to as Ethernet.

802.5 IEEE standard specification for what is commonly referred to as Token Ring.

Activation key A serial number based encrypted code supplied by TurboSoft to activate copies of TTWIN.

Address mask A bit mask used to select bits from an Internet address for subnet addressing. The mask is 32 bits long and selects the network portion of the Internet address and one or more bits of the local portion. Sometimes called subnet mask.

ANSI (American National Standards Institute) The U.S. standardization body. ANSI is a member of the International Standardisation Organisation (ISO)

API Application Program Interface.

| | |
|--------------------------|---|
| Application layer | The ISO OSI layer that provides services to the application processes such as electronic mail and file transfer. |
| ARP | Address Resolution Protocol. See also RARP. |
| ASCII | (American Standard Code for Information Interchange) This is one of the methods of representing text characters inside a computer. |
| Attribute | This is a way of enhancing characters on screen by adding features such as <u>underline</u> , bold or a colour. |
| Backbone | The primary connectivity mechanism of a hierarchical distributed system. All systems which have connectivity to an intermediate system on the backbone are assured of connectivity to each other. This does not prevent systems from setting up private arrangements with each other to bypass the backbone for reasons of cost, performance, or security. |
| BAPI | Bridge Application Program Interface. |
| BIOS | Basic Input Output System of PC's. |
| Bridge | A device that connects two or more physical networks and forwards packets between them. Bridges can usually be made to filter packets, that is, to forward only certain traffic. Related devices are: repeaters which simply forward electrical signals from one cable to another, and full-fledged routers which make routing decisions based on several criteria. In OSI terminology, a bridge is a Data Link layer intermediate system. See Repeater and Router. |
| Broadcast | A packet delivery system where a copy of a given packet is given to all hosts attached to the network. For example, Ethernet. |

| | |
|---------------------------|---|
| BSD | (Berkeley Software Distribution) Term used when describing different versions of the Berkeley UNIX software, as in "4.3BSD UNIX." |
| Capture | A method used in TTYWIN, of copying to disk any incoming and outgoing information from the remote host. |
| Check sum | Error correction method used for file transfers. |
| Client | Any node in a networking environment that initiates a request for a network service. |
| Communication port | The connector on your computer used to connect via modem or other serial device using the RS232 standard. |
| CRC | Cyclic Redundancy Check, error detection/correction protocol used for file transfers, disks etc. |
| Daemon | A service program that runs continuously on a server system. Most commonly found on a UNIX system. |
| Data Link layer | The ISO OSI layer that is responsible for data transfer across a single physical link or series of bridged connections, between two network entities. |
| DDE | (Dynamic Data Exchange) A form of interprocess communication that uses shared memory to exchange data between applications. |
| DECnet | Digital Equipment Corporation's proprietary network architecture. |
| DLL | (Dynamic Link Library) A file, with the extension .DLL. DLL files are dynamically linked with the program that uses them during program execution. |
| DNS | (Domain Name System) The distributed name/address mechanism used in the Internet. See also Domain name server. |

| | |
|--------------------------------|---|
| Domain | In the Internet, a part of a naming hierarchy. Syntactically, an Internet domain name consists of a sequence of names (labels) separated by periods (dots), e.g., tundra.mpk.ca.us. In OSI, domain is generally used as an administrative partition of a complex distributed system, as in MHS Private Management Domain (PRMD), and Directory Management Domain (DMD). |
| Domain name server | A machine on the TCP/IP network running a domain name resolving utility, which when provided a host name returns, if known, the IP number. See also DNS. |
| Dotted decimal notation | The syntactic representation for a 32-bit integer that consists of four 8-bit numbers written in base 10 with periods (dots) separating them. Used to represent IP addresses in the Internet as in: 192.67.67.20. |
| DOS-box | A term used for the window in which you run a DOS application from within <i>Windows</i> . |
| Download | Transfer data from remote host to local host. |
| Emulation | When used in relation to TTWIN, a program that causes the personal computer to act as if it were a particular terminal. |
| Ethernet | A commonly used Local Area Network protocol. |
| FDDI | (Fiber Distributed Data Interface) A high-speed networking standard. The underlying medium is fiber optics, and the topology is a dual-attached, counter-rotating Token Ring. FDDI networks can often be spotted by the orange fiber cable. |
| Field | A defined data area. |

| | |
|----------------------|---|
| Flow control | A technique for ensuring that the transmitting device, such as a modem, does not overload the receiving device with data. This is also known as pacing. |
| FTP | File Transfer Protocol over TCP/IP. |
| Function keys | A special set of keys which are typically labelled F1, F2 etc. on the keyboard. |
| Gateway | The original Internet term for what is now called a router or more precisely, IP router. In modern usage, the terms <i>gateway</i> and <i>application gateway</i> refer to systems which do translation from some native format to another. See Router. Examples include X.400 to/from RFC 822 electronic mail gateways. |
| GUI | (Graphical User Interface) A user environment that uses icons, buttons, windows and pointers etc. |
| HLLAPI | IBM 3270 High Level Language API. |
| Host | Machine on which applications are executed. A host may be the local machine or the remote machine connected to via Serial Communication, TCP/IP, etc. |
| ICMP | Internet Control Message Protocol |
| Icon | An icon is a graphical representation of an application. For example, by associating the TTWIN icon with TTWIN.EXE, when you double click on the icon the TTWIN.EXE is executed. |
| Interface | A means by which one program may communicate with another. |
| Internet | A term commonly associated with a group of interconnected TCP/IP networks. |

| | |
|------------------|---|
| IP number | A 32-bit address assigned to hosts using TCP/IP. This consists of a network and host code. The host port is signified by an integer and is used to identify destinations within the host, e.g., the port reserved for electronic mail. |
| IPX | Internet Packet Exchange standard used by Novell. |
| Kermit | A data transfer protocol developed at Columbia University and placed in the public domain, which includes error checking to ensure the data is not corrupted during transmission. |
| LAN | Local Area Network. |
| LAT | (Local Area Transport) Digital Equipment Corporation's Ethernet based terminal server networking protocol. |
| Login | The action by which you gain access to and establish your identity to a remote host. |
| MDI | Multiple Document Interface. This T ^T WIN 3 run mode allows for multiple sessions to run concurrently in the same T ^T WIN 3 application as child sessions. Each session is displayed as a window under a common T ^T WIN 3 desktop, and all sessions use the same menu and toolbar setup. |
| Menu | A table of available options. |
| Modem | MOdulator/DEModulator. A device that converts digital signals from a computer or terminal into analog signals for transmission over telephone lines or similar. Also used to convert the analog signals back to digital at the receiving end. |
| NetBIOS | Network Basic Input Output System. |

| | |
|----------------------------|---|
| Network layer | The ISO OSI layer that is responsible for routing, switching and subnetwork access across the entire OSI environment. |
| Node | Any device including servers and workstations that are connected to a network. |
| ODI | (Open Datalink Interface) A means favoured by Novel for providing a standard interface to network interface cards. |
| OSI reference model | The Open Systems Interconnection (OSI) reference model is a seven layer network communication standard developed by the International Standards Organisation (ISO). The seven layers being: physical, data link, network, transport, session, presentation and application. |
| Packet | This is the basic unit of information exchange between two machines on a network. It usually consists of a destination address, source address, some system flags, data and a checksum. |
| Physical layer | The ISO OSI layer that is responsible with maintaining the physical link between end systems. |
| PING | (Packet InterNet Groper) Used to verify connections to machines on a network. |
| Predefined session | A session defined within TTWIN. See Session. |
| Presentation layer | The ISO OSI layer that determines how application information is represented (i.e., encoded) while in transit between two end systems. |
| Protocol | A formal set of conventions governing the formatting and relative timing of message exchange between two communicating systems. |
| RARP | Reverse Address Resolution Protocol, used to obtain a machine's IP address. |

- Registration** The process of completing the registration form either provided with the software or a printout of the file REG_FORM.DOC and sending it to Turbosoft.
- Remote host** The machine which you are communicating with, via your TTWIN emulation software.
- Repeater** A device which propagates electrical signals from one cable to another without making routing decisions or providing packet filtering. In OSI terminology, a repeater is a Physical Layer intermediate system. See Bridge and Router.
- Router** A system responsible for making decisions about which of several paths network (or Internet) traffic will follow. To do this it uses a routing protocol to gain information about the network, and algorithms to choose the best route based on several criteria known as *routing metrics*. In OSI terminology, a router is a Network Layer intermediate system. See Gateway, Bridge and Repeater.
- RS232** A standard used for many serial interfaces. This standard was devised many years ago and many parts of it are not used in modern modem equipment. This has led to many different implementations of the standard.
- SDI** Single Document Interface. This TTWin 3 run mode utilises a new instance of TTWin 3 for each session. Each session retains its own menu system and toolbars, and can be configured independently of any other concurrent sessions.

| | |
|-------------------------------|---|
| SDI (separate memory) | This is the same as SDI however each instance of TTWIN 3 is allocated separate memory resources. This results in TTWIN 3 sessions that are totally independent of each other, however greater use of system resources does occur. |
| Serial number | A unique number allocated to each copy of TTWIN software produced by Turbosoft. |
| Serial port | A communications port, generally referred to as COM1 through to COM4 on a DOS machine. See also communications port. |
| Session | A combination of one emulation, one file transfer protocol and one communications protocol is called a session. |
| Session layer | The ISO OSI layer that provides the means for dialogue control between applications and presentation layer entities. |
| Script | A script is a series of commands that are executed automatically when requested. |
| Shift state | A sequence of simultaneous key strokes, combining the selected PC key with any of the SHIFT, ALT and CTRL keys, to generate a unique combination. For example, CTRL_ALT_F4. |
| SMTP | Simple Mail Transfer Protocol. |
| Stop and Wait Protocol | The transmitter waits for the receiver to accept each packet. |
| TCP/IP | (Transmission Control Protocol/Internet Protocol) A network communications protocol extensively used by UNIX-based machines and available for almost every operating system. |
| TelAPI | Novel's LAN Workplace Telnet API. |
| Telnet | A protocol for providing terminal facilities using TCP/IP across a network. |

| | |
|------------------------|---|
| Tile | TTWIN terminology for what is commonly know in <i>Windows</i> as a dialog box. |
| Token ring | A local area network protocol. |
| Transport layer | The ISO OSI layer that is responsible for reliable network communication between end nodes. |
| UDP | User Datagram Protocol. |
| Upload | Sending data from the local PC to a remote computer. |
| X.25 | A serial based network communications protocol used for wide-area networks. |

Appendix D

Customer Support

If you encounter any difficulty using TTWIN 3, or it does not operate as described, you should take the following steps:

1. Consult the manual and on-line help to make sure you are operating the program properly.

Does your system meet the minimum system requirements?
Check to see if the program is properly configured and the options for terminal emulation are correct.
2. Consult *Appendix F - Your Questions Answered on page 524*. This appendix includes answers to many of the most frequently asked questions. Perhaps the answers to your questions have been asked before.
3. Consult the reseller from whom you purchased TTWIN 3. Many resellers have trained technicians who can answer your questions.

4. If the answer you need is not available in the manual or from your reseller, email or fax a complete description of your problem to Turbosoft, marked to the attention of Technical Support.

Please include the TTWIN 3 serial number, your name and phone number in case additional information is required.

fax: 1800 519 9501 (toll free US)
1800 628 646 (free call Australia)
+ 61 2 8396 3000

email: support@ttwin.com

You may also call Turbosoft Support directly (24 hour service).

Phone: 1800 519 9501 (toll free US)
1800 628 646 (free call UK)
+61 8 8294 0088

Before calling, make sure you have the following at hand:

- Your software's serial number.
- Version numbers for:
 - TTWIN 3
 - Comms module
 - Emulation module

(The version numbers can be obtained under the **Help About** drop down menu.)

- A computer running TTWIN 3.
- Be prepared to answer questions similar to the following:
Have you had TTWIN 3 running successfully before? If so, have you changed any of your hardware or software since then?

Can you reproduce the problem?

Were any error messages displayed at the time the problem appeared? If so, what did it say?

Appendix E | Host Table Support

The information in this appendix is for System Administrators. **Do not change the TTWIN.INI file unless you are a System Administrator or equivalent.**

Telnet Hosts within TTWIN.INI

The [TelnetHosts] section of your TTWIN.INI provides the facility for defining host names, any of which can then be recalled and selected for the **H**ost field within the TTWIN 3 telnet communications modules.

If there is no host name in your .TWC file and a telnet host table has been defined, the **H**ost drop down menu will present you with a list of defined hosts. The host you require can then be selected. The [TelnetHosts] entries can be used by all TTWIN 3 telnet type communications modules.

There are two methods for determining how the host selection list in the various configuration dialog boxes can be filled.

Note: All host table support methods described below require the [Telnet] section within the TTWIN.INI file to be modified manually using a text editor such as Notepad.

Method 1:

```
[Telnet]
HostsTable=[TelnetHosts]
[TelnetHosts]
IPAddress1=hostname1
IPAddress2=hostname2
```

For example,

```
[Telnet]
HostsTable=[TelnetHosts]
[TelnetHosts]
129.91.1.6=atlas
129.91.2.5=thor
129.91.2.2=as400
```

Method 2:

```
[Telnet]
HostsTable=FileLocation
```

Where *FileLocation* is the location of the HOSTS file.

Note: The file that contains the host table **MUST** be called HOSTS.

For example,

```
[Telnet]
```

```
HostsTable=c:\TTWIN\TCPIP\HOSTS.TXT
```

Where the HOSTS.TXT file contains a list of hosts in the following format:

IP_number Server_name DNS_name

For example,

```
129.91.1.6 atlas atlas.server.com
```

```
129.91.2.5 thor thor.server.com
```

```
129.91.2.2 as400 as400.server.com
```

HP Hosts in TTWIN.INI

As with Telnet hosts, Hewlett Packard hosts are stored in the section [HPNSHOSTS] in the TTWIN.INI file.

Appendix F

Your Questions Answered

This appendix is designed to assist you in the configuration and operation of TTWIN 3. It has been assembled from the questions most frequently asked by our customers. (Also see our web site <http://www.ttwin.com> for more questions and answers.)

If you require further assistance, please contact Turbosoft Support. *Refer to Page 1 for contact details.*

What are hotspots and how do I use them?

A hotspot is an area of the display that has an action or function assigned to it. It can be either in a fixed location or matched to a string that appears anywhere on the screen. The action assigned to the hotspot can be any of the following:

- A virtual key from the emulation to be transmitted to the host.
- A string or macro to be sent to the host.
- A menu command, allowing you to activate a TTWIN 3 menu event.

Hotspots can be either triggered by clicking the mouse button on the hotspot or configured to autoexecute. Refer to *Chapter 14 - Hotspots on page 404* for more information.

When I run TTWIN 3 the error message "Lease period has expired" appears. What do I do?

If you are running a demonstration version of TTWIN 3, this message indicates that your evaluation period is over. Please contact Turbosoft Support if you wish to extend the evaluation period.

Otherwise, first ensure that your icon or taskbar is pointing to the correct installation of TTWIN 3. If these are correct, this indicates that either your TTWIN.INI file has been corrupted or that you are running a networked installation and your TTWIN.INI file is locked by another user.

In the first case, reinstall TTWIN 3 using the serial number and activation key provided when you purchased the software.

If the networked installation has become locked, you will need to get your Network Administrator to ensure that the TTWIN.INI file is set to **Shared Read-Only**. Should this problem continue, please contact Turbosoft Support for further assistance.

An error message similar to "Could not load vt220.dll. Either this file OR a DLL it tried to load was not found." appears. What do I do?

Error messages that refer to emulation modules indicate either:

- you do not have a license for the particular emulation,
OR
- you need to set up your session file.

When TTWIN 3 starts it loads a session file which includes the emulation, communications and file transfer modules. The first time you start TTWIN 3 it looks for the default session file, DEFAULT.TWC. The default session is set up to use the VT220 emulation, serial communications and Kermit file transfer modules.

If you have done a **Custom** installation and these modules were not installed this error message will be generated. If you click on **OK**, TTWIN 3 will start without that module loaded.

You should then configure TTWIN 3 for your environment and save the session configuration file using the **Save** option on the **File** menu.

Refer to *Chapter 3 - Getting Started, Configuring TTWin 3 on page 41* for information on setting up the emulation, file transfer and communication modules.

An error occurs when I select a communications module. What do I do?

If the error message is similar to either of the following:

- **"Error Loading lat.dll: Could not load"**
- **"Could not load ms_lua.dll. Either this file OR a DLL it tried to load was not found."**

then this indicates either:

- You have not installed the communication module indicated by .DLL file.

If you have the required environment for the module (see below) reinstall TTWIN 3 adding the missing component.

OR

- The environment required to use those modules is not present, see below.

In some cases, specific environments or TSR's **must** be present for the communications module to run. You will need to ensure these requirements are met before using the communications module.

A quick summary of these requirements is:

| Module Name | Requires |
|----------------------|---------------------------------------|
| Serial Comms | Serial Port |
| Telnet WINSOCK | TCP/IP and Winsock must be installed. |
| Netware for SAA | Netware Client |
| Netware for DEC | Netware Client |
| Netware Connect | Netware Client |
| Microsoft SNA Server | Microsoft Client |

The changes to my TTWIN 3 session are not saved. How do I save them?

When any changes are made to the configuration of a TTWIN 3 session, they are only valid for the session that they were made. To permanently retain your changes you **MUST** save the session configuration file, i.e., .TWC file. This is done by selecting either **S**ave or **S**ave **A**s... from the **F**ile menu.

Once the changes have been saved, any other session using that .TWC file will need to reload the file for the changes to be implemented. This is done by selecting **O**pen from the **F**ile menu.

If you make any changes to a .TWC file and then either load a different session file or close that TTWIN 3 session down, the changes to your .TWC file will be lost unless you save the .TWC file.

If you select the option **Q**uery **C**hanges on **E**xit in **G**eneral **P**references... then TTWIN 3 will prompt you to save the .TWC file, on exit, if any changes have been made. **G**lobal **P**references... are available on the **C**onfigure menu.

An error message similar to "The font file ..\...\ttsn.fon was not loaded." appears. What do I do?

If an error message concerning font files is displayed you need to do two things:

1. Check that the specified font file is in the location given in **Global Preference...** on the **C**onfigure menu.
2. Check the number of font files (for all your applications) you have on your PC.

If you have a large number of font files (over 500) on your machine you may need to delete the fonts that are not in use. (There is a limit on the space allocated in the *Windows* registry where the location of the font files is stored.)

My configuration settings change by themselves while I am connected to my host. Why does this occur?

Many of the terminals emulated by TTWIN 3 have the ability to change their configuration dynamically, prompted by commands from the host application.

This facility exists so that the terminal can display information in the manner best suited to the application. This behaviour is normal for the terminal and has been included in the way the emulation works in TTWIN 3. As a result, the configuration of the terminal may be changed by the host while you have a session running and should be considered as normal operation.

How do I start TTWIN 3 with my own session file, not the default session file?

This is achieved by altering the properties of the icon or taskbar entry used to start TTWIN 3. You need to add the name of your session file, i.e., your .TWC file, to the end of the command used to start TTWIN 3.

For *Windows 95* and *Windows NT 4.0*, the steps are:

1. Right click on the desktop icon or taskbar. The properties for the TTWIN 3 icon are then displayed.
2. Select the **Shortcut** tab.
3. Append the name of your .TWC file to the command in the **Target** field.

For example, the entry should look like:

```
C:\TTWIN3\BIN32\TTWIN.EXE MYHOST.TWC
```

where MYHOST.TWC is the session file that you wish to use.

If the .TWC file is not located in the CONFIG sub-directory you will need to put in the full path name.

I am upgrading from an older copy of TTWIN but I need to retain my preconfigured settings. How can I do this?

New versions of TTWIN 3 carry a different structure to some of those older releases. As such, a few guidelines should be followed to ensure success in retaining configuration settings.

Below is a table outlining a number of version ranges and the required action to retain the settings without the need for reconfiguration.

| Version | Required action |
|----------------------------------|---|
| V1.2 onwards (including V2.x) | The \CONFIG* .TWC files can be inserted directly into the \CONFIG\ directory of your installation. Upon opening TTWIN 3 you must save the * .TWC, using the Save option on the File menu, before proceeding. |
| V1.0x to V1.1 | The .TWC file may require extensive conversion for use with newer versions. Please contact the Turbosoft Support for further information. |

I'm using a serial interface to connect to the host, but after a few minutes the connection drops or TTWIN 3 closes down!

In the first case where TTWIN 3 drops the connection, your first line of action is to check your serial configuration.

To do this, follow these steps:

1. Make sure that you are disconnected from the host.
2. Select **Comms (serial)** from the **Configure** menu. The **Configure Serial** tile is then displayed.
3. Ensure that the **Ignore Carrier Detect** option is selected.

In the second case, where TTWIN 3 closes down without warning do the following:

1. Follow the 3 steps above.

In addition,

2. Select **Preferences...** from the **Configure** menu, then **Session**.
3. Ensure that the **Action on Disconnect** is not set to **Exit**.