

# *AccuTerm* 2000

## Internet Edition

### Users Guide

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# INTRODUCTION

Welcome to **AccuTerm 2000 Internet Edition** – the fastest way to deploy legacy applications on the Web!

## **Features of AccuTerm 2000 Internet Edition**

**Users can access legacy applications using Internet Explorer.** The terminal emulator automatically downloads and installs and runs inside an Internet Explorer window.

**No need to learn another application.** The user only needs to know how to use Internet Explorer to navigate to your web site.

**No charge for client license.** You can allow an unlimited number of users to access your site with no per-client charges.

**Telnet and Secure Shell connections** for greatest flexibility and security.

**Super accurate emulations.** When you use AccuTerm everything will work just like the terminal being emulated. No strange problems with word processors or spreadsheets. No messed up screens. No hassles.

**File transfer** capabilities using industry standard protocols like Xmodem, Ymodem, Zmodem, and Kermit. MultiValue file transfer utilities include text and data files and direct Pick-to-Pick file transfer.

**Scripting language** allows users to write scripts and macros using Visual Basic for Applications.

**Integrated scroll back** with automatic scrollbar and mouse wheel support.

**Extended screen support** of up to 160 columns by 60 rows.

**Automatic font scaling** so that you can always see the full screen. This is a great feature that once you get used to it, you'll never want to go without.

## **Hardware and Software Requirements**

Memory:	32MB
Processor:	Pentium 120 or better
Windows:	95, 98, ME, NT 4.0, 2000
Internet Explorer:	3.0 or above (4.0 or above recommended) NOTE: Netscape browsers are <u>not</u> supported.
Host Connection:	permanent TCP/IP connection with public IP address for Internet access
User Connection:	any TCP/IP connection to the Internet

# GETTING STARTED

This manual assumes that you have a working knowledge of the Windows environment, Internet, Internet Explorer and your host application's terminal requirements.

## Installation

To install AccuTerm 2000 Internet Edition, insert the AccuTerm 2000 Internet Edition program CD and follow the prompts.

- 1) Start the setup program:  
Insert the CD. If the installation program does not automatically start, then from the Start menu, select Run. Enter D:SETUP and click OK. Be sure to change the drive letter to the letter for your CD drive.
- 2) The AccuTerm 2000 Internet Edition installation wizard will guide through the installation process. You will be prompted to enter your authorization key, enter registration information, etc. You move forward through the installation process by clicking the **N**ext button. You can click the **B**ack button to move back, or the **C**ancel button to cancel the installation.
- 3) Enter your Authorization Key, found on the back of the CD sleeve, and click Continue.
- 4) Read the Software Server License Agreement and indicate your acceptance by clicking OK.
- 5) The AccuTerm Registration dialog box will be displayed. Please fill in the registered company and server names, then click the **N**ext button.

- 6) Select the directory where you want the AccuTerm program files to be installed, then click the **N**ext button. Click the **B**rowse button to change directories. *If you already have AccuTerm 2000 installed on your computer, be sure to install AccuTerm 2000 Internet Edition into the same directory!*
- 7) Select the “home” directory, where you want to store the session files you create using the program. By default, AccuTerm Internet Edition stores the session files in the "My Documents\AccuTerm Internet Sessions" folder.
- 8) You can choose if you want files which are replaced during installation to be saved in a backup directory. If you select this option, when you click the **N**ext button, you can select the directory where replaced files are saved to.
- 9) Select a “Start Menu” folder for the AccuTerm 2000 Internet Designer shortcut, then click the **N**ext button. You can also place a shortcut to AccuTerm 2000 Internet Designer on your desktop.
- 10) To begin installing files, click the **N**ext button. The installation progress will be displayed. When the installation is complete, you can view the release notes by checking the “View release notes” box, and clicking **F**inish. If you do not want to view the release notes at this time, simply clear the “View release notes” box and click **F**inish.

During installation, you may get a message indicating that the OLE system files are in use. If this occurs, please shut down all other applications, then click the **O**K button to restart Windows. After Windows restarts, re-start the installation procedure.

## **Overview of AccuTerm 2000 Internet Edition**

AccuTerm 2000 Internet Edition is designed to let users access legacy host applications over the Internet by clicking on a hyperlink on a web page. The AccuTerm components are automatically downloaded and installed on the user's computer by Internet Explorer. The terminal emulation settings are downloaded from the web server, and a Telnet or Secure Shell connection to your host is established inside the Internet Explorer browser window. You do not need to modify your application, and the user does not need to install any new programs to access your terminal-based application.

AccuTerm 2000 Internet Edition consists of two components: the Connection Designer, which is used to create and modify AccuTerm Internet Session files, and the AccuTerm 2000 Internet Client, which is invoked by Internet Explorer to display the terminal session within the browser window.

This manual describes how to create or modify AccuTerm 2000 Internet Sessions using the Connection Designer, how to deploy the session files and associated html code in a web page, and the terminal emulation features supported by the AccuTerm 2000 Internet Client.

## Quick Start

To get started quickly, make sure the minimum requirements for deploying AccuTerm 2000 Internet Edition are met:

- 1) The host you want to connect to is connected to the Internet (or intranet if creating a local connection)
- 2) You have access to a web server somewhere on the Internet where you can install the AccuTerm connection files.
- 3) The PC you are installing the AccuTerm 2000 Internet Designer program onto has Internet Explorer 4.0 or higher.

### **Create a new connection**

Start the AccuTerm 2000 Internet Edition Connection Designer from the Start menu. Click the **New** button or select **N**ew from the **F**ile menu. Choose *safe* or *unsafe* connection. Enter a file name to save your new connection under. Click **OK**.

### **Configure the new connection**

Click the **Settings** button or select **S**ettings from the **T**ools menu. Enter your connection settings just as you would for a normal AccuTerm terminal session.

### **Customize your connection script**

Click the **Script Editor** button or select **E**dit Script from the **T**ools menu if you want to customize the *Connect* or *Disconnect* script.

### **Test your connection**

Click the **Connect** button, or select **C**onnect from the **T**ools menu. See how your new connection works, including the *Connect* script. When you are finished, click the **Disconnect** button (or **D**isconnect from the **T**ools menu) and see if the connection terminates correctly. If you encounter any problems, adjust your settings or script until it works correctly.

### **Save the connection file and HTML link file**

Click the **Save** button or select **S**ave from the **F**ile menu. Check the appropriate HTML option (usually you will want to save the Internet

HTML file) and GUI option (only select if your host application requires AccuTerm GUI support). Click the **Save** button.

### **Deploy your connection**

Upload your new connection (.ats) file and HTML link file to your web server. Modify an existing web page to link to the new HTML link file. Open the HTML link file with Notepad (or other text editor) and copy the sample link and paste into your web page to create the hyperlink.

### **Try it!**

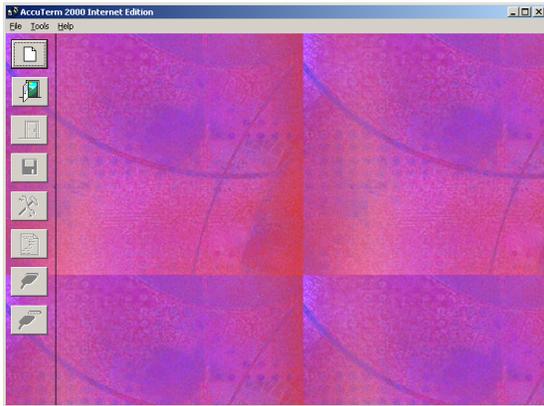


# CONNECTION DESIGNER

The Connection Designer is used to create and maintain AccuTerm Internet Session files (.ats files). The session file contains all information required to make a to the host, including host name (or IP address), connect and disconnect scripts, terminal type, screen size, function keys, colors, etc.

To start the Connection Designer, simply select

 AccuTerm 2000 Internet Designer from the Start menu. The AccuTerm 2000 Internet Edition Connection Designer main window will be displayed:



The designer window is divided into two panes: the left pane contains a set of buttons for creating new sessions, opening existing sessions, etc. The right pane contains a preview of the terminal session as it would be displayed in the browser.

# Creating and Modifying AccuTerm Internet Connections

## Creating a new connection

To create a new session, select **N**ew from the **F**ile menu or click the  button. When creating a new connection, you must select the session file name before the session file can be created. Use “.ats” for the file extension (if you use another extension, the Connection Designer may not recognize the file). After creating a new session file, the preview pane will display a preview of the terminal session.

## Safety Level

When you create a new connection, you must also select the “safety” level for the connection you are creating. The safety level is used by the browser to warn the user if potentially unsafe content is about to be accessed, or to block access to potentially unsafe content. You can choose to create a *safe* or *unsafe* connection.

When you choose to create a *safe* connection, AccuTerm’s functionality is restricted to protect the user’s computer from any actions which might alter any files or settings. A *safe* connection cannot perform file transfers, data capture, execute DOS/Windows command, or execute any script statement which could alter the user’s computer.

The following VBA statements and functions are not supported in “safe” connections:

Open	Print	Close
Put	Declare	Shell
Kill	CreateObject	GetObject
ChDir	ChDrive	FileCopy
MkDir	Name	Rmdir
SetAttr	Write	DDEInitiate
DeleteSetting	SaveSetting	App...

When you choose to create an *unsafe* connection, all of AccuTerm's features are available, but the browser will refuse to open the session file if the security level for the web site or zone is set to “High”. The user will be

warned that the site may damage his computer if the security level is set to “Medium”, but can proceed anyway by ignoring the warning. If you deploy an unsafe connection, remember to inform your potential users that the browser security level must be set to low or medium to view your page.

To change the browser's security level, select **Internet Options** from the browser's **T**ools menu, then click the **Security** tab. You can also adjust the security level by double-clicking on the **Internet** icon in **Control Panel**.

### **Modifying an existing connection**

To modify an existing session file, select **O**pen from the **F**ile menu or click



the button. After opening a session file, the preview pane will display a preview of the terminal session.

### **Upgrading from AccuTerm 97 Internet Edition**

The AccuTerm 2000 Internet Connection Designer is capable of upgrading your existing session files which were created with the AccuTerm 97 Internet Connection Designer. When you open a file created with the 97 version, you will be given the option to convert the file to the 2000 version. Choose a new file name for the AccuTerm 2000 version of the connection file.

The conversion process preserves all settings and scripts. However, due to changes made in the 2000 version, the "reconnect" message that is normally displayed when the connection is dropped requires a new `Disconnected` script function. This new function will be automatically added to your script.

### **Closing a session file**

If you wish to close the session file you currently have open, select **C**lose



from the **F**ile menu or click the button. If you have made changes to the settings or script for the session, you will be warned before the file is closed so you can cancel your action and save the changes.

### **Saving a session file**

If you wish to save the current session file, select **S**ave from the **F**ile menu or click the  button. The process of saving also closes the file. If you have made changes to the settings or script for the session, you will be warned before the file is closed so you can cancel your action and save the changes.

When you save the session file, you can also create an HTML link file which you can use as a hyperlink target in your current web page. The HTML link file can be either an “Internet” or an “intranet” version.

If you choose “Internet” HTML, the generated link file will cause Internet Explorer to install the AccuTerm 2000 Internet Client programs on the user’s machine from AccuSoft’s web site.

If you choose “intranet” HTML, the generated link file will cause Internet Explorer to install the AccuTerm 2000 Internet Client programs from the atiecli2.cab file located on the web server where the .ats session file is located.

You can also choose to include special code in the HTML link file which will cause Internet Explorer to install the AccuTerm GUI support code. To reduce download time, select this option only if your host application uses AccuTerm GUI. If you are deploying AccuTerm 2000 Internet Edition on an intranet, and are using AccuTerm GUI, you must also place a copy of atguisvr\_install.cab on your web server.

## AccuTerm Internet Connection Settings

Once a session file has been created or opened, use the **Settings** dialog to configure the session. To open the **Settings** dialog, select **S**ettings from the

**T**ools menu or click the  button.

The **Settings** dialog is organized into nine categories, with each category on a separate index tab. Click on one of the index tabs to display the settings for that category. You can also press the number of the category while holding the ALT key.

When you have completed your changes, simply press ENTER (or click the **OK** or **Apply** button) to save changes, or press ESC (or click the **Cancel** button) to discard changes and close the **Settings** dialog box.

## Connection Settings

### **Connection Method**

The **Connection Method** is used to select what type of connection or communications device you use between your computer and the host system. Since AccuTerm 2000 Internet Edition is designed to enable connections over the Internet (or intranet), you will normally select **Telnet**, or **Secure Shell** for the connection type. Only settings for Telnet and Secure Shell are described in this document; refer to the standard AccuTerm product documentation for information pertaining to other connection types.

After selecting or changing the connection type, settings relating to the selected connection type are enabled. For example, if **Telnet** is selected, various options for a telnet connection, such as the host name, port and timeout will be enabled. The settings for each connection type will be described later in this section.

### **Duplex**

There are three duplex options: **Full**, **Half** and **Local**. In **Full** duplex, all characters typed on your keyboard are sent to the host computer. They are not printed on the screen. The host usually sends (echoes) the same character back; this is what is displayed on the screen. This is by far the most common configuration. In **Half** duplex, the characters you type are sent to the host machine and displayed on the screen. If the host system is configured for **Full** duplex and you select **Half** duplex on your computer, you will see each character that you type two times!. In **Local** mode, characters you type are displayed directly on the screen and are not sent to the host computer.

### **Strip Eighth Bit**

Most connection types use eight bits to represent each character. When using eight bits, the computer can send up to 256 different character codes. Some older host computers use the eighth bit for parity (an error detecting scheme used with serial communications), others may simply "set" the eighth bit for each character.

Most terminal types accept 8-bit characters, and characters with the eighth bit set (character codes 128 - 255) usually represent international characters, line drawing symbols or other graphic symbols.

In order to communicate properly with older systems which do not use the eighth bit for data, select this option. When this option is selected, any character received from the host with the eighth bit set will behave just like the eighth bit is not set.

## **Connection Settings - Telnet**

AccuTerm supports Telnet connections to host systems over a TCP/IP network. Any Telnet server on the network (including hosts on the Internet) can be accessed.

### **Host Name**

A valid TCP/IP host name or IP address must be entered in this field. If a hosts file is available, you can click on the down-arrow to display a list of available hosts.

### **Host Type**

If your type of host you are connecting to is listed in the Host Type list, please select it, otherwise just use the default host type. By selecting a host type from this list, certain advanced options are set up to be compatible with the specified host type. To see the advanced options, click on the Advanced button.

### **Port**

If the Port field is left blank, or set to "default", AccuTerm will use TCP port 23 (the default for Telnet). If a different port is used for Telnet on your desired host machine, enter that port number in this field.

Certain host systems, such as Pick D3 and mvBase, allow a host process number (PIB) to be mapped to a specific TCP port number. You can use the Host Port setting to specify the port number mapped to your process number. Consult with your system administrator for this setting.

### **Connect Timeout**

When establishing a connection to a host computer, AccuTerm will wait for a specified time for a response from the selected host system. You can specify the number of seconds AccuTerm should wait. If this field is left blank, or zero, the default timeout is 15 seconds.

## Advanced Options

By clicking on the Advanced... button, you can modify various Telnet options. These options are generally set by selecting a Host Type, but may be modified if necessary.

If you change any settings in the Advanced Telnet Options, the host type you have previously selected will be changed to “custom”.

### Echo (advanced option)

Most systems require the host to “echo” characters it receives back to the client (terminal). That is, when you press a key, a character is sent to the host, and the host sends that same character back to the terminal, at which time it is displayed on the screen. If this behavior is desired, then select the echo option (default). If the echo option is not selected, then the **Duplex** setting should be changed to “half” to enable local echo of typed characters.

### Binary (advanced option)

When the binary option is selected, data is transferred between the host and terminal without modification. This is useful when transferring binary data such as graphics. When this option is not selected, the Telnet protocol treats **CR** characters in a special way, inserting a **NUL** character after any **CR** character while sending data to the host, and removing the extra **NUL** character when receiving data from the host. *Note: when this option is selected, some servers expect lines to be terminated with **LF** instead of **CR**.*

### Use alternate break signal (advanced option)

When this option is selected, pressing the CTRL+BREAK sends the Telnet *Break* command. Otherwise the Telnet *Interrupt Process* (default) command is sent.

### Bypass option negotiation (advanced option)

When this option is selected, Telnet option negotiation, which normally occurs when establishing a connection, is skipped. Certain Telnet servers, like Pick’s D3, do not support Telnet option negotiation, and require this option.

### Send keepalives

When this option is selected, AccuTerm will send a dummy “keepalive” message to the host periodically (about every 2 minutes). This dummy message is discarded by the host and is transparent to the terminal session.

This feature may be useful when the host system (or network equipment such as a router) disconnects an idle connection.

*Note: certain Telnet servers, like Pick's D3 running on NT, do not work properly when receiving AccuTerm's dummy keepalive messages.*

#### **Disable outbound coalescing**

Use this option to improve terminal response over the network, at the expense of increased network traffic.

#### **Use U2 device licensing**

By selecting this option, multiple connections (sessions) to Enterprise versions of UniData and UniVerse consume only a single user license. This option is only available when the u2licn.dll file is installed on your computer. The u2licn.dll file is not available from AccuSoft. Contact your Informix/Ardent dealer for information regarding device licensing.

#### **Terminal Type (advanced option)**

Many Telnet servers allow the client (terminal) to specify a terminal type when a connection is established. AccuTerm uses the default terminal types of *tty*, *viewpoint*, *viewpoint60*, *wyse50*, *wyse60*, *vt100*, *vt220*, *vt320*, *vt420*, *vt52*, *ansi*, *linux* and *pickmon*, depending upon the selected terminal emulation. If a different terminal type is required, you can enter it in this field.

## **Connection Settings – Secure Shell (ssh)**

AccuTerm supports secure connections to host systems over a TCP/IP network using Secure Shell (ssh). Any ssh server on the network (including hosts on the Internet) can be accessed.

Secure Shell employs public key encryption technology to ensure that your connection to the host is secure, even over the Internet. When you set up a Secure Shell connection, all information, including your user ID, password and session data is encrypted before transmission over the network.

In order to create a connection using Secure Shell, you must have Internet Explorer with 128 bit encryption installed on your computer. To verify that you have the 128 bit encryption installed, open Internet Explorer, and select **A**bout Internet Explorer from the **H**elp menu. If Cipher Strength is 128-bit, then you should be able to create a Secure Shell connection. If it is not, you may need to upgrade your version of Internet Explorer and/or install the High Encryption Pack (available on Microsoft's web site at [www.microsoft.com/windows/ie](http://www.microsoft.com/windows/ie)).

### **Host Name**

A valid TCP/IP host name or IP address must be entered in this field. If a hosts file is available, you can click on the down-arrow to display a list of available hosts.

### **Port**

If the Port field is left blank, or set to "default", AccuTerm will use TCP port 22 (the default for ssh). If a different port is used for ssh on your desired host machine, enter that port number in this field.

### **Connect Timeout**

When establishing a connection to a host computer, AccuTerm will wait for a specified time for a response from the selected host system. You can specify the number of seconds AccuTerm should wait. If this field is left blank, or zero, the default timeout is 15 seconds.

## **Advanced Options**

By clicking on the Advanced... button, you can modify various Secure Shell options.

### **Break character (advanced option)**

Specify the character used to indicate a Break in this field. The default is 3 (CTRL + C).

### **Terminal Type (advanced option)**

Many Telnet servers allow the client (terminal) to specify a terminal type when a connection is established. AccuTerm uses the default terminal types of *tty*, *viewpoint*, *viewpoint60*, *wyse50*, *wyse60*, *vt100*, *vt220*, *vt320*, *vt420*, *vt52*, *ansi*, *linux* and *pickmon*, depending upon the selected terminal emulation. If a different terminal type is required, you can enter it in this field.

### **Send keepalives**

When this option is selected, AccuTerm will send a dummy “keepalive” message to the host periodically (about every 2 minutes). This dummy message is usually discarded by the host and is transparent to the terminal session. This feature may be useful when the host system (or network equipment such as routers) disconnects an idle connection.

### **Disable outbound coalescing**

Use this option to improve terminal response over the network, at the expense of increased network traffic.

## Terminal Type Settings

AccuTerm emulates a variety of terminals. In order to use AccuTerm with your host applications, you must select the correct terminal type for AccuTerm to emulate. The correct terminal type depends on the terminal type your host and/or application software requires. If you are unsure, you might type “TERM” at a Pick command (TCL) prompt, or type “echo \$TERM” at a Unix command prompt. The response may help you “guess” the correct type. If the application screens look correct, then you probably have the correct type; otherwise, try another terminal type.

### **Terminal Emulation**

**Wyse 50:** emulates a Wyse 50 terminal with “Enhanced” enabled. Wyse 50 emulation may also be used for Wyse 30, 99, 125 and 350 terminals.

**Wyse 60:** emulates a Wyse 60 terminal with “Enhanced” enabled. Wyse 60 emulation is similar to Wyse 50 with non-embedded visual attributes (the visual attribute codes do not take a position on the screen). Wyse 60 emulation may also be used for Wyse 150, 160 and 320 terminals.

**ADDS Viewpoint A2:** emulates an ADDS Viewpoint A2 terminal. This is the original A2 terminal, with no enhancements.

**ADDS Viewpoint 60:** emulates an ADDS Viewpoint 60 terminal. The Viewpoint 60 is similar to the A2, but uses embedded visual attributes (the visual attribute codes take a position on the screen).

**Procomm VP60:** emulates an ADDS Viewpoint 60 terminal, but with non-embedded visual attributes. This emulation is similar to the Viewpoint 60 emulation provided by Procomm.

**Viewpoint A2 Enhanced:** emulates a Wyse 50 terminal in ADDS Viewpoint mode with “Enhanced” enabled. This is basically a hybrid of Wyse 50 and ADDS Viewpoint A2. Viewpoint A2 Enhanced may also be used for ADDS 2020 and 4000, and NCR 2900 terminals.

**VT52:** emulates the DEC VT52 terminal.

**VT100:** emulates the DEC VT100 terminal. VT100 is a 7-bit emulation, and can also be used for applications which require VT102 terminals.

**VT220:** emulates the DEC VT220 terminal. The VT220 emulation provides a super-set of the VT100 commands, and includes support for a host-writable status line, protected characters, multiple character sets and multiple pages.

**VT320:** emulates the DEC VT320 terminal. The VT320 emulation provides a super-set of the VT220 commands, and includes support for reporting and restoring various terminal states.

**VT420:** emulates the DEC VT420 terminal. The VT420 emulation provides a super-set of the VT320 commands, and includes support for rectangle operations, left & right margins, and horizontal split screen.

**ANSI BBS:** emulates the old MS-DOS ANSI.SYS device driver. This emulation may be useful when connecting to older bulletin board systems.

**Linux Console:** emulates the Linux console, including function keys and colors.

**SCO Console:** emulates the SCO Unix console.

**Pick PC Monitor:** emulates the original Pick PC Monitor (“mm-mon” or “P” terminal type), including color and function keys.

**Tektronix Graphics:** emulates the Tektronix 4010/4014 and partial 41xx terminals. Color enhancements as implemented in the CIT467 terminal (from CIE Electronics) are included.

**TTY Emulation:** emulates basic TTY functions.

### **Answerback**

The contents of the Answerback field are sent to the host when AccuTerm receives a request to transmit the answerback string under Wyse and VT emulations. When the answerback message is sent to the host under Wyse emulation, an **ACK** control character follows the message. Under VT emulation, no terminator is sent.

Control characters may be entered into the answerback field by prefixing the character with a caret (^).

## **ANSI Options**

When any of the ANSI emulations (VTxxx, Linux Console or SCO Console) is selected, several additional options may also be selected.

### **Send 8 bit controls**

When this option is selected, AccuTerm will send control characters from the C0 and C1 sets. If the option is not set, C1 controls are sent using an equivalent 7-bit escape sequence.

### **Keypad sends application codes**

When this option is selected, the numeric keypad sends application codes (similar to function keys). When not selected, the numeric keypad sends numbers.

### **Cursor keys send application codes**

When this option is selected, the cursor (arrow) keys send special application codes instead of cursor movement codes.

### **Backspace key sends DEL**

When this option is selected, the BKSP key sends the **DEL** control code. When not selected, the BKSP key sends the **BS** control code.

## **Screen Settings**

The Screen tab lets you set terminal screen options like the size, cursor type, and history rows. You can also change the session title or the icon used for a minimized session.

### **Screen Sizes**

There are two separate screen sizes that AccuTerm supports; normal and extended. These sizes are used to emulate the 80 and 132 column modes of the Wyse and VT terminals. AccuTerm has taken the extended and normal modes one step further. With AccuTerm you can define both the normal and extended modes to be any number of columns or rows up to a maximum of 160 columns by 60 rows.

You will probably leave these settings at their default settings of 80 characters by 24 rows for normal mode and 132 characters by 24 rows in extended mode. If you have software that supports other screen sizes, you can experiment with these settings until you find a size that you like.

AccuTerm always allocates one extra row for function key labels, host messages, etc. If you specify 24 rows here, AccuTerm will display 24 data lines and one message line (the Pick PC Monitor and ANSI BBS emulations display 25 data lines).

When AccuTerm switches between the normal and extended modes, one of two things will happen: either the characters will change size to fit the visible screen, or scroll bars will be displayed if the full screen will not fit within the current window at the selected character size. For more information on scaleable fonts, see the section on Fonts.

### **Video Pages**

Many of the terminals AccuTerm emulates support multiple addressable pages. With AccuTerm, you can have up to 25 pages. Each page requires memory, so if you don't use them, it is better to leave this number set to the default value of 1.

## History Rows

AccuTerm supports a “history buffer”, which saves lines that have scrolled off of the terminal screen. To use this feature, specify how many rows (up to 2500) are to be saved. When the history buffer has been enabled (by setting the number of rows), use the vertical scroll bar, mouse wheel, or keyboard commands to scan history.

You can use CTRL + SHIFT + PGUP, CTRL + SHIFT + PGDN, CTRL + SHIFT + UP, CTRL + SHIFT + DOWN, CTRL + SHIFT + HOME, and CTRL + SHIFT + END to scan the history buffer.

## History Scroll Bar

When a history buffer has been enabled, the vertical scroll bar may be used to scan through the history. AccuTerm supports three scroll-bar settings.

**Auto:** when “Auto” (the default mode) is selected, placing the mouse near the right edge of the screen will cause the scroll bar to “slide” into place. Moving the mouse away from this area causes the scroll bar to disappear.

**On:** when “On” is selected, the scroll bar will always be present.

**Off:** when “Off” is selected the scroll bar will only be present if the window height is not large enough to display the current screen height.

*Note: when Auto or Off are selected, using the keyboard commands or mouse wheel to scan history causes the scroll bar to be displayed briefly. This is so that you can see the position of the scroll button after scrolling the window.*

## Enable Graphic Mode

Checking this box enables the Tektronix 4010/4014/41xx graphic terminal emulation. If the graphics mode is enabled, AccuTerm will automatically switch to the Tektronix graphic emulation when it receives the appropriate command from the host computer. AccuTerm will return to the previous emulation mode when graphics mode is terminated.

There may be times when you want to disable the graphic emulation. If you have a bad modem connection and are getting random garbage characters on the screen, AccuTerm may accidentally switch into graphics mode.

Sometimes a software program may send the graphics mode control sequence at the wrong time. If this happens, disable the graphics mode until you need it.

**Enable Mouse**

This option determines whether host mouse support is enabled. Under normal operation, if you click on the terminal screen with the mouse, nothing happens. If a “mouse on” command is received from the host while this option is checked, AccuTerm sends a special code informing the host of the mouse location when the button was pressed, and which mouse button was pressed. The mouse cursor is also changed to a “pointing hand” to indicate that the mouse is active.

**Block Cursor**

Checking this option turns the cursor into a blinking block instead of an underline.

**Extended Mode**

Checking this option sets the screen to extended (132 column) mode. This can be used to manually switch between extended and normal (80 column) modes.

**Disable Line Wrap**

Checking this option disables the automatic wrapping at the end of a line. When this option is set, when the cursor is on the last position of a line, typing a character does not wrap to the next line.

**Disable Blinking**

Checking this option disables the “blinking” visual attribute.

**Disable Underling**

Checking this option disables the “underline” visual attribute.

## **Font Settings**

AccuTerm displays text received from the host computer using a fixed-pitch (all characters are the same size) font. Using a fixed-pitch font is necessary because applications written to display on real terminals expect each character to be the same width in order to align columns of data on the screen.

AccuTerm supplies a custom font which is selected by default. You are free to choose another fixed-pitch font if you desire, however, AccuTerm's font has been designed to scale nicely to different screen sizes.

### **Font**

The font list shows all of the available fixed-pitch fonts installed on your computer. The first font listed is the **AccuTerm** font. This font has been optimized to look good over a wide range of character sizes and screen resolutions. We recommend that you use this font, especially if you have a low resolution screen (640 x 480).

To choose a different font, simply click on the font you want.

### **Font Size**

This box lists all font sizes available for the font selected in the **Font** list. The **Font Size** list is disabled if the **Scale Font to Fit** option is checked.

### **Scale Font to Fit**

When this option is checked, AccuTerm automatically re-sizes the selected font so that the entire terminal screen is visible. This allows you to re-size the screen or change between normal and extended video mode without having to deal with scroll bars to see everything. However, if for some reason, you need lock the characters at a specific size, you can un-check this setting and then pick the size you want from the **Font Size** list.

### **Use Bold Font Style**

If this option is checked, AccuTerm uses the **Bold** font style if it's available in the selected font.

**Keep Font Legible**

If this option is checked, and the **Scale Font to Fit** option is checked, AccuTerm will never scale a font smaller than 6 pixels wide by 9 pixels high.

## Color Settings

Windows is capable of displaying text in a wide variety of colors. The colors are separated into character color and the background color. Most of the terminals being emulated do not support color. Instead, they have visual attributes like normal, reverse, dim, blink, underline, etc. AccuTerm allows you to map the various terminal visual attributes into a combination of character and background colors.

### **Color Palette**

AccuTerm uses a palette of 16 colors. Since most systems are capable of displaying more than 16 colors, AccuTerm allows you to customize its palette by using the “System” color settings as chosen in the Appearance tab of your Display properties (right-click on your desktop and select Properties, then click on the Appearance tab). To use the System colors, click the **Use System Colors** button.

You can also create your own custom palette. To adjust one of the palette entries, double-click on one of the palette colors shown in the Character Color or Background Color samples. The “Choose Color” dialog box will be displayed. In the “Choose Color” dialog, you can select a system color, standard color, or custom color. The system colors are described in the previous paragraph. The standard colors are the 16 original palette colors (except for dark gray, which is a custom color). To choose a custom color, click the **Select Custom Color** button and select a color from the entire spectrum of available display colors.

To restore the palette to AccuTerm’s default colors, click on the **Use Defaults** button.

*Note: if you modify the palette, explicit color commands used in some emulations may display the wrong color. For example, if you change the light-blue palette color to green, then an application which uses a color command to select light-blue text will instead display the text in green!*

## Color Mapping

Terminals use visual attributes (normal, dim, blink, etc). to highlight text. AccuTerm supports these visual attributes, and also allows you to map the attribute to a character and background color combination.

To change the color mapping, first click on the **Visual Attribute** whose colors you want to change. The sample box to the right of the attribute name shows the current color combination selected for that attribute. Next, click on the desired character and background colors in the palette shown at the bottom of the dialog box. The selected character and background colors are indicated by a large X in the palette.

The Wyse 50 and Wyse 60 emulations require a visual attribute to be assigned as the “Protected” attribute. To select the **Protected Attribute**, click on the drop-down arrow, then select which visual attribute should be used as the default protected attribute.

## Keyboard Settings

AccuTerm supports a programmable keyboard. All of the function keys and most of the keypad editing keys can be programmed.

Each terminal type has default programming for all of the keys which are native to that terminal. You do not need to program the default key codes.

If you wish to override the default programming, or to program keys that are not native to the currently selected terminal type, you can enter your own codes here. Any key can be programmed with a character sequence (which is transmitted to the host when the key is pressed), or a macro command, which is executed when the key is pressed.

The programmable keys are divided into eight categories: **Normal**, **Shifted**, **Control**, **Shift+Control**, **Alt**, **Shift+Alt**, **Keypad** and **Shifted Keypad**. The **Normal** key sequence is sent when one of the function keys is pressed by itself. The **Control** sequence is sent when a function key is pressed while holding down the CTRL key. The **Alt** sequence is sent if the ALT key is held down while pressing a function key. The **Keypad** sequence is sent when one of the editing keys is pressed. The **Shifted**, **Shift+Control**, **Shift+Alt**, and **Shifted Keypad** sequences are sent when the SHIFT key is held down in combination with any of the previous keys.

The **Keypad** and **Shifted Keypad** tabs are used for programming the special editing keys: BKSP, TAB, INS, DEL, HOME, END, PGUP, PGDN, LEFT, RIGHT, UP, and DOWN.

To reset the selected group of keys to their default values, click the **Clear All** button.

To manually program function and keypad keys, first select the **Key Type** from the tabs at the top of the panel. Next, enter the desired sequence into the text box next to the key name. To enter control characters (and special prefix characters) in a key sequence, use the notation shown in the following table:

Key sequence	Control code	AccuTerm notation	Key sequence	Control code	AccuTerm notation
CTRL + @	<b>NUL</b>	^@	CTRL + P	<b>DLE</b>	^P
CTRL + A	<b>SOH</b>	^A	CTRL + Q	<b>DC1</b>	^Q
CTRL + B	<b>STX</b>	^B	CTRL + R	<b>DC2</b>	^R
CTRL + C	<b>ETX</b>	^C	CTRL + S	<b>DC3</b>	^S
CTRL + D	<b>EOT</b>	^D	CTRL + T	<b>DC4</b>	^T
CTRL + E	<b>ENQ</b>	^E	CTRL + U	<b>NAK</b>	^U
CTRL + F	<b>ACK</b>	^F	CTRL + V	<b>SYN</b>	^V
CTRL + G	<b>BEL</b>	^G	CTRL + W	<b>ETB</b>	^W
CTRL + H	<b>BS</b>	^H	CTRL + X	<b>CAN</b>	^X
CTRL + I	<b>HT</b>	^I	CTRL + Y	<b>EM</b>	^Y
CTRL + J	<b>LF</b>	^J	CTRL + Z	<b>SUB</b>	^Z
CTRL + K	<b>VT</b>	^K	CTRL + [	<b>ESC</b>	^[
CTRL + L	<b>FF</b>	^L	CTRL + \	<b>FS</b>	^\
CTRL + M	<b>CR</b>	^M	CTRL + ]	<b>GS</b>	^]
CTRL + N	<b>SO</b>	^N	CTRL + ^	<b>RS</b>	^~
CTRL + O	<b>SI</b>	^O	CTRL + _	<b>US</b>	^_
^		^^	\		\\
DELETE	<b>DEL</b>	^?			

To program a key with a macro, enclose the macro command in square brackets ([ ]). See the **Scripting** section of the **Programmers Guide** for more information on macros.

### **Locking Programmed Keys**

Most terminal types provide commands for the host to program function keys. If you would like the host to be able to reset and reprogram the keys, select the **Unlocked – host can reset or reprogram key** option. If you would like the host to be able reprogram keys, but not reset them to their default values, select the **Locked – host cannot reset keys to defaults** option. If you would like to prevent the host from resetting or reprogramming key, select the **Locked – host cannot reset or reprogram keys** option.

### **Mapping F11 through F16**

Some terminals (like Wyse 50 and 60) have more than 12 function keys on their native keyboard. Since the PC keyboard only has 12 function keys, AccuTerm allows you to map the native F11 through F16 keys to PC keyboard CTRL + F1 through CTRL + F6 (and native SHIFT + F11 to SHIFT + F16 to PC CTRL + SHIFT + F1 through CTRL + SHIFT + F6).

## **Printer Settings**

AccuTerm 2000 uses the printer in two ways: First, AccuTerm can print the contents of the terminal screen by using **Print Screen** context menu command or by receipt of the appropriate command from the host computer.

The other way AccuTerm uses the printer is to emulate a “slave” or “aux” printer attached to a terminal’s Aux, or Printer port. This mode is enabled by using the **Printer On** context menu command or by receipt of the Printer On command from the host.

AccuTerm can print in two modes: text and graphics. Text is the mode used by “real” terminals. This mode is different from normal Windows printing in that the Windows printer driver is not used. For screen printing, text mode sends the screen text to the printer. For slave printing, AccuTerm passes raw data, including control characters and escape sequences from the host directly to the printer (or spooler). In text mode, the host computer is responsible for setting printer font sizes and page orientation by sending the appropriate printer commands.

In graphics mode, AccuTerm prints an image of the screen on the printer, using the Windows printer driver. When the screen is printed in graphics mode, the printed image includes text, line drawing characters, and may optionally include the screen background and colors. For slave printing, AccuTerm understands **CR** (carriage return), **LF** (line feed) and **FF** (form feed) control characters, but other control characters and escape sequences are ignored. You can select the font, paper size and page orientation used for graphics mode slave printing by clicking the Page Setup button in the printer settings panel.

### **Printer Selection**

By default, AccuTerm uses the system default printer (the **Use Windows Default Printer** option selected). If you want to select a different printer, select the **Use Specific Printer** option, then select a printer from the drop-

down list. If you want to disable printing from AccuTerm, select the **Disable printing** option.

### Screen Print Settings

AccuTerm can print the screen in **Text** or **Graphics** modes. In **Text** mode, only the text characters currently displayed on the screen are printed. In **Text** mode, you can elect to **eject** the page from the printer before the printout, after the printout or both.

In **Graphics** mode, an “image” of the current screen is printed, including special symbols like line drawing characters. You can elect to print the **background** (shading and highlighting) or print the screen in **color** if you have a color printer.

### Slave Printer Settings

AccuTerm can print to the slave printer in either **Text** or **Graphics** mode. In **Text** mode, you can **eject** the page from the printer before the printout, after the printout or both. In **Graphics** mode, you can select the font, page orientation, paper size and paper source by clicking the **Page Setup** button.

### Printer Close Timeout

Enter the number of seconds to wait after receiving a Printer Off command before closing the print job. Usually, when the host computer needs to print a report, it usually sends a Printer On command, sends the printer data and then sends a Printer Off command. But some host programs send a Printer On command, send some data to the printer, send a Printer Off command, and send some other data to the screen, and then send another Printer On command, and send more data to the printer, etc. Because of this, AccuTerm has no way of knowing when the host is finished sending the print job. The only way it can determine this is to wait for a set amount of time after the Printer Off command before closing the job. If this field is set to the default of 5 seconds, AccuTerm waits 5 seconds after the Printer Off command has been received before closing the print job.

This causes a delay when printing under AccuTerm. If all your host programs always turn the aux port on, send all the data and then turn it off, you can reduce this number to 1 or 0. If you have programs that are constantly turning the aux port on and off, you may need to adjust this number until things work correctly.

## **File Transfer Settings**

AccuTerm supports several file transfer protocols. The **File Transfer** tab allows you to adjust some of the parameters used control the various protocols, select default operating modes and specify default directories. There are sections for ASCII options, X/Y/Zmodem options, Kermit options, as well as options for default modes and directories. The default values for most of these options should not be changed without an understanding of the protocol and the companion file transfer program on the host computer.

### **ASCII Settings**

When transferring a file from your computer to the host computer (upload) using the ASCII protocol, the each line may be terminated with a **CR**, **LF** or **CR LF** combination. Select the appropriate end of line for the host computer by checking the appropriate button.

ASCII is a “blind” protocol. The receiving computer cannot inform the sending computer when it is safe to transmit data. In order to perform reliable ASCII uploads, you may need to specify an appropriate **Interline delay** time. After each line is sent to the receiving computer, AccuTerm will wait for the specified time before sending the next line. Specify this value in milliseconds.

The **Interline delay** setting also applies to the **Edit Paste** and **Edit Paste From** commands.

### **Timeout Settings**

When using any of the X/Y/Zmodem protocols, you can specify the number of seconds before a timeout occurs. If the other machine fails to respond within the number of seconds specified here, the protocol will attempt to resend the previously sent message.

## **Kermit Settings**

The Kermit file transfer protocol is popular with minicomputer and mainframe systems. There have been many revisions of this protocol, and it may be necessary occasionally to modify some of these settings to communicate with another Kermit program.

### **Kermit settings: Defaults**

These default options may be set (checked) or reset (un-checked) as desired. When AccuTerm Kermit is negotiating with the other Kermit program, any of the checked options will be requested, and if the other Kermit is capable, the option will be used.

The “Quote eighth bit” option should be used when the communications path only supports 7 data bits, or when the other machine is not capable of processing eight bit data.

The “Compress data” option may be used to perform rudimentary data compression. Not all Kermit programs perform data compression.

The “CRC block check” option instructs Kermit to use CRC error detection instead of the standard simple checksum error check. This results in more reliable transfers, especially over noisy phone lines. Not all Kermit programs perform CRC error checking.

### **Default Mode**

Select **Text** or **Binary** as the default transfer mode (used only for Kermit and Zmodem protocols). When you select Upload or Download from the main menu or toolbar, the default mode will be selected. Also, select whether to overwrite existing files when downloading. You also can change any of these options in the Upload or Download dialog before performing the transfer.

### **Default Upload/Download Directory**

Enter the drive and directory where you want received files to be stored by default. You can change this directory in the Download dialog before performing the transfer. If you set the **Automatic Zmodem download** option, then this is the directory where the received files are stored.

**Automatic Zmodem Download**

If this option is set, then AccuTerm will automatically begin receiving files using the Zmodem protocol when the other machine begins sending files using the Zmodem protocol. The files are saved in the **Default Upload/Download directory**.

## Miscellaneous Settings

The Miscellaneous Settings tab is used for setting various options, such as how paste operations are handled and the sound of the terminal bell.

### **Paste Options: line end**

When the clipboard is “pasted” to an AccuTerm session, AccuTerm transmits the clipboard text to the host computer. The **line end** options specify what is transmitted at the end of a line of text. Options include **CR** (default), **LF**, **CF+LF**, **TAB**, none or a user-defined character. To specify a user-defined character, select the **User defined** option and enter the ASCII code of the character to be transmitted at the end of each line.

### **Paste Options: do not send line end after last line**

If you want to suppress the final end-of-line (or only end-of-line if only a single line is in the clipboard), select this option.

### **Paste Options: paste end**

After pasting the clipboard to an AccuTerm session, AccuTerm can transmit an optional **paste end** character. Normally, AccuTerm does not transmit any character at this time, but you can select **EOF** (which is the **SUB** or CTRL + Z control code), or a user-defined character. To specify a user-defined character, select the **User defined** option and enter the ASCII code of the character to be transmitted at the end of a paste operation.

### **Terminal Bell Sound**

The sound generated by AccuTerm upon receipt of the ASCII **BEL** control code can be customized. The **default sound** depends upon whether a sound card is installed or not. If a sound card is not installed, a “beep” is produced; otherwise the sound defined by the Control Panel Sounds applet as the “Default Beep” is played.

Other options which may be selected are: **play wave file**, **system event**, **beep** or **silent**. To play a wave file, select this option and enter the full path for the wave file to be played. To use a sound associated with a system event, select the event from the dropdown list. System events are associated

with wave files in the Control Panel Sounds applet. To use a true beep, enter the frequency of the beep in Hz, and the duration in milliseconds. The default is 400Hz for 500ms. The frequency must be between 200Hz and 4000Hz. The duration must be between 100ms and 5000ms.

#### **Advanced (Custom Features)**

Click the **Advanced** button to show any custom features that can be selected. See the **Programmers Guide** for more information on the custom features of AccuTerm 2000.

## AccuTerm Internet Connection Script

AccuTerm 2000 Internet Edition uses a script, written in Visual Basic for Applications (VBA), to automate certain processes. Each session file includes its own script, which may be customized. When a new session file is created, a default script is also created for that connection. To open the **Script Editor** window, select **S**cript from the **T**ools menu or click the



button.

In AccuTerm 2000 Internet Edition, scripts are used to automate the logon process as well as for cleanup. Scripts may also be called by the host program, or invoked by a function key (as programmed in the Keyboard section described previously).

The `Connect ( )` subroutine is called when AccuTerm has successfully established a connection with the host system. Modify the default script to log into your host system and start the application you want the user to have access to from the web.

Various blocks in the default `Connect ( )` subroutine can be “un-commented” to support either hard-coded user ID and password, or prompt for user ID and password. The login sequence uses a series of *Output* statements (methods) to send a string to the host followed by *WaitFor* statements (methods) to wait for the desired response from the host. You will probably need to customize this section.

The `Disconnect ( )` subroutine is executed when the AccuTerm session is closed. This function is designed to handle any special cleanup functions. Since the connection is probably already closed, often there is not much you can actually do in this function. The default `Disconnect ( )` subroutine performs no function.

The `Disconnected()` subroutine is executed when the connection to the host has been terminated, either deliberately by the host, or due to network errors. This function can be used to display a message to the user, close the browser window, etc. There are two predefined actions in the standard sample script: display a “reconnect” message or close the browser window.

You can create other subroutines and functions which are called by your `Connect()` or `Disconnect()` routine (or from function keys or host commands). Subroutines begin with the `Sub` keyword followed by the name of the subroutine. If the subroutine requires arguments, enclose them in parentheses. The last statement in a subroutine is `End Sub`.

Functions are similar to subroutines, and begin with the `Function` keyword, and end with the `End Function` statement. Functions return a value; simply assign the return value to the function name within your function code.

### **Controlling AccuTerm with Scripts**

From a script’s perspective, AccuTerm consists of a set of objects which can be manipulated. The main object, `AccuTerm`, may be used to control the general settings of AccuTerm. The `Session` object is the most useful object for controlling AccuTerm. Using the `Session` object, you can change any of the session settings, communicate with the host system, manipulate the screen, etc. Note that not all properties and methods of all objects are available or meaningful in the context of an AccuTerm Internet session. For example, the `AccuTerm.WindowState` property is not relevant in this context and will generate an error if used. See the **AccuTerm Object Reference** chapter in the **Programmers Guide** for a description of AccuTerm’s object model.

There are several built-in objects which can be referenced while executing scripts. These are the `AccuTerm` object and the `ActiveSession` object.

For compatibility with the standard version of AccuTerm 2000, the `Sessions` collection and the `InitSession` object are also defined, however, the `Sessions` collection contains exactly one session and no other sessions may be added to it, and the `InitSession` object references the same session as the `ActiveSession` object.

## Cookies

The `Cookie` collection provides a method to communicate values between the HTML session and the emulator session. Cookies which are passed between HTML and emulator sessions must be “permanent”, or “disk” cookies, not “temporary” or “memory” cookies. The scope of cookies is restricted to the URL of the directory of the session (.ats) file.

You can retrieve the value of a “cookie” which was set by the web server (or by a script in the HTML page) by accessing the `Cookie` collection:

```
x$ = Cookie("MyCookie")
```

Likewise, you can set the value of a cookie so that the web server (or a script in the HTML page) can retrieve its value:

```
Cookie("HostResult") = "Success"  
Cookie("AccountNumber", 1800) = "11199"
```

The second form specifies the expiry time of the cookie in seconds. In the example, the cookie is valid only for 30 minutes (1800 seconds). If you do not specify an expiry time, the default of 1 hour is used.

## WebBrowser Object

An object representing the browser containing the emulator session (.ats file) is available as the `WebBrowser` object. While much functionality of this object is restricted, the `Quit` and `Navigate` methods are available and might be useful in some circumstances. For example, you can use the `Quit` method in the `Disconnected` function to close the current browser window (the one displaying the terminal session). This is actually one of the choices in the sample script:

```
WebBrowser.Quit
```

For more information on scripting, or the `AccuTerm` object model, please refer to the **Programmers Guide**.

## Testing a Connection

After configuring the connection settings and script, you can use the Connection Designer to test your connection file. Normally, the terminal session in the preview pane is “disconnected” from the host. To connect to the host, select **C**onnect from the **T**ools menu or click the  button. AccuTerm will attempt to connect the host configured in your connection file, and once connected, the Connect subroutine in your script will be executed. In the **Script Editor** window, you may set break-points in your connection script to aid in debugging the script.

To test the Disconnect script, select **D**isconnect from the **T**ools menu or click the  button.



# DEPLOYING ACCUTERM INTERNET CONNECTIONS

Deploying an AccuTerm 2000 Internet Connection on the Internet (or on an intranet) requires two components: a Web Server and the Host Computer that you want to connect to.

## Web Server

After you create a terminal session (.ats) file with the Connection Designer, you need to link the new terminal session into your web page. Choose an appropriate web page, and modify the web page file by adding a hyperlink to the new HTML link file (created when you saved your .ats file). The HTML link file contains a sample hyperlink which you can copy and paste into your web page file. Then, upload the modified web page file, the .ats file and the HTML link file to your web server.

The web server does not need to be (and usually is not) the same machine as your host. The web server can be located anywhere on the Internet (or intranet), as long as end-user's PC can access it. The only function that the web server performs when used with AccuTerm 2000 Internet Edition is to deliver the HTML and .ats files to the browser on the user's PC.

If you install the ats file on a local (intranet) web server, and you have selected the intranet version of the HTML link file, you also need to upload the atiecli2.cab file from the ...Atwin\LocalServerFiles directory to your web server. If your HTML link file includes the GUI support option, you should also upload the atguisvr\_install.cab file to your web server.

## **Host Connection**

The final task required to get everything working is to connect your host to the Internet (or intranet). It is beyond the scope of this document to provide detailed instructions on how to connect your host to the Internet, but we can offer some general guidelines.

First, your host must be able to receive Telnet or Secure Shell (ssh) connections across a network. This normally requires that the host machine have an ethernet adaptor and TCP/IP networking software configured. All Unix-based hosts should support both Telnet and ssh. NT-based hosts may only support Telnet.

Second, you will need a permanent Internet connection with a static IP address. You may be able to use a DSL or Cable Modem connection, or some other high-speed link. A static IP address is necessary, because the .ats file (a static file saved on your web server) contains the IP address of the host machine. If your host gets its IP address assigned dynamically, then you would need to update the .ats file each time the host's IP address changes.

Finally, you need to consider security. Often, a gateway or router is used between your Internet connection and the local area network which connects to your host machine. The gateway or router can be configured to route inbound Telnet or ssh requests to the IP address of your host on the local network. The outside world sees the IP address of the gateway or router, not the IP address of the host. This is the IP address that should be specified in your .ats file. The gateway may also be able to restrict inbound connections and only allow connections from specific addresses.

AccuTerm 2000 supports Secure Shell (ssh) connections between the user's PC and the host. If you are concerned about privacy, use ssh instead of Telnet. The entire ssh session is encrypted, including login name and password. AccuTerm ssh is version 1 compliant, and uses triple-DES encryption with password authentication.

To use ssh, the host machine must be running an ssh server program (sshd, similar to telnetd). The ssh server is available for most Unix-based hosts (see [www.openssh.org](http://www.openssh.org) for more information).

If you need to connect to an NT-based host which does not support ssh, consider using a small Linux machine as a gateway. The Linux gateway can accept inbound ssh connections, then automatically open a Telnet connection to the NT-based host.



# ACCUTERM INTERNET CLIENT

The AccuTerm 2000 Internet Edition Client component files are installed on the user's computer automatically by the browser. The first time the user connects to a site requiring the AccuTerm Internet Client, the files are downloaded and installed. Subsequently, the files are only downloaded if newer versions of one or more files become available.

The files may be downloaded from the Internet or from an intranet. When you create a connection, you can choose to create an *Internet* or *intranet* HTML link file. If you choose to create an *Internet* link file, the component files are downloaded from AccuSoft's web site. The user must fill out an information form, and accept the *fee-free* software license agreement before the software is installed. The component installation has been optimized so that only those files which are not present on the user's computer (or are out of date) are downloaded.

If an *intranet* html file is used, the files are obtained from the atiecli2.cab file on the local web server. The atiecli2.cab file is not optimized for Internet deployment.

In either case, the component files are distributed in a .cab file which includes a "digital certificate" identifying the source of the files as "Schellenbach & Assoc., Inc. dba AccuSoft Enterprises". The browser may display this certificate before installing the components and allow the user to cancel the installation of the component files.



# TROUBLESHOOTING

## **Browser Compatibility**

AccuTerm 2000 Internet Edition only supports the Microsoft Internet Explorer browsers. Internet Explorer 3.0 and above are supported. Due to bugs in IE 3.0, the digital certificate used to authenticate the client software components is not recognized correctly. IE 3.02 corrects this. AccuSoft recommends using IE 4.0 or above.

## **Unable to establish SSH connection**

If you are unable to establish an ssh connection to the host, it is usually caused by not having the 128 bit High Encryption Pack installed on the client PC. Make sure 128 bit encryption is installed by clicking Help -> About Internet Explorer. Check the Cipher Strength setting.

## **Nailed Ports**

Because all users accessing a given web page will share a single .ats file, using "nailed ports" is not recommended.

## **Can't install client program from web**

Security at some organizations prevents the installation of the AccuTerm 2000 Internet Client programs from AccuSoft's web site. This code is downloaded automatically by Internet Explorer using http, but some firewall and/or proxy server configurations seem to block this function. In this case, you might need to ship a Client Install CD to the customer. You can create a Client Install CD by copying the files in the Client Install folder of your program CD to the root directory of a blank CD.



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