CommNet

Version 2.3

for Windows 95, 98, NT, 2000, and XP

Secure CommNet

Version 2.3

for Windows 95, 98, NT, 2000, and XP

User's Guide

***Note**: This manual covers both the CommNet and Secure CommNet applications. CommNet offers all of the features of Secure CommNet, but without Secure Shell (SSH2) support. If you registered CommNet, you can easily upgrade to Secure CommNet to access the SSH2 features.*

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Table of Contents

License Agreement …… 2
Table of Contents …… 3
Introduction to CommNet & Secure CommNet …… 4
Getting Started …… 5
CommNet & Secure CommNet Main Screen …… 6
Connecting via Dial-up & Telnet …… 7
Opening a Secure Connection with Secure CommNet …… 8
Sending & Receiving Files …… 9
Using Scripts …… 10
Using Session Commands …… 11
Hosting a Telnet Connection …… 12
Customizing the Software …… 13
Using CommNet & Secure CommNet with WWW Browsers …… 14
Running CommNet & Secure CommNet from MS-DOS …… 14
Frequently Asked Questions (FAQs) …… 15
Reference: Keyboard Mapping …… 16

"There are many good Telnet clients available for downloading via the Internet, but one stands out as being especially rich in features. It's called CommNet *and it's available from Radient Software, Inc."*
-- "ProLog's Guide to the Internet" by Ronald L. Wagner

"Radient Software's CommNet *is powerful enough for most users and simple enough for the first-time BBS caller."*
-- West Coast Online

"[CommNet] loads quickly and performs admirably."
"An unusually fast Zmodem protocol works via Telnet or dialup connections. And Ymodem-G is available during dialup sessions."
-- Boardwatch Magazine

"...One of the few available programs that allows you to transfer files with the Zmodem protocol over your Telnet connection."
-- CNET Online

"One of the best Telnet clients available."
-- Stroud's Consummate Winsock Applications

Introduction to CommNet & Secure CommNet

Thank you for choosing **CommNet** and **Secure CommNet** from Radient Software. CommNet supports modem dial-up and Internet Telnet capabilities; and Secure CommNet integrates modem dial-up, Internet Telnet and Secure Shell (SSH2) capabilities into a single, fast, full-featured, and easy-to-use application.

New Features in version 2.3:

- Added four script commands:
  - PAUSESECONDS *(waits a specified number of seconds before going on to the next script command)*
  - SETRECEIVEDIRECTORY *(changes the destination directory for incoming file transfers)*
  - RUNAPPNOWAIT *(starts another program on the system without waiting for it to finish)*
  - RUNAPPANDWAIT *(starts another program on the system and waits for it to finish)*
- Increased delay for SSH2 modem uploads to avoid potential buffer overflowing

Additional Features in version 2.2:

- Fixed scrollback buffer problem when session windows are initially maximized
- Upgraded installation package to use Windows Installer

Additional Features in version 2.1:

- Added script command to begin sending a file via Zmodem
- Added support for direct printing of attached files from the remote host, bypassing the Windows printer driver

New Major Features in version 2.0:

- SSH2 (Secure SHell) support for the following encryption algorithms: AES256, Twofish, Blowfish, Triple-DES, Arcfour and Cast-128
- TCP/IP port forwarding (also known as connection tunneling) during secure connections
- FTP support during Telnet and SSH2 connections
- Multithreaded serial communications support
- Expanded scripting commands
- Configurable scrollback buffer up to 500 pages
- Expanded command line options
- Redesigned user interface with docking toolbars
- URL-aware session windows with enabled hyperlinks

Dial-up, Telnet & SSH2 features:

- Supports one dial-up session and multiple Telnet and SSH2 connections simultaneously
- Supports Telnet Host Mode Server to allow other Telnet clients to connect to your system for direct communication, chatting, and file transfers
- Supports high performance Zmodem file transfers with dial-up, Internet Telnet and SSH2 sessions. Zmodem crash recovery and auto-downloading enabled. Ymodem-G is also available for dial-up sessions
- Supports TTY, VT100, VT220, and full-color PC ANSI and SCO ANSI terminal emulations
- Scripting support to automate log-ins and session connections
- Built-in phone book for easy access to frequently-used addresses
- Entire session contents or selected portions of the session can be saved to a file or output to a printer
- Can be used as the Telnet application for a World Wide Web browser

Customizable features:

- Customizable session font, background color and text color
- User definable Toolbar for access to frequently-used applications
- Selectable row and column defaults for session windows
- Supports keyboard re-mapping
- User definable function keys for commonly-used character string sequences
- Support for multimedia sound effects on specified events (requires multimedia-capable sound card)

Other features:

- Phonebook which provides easy access to frequently-used addresses
- Optimized screen graphics routines to improve response time and reduce overrun errors
- Docking toolbars with quick access to commonly used commands and applications
- Drag and drop file uploading
- Session capture facility to record session text to a file. Multiple sessions can be captured simultaneously
- Supports attached/transparent printing
- Informative status bar with connect time, connection settings, terminal emulation type, and modem/connection status

Getting Started

System Requirements
- 386/486/Pentium IBM PC or compatible
- Microsoft Windows 95, Windows 98, Windows NT 4.0, Windows 2000, or Windows XP
- 8 MB RAM with minimum 10 MB free hard disk space
- Modem for dial-up features
- Internet access for Telnet and SSH2 features

Installing CommNet or Secure CommNet
1. Download and run the CommNet 2.3 or Secure CommNet 2.3 self-executable file.
2. Registered users: enter the registration key provided.

Changing the Directory of the Configuration Files
You can change the directory of the configuration files (MAIN.CFG, KEYMAP.DAT, PHONBOOK.DAT) during start-up using the command line. The parameter is: config=<directory path>.
1. Click the **DOS** icon or open a command line window.
2. Type **CommNet config=<directory path>**.
3. If <directory path> is not specified, the configuration files will be stored in the Program directory.

Setting the Modem Preferences (Dial-up Connections Only)
1. Choose **Modem Hardware** from the Setup menu. The Hardware Settings dialog box appears.
2. Select the preferred settings for serial port, bits per second, data bits, stop bits, parity, and flow control. You can set custom hardware settings for each dial-up Phonebook entry.
3. Click **OK** to retain the settings.

Setting the Modem Initialization & Dialing Strings (Dial-up Connections Only)
1. Choose **Modem Commands** from the Setup menu. The *Modem Commands* dialog box appears.
2. Type in the preferred modem initialization string, which is sent when a dial-up session window is opened using the **Open Dial-Up Window** command. Type in the preferred dialing string, which is the dialing prefix used during Phonebook dial-up connection attempts.
3. Click **OK** to retain the settings.

Setting the Terminal Settings
1. Choose **Terminal Settings** from the Setup menu. The *Terminal Settings* dialog box appears.
2. Select the preferred terminal emulation type, backspace character, and other terminal options, such as carriage return line feed, local echo and word wrap.
3. Click **OK** to retain the settings. Settings are in effect for the currently active session window or until they are changed manually or by a Phonebook entry.

✍ *Terminal Emulation Types: **TTY** is raw text (there is no screen formatting). **VT100** and **VT220**, two common settings, emulate the DEC terminal. **PC ANSI** emulates the IBM PC ANSI terminal and supports color graphics. **SCO ANSI** emulates the SCO Unix terminal and supports color graphics.*

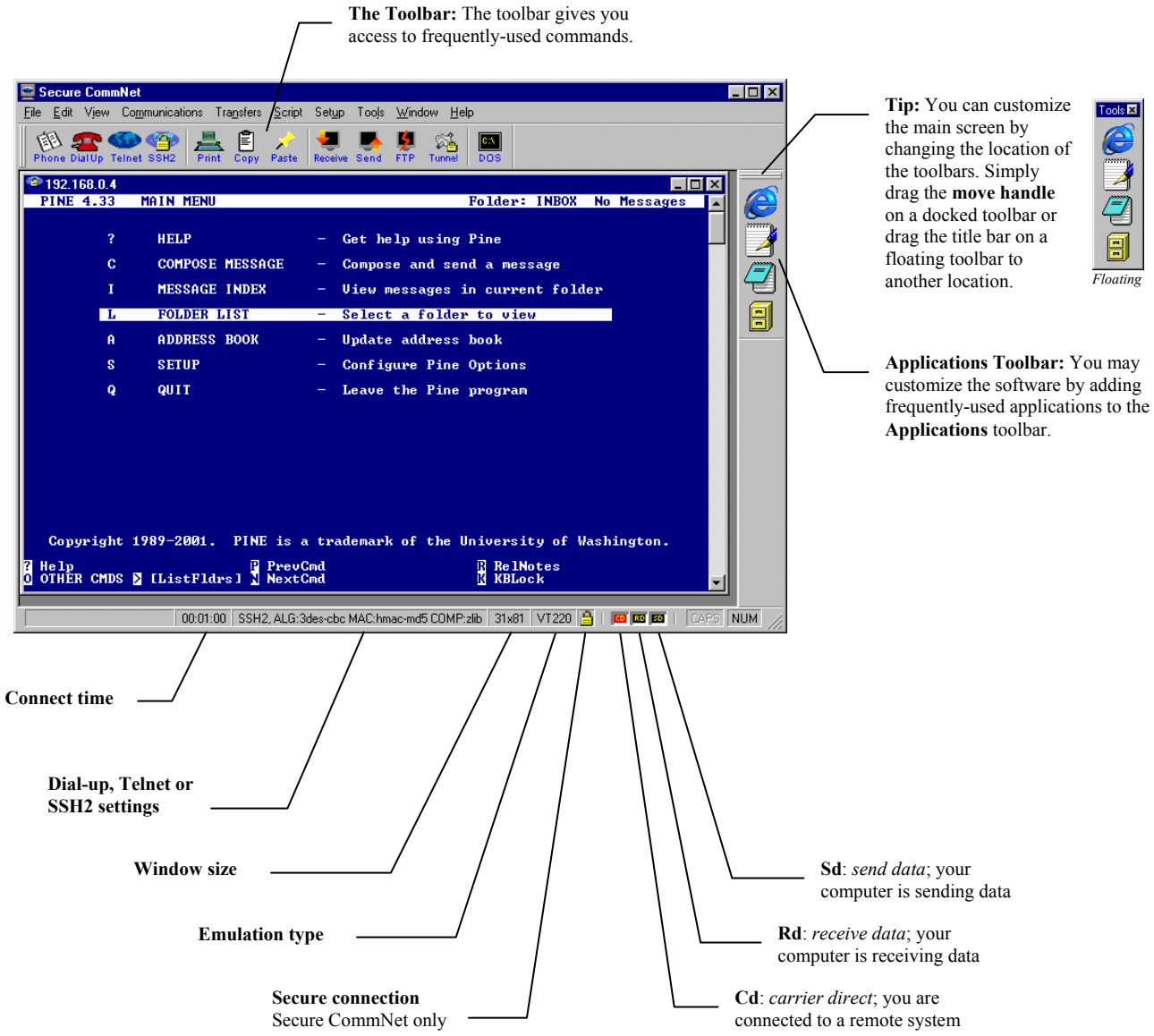
Adding Applications to the Toolbar
Tools 1-4 allow you to add applications to the toolbar for instant access.
1. Select the **Change** function from *Tool 1, 2, 3* or *4* in the Tools menu.
2. Choose an application from the menu. Its icon will appear on the **Applications** toolbar.
3. To launch an application, click an icon from the **Applications** toolbar or select **Run** from the Tools menu.

Exiting CommNet or Secure CommNet
Choose **Exit** from the File menu.

CommNet and Secure CommNet Main Screen

Understanding the Main Screen

CommNet and Secure CommNet may be customized by adding frequently used applications to the Toolbar (such as a word processor, to export the contents of Telnet and SSH2 sessions). In addition, CommNet and Secure CommNet offer an informative status bar with connect time, connection settings, window size, emulation type and modem/connection status indicator lights.



Connecting via Dial-up & Telnet

Using the Phonebook
CommNet and Secure CommNet offer a built-in Phonebook that allows automated connections to frequently-used dial-up, Telnet and SSH2 selections. You can connect, edit or delete multiple selections.

1. Click the **Phone** icon or choose **Phonebook** from the Communications menu.
   You may add a dial-up entry, add a Telnet entry, add a SSH2 entry, delete an entry, or modify an existing entry. Each entry in the Phonebook has its own connection information, terminal settings and script files.
2. To immediately open a connection, select the entry/entries and click on **Connect to selected entry(s)**. You may also open a command line connection via a Phonebook entry by typing **CommNet phonebook=<entry name>.**
   If a connection is made through the Phonebook, that entry's terminal settings become the new main default.
3. To return to the main Secure CommNet screen without attempting a connection, click on **Exit Phonebook**.
4. To change a Phonebook entry's settings, select the entry in the Phonebook and click the **Edit Entry(s)** button.

✍ *The Toolbar offers quick access to frequently used commands and applications. For details, see "Customizing Secure CommNet" on page 13.*

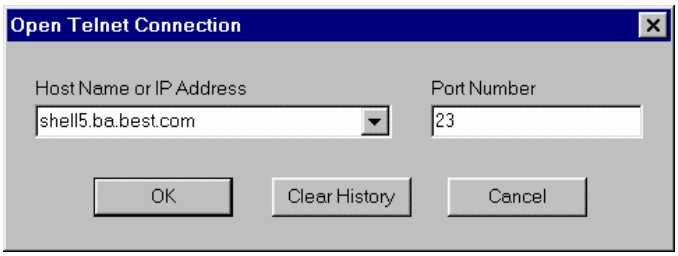
Opening a Dial-up Window

1. Click the **Dial Up** icon or choose **Open Dial-up Window** from the Communications menu.
   When one or more dial-up entries are selected to attempt connection through the Phonebook, each entry will be dialed in a cyclic fashion until a connection is established.
2. The modem initialization string is automatically transmitted.

Disconnecting the Modem (Dial-up Connections Only)
Choose **Hangup Modem** from the Communications menu. This should only be used in dial-up connections and will only work with modems which recognize the RS-232 Data Terminal Ready (DTR) signal.

Opening a Telnet Connection

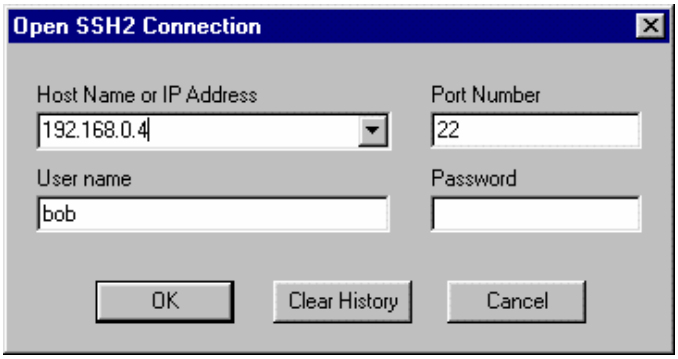
1. Connect to the Internet.
2. Click the **Telnet** icon or choose **Open Telnet Connection** from the Communications menu.
   When one or more Telnet entries are selected to attempt connection through the Phonebook, multiple session windows are immediately opened for connection establishment. If any dial-up entries are also selected in this group of entries, they are ignored.
3. Type the destination Internet host name/IP address and port number. The default port number is 23, the standard port number for the Telnet protocol. Other port numbers may be specified if desired. For additional security, you may click the **Clear History** button to erase the history list.
4. Click **OK**.



Opening a Secure Connection with Secure CommNet

Connecting via SSH2
SSH (**S**ecure **SH**ell) is a protocol that enables encrypted connections to remote computers, including password transmissions and file transfers.

1. Click the **SSH2** icon or choose **Open SSH2 Connection** from the Communications menu.
2. Type the destination Internet host name/IP address and port number. The default port number is 22, the standard port number for the SSH2 protocol. Other port numbers may be specified if desired. For additional security, you may click the **Clear History** button to erase the history list.
3. Type the user name and password. Click **OK**.



Setting the SSH2 Preferences

1. Choose **SSH2 Settings** from the Setup menu. The *SSH2 Settings* dialog box appears.
2. Select the preferred encryption algorithm from the list. Use the up and down arrows to set the order of the encryption algorithms used by Secure CommNet. Then select the default message authentication code type and compression type.
3. Click **OK** to retain the settings.

Secure CommNet supports the following encryption algorithms:

- AES256 256-bit key CBC Mode
- Twofish 256-bit key CBC Mode
- Blowfish 128-bit key CBC Mode
- Triple-DES 192-bit key CBC Mode
- Arcfour 128-bit key RC4 Mode
- Cast-128 128-bit key CBC Mode

Secure CommNet supports the following HMAC (Keyed-Hash Message Authentication Code) algorithms:

- HMAC-SHA1 160-bit value
- HMAC-MD5 128-bit value

TCP/IP Port Forwarding (also known as Connection Tunneling)
With TCP/IP port forwarding, you can use other TCP/IP applications over an encrypted connection for security. For more information about using the Tunnelier utility, visit the Bitvise website at www.bitvise.com.

1. Open a secure connection via SSH2.
2. Click on the **Tunnel** icon or choose **SSH2 Tunnelier** from the Tools menu. The *Bitvise Tunnelier: SSH2 TCP/IP connection forwarder* dialog box appears.
3. Select the preferred encryption algorithm, default message authentication code type and compression type.
4. Click **Start SSH2 session with these settings**.

Sending & Receiving Files

Setting the File Transfer Protocols

- To select Zmodem as the file transfer protocol for receiving and sending files, choose **Zmodem Protocol** from the Transfers menu. Crash recovery is supported. *We recommend using this protocol for file transfers.*
- To select Ymodem-G as the file transfer protocol for receiving and sending files, choose **Ymodem-G Protocol** from the Transfers menu. Any existing files will be overwritten during receive. This should only be used in cases where the connection is considered to be error-free (i.e. modem has hardware error correction enabled).

Setting Zmodem File Transfer Preferences

1. Select the **Automatically Detect and Start Zmodem Downloads** option from the Transfers menu to automatically recognize the sender and start downloading files.
2. Select the **Overwrite Files During Zmodem Downloading** option from the Transfers menu to automatically overwrite an existing file.

Sending Files

1. Click the **Send** icon or choose **Send File** from the Transfers menu. A file upload window opens where files can be specified and transmitted. The currently selected file transfer protocol will be used for sending.
2. Files can be added to the upload list through the usual file selection dialog box or dragged and dropped in from the Windows Desktop.
   This command is available for dial-up, Internet Telnet and SSH2 sessions. Internet Telnet and SSH2 connections can only use Zmodem file transfers.
3. Click **OK** to send the files.

Setting the Receive Directory

You can specify the preferred drive and directory where received files will be stored.

1. Choose **Set Receive Directory** from the Transfers menu. The *Select Receive Directory* dialog box appears.
2. Set the preferred drive and directory in which to receive files. The filename entry in the dialog box is ignored and should not be changed.
3. Click **OK** to save your preferences.

Receiving Files

CommNet and Secure CommNet allow users to receive files using both Ymodem-G and Zmodem file transfers for dial-up sessions. Only Zmodem file transfers are supported for Internet Telnet and SSH2 connections.

1. Click the **Receive** icon or choose **Receive Files** from the Transfers menu after the sender has started the transfer process.
2. Files are downloaded using the selected file transfer protocol into the selected receive directory.

Opening a FTP Session

During a Telnet or SSH2 connection, you can open an FTP session to transfer files.

1. Click the **FTP** icon or choose **Open FTP Session** from the Transfers menu.
2. CommNet and Secure CommNet will launch your default FTP program to your currently active host.

Using Scripts

Script files allow users to automate the sending of data to a remote host. It involves a user-definable sequence of commands that allows you to wait for and then transmit specific data. One example is to automatically login and transmit a user name and password for each Phonebook entry. When using the Telnet Host Mode Server, users can also customize a greeting when a remote user connects to their system.

Creating a Script File
1. Choose **Create** from the Script menu. The *Input Script File to Create* dialog box appears.
2. Type a filename and click **Save**. The Notepad editor appears.

The following commands are available:

- **WAIT** <space> <string> — *Waits for the specified <string> sequence before going to the next script command*
- **SEND** <space> <string> — *Immediately sends the specified <string> sequence*
- **DISPLAY** <space> <string> — *Displays the specified <string> sequence without sending it to the host*
- **PAUSESECONDS** <space> <number of seconds> — *Waits a specified number of seconds before going on to the next script command*
- **BEGINCAPTURE** <space> <filename> — *Immediately starts the <filename> session capture by overwriting any existing capture file*
- **BEGINCAPTUREAPPEND** <space> <filename> — *Immediately starts the <filename> session capture by adding to the capture file*
- **ENDCAPTURE** — *Immediately ends the session capture*
- **SETRECEIVEDIRECTORY** <space> <directory path> — *Changes the destination directory for incoming file transfers.*
- **ZMODEMUPLOAD** <space> <filename> — *Begins sending a file via Zmodem*
- **RUNAPPNOWAIT** <space> <program name> <optional program parameters> — *Starts another program on the system without waiting for it to finish. Example: RUNAPPNOWAIT C:\WINDOWS\NOTEPAD.EXE*
- **RUNAPPANDWAIT** <space> <program name> <optional program parameters> — *Starts another program on the system and waits for it to finish before continuing onto the next script command*
- **RUNSCRIPT** <space> <filename> — *Passes control from the current script file to a new script file*
- **EXIT PROGRAM** — *Exits Secure CommNet*

The following character keys can be used when defining string sequences:

- ^ Control Key Sequence
- **^[** Escape Character
- **^M** Carriage Return
- **^J** Line Feed

Sample Script File contents:

```
WAIT login:
SEND my_username^M
WAIT password:
SEND my_password^M
```

✍ *Lines beginning with '//' are ignored. You may type notes and explanations by prefixing them with '//'.*

Editing a Script File
1. Choose **Edit** from the Script menu. The *Select Script File to Edit* dialog box appears.
2. Select a script file and click **Open**. The Notepad editor appears.

Running a Script File
At any time during a connected session, you can select **Run** from the Script menu to run an existing script file. The name of the script file will appear in the session window title bar.

Stopping a Script File
To stop a script file, select **Stop** from the Script menu.

Using Session Commands

Starting a Session Capture
To save an active window session to a file:
1. Choose **Begin Capture** from the File menu.
   A Capture ON status indicator is displayed for sessions currently being captured and when the window is active. This menu item changes to Stop Capture when capturing is on.
2. When the session is complete or you want to end a session capture, choose **Stop Capture** from the File menu.

✍ *CommNet and Secure CommNet support URL parsing, which allows you to left-click on a URL to launch the default web browser. You can also double-click on a word to automatically select the entire word.*

Transmitting Files without Character Conversion or File Protocol
CommNet and Secure CommNet allow you to send any binary or ASCII data file to a remote host without any character conversion or file protocol.
1. Choose **Transmit File** from the File menu. The *Select File to Transmit* dialog box appears.
2. Select a file to transmit and click **Open**.

Saving the Current Session or Selected Text
With CommNet and Secure CommNet, you can save the current session and selected text to a file.
1. To save the current contents (including scrollback buffer contents) of the active window session, choose **Save Current Session** from the File menu.
2. To save the currently selected text, choose **Save Selected Text** from the File menu.
3. Type in a new filename and click **OK**.

Setting the Printer Preferences
1. Select **Printer Font** from the File menu to set the font type and size for print operations.
2. Select **Printer Setup** from the File menu to configure and select your preferred printer for print operations.

Printing Pages, Sessions, & Selected Text
You can print the current page, current session contents, and currently selected text.
1. To print the current page contents of the active window, click the **Print** icon or choose **Print Current Page** from the File menu.
2. To print the current contents (including scrollback buffer contents) of the active window session, choose **Print Current Session** from the File menu.
3. To print the currently selected text, choose **Print Selected Text** from the File menu.
4. Specify the number of copies you want to print and the page range. Select your printer options if necessary. Click **OK**.

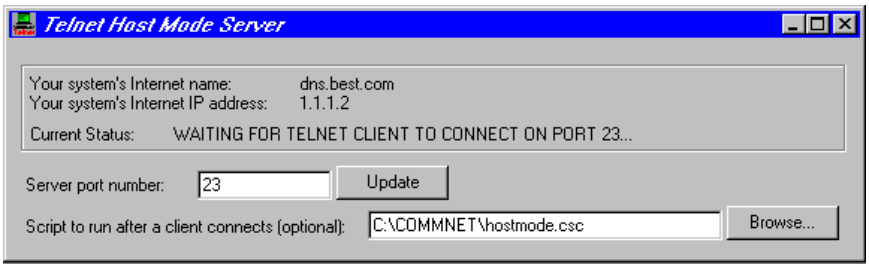
Hosting a Telnet Connection

CommNet and Secure CommNet can act both as a Telnet client and server. The **Telnet Host Mode Server** allows other computers to Telnet to your system. You can communicate and transfer files directly with other users, using any Telnet client such as CommNet or Secure CommNet.

✍ *By hosting a Telnet connection, you can chat with multiple people simultaneously (without long-distance charges) and transfer files directly, rather than transferring files via ftp or through a third-party server.*

Hosting a Telnet Connection

1. Choose **Start Telnet Host Mode Server** from the Communications menu. The *Telnet Host Mode Server* dialog box appears.



2. The default server port number is 23, which is the standard port number for the Telnet protocol. Click **Update** to specify other port numbers.
3. You can specify a script file that will be run each time a client connects to your machine by clicking on **Browse** and selecting the desired script file.
4. When a remote user connects to your system, a new session window will be created. Multiple users can connect to your server at the same time.

Closing the Telnet Host Mode Server

Double-click the **Telnet** button at the top left of the Telnet Host Mode Server session window. This will prevent new clients from connecting to your system, but will not disconnect existing sessions.

Customizing the Software

Customizing the Main Screen
You can change the location of the **Toolbar** and **Applications** toolbar. To move a toolbar, drag the **move handle** on a docked toolbar or drag the title bar on a floating toolbar to another location. To return the toolbars to their default locations, choose **Reset Toolbars** from the View menu.

Setting the Font, Background Color, & Text Color
To change the font, background color or text color of the currently active window session (and all new sessions):
1. Choose **Font, Background Color** or **Text Color** from the View menu. *Note: CommNet and Secure CommNet use the standard color picker for simplified color control.*
2. Select the new font, background color or text color and click **OK**.

Setting the Default Session Rows/Columns
1. Choose **Default Session Rows/Column** from the Setup menu.
2. Click on the default number of rows and columns to be used for session windows. You may choose from 24x80, 24x132, 25x80, 25x132, 35x80, 35x132, 50x80, 50x132 and Last Window Size.
   If the session window is maximized, this setting will not be in effect; the number of rows and columns will be based on the size of the main program window.

Setting the Scrollback Buffer
To set the scrollback buffer size (up to 500 pages):
1. Choose **Default Scrollback Buffer Size** from the Setup menu.
2. Enter the default number of scrollback buffer pages (up to 500) and click **OK**.

Changing Sound Effects & Adding Custom Sound Effects
CommNet and Secure CommNet can associate program events with custom sound effects. A multimedia-capable sound card is required to play sound effects. You may also use your PC's speaker beep or disable all sound effects.
1. Copy new WAV sound files into the Secure CommNet directory.
2. Choose **Sound Effects** from the Setup menu.
3. Select an event from the *Event* list and a sound effect from the *Sound File to Play* list and click **OK**.

Customizing the Keyboard
You can change the key sequence sent by when pressing a numeric keypad key and special purpose key (i.e. arrow keys, Page Up, Page Down, etc..). The key sequence can be a set of characters and control-key presses.
1. Choose **Keyboard Mapping** from the Setup menu.
2. Select the emulation type. Each type has its own keyboard mapping.
3. To enter a multi-line sequence, press **Enter** at the end of each line. You can move through the sequence by clicking on the scroll arrows. Click **Done**.

Setting the Keypad Mode
To change the keypad mode, choose **Keypad** from the Setup menu and select *Numeric* (more common) or *Application* (mapped keys). You may also press **ESC>** to select the *Numeric* keypad or **ESC=** to select the *Application* keypad.

Customizing the Function Keys
1. Choose **Function Keys** from the Setup menu.
2. Select and edit the function keys to transmit specified strings.
3. Click **OK**.

Printing Directly from the Remote Host
With CommNet and Secure CommNet, you can bypass the Windows printer driver during attached file printing operations. All data from the remote host is spooled directly to the printer. To enable or disable this function, select the **Bypass Printer Driver for Attached Printing** option from the Setup menu.

Using CommNet & Secure CommNet with WWW Browsers

CommNet and Secure CommNet can be used as the Telnet client application for a World Wide Web (WWW) browser. Simply set your WWW browser to point to the CommNet or Secure CommNet executable file COMMNET.EXE.

✍ *Microsoft Internet Explorer users: You must edit the "URL: Telnet Protocol" file type to perform an "**open**" action on the COMMNET.EXE application.*

Running CommNet & Secure CommNet from MS-DOS

CommNet and Secure CommNet can be directly run from the Program Manager or from the MS-DOS command prompt to connect to a dial-up modem or Telnet/SSH host. Three types of command line connections are supported.

✍ *Adding the CommNet or Secure CommNet directory to your system PATH environment variable will allow you to run the software from any directory.*

1. Connecting via a Phonebook entry: **CommNet phonebook=<entry name>**
   <entry name> is a Phonebook entry

   The following optional parameters will override any existing settings in the phonebook entry:
   host=<hostname> is the Internet address for the host to connect to
   port=<port> is the port number to connect to on the host. *If a port number is not specified, Secure CommNet defaults to port 23 for Telnet and port 22 for SSH2 connections.*
   username=<username> is the user name
   password=<password> is the password
   script=<scriptfile> is the name of a script file to run after connection has been established with the host

2. Connecting to a Telnet/SSH system via a hostname: **CommNet host=<hostname>**
   host=<hostname> is the Internet address for the host to connect to

   The following optional parameters are available:
   port=<port> is the port number to connect to on the host. *If a port number is not specified, Secure CommNet defaults to port 23 for Telnet and port 22 for SSH2 connections.*
   username=<username> is the user name (required for SSH2 connections)
   password=<password> is the password (required for SSH2 connections)
   ssh is used to specify a SSH2 connection instead of Telnet
   script=<scriptfile> is the name of a script file to run after connection has been established with the host

3. Connecting via a Telnet URL: **CommNet <telnet URL>**
   <telnet URL> can be "telnet://hostname:port" or "telnet://hostname"
   If a port number is not specified, Secure CommNet defaults to port 23.

In all cases, if no parameters are specified, Secure CommNet will load normally without connecting to any hosts.

✍ *For all connection types, the **config=<directory name>** parameter can be used to specify the location of the Secure CommNet configuration files. The default location for the configuration files is in the Secure CommNet program directory.*

Frequently Asked Questions (FAQs)

What is Telnet?
Telnet is an Internet Protocol used to connect to remote host computers.

What is SSH?
SSH (**S**ecure **SH**ell) is a protocol that enables encrypted connections to remote computers, including password transmissions and file transfers.

How can I change the font size to get a full-screen display?
Choose **Font** from the View menu and change the font style to a True Type font, which is scalable to any point size. A larger point size will use up more of the screen display. To display ANSI graphics or VT100 line drawing, you must use either the Secure CommNet font or the Terminal font.

What is PC ANSI?
PC ANSI emulation is comprised of 8-bit coded characters and commands that are commonly used on bulletin board systems. PC ANSI emulation is capable of displaying color text and graphics.

Why can't I see PC ANSI graphics, SCO ANSI graphics, or VT100 line drawing properly?
To properly see PC ANSI graphics, SCO ANSI graphics, and VT100 line drawing, the Secure CommNet font or the Terminal font should be selected. Any equivalent font that supports the IBM Extended ASCII character set may also be used.

Why can't I see the characters I type?
The reason why you are not seeing the characters you type is because your "local echo" terminal setting is probably turned off. What you need to do is go to "Setup-Terminal Settings" and turn it on. If you are using Phonebook entries to connect, you need to edit each entry's terminal settings since every Phonebook entry has its own terminal settings.

Why do I see double characters when I type?
The reason why you are getting double characters is because your "local echo" terminal setting is probably turned on. What you need to do is go to "Setup-Terminal Settings" and turn it off. If you are using Phonebook entries to connect, you need to edit each entry's terminal settings since every Phonebook entry has its own terminal settings.

I've connected to a site but the Enter key does not seem to be working. What is wrong?
The most likely reason why pressing the Enter key is not working is because the remote host requires a carriage return-line feed (CR-LF) combination when pressing the Enter key. What you need to do is go to "Setup-Terminal Settings" and turn on "outbound CR->CR-LF conversion". If you are using Phonebook entries to connect, you need to edit each entry's terminal settings since every Phonebook entry has its own terminal settings.

How do I use Secure CommNet with America Online (AOL)?
After installing Secure CommNet, connect to AOL version 3.0 or later. Start Secure CommNet and open a Telnet or SSH2 connection.

Another user has connected to my computer via Telnet Host Mode Server but they can't see what they are typing. What are the proper settings he/she should be using?
The Telnet client that connects to Secure CommNet should have "**Local Echo**" turned on and should send "**Carriage Return + Linefeed**" sequences when pressing **Enter** (in Secure CommNet terms, **Outbound CR->CR-LF conversion** should be **ON**). The easiest way to ensure compatibility is to have the other user use Secure CommNet as the Telnet client.

Reference: Keyboard Mapping

TTY Terminal Emulation
No default keyboard mapping is used for the TTY terminal emulation mode.

VT100/VT220 Terminal Emulation
The following default keyboard mapping escape sequences are used for the VT100/VT220 terminal emulation modes (^[represents the escape character 1B hex):

Arrow Keys	Transmitted Escape Sequence	
Up Arrow	^[OA	(Application Cursor Up)
Down Arrow	^[OB	(Application Cursor Down)
Right Arrow	^[OC	(Application Cursor Right)
Left Arrow	^[OD	(Application Cursor Left)

Numeric Keypad	Transmitted Escape Sequence with Application Keypad mode ON	
0	^[Op	(Keypad Application 0 - Num Lock ON)
1	^[Oq	(Keypad Application 1 - Num Lock ON)
2	^[Or	(Keypad Application 2 - Num Lock ON)
3	^[Os	(Keypad Application 3 - Num Lock ON)
4	^[Ot	(Keypad Application 4 - Num Lock ON)
5	^[Ou	(Keypad Application 5 - Num Lock ON)
6	^[Ov	(Keypad Application 6 - Num Lock ON)
7	^[Ow	(Keypad Application 7 - Num Lock ON)
8	^[Ox	(Keypad Application 8 - Num Lock ON)
9	^[Oy	(Keypad Application 9 - Num Lock ON)
Num Lock	^[OP	(Program Function 1 - PF1)
Divide Key	^[OQ	(Program Function 2 - PF2)
Multiply Key	^[OR	(Program Function 3 - PF3)
Subtract Key	^[OS	(Program Function 4 - PF4)
Add Key	^[OM	(Keypad App. Enter)
Decimal Key	^[On	(Keypad App. Period - Num Lock ON)

Miscellaneous Keys	Transmitted Escape Sequence	
Insert	^[[L	(Insert Line)
Delete	DEL	[Hex 7F]
Home	^[[H	(Home Cursor)
End	^[[K	(Erase End of Line)
Page Up	^[[M	(Delete Line)
Page Down	^[[H^[[2J	(Clear Screen)

PC ANSI Terminal Emulation
The following default keyboard mapping escape sequences are used for the PC ANSI emulation mode:

Arrow Keys	Transmitted Escape Sequence
Up Arrow	^[[A
Down Arrow	^[[B
Right Arrow	^[[C
Left Arrow	^[[D

Miscellaneous Keys	Transmitted Escape Sequence	
Insert	^[[L	
Delete	DEL	[Hex 7F]
Home	^[[H	
End	^[[K	
Page Up	^[[M	
Page Down	^[[2J	