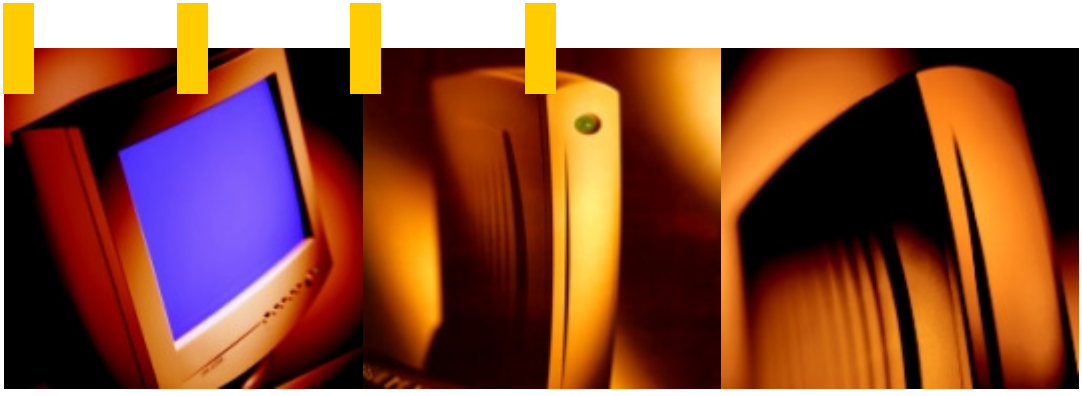
Winterm 3000 Series Windows®-based Terminal

Reference Guide



WYSE

Winterm 3000 Series Windows®-based Terminal Reference Guide

883590-08 Rev. A
August 1999

Wyse Technology Inc.
3471 North First Street
San Jose, CA 95134-1803

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3471 North First Street
San Jose, CA 95134-1803 U.S.A.

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Models 3315SE, 3320SE, 3350SE, 3515SE, 3715SE, and 3720SE terminals meet Class B requirements.

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Refer to the previous section, “Terminal Requirements Compliance,” to find out what model terminal each of the statements below refers to.

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This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

Le présent appareil numérique n’émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la classe A prescrites dans le Réglement sur le brouillage radioélectrique édicté par le Ministère des Communications du Canada.

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Product Overview

1 About the Reference Guide

Overview

The *Wyse Winterm 3000 Series Windows-based Terminal Reference Guide* contains the information you will need to install, configure, connect, and troubleshoot a WBT (Windows-based Terminal). This guide is written for both users and administrators, and covers the Models 3315SE, 3320SE, 3350SE, 3515SE, 3715SE, and 3720SE terminals.

The reference guide consists of the following sections:

- Product Overview
- Installation Procedures
- Terminal Management
- Connection Configuration
- Terminal Firmware Upgrades
- Client Security
- Getting Help

This guide contains information about:

- Terminal features, specifications, installation, and management
- The UI (User Interface)
- Physical and network connections, and protocols used
- Firmware upgrades
- Terminal security
- Getting help

Note

The Adobe Acrobat version of this guide features a link to the Wyse home page at www.wyse.com.

Guide Conventions

Text Format

Table 1-1 lists the text format conventions used in this document.

Table 1-1 Text Format Conventions

Convention	Where Used
Italic	New term, book title or emphasis.
Bold	Screen display, keycaps, and user input.
Note	Indicates a note. A note adds information.
Caution	Indicates a caution. A caution indicates actions that may cause damage to equipment, erase files, or destroy data.
+	Keystroke sequences such as: **Ctrl**+**Alt**+**Del**
|	Instructions about invoking a menu such as: **Network** | **SNMP Network** | **Location**

UI Menu Control

Table 1-2 describes the command buttons used for UI menu control on a 3000 series WBT.

Table 1-2 UI Menu Control

Command Button	Function
X	Found in the upper right corner of a dialog box. Click on this command button to quit a dialog box or properties sheet without saving changes.
OK	Found in dialog boxes and on properties sheets. Click on this command button to save your changes and quit a dialog box or properties sheet.
Cancel	Found in dialog boxes and on properties sheets. Click on this command button at any time to quit a dialog box or properties sheet without saving changes.
Apply	Sometimes not activated and found in dialog boxes and on properties sheets. Click on this command button to save changes without quitting a dialog box or properties sheet.
Next or **Accept**	Found in wizards. Click on these command buttons to display the next dialog box in the sequence.
Back	Found in wizards. Click on this command button to return to the previous dialog box.
Finish	Found in wizards. Click on this command button to return to finish the wizard.

2 Introducing the 3000 Series Windows-based Terminals

Model 3000 Terminals

Winterm 3000 series WBTs (Windows-based Terminals) are designed to connect to WTS (Windows Terminal Server) servers via RDP (Remote Desktop Protocol), to Windows NT applications servers via ICA (Independent Computing Architecture), or to various terminal emulations. RDP is the Windows CE-based protocol for connecting to Windows terminal servers. ICA is a distributed presentation services protocol for Windows NT servers, allowing an application's user interface to execute on a Windows-based terminal while the application's logic executes on the server.

Models Summary

There are six models of Winterm 3000 series terminals:

- Modular type, Models 3315SE, 3320SE, and 3350SE
- Integrated-CRT type, Models 3515SE, 3715SE, and 3720SE

Models 3315SE/3320SE Terminals

The Models 3315SE and 3320SE terminals are standard modular-type 3000 series terminals. The connections for peripherals such as the monitor, keyboard, and mouse are on the back of the terminal. The following figure shows a modular terminal.

Figure 2-1 3315SE/3320SE Terminal

The following items are provided with the Models 3315SE and 3320SE terminals:

- Power supply and power cord
- Desktop mounting stand (an optional wall-mount bracket is also available; for more information call 1-800-800-WYSE (9973))
- Cable shroud and cable clip
- Keyboard (with domestic versions only) and mouse
- Installation and user information

Model 3350SE Terminal

The Model 3350SE terminal is the enhanced modular type 3000 series terminal. The connections for peripherals such as the monitor, keyboard, and mouse are on the back of the terminal. The following figure shows a Model 3350SE terminal.

Figure 2-2 3350SE Terminal

The following items are provided with the Model 3350SE terminal:

- Power supply and power cord
- Cable shroud
- Keyboard (with domestic versions only) and mouse
- Installation and user information
- An optional wall-mount bracket is also available. For more information call 1-800-800-WYSE (9973).

Monitors are not provided with Models 3315SE, 3320SE, and 3350SE terminals. You must provide the standard VGA monitor and video interface cable for your monitor. The cable must have a 15-pin plug connector to attach to the video connector on the back of the terminal.

Models 3515SE, 3715SE, and 3720SE Terminals

Models 3515SE, 3715SE, and 3720SE, the terminals described below, are the integrated-CRT 3000 series terminals. The connections for peripherals such as keyboard and mouse are on the back of the terminal. The following figure shows an integrated-CRT terminal.

Figure 2-3 3515SE/3715SE/3720SE Terminal

The following items are provided with the 3315SE, 3715SE, and 3720SE terminals:

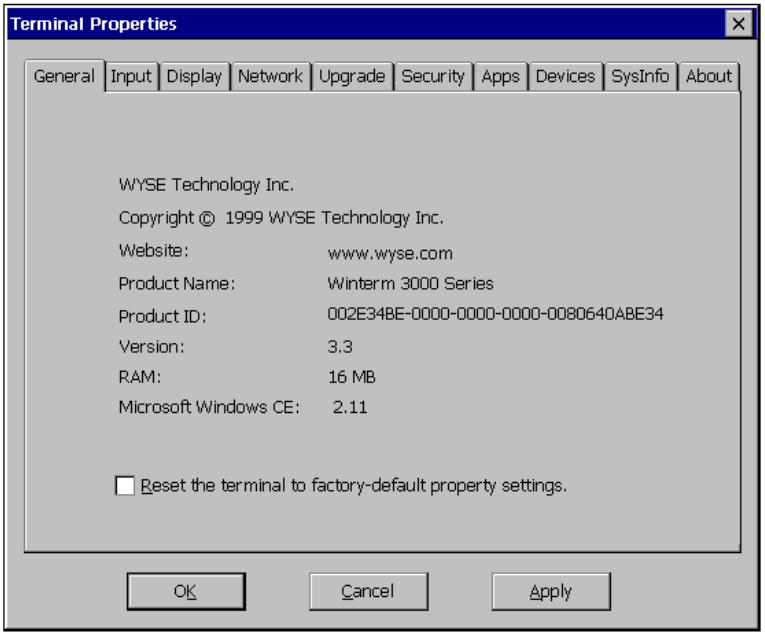
- Power cord
- Keyboard (with domestic versions only) and mouse
- Installation and user information

3 General Terminal Information

There are three properties sheets in the UI that provide general terminal information. They are the **General** properties sheet (Figure 3-1), the **SysInfo** properties sheet (Figure 3-2), and the **About** properties sheet (Figure 3-3).

Using the General Properties Sheet

Figure 3-1 General Properties Sheet



Note

The amount of RAM that is available depends on the model of terminal in use.

The **General** properties sheet displays information that includes the name of the product and information about the current software.

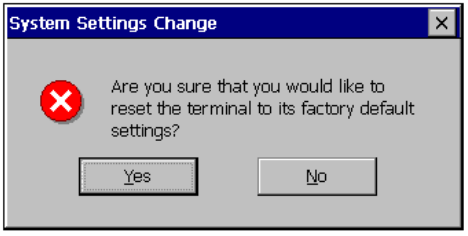
Invoke this properties sheet from the **Winterm Connection Manager** by pressing the **F2** key. The **Terminal Properties** dialog box displays. The **General** properties sheet is the default sheet for the **Terminal Properties** dialog box. Read the information on this sheet.

Resetting to Factory Defaults

There is one function on the General properties sheet, **Reset the Terminal Factory Default Property Settings**. To use this function to reset the terminal to factory default settings:

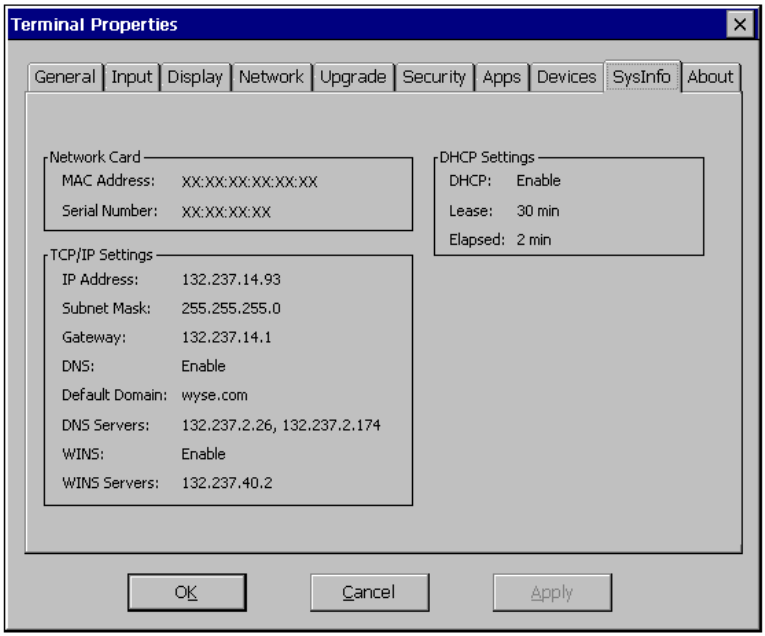
1. Click on the **Reset the Terminal Factory Default Property Settings** check box. Figure 3-2 shows the dialog box that displays.
2. Click on **Yes** to return to the **Terminal Properties** dialog box.
3. Click on **OK** in the **Terminal Properties** dialog box. (The **Terminal Settings Change** dialog box displays. See “Shutting Down the Terminal” for more information about this dialog box).
4. Click on **Restart** in the **Terminal Settings Change** dialog box to reset to factory defaults.

Figure 3-2 System Settings Change Dialog Box



Using the SysInfo Properties Sheet

Figure 3-3 SysInfo Properties Sheet



Note

Addresses used in the illustration above are representative only.

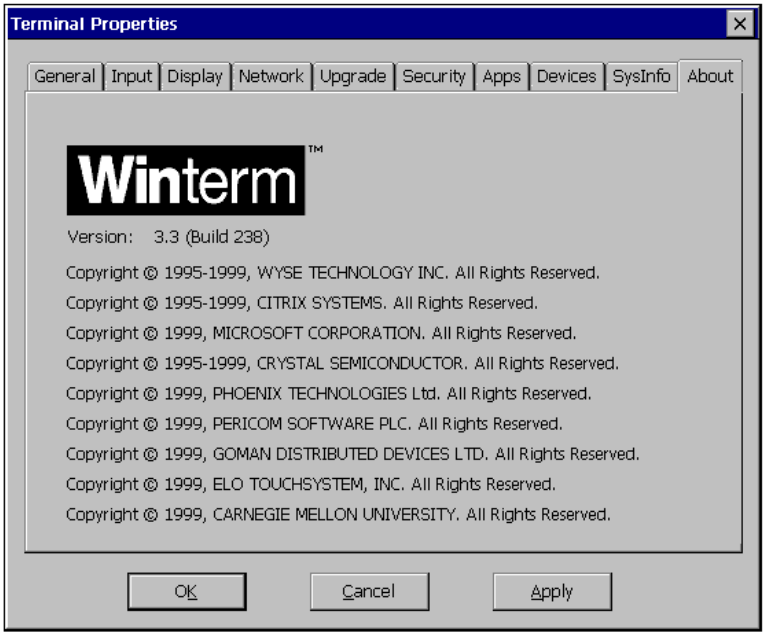
The **SysInfo** properties sheet contains network information. To invoke this properties sheet:

1. Press **F2** while you are in the **Winterm Connection Manager**.
2. Click on the **SysInfo** tab in the **Terminal Properties** dialog box.

This properties sheet is informational. No user interaction is required.

Using the About Properties Sheet

Figure 3-4 About Properties Sheet



The **About** properties sheet contains copyright information about the terminal. To invoke this properties sheet:

1. Pressing **F2** while you are in the **Winterm Connection Manager**.
2. Clicking on the **About** tab in the **Terminal Properties** dialog box.

The **About** properties sheet is informational. No user interaction is required.

4 Terminal Features

Terminal Features

The following table outlines the features of the different models of 3000 Series WBTs.

Table 4-1 Terminal Features

Feature	3315SE	3320SE	3350SE	3515SE	3715SE	3720SE
Windows 3.1, Windows 95, and Windows NT applications via Windows Terminal Server	✓	✓	✓	✓	✓	✓
RDP and ICA 3.x application compliant	✓	✓	✓	✓	✓	✓
ICA server connections via serial cable	✓	✓	✓	✓	✓	✓
10Base-T network communications	✓	✓	✓	✓	✓	✓
100Base-T network communications		✓	✓			✓
Dual high-speed serial ports	✓	✓	✓	✓	✓	✓
Parallel printer port	✓	✓	✓	✓	✓	✓
Dual USB ports			✓			

Table 4-1 Terminal Features, Continued

Feature	3315SE	3320SE	3350SE	3515SE	3715SE	3720SE
Optional touch screen	✓	✓	✓	✓	✓	✓
Support for monochrome or color monitor	✓	✓	✓			
Desktop (standard) or wall-mounted (optional) housing	✓	✓	✓			
Support for PCMCIA modem	✓	✓	✓	✓	✓	✓

5 Terminal Specifications

Terminal Specifications

Table 5-1 lists the specifications for the modular terminals.

Table 5-1 Specifications for the 3315SE, 3320SE, and 3350SE Terminals

Specification	3315SE	3320SE	3350SE
Power Requirements			
Voltage	90 to 264V ac, Worldwide autosensing	90 to 264V ac, Worldwide autosensing	90 to 264V ac, Worldwide autosensing
Frequency	47-63 Hz	47-63 Hz	47-63 Hz
Power Consumption	8W operating	16W operating	16W operating
Physical Characteristics			
Height	22.6 cm (8.9 in)	22.6 cm (8.9 in)	22.6 cm (8.9 in)
Width	6.0 cm (2.36 in)	6.0 cm (2.36 in)	6.0 cm (2.36 in)
Depth	17.4 cm (6.85 in)	17.4 cm (6.85 in)	17.4 cm (6.85 in)
Net Weight	1.7 kgs (3.7 lbs)	1.7 kgs (3.7 lbs)	1.97 kgs (4.125 lbs)
Power Cord	6 ft (1.83m)	6 ft (1.83m)	6 ft (1.83m)

Table 5-1 Specifications for the 3315SE, 3320SE, and 3350SE Terminals, Continued

Specification	3315SE	3320SE	3350SE
Environmental			
Operating Temperature	0° to 40°C (32° to 104°F)	10° to 40°C (50° to 104°F)	0° to 40°C (32° to 104°F)
Nonoperating Temperature	–10° to 60°C (14° to 140°F)	–10° to 60°C (14° to 140°F)	–10° to 60°C (14° to 140°F)
Operating Humidity	10% to 95% noncondensing	20% to 80% noncondensing	80% maximum, noncondensing
Storage Humidity	95% maximum, noncondensing	80% maximum, noncondensing	95% maximum, noncondensing
Operating Altitude	0 to 10,000 ft ASL	0 to 10,000 ft ASL	0 to 10,000 ft ASL
Nonoperating Altitude	0 to 40,000 ft ASL	0 to 40,000 ft ASL	0 to 40,000 ft ASL
Cooling System	Convection, fanless	Convection, fanless	Convection, fanless
EPA			
Energy Saving	Automatic power-down sleep mode	Automatic power-down sleep mode	Automatic power-down sleep mode
Regulatory Compliance			
EMC Terminal/Power Brick	FCC B	FCC B	FCC B
Safety Power Brick	• UL1950 • CSA950 • Japan T mark	• UL1950 • CSA950 • Japan T mark	• UL1950 • CSA950 • Japan T mark

Table 5-1 Specifications for the 3315SE, 3320SE, and 3350SE Terminals, Continued

Specification	3315SE	3320SE	3350SE
Safety, terminal	• UL1950 • CSA 950 • TUV-GS approved • EN 60950 approved • NOM	• UL1950 • CSA 950 • TUV-GS approved • EN 60950 approved • NOM	• UL1950 • CSA 950 • TUV-GS approved • EN 60950 approved • NOM
RF Interference	• FCC Class B • EN55022B • CE Mark • VCCI • BCIQ	• FCC Class B • EN55022B • CE Mark • VCCI • BCIQ	• FCC Class B • EN55022B • CE Mark • VCCI • BCIQ
Ergonomics	• ZH1/618 • EN29241-3	• ZH1/618 • EN29241-3	• ZH1/618 • EN29241-3
Communications Ports			
Serial Port	• Com1 is a 16C550 (FIFO), up to 115.2 kBaud RS-423/232, DB-9M connector • Com2 is a 16C550 (FIFO), up to 115.2 kBaud RS-232, DB-9M connector	• Com1 is a 16C550 (FIFO), up to 115.2 kBaud RS-423/232, DB-9M connector • Com2 is a 16C550 (FIFO), up to 115.2 kBaud RS-232, DB-9M connector	• Com1 is a 16C550 (FIFO), up to 115.2 kBaud RS-423/232, DB-9M connector • Com2 is a 16C550 (FIFO), up to 115.2 kBaud RS-232, DB-9M connector
Parallel Port	Centronics compatible, DB-25M connector	Centronics compatible, DB-25M connector	Centronics compatible, DB-25M connector
Ethernet Port	10Base-T network	10Base-T or 100Base-T network	10Base-T or 100Base-T network

Table 5-1 Specifications for the 3315SE, 3320SE, and 3350SE Terminals, Continued

Specification	3315SE	3320SE	3350SE
USB	N/A	N/A	Type A 4-pin receptacle
Battery			
	N/A	CR2032 Lithium, coin-type, 3V battery (see Caution)	CR2032 Lithium, coin-type, 3V battery (see Caution)

Caution
Your terminal may contain a battery. There is a danger of explosion if the battery is incorrectly replaced. Replace the battery with only the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.

Table 5-2 lists the specifications for the integrated-CRT terminals.

Table 5-2 Specifications for the 3515SE, 3715SE, and 3720SE Terminals

Specification	3515SE	3715SE	3720SE
Power Requirements			
Voltage	90 to 264V ac, Worldwide autosensing	90 to 264V ac, Worldwide autosensing	90 to 264V ac, Worldwide autosensing
Frequency	47-63 Hz	47-63 Hz	47-63 Hz
Power Consumption	80W operating	80W operating	80W operating
Physical Characteristics			
Height	38.8cm (15.3 in)	38.8 cm (15.3 in)	38.8 cm (15.3 in)
Width	36.0 cm (14.2 in)	36.0 cm (14.2 in)	36.0 cm (14.2 in)
Depth	40.6 cm (16.0 in)	40.6 cm (16.0 in)	40.6 cm (16.0 in)
Net Weight	40 lbs (18.2 kgs)	48 lbs (21.8 kgs)	48 lbs (21.8 kgs)
Power Cord	6 ft (1.83m)	6 ft (1.83m)	6 ft (1.83m)
Environmental			
Operating Temperature	0 to 40°C (32 to 104°F)	10° to 40°C (50° to 104°F)	10° to 40°C (50° to 104°F)
Nonoperating Temperature	-10 to 60°C (-14 to 140°F)	-20° to 60°C (-4° to 140°F)	-20° to 60°C (-4° to 140°F)
Operating Humidity	10% to 95% noncondensing	80% maximum, noncondensing	80% maximum, noncondensing
Storage Humidity	80% maximum, noncondensing	80% maximum, noncondensing	80% maximum, noncondensing

Table 5-2 Specifications for the 3515SE, 3715SE, and 3720SE Terminals, Continued

Specification	3515SE	3715SE	3720SE
Operating Altitude	0 to 10,000 ft ASL	0 to 10,000 ft ASL	0 to 10,000 ft ASL
Nonoperating Altitude	0 to 40,000 ft ASL	0 to 40,000 ft ASL	0 to 40,000 ft ASL
Cooling System	Convection, fanless	Convection, fanless	Convection, fanless
EPA			
Energy Saving	Automatic power-down sleep mode	Automatic power-down sleep mode	Automatic power-down sleep mode
	EPA Energy Star	EPA Energy Star	EPA Energy Star
Regulatory Compliance			
EMC Terminal/Power Brick	N/A	N/A	N/A
Safety, power brick	N/A	N/A	N/A
Safety, terminal	• UL1950 • CSA 950 • TUV-GS approved • EN 60950 approved • DHHS • SEMKO • DEMKO • NEMKO • FIMKO	• UL1950 • CSA 950 • TUV-GS approved • EN 60950 approved • DHHS • SEMKO • DEMKO • NEMKO • FIMKO	• UL1950 • CSA 950 • TUV-GS approved • EN 60950 approved • DHHS • SEMKO • DEMKO • NEMKO • FIMKO
RF Interference	• FCC Class B • EN55022B • CE Mark	• FCC Class B • EN55022B • CE Mark	• FCC Class B • EN55022B • CE Mark

Table 5-2 Specifications for the 3515SE, 3715SE, and 3720SE Terminals, Continued

Specification	3515SE	3715SE	3720SE
Ergonomics	• German Zh1/618 • EN29241-3, -8 • MPR 1990:10 guidelines for low electromagnetic and low electrostatic emissions	• German Zh1/618 • EN29241-3, -8 • MPR 1990:10 guidelines for low electromagnetic and low electrostatic emissions	• German Zh1/618 • EN29241-3, -8 • MPR 1990:10 guidelines for low electromagnetic and low electrostatic emissions
Communications Ports			
Serial	• Com1 is a 16C550 (FIFO), up to 115.2 kBaud RS-423/232, DB-9M connector • Com2 is a 16C550 (FIFO), up to 115.2 kBaud RS-232, DB-9M connector	• Com1 is a 16C550 (FIFO), up to 115.2 kBaud RS-423/232, DB-9M connector • Com2 is a 16C550 (FIFO), up to 115.2 kBaud RS-232, DB-9M connector	• Com1 is a 16C550 (FIFO), up to 115.2 kBaud RS-423/232, DB-9M connector • Com2 is a 16C550 (FIFO), up to 115.2 kBaud RS-232, DB-9M connector
Parallel	Centronics compatible, DB-25M connector	Centronics compatible, DB-25M connector	Centronics compatible, DB-25M connector
Network	10Base-T network	10Base-T network	10Base-T or 100Base-T network

Table 5-2 Specifications for the 3515SE, 3715SE, and 3720SE Terminals, Continued

Specification	3515SE	3715SE	3720SE
Battery			
	N/A	N/A	CR2032 Lithium, coin-type, 3V battery (see Caution)

Caution

Your terminal may contain a battery. There is a danger of explosion if the battery is incorrectly replaced. Replace the battery with only the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.

Installation Procedures

6 Models 3315SE/3320SE Terminal Installation

This section discusses the procedures for installing the standard modular terminals. The terminals can be freestanding or, optionally, mounted on a wall. The following paragraphs describe how to connect and set up the terminals in both configurations.

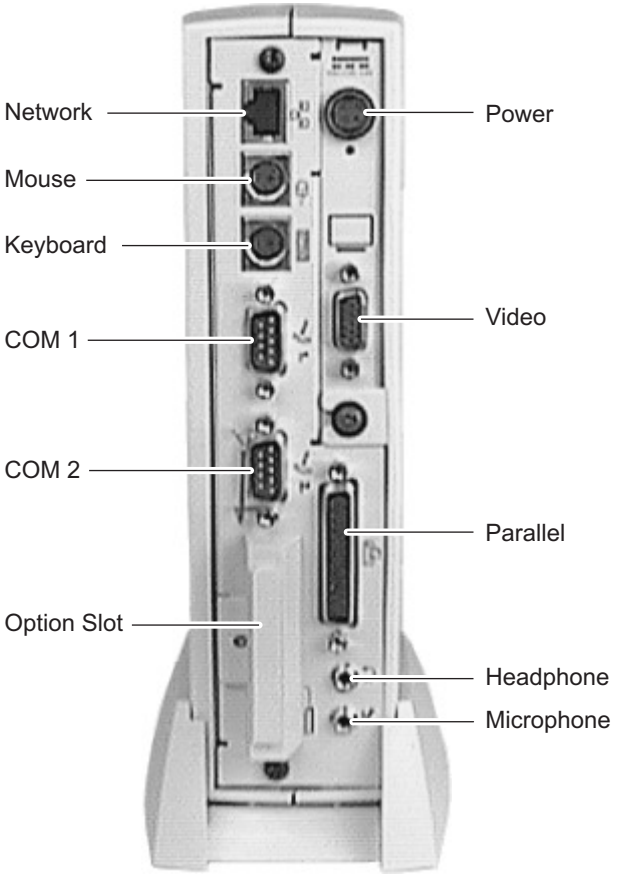
Locating the Terminal

Position the terminal on a clean, horizontal surface that is free from vibration and out of direct sunlight. Refer to “Terminal Specifications” for environmental specifications.

Connecting the Terminal

Make all connections to the back panel before connecting the terminal to power. A shroud and cable retaining loop (described in “Shroud and Cable Retaining Loop Attachment”) can be installed after the cables are connected and the terminal is mounted in place. The following figure shows a terminal’s back panel connectors.

Figure 6-1 3315SE/3320SE Terminal Back Panel Connectors



Note

The illustration above shows the back panel of a 3315SE terminal. The back panel of a 3320SE terminal is nearly identical, except that the pull ring (located by COM 2 in the illustration above) is made of high-impact plastic.

The following table summarizes the back panel connectors' functions.

Table 6-1 3315SE/3320SE Terminal Back Panel Connectors

Connector	Description
Network Connector	LAN connector, 10Base-T (10/100Base-T for 3320SE)
Com1	Serial port 1: • Can be connected to an external modem. • Can be used for a direct connection to a local server.
Com2	Serial port 2: • Can be connected to an external modem. • Can be used for a direct connection to a local server.
Parallel Port	Local printer output
Video	Monitor interface
Keyboard	Keyboard interface
Mouse	Mouse interface
Power	Power module output cable interface
Option Slot	PCMCIA card slot
Headphone	Audio output for headphones
Microphone	Audio input for microphones

Proceed as follows to connect the terminal. (If necessary, remove the desktop mounting stand (one Phillips-head screw on the bottom.)

Note

Before connecting the cables, decide which mounting configuration will be used and ensure that the cables are of the correct lengths. If permanent desktop or wall-mounting configuration is to be used, drill the desktop mounting holes or install the mounting bracket wall anchors before connecting the cables.

1. Connect the monitor to the Video connector.
2. Connect the keyboard to the Keyboard connector.
3. Connect the mouse to the Mouse connector.
4. If you will be using a network connection, connect a 10Base-T or 100Base-T network cable to the Network connector. Depending on your configuration needs, connect a printer to the parallel port, and/or connect a modem/server serial cable to the serial ports, as appropriate.
5. Connect the power supply output cable to the Power connector.

Caution

Do not force a connector into its socket. If any undue resistance is encountered, ensure that the connector is oriented correctly to the socket.

6. Plug the AC cord into the power supply, then into an AC outlet.
7. After the cables are connected, install the terminal in its planned location, either on a desktop or mounted to a wall (see the next section “Mounting the Terminal”).

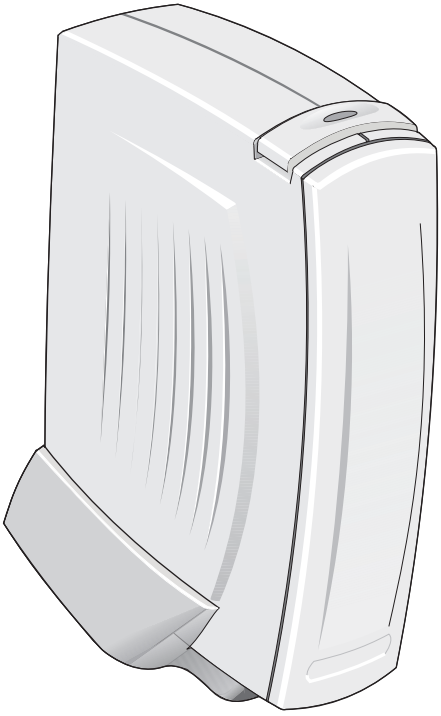
Mounting the Terminal

The terminal can be freestanding or attached to a wall (an optional wall mount kit is required). Instructions for mounting your terminal are provided in the following paragraphs; use the instructions that are appropriate for the desired method of mounting your terminal.

Freestanding Desktop Mounting

The terminal is shipped with a desktop mounting stand attached so it can immediately be put into desktop operation. The mounting stand is weighted and equipped with non-skid feet. A single screw attaches the mounting stand to the terminal housing. The following figure shows the terminal mounted on the desktop mounting stand.

Figure 6-2 3315SE/3320SE Freestanding Desktop Mounting



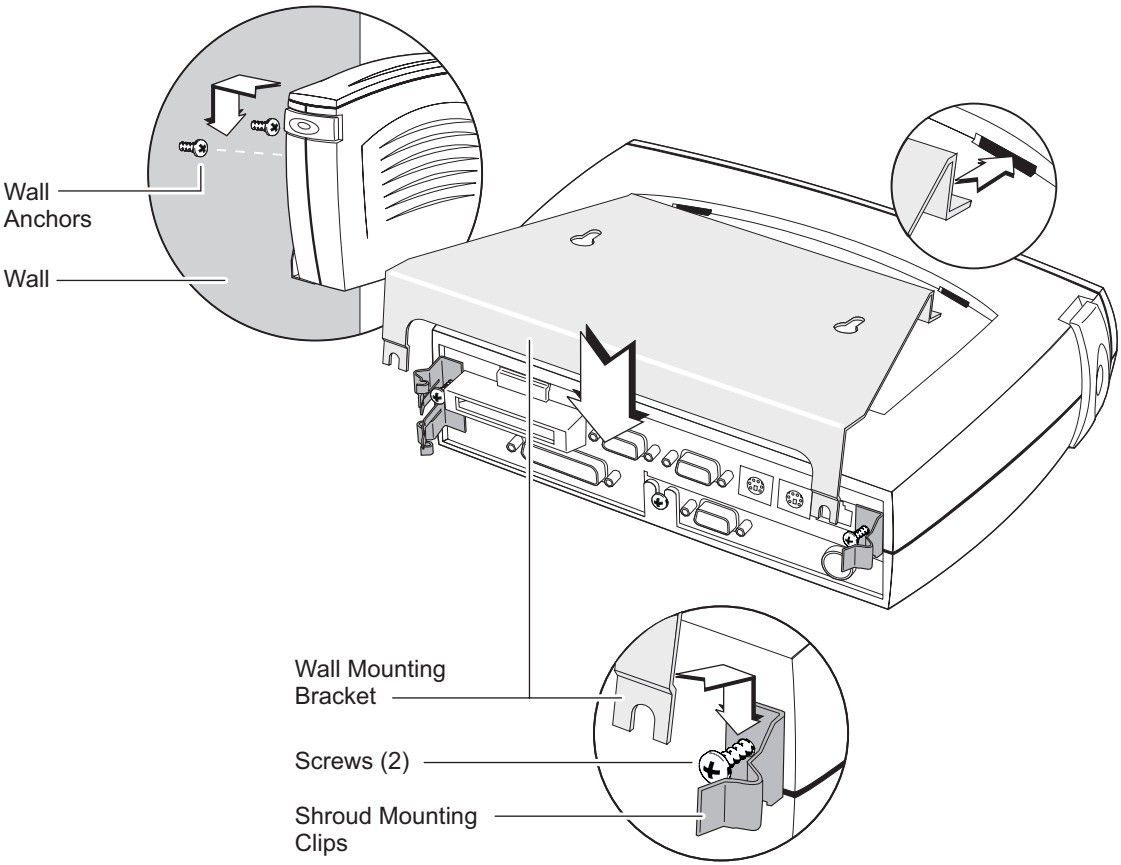
Wall Mounting

The terminal can be mounted on a wall using the optional wall-mounting bracket. The following figure shows the wall-mount configuration.

Note

It is best to connect the cables before mounting the terminal on a wall. However, cables can be attached at any convenient time, as long as power is disconnected.

Figure 6-3 3315SE/3320SE Optional Wall Mount Configuration



Follow these instructions to mount the terminal on a wall.

Caution

The following procedure has the bracket mounted to the terminal first, and then the complete assembly is placed on wall-anchor screws. If there is any risk that the terminal could be bumped from its mounting, the bracket should be securely anchored to the wall first, and then the terminal housing mounted to the bracket.

1. Use the wall-mount bracket as a template to determine the positions of the mounting holes on the wall.
2. Mark the locations of the mounting holes.

Note

When determining location, take into account the cable lengths of the monitor, keyboard, mouse, power supply, and peripherals.

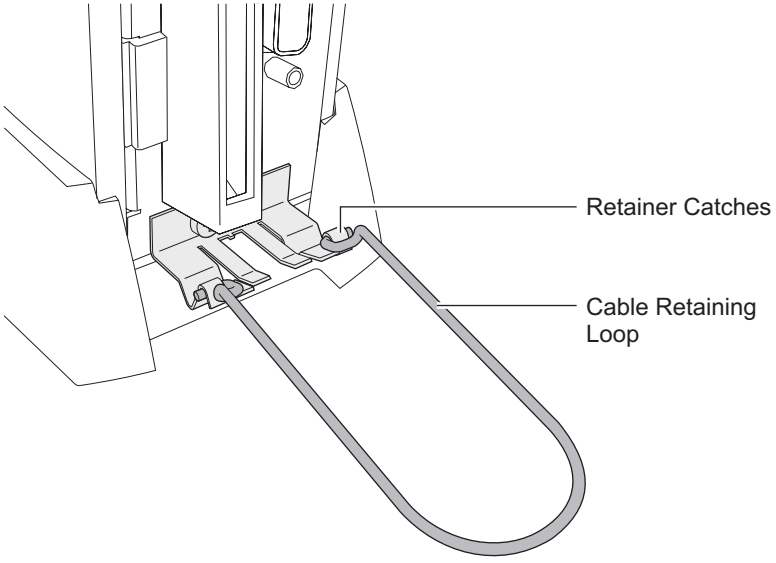
3. Install the (user-provided) wall anchors. Any standard anchoring method may be used, such as screws, butterfly anchors, or expansion bolts. The anchor screw heads must have just enough clearance to allow the bracket to slip onto them when hanging the assembled terminal (see the Caution above).
4. Loosen (but do not remove) the two screws securing the mounting clips to the back panel. Leave enough clearance so the lower tabs of the mounting bracket can slip under the screws.
5. Insert the upper tabs of the mounting bracket into the slotted holes in the back of the terminal housing.
6. Slip the lower tabs of the mounting bracket under the two screws loosened in step 4. The tabs should go between the screw heads and the mounting clips.
7. Tighten the screws to hold the bracket firmly in place.
8. Hang the terminal assembly on the wall-anchor mounting screws.
9. Install the cable retaining loop and shroud using the procedure that follows.

Cable Retaining Clip and Shroud Installation

The plastic shroud may be installed to conceal the cable connectors at the rear of the terminal housing. A retaining loop is included to keep the cables together. Proceed as follows.

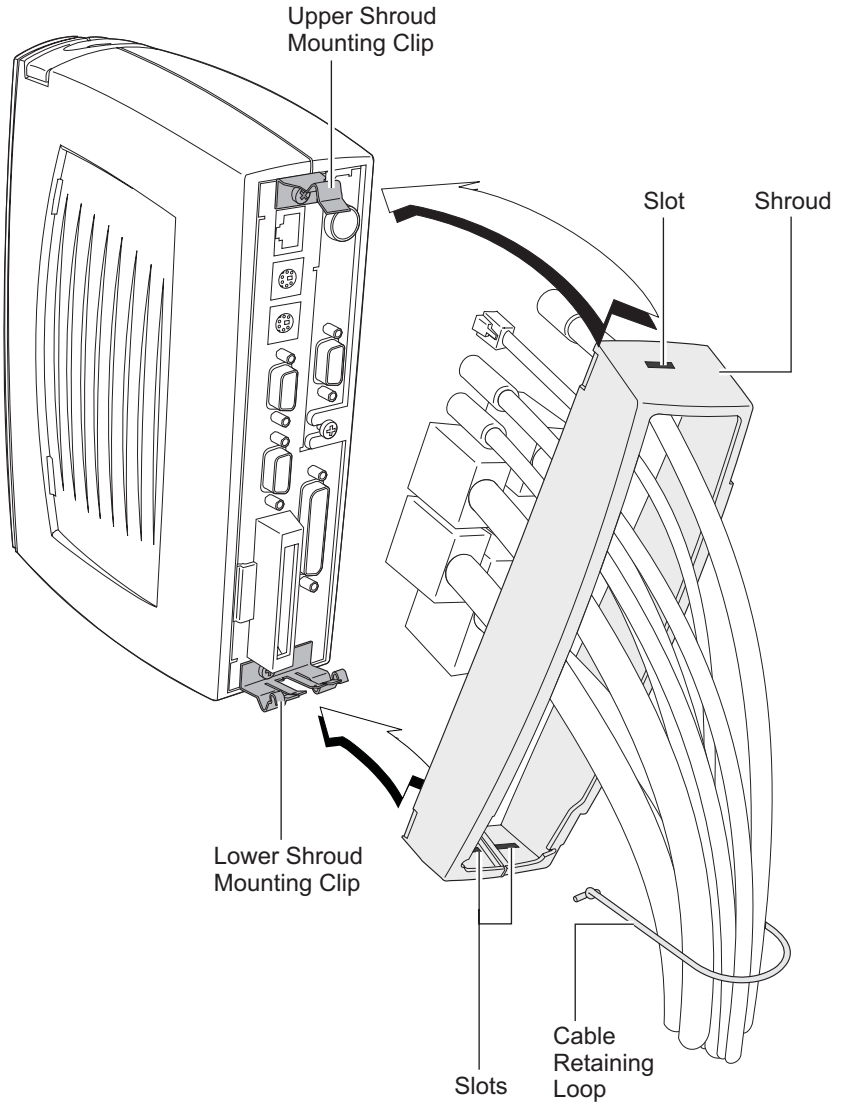
1. Attach the upper and lower shroud mounting clips as shown in figure 6-5, using the existing screws.
2. Attach the cables to their respective connectors on the back panel of the terminal (see “Connecting the Terminal”).
3. Gather the cables together and place the retaining loop over them. Insert the ends of the retaining loop into the catches on the lower shroud mounting clip (see the following figure).

Figure 6-4 3315SE/3320SE Cable Retaining Clip Installation



4. Gently pull the lower ends of the shroud apart and place it over the cables.
5. Place the slots in the lower end (split end) of the shroud under the lower shroud mounting clip, as shown in the following figure.
6. Rotate the upper end of the shroud until the top slot goes over and engages the upper mounting clip, as shown in the following figure.

Figure 6-5 3315SE/3320SE Shroud Installation



Turning On the Terminal

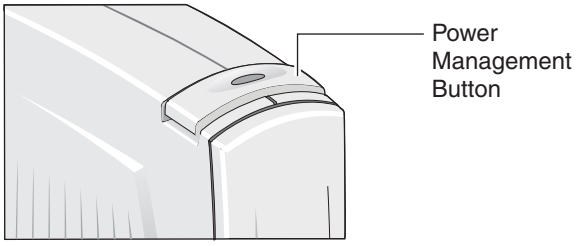
Once the terminal is installed and all back panel connections have been made, power it up. If the terminal is a 3315SE, press and release the power management button. If the terminal is a 3320SE, it is powered-up and operating when the power supply is connected to AC power; to toggle the display off or on, press and release the power management button.

Note

For the 3320SE, if the button is continuously depressed for 3-5 seconds, the unit will perform a hard boot.

See the following figure for the location of the power management button.

Figure 6-6 3315SE/3320SE Power Management Button



The logo will appear on the screen, followed by:

- The **Setup Wizard**, if it is the first time that you have turned on your terminal.
- The **Winterm Connection Manager** dialog box, if the **Setup Wizard** has been completed.

If desired, adjust the display's geometry and intensities to your preferences. Adjustments to the display can be made at any time, whether or not the terminal is connected to a server. See "Changing Terminal Properties" for more information.

7 Model 3350SE Terminal Installation

This section discusses the procedures for installing the 3350SE enhanced modular terminal. This terminal can be freestanding or, optionally, mounted on a wall; it can instead be permanently mounted on a desktop, if desired. The following paragraphs describe how to connect and set up the terminal in all three configurations.

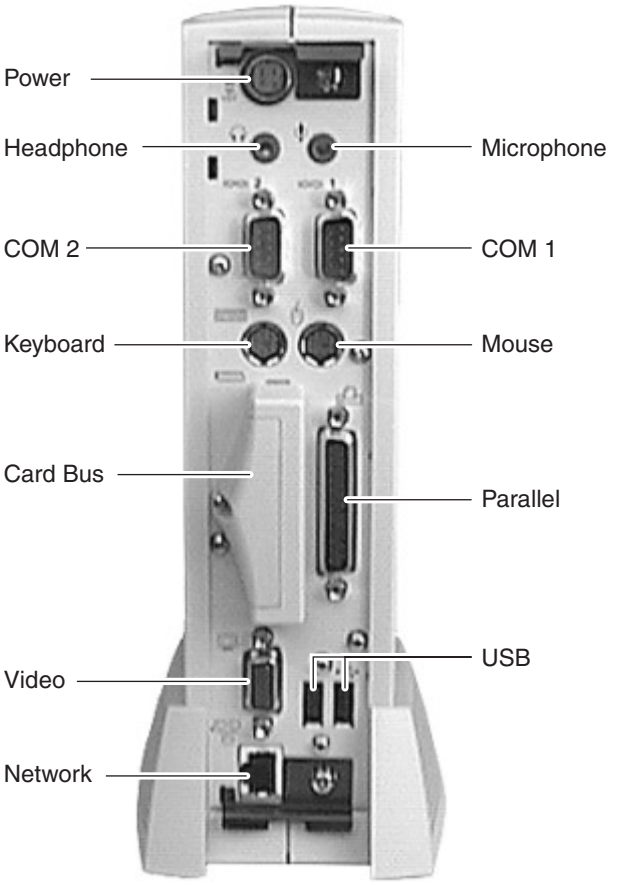
Locating the Terminal

Position the terminal on a clean, horizontal surface that is free from vibration and out of direct sunlight. Refer to “Terminal Specifications” for environmental specifications.

Connecting the Terminal

Make all connections to the back panel before connecting the terminal to power. A shroud (described in “Shroud Attachment”) can be installed after the cables are connected and the terminal is mounted in place. The following figure shows the terminal’s back panel connectors.

Figure 7-1 3350SE Terminal Back Panel Connectors



The following table summarizes the back panel connectors' functions.

Table 7-1 3350SE Terminal Back Panel Connectors

Connector	Description
Network Connector	LAN connector, 10/100Base-T
Com1	Serial port 1: • Can be connected to the external modem or used for direct connection to a local server. • Can be used for the emergency download of the operating system programs from the host computer.

Table 7-1 3350SE Terminal Back Panel Connectors, Continued

Connector	Description
Com2	Serial port 2: • Can be connected to an external modem. • Can be used for a direct connection to a local server.
Parallel Port	Local printer output
Video	Monitor interface
Keyboard	Keyboard interface
Mouse	Mouse interface
Power	Power module output cable interface
Card Bus	PCMCIA card slot
Headphone	Audio output for headphones
Microphone	Audio input for microphones
USB	Universal Serial Bus

Proceed as follows to connect the terminal:

Note

Before connecting the cables, decide which mounting configuration will be used and ensure that the cables are of the correct lengths. If permanent desktop or wall-mounting configuration is to be used, drill the desktop mounting holes or install the mounting bracket wall anchors before connecting the cables.

1. Connect the monitor to the Video connector.
2. Connect the keyboard to the Keyboard connector.
3. Connect the mouse to the Mouse connector.
4. If you will be using a network connection, connect a CAT5 UTP cable to the Network connector. Depending on your configuration needs, connect a printer to the parallel port and/or connect a modem/server serial cable to the serial ports, as appropriate.

5. Connect the power supply output cable to the Power connector.

Caution

Do not force a connector into its socket. If any undue resistance is encountered, ensure that the connector is oriented correctly to the socket.

6. Plug the AC cord into the power supply, then into an AC outlet.
7. After the cables are connected, install the terminal in its planned location, either on a desktop or mounted to a wall (see the next section “Mounting the Terminal”).

Mounting the Terminal

The terminal can be freestanding, attached to a wall (an optional wall mount kit is required), or mounted permanently on a desktop. Instructions for mounting your terminal are provided in the following paragraphs; use the instructions that are appropriate for the desired method of mounting your terminal.

Freestanding Desktop Mounting

Model 3350SE terminals are built with a desktop mounting stand as part of the housing, so they can immediately be put into desktop operation. The terminal is also weighted and equipped with non-skid feet. “Terminal Features” shows the Model 3350SE terminal.

Caution

Always mount the terminal vertically, with the base down, to ensure proper cooling.

Permanent Desktop Mounting

If desired, the terminal can be permanently mounted on a desktop. Holes in the base plate are threaded to receive the mounting bolts. Two 6 mm (M6) mounting bolts must be provided by the user.

The mounting bolts must not protrude more than 9 mm (3/8 in) through the top of the desktop mounting surface. Damage to the terminal housing and internal components could occur if the mounting bolts protrude past the tops of the guide holes.

Follow these instructions for permanent desktop mounting:

1. Make a template of the desktop mounting holes using the bottom of the terminal, and use it to mark the desktop area where you want to mount the terminal.
2. Drill holes for the mounting bolts through the desktop mounting surface at the marked locations.
3. Place the terminal in position over the holes drilled in the desktop.
4. Insert the mounting bolts up through the holes in the desktop and into the threaded holes in the terminal base plate. Tighten the bolts until snug.

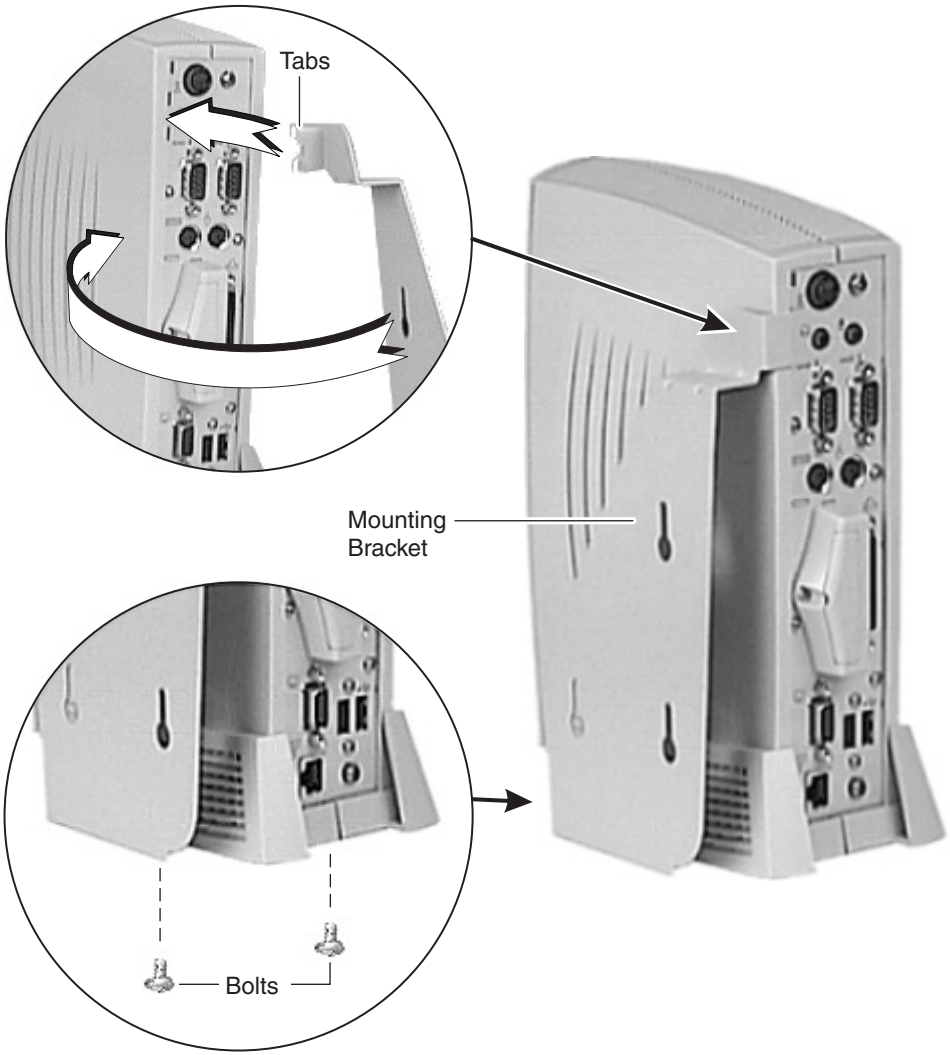
Wall Mounting

The terminal can be mounted on a wall using the optional wall-mounting bracket. The following figure shows the wall-mount configuration.

Note

For wall mounting, it is generally best to connect the cables before mounting the terminal on a wall. However, cables can be connected at any convenient time, as long as power is disconnected.

Figure 7-2 3350SE Wall Mount Configuration



Follow these instructions to mount the terminal on a wall:

Note

The following procedure has the bracket mounted to the terminal first, and then the complete assembly is placed on wall anchor screws.

1. Use the wall-mount bracket as a template to determine the positions of the mounting holes on the wall, then mark the locations of the mounting holes.

Note

When determining location, take into account the cable lengths of the monitor, keyboard, mouse, power supply, and peripherals.

2. Install the (user-provided) wall anchors. Any standard anchoring method may be used, such as screws, butterfly anchors, or expansion bolts.
3. Install the anchor screws. The anchor screw heads must have just enough clearance to allow the bracket to slip onto them when hanging the assembled terminal (see the Note above).
4. Insert the tabs at the top of the mounting bracket into the slotted holes in the back of the terminal housing.
5. Swing the mounting bracket to the side of the terminal.
6. Insert the mounting bolts up through the holes in the bottom of the mounting bracket and into the threaded holes in the terminal base plate.
7. Tighten the mounting bolts to hold the bracket firmly in place.
8. Hang the terminal assembly on the wall-anchor mounting screws.
9. Install the cable retaining loop and shroud using the procedure below.

Shroud Attachment

The plastic shroud may be installed to conceal the cable connectors at the rear of the terminal housing.

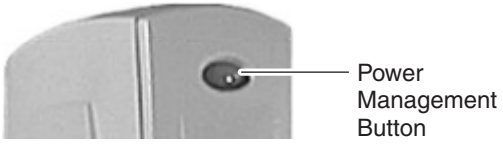
Proceed as follows:

1. Attach the cables to their respective connectors on the back panel of the terminal (see “Connecting the Terminal”).
2. Install the shroud-mounting clips.
3. Gently pull the lower ends of the shroud apart and place it over the cables.
4. Place the slots in the lower end (split end) of the shroud under the lower shroud mounting clip.
5. Rotate the upper end of the shroud until the top slot goes over and engages the upper mounting clip.

Turning On the Terminal

Once the terminal is installed and all back panel connections have been made, press and release the power management button (see the following figure) to power-up the terminal.

Figure 7-3 3350SE Power Management Button



The logo will appear on the screen followed by:

- The **Setup Wizard**, if it is the first time that you have powered-up your terminal.
- The **Winterm Connection Manager** dialog box, if the **Setup Wizard** has been completed.

If desired, adjust the display's geometry and intensities to your preferences. Adjustments to the display can be made at any time, whether or not the terminal is connected to a server.

8 Models 3515SE/3715SE/3720SE Terminal Installation

The following section discusses installation of the integrated-CRT terminals.

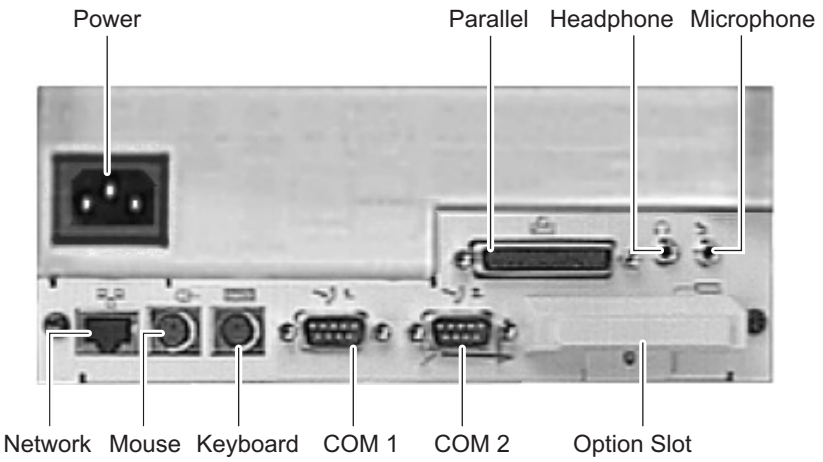
Locating the Terminal

Position the terminal on a clean, horizontal surface that is free from vibration and out of direct sunlight. Allow 75 mm (3 in) of clearance on all sides of the terminal, for air circulation and movement of the tilt/swivel mechanism. Refer to “Terminal Specifications” for environmental specifications.

Connecting the Terminal

Before powering-up the terminal, connect it to all of its peripheral devices. The following figure shows the terminal’s back panel connectors.

Figure 8-1 3515SE/3715SE/3720SE Terminal Back Panel Connectors



Note

The illustration above shows the back panel of a 3515SE/3715SE terminal. The back panel of a 3720SE terminal is nearly identical, except that the pull ring (located by COM 2 in the illustration above) is made of high-impact plastic.

The following table summarizes the back panel connectors' functions.

Table 8-1 3515SE/3715SE/3720SE Terminal Back Panel Connectors

Connector	Description
Network Connector	LAN connector, 10Base-T (10/100Base-T for 3720SE)
Com1	Serial port 1: • Can be connected to the external modem or used for direct connection to a local server. • Can be used for the emergency download of the operating system programs from the host computer.
Com2	Serial port 2: • Can be connected to an external modem. • Can be used for a direct connection to a local server.

Table 8-1 3515SE/3715SE/3720SE Terminal Back Panel Connectors,

Connector	Description
Parallel Port	Local printer output
Keyboard	Keyboard interface
Mouse	Mouse interface
Power	AC power cord interface
Option Slot	PCMCIA card slot
Headphone	Audio output for headphones
Microphone	Audio input for microphones

Follow these instructions to connect the terminal to its peripheral devices:

1. Connect the keyboard to the Keyboard connector.
2. Connect the mouse to the Mouse connector.
3. Plug the AC cord into the back panel of the terminal, then into an AC outlet.
4. Connect a 10Base-T network cable to the Network connector.

The terminal is now ready for operation.

Turning On the Terminal

Once the terminal is installed and all back panel connections have been made, power it up. If the terminal is a 3515SE or 3715SE, press and release the power management button. If the terminal is a 3720SE, it is powered-up and operating when it is connected to AC power; to toggle the display off or on, press and release the power management button.

Note

For the 3720SE, if the button is continuously depressed for 3-5 seconds, the unit will perform a hard boot.

See the figure on the following page for the location of the power management button.

The logo will appear on the screen, followed by:

- The **Setup Wizard**, if it is the first time that you have turned on your terminal.
- The **Winterm Connection Manager** dialog box, if the **Setup Wizard** has been completed.

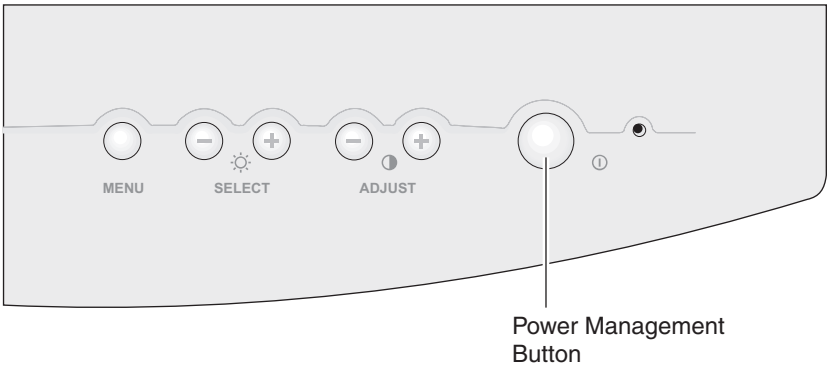
Make sure that the display's geometry and intensities are set to your preferences. This can be done at any time, whether or not the terminal is connected to a server. If your terminal is installed with an optional touchscreen, calibrate it now. Refer to "Input Configuration" for the procedure.

Display Adjustments

The following sections explain how to adjust the screen's brightness, contrast, horizontal and vertical size and phase, pincushion, and trapezoid.

The terminal uses an OSD (on-screen display) adjustment feature. The OSD is invoked with the buttons on the front panel (see **Terminal Front Panel** below).

Figure 8-2 3515SE/3715SE/3720SE Terminal Front Panel

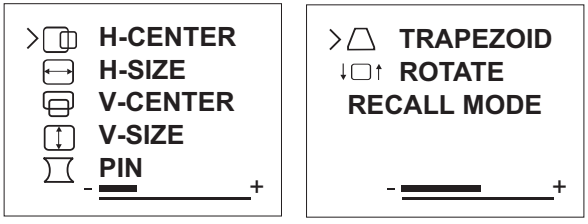


Instructions for using the terminal's front panel are listed in the following table.

Table 8-2 3515SE/3715SE/3720SE Terminal Front Panel

Button	Function
MENU (OSD)	To use: **1.** Press the **MENU** button to invoke the OSD (refer to the following figure). **2.** Press the plus [+] or minus [-] **SELECT** buttons to select the adjustment you want to make (see the following table, OSD Alignment, for settings). **3.** Press the **ADJUST** plus [+] or minus [-] buttons to make your adjustment. **4.** Press **MENU** to save your adjustments and close the OSD. **Note** The OSD can be invoked at any time the terminal is on, even while running an application. It automatically closes after a period of inactivity (2 minutes). If this happens before you complete your adjustments, press the **MENU** button to invoke the OSD again.
SELECT (Brightness)	Press the plus [+] and minus [-] buttons on the terminal's front panel to increase or decrease the display's brightness.
ADJUST (Contrast)	Press the plus [+] and minus [-] buttons on the terminal's front panel to increase or decrease the display's contrast.

Figure 8-3 3515SE/3715SE OSD (On-Screen Display) Menu

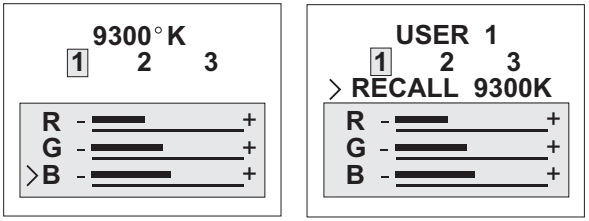


The following table describes the functions of the OSD menu.

Table 8-3 3515SE/3715SE/3720SE OSD Menu

Function	Description
H-CENTER	**H-CENTER** adjusts the screen's horizontal center from left to right.
H-SIZE	**H-SIZE** adjusts the screen's width.
V-CENTER	**V-CENTER** adjusts the screen's vertical center, top to bottom.
V-SIZE	**V-SIZE** adjusts the screen's height.
PIN	**PIN** (Pincushion) adjusts screen distortion, where both sides of the display sag inward toward the center or bow outward from it.
TRAPEZOID	**TRAPEZOID** adjusts the screen's right- and left-hand sides so they are parallel.
ROTATE	**ROTATE** corrects the screen's rotation. Use this function if the display tilts left or right.
RECALL MODE	Select this item to reset the display to the factory preset color temperatures (also see the following figure): **RECALL MODE** Preset 1 is **9300^{O}K** Preset 2 is **6550^{O}K** Preset 3 is **5500^{O}K** The color adjustments are: **R** This adjusts the display's red hues. **G** This adjusts the display's green hues. **B** This adjusts the display's blue hues.

Figure 8-4 3515SE/3715SE/3720SE Recall Mode



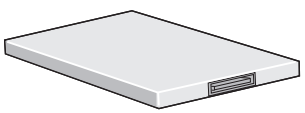
9 Modem Card Installation

This chapter contains the information you need to install a PCMCIA modem card.

About Modem Cards

The modem card option increases the capabilities of your terminal by providing additional connectivity features and functions. It connects to a telephone line for standard serial modem communications with another computing device, or network access through a server. When a modem card is plugged into the terminal, it operates as a native device. It can be configured from menus seamlessly integrated into the terminal configuration menu system. The following figure shows a modem card.

Figure 9-1 Modem Card



Modem card option kits typically include:

- Modem card and cable
- Clamp-on noise suppressor
- Installation guide or compact disc (CD)

Caution

Only modems sold by the manufacturer are known to meet regulatory compliance. Other modems may not.

Installation and Removal

The modem card can be configured to connect

- To a server via PPP
- Directly to an ICA server
- To a server with a terminal emulation

Note

This procedure assumes that the terminal is already installed and configured as described in “Terminal Installation.”

Note

This procedure is based on the modem card and cable sold by the terminal manufacturer. Installation will be similar for other modem cards and cables.

Installation

Refer to the following three figures and proceed as follows:

1. Turn off the power.
2. Remove the screw beneath the security cover.
3. Open the cover over the option slot.
4. Press down on top of the cover to release the top catches and swing the cover out and down (see the next figure).

Caution

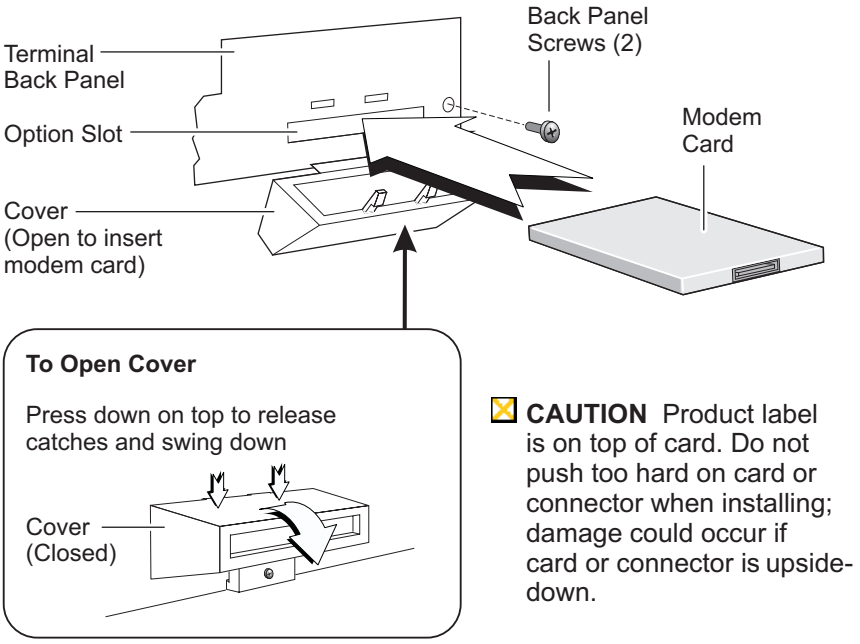
Do not try to open the cover with the logic card assembly fully seated. The cover could be damaged.

5. Insert the modem card (with product label up) into the option slot and press it gently until it is seated in the card receptacle.

Note

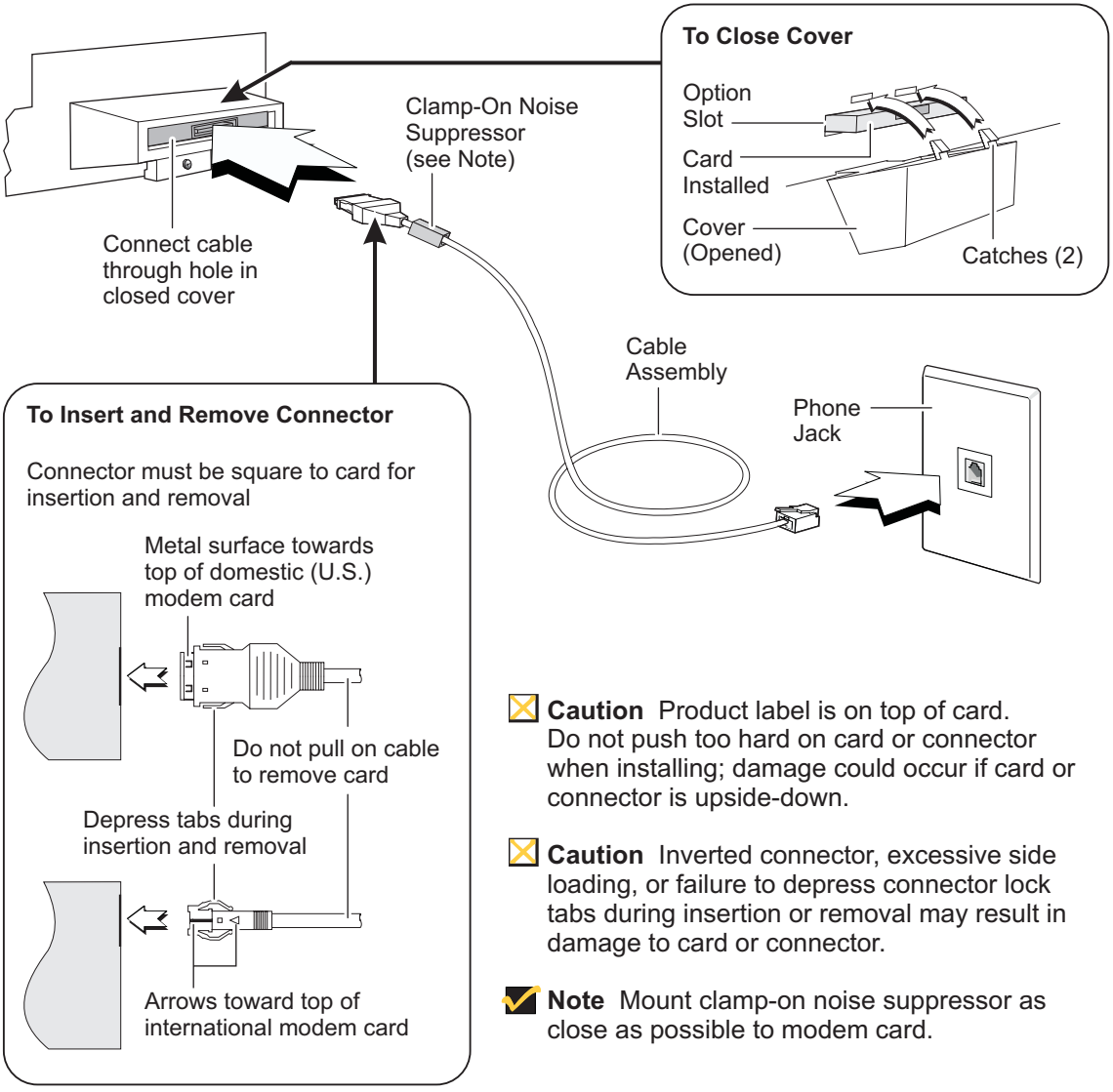
If a plug is installed in the cover’s rear hole, remove the plug before proceeding. Save the plug for possible future use when the card is removed (see figure 9.4).

Figure 9-2 Installing the Modem Card



6. Close the option slot cover (see the following figure).
7. Install the cover screw.
8. Install the clamp-on noise suppressor on the cable assembly. Position it as closely as possible to the modem card (may not be necessary for other vendors' cables).
9. Insert the cable-assembly modem card connector through the hole in the closed cover and into the modem card. Depress the connector tabs while inserting. Make sure the catches lock the connector in place (see the following figure).
10. Insert the cable-assembly telephone connector into a telephone jack.
11. Power-up the terminal.
12. Modify the terminal configuration settings as instructed in "Changing Terminal Properties."

Figure 9-3 Connecting the Modem Card Cable



Caution Product label is on top of card. Do not push too hard on card or connector when installing; damage could occur if card or connector is upside-down.

Caution Inverted connector, excessive side loading, or failure to depress connector lock tabs during insertion or removal may result in damage to card or connector.

Note Mount clamp-on noise suppressor as close as possible to modem card.

Removal

Refer to the three figures in this section and proceed as follows:

1. Turn off the power.
2. Disconnect the cable assembly from the modem card by depressing the connector tabs and pulling the connector out of the card (see the preceding figure).
3. Remove the two screws securing the terminal back panel (part of logic card assembly), and pull the panel out approximately 1/2 inch.
4. Remove the option slot cover screw.
5. Open the option slot cover. Press down on top of the cover to release the top catches and swing the cover out and down (see the figure titled “Installing the Modem Card”).

Caution

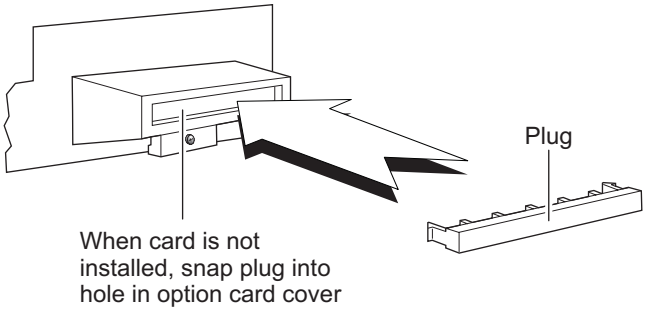
Do not try to open the cover with the logic card assembly fully seated. The cover could be damaged.

6. Pull the modem card out of the option slot.
7. Close the option slot cover (see the figure titled “Connecting the Modem Card Cable”).
8. Push the logic card assembly back into the unit and reinstall the two screws removed in step 3.
9. Install the option slot cover screw.
10. Snap the plug into the option slot cover hole (see the following figure).
11. Disconnect the cable assembly from the telephone jack.

Note

Leave the clamp-on noise suppressor on the cable assembly (may not be applicable to other vendors’ cables).

Figure 9-4 Inserting the Plug



Configuration

The modem card can be configured for standard serial communications, or for network access through a server that can communicate with the modem using PPP protocol. The following section provides instructions for configuring selections needed to operate the modem in the desired mode. Refer to “Terminal Management” and “Connection Configuration” for instructions about how to configure modems.

Modem Initialization Strings

The initialization string used with the modem option card provided by the manufacturer is:

AT&F&C1&D2

Refer to modem command sets or the initialization files for other strings.

10 Noise Suppressor Installation

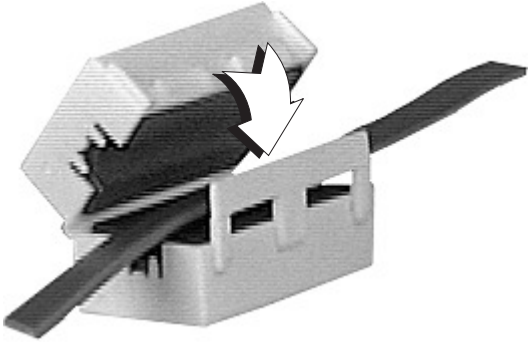
Noise Suppressor Installation

Note

This installation procedure applies only to the 3350SE model WBT.

A noise suppressor (ferrite bead) must be installed on the network cable of your terminal. This installation is necessary to maintain compliance with US FCC B limits and Europe CISPR B EN55022 Class B limits. The noise suppressor is supplied by the manufacturer and should be packed in your terminal's shipping carton. The following figure shows the noise suppressor.

Figure 10-1 Noise Suppressor



1. Open the casing.
2. Fit the casing over the network cable, as close as possible to the back of the cable's connector.
3. Snap the casing shut.

Terminal Management

11 Initial Terminal Setup

Using the Setup Wizard

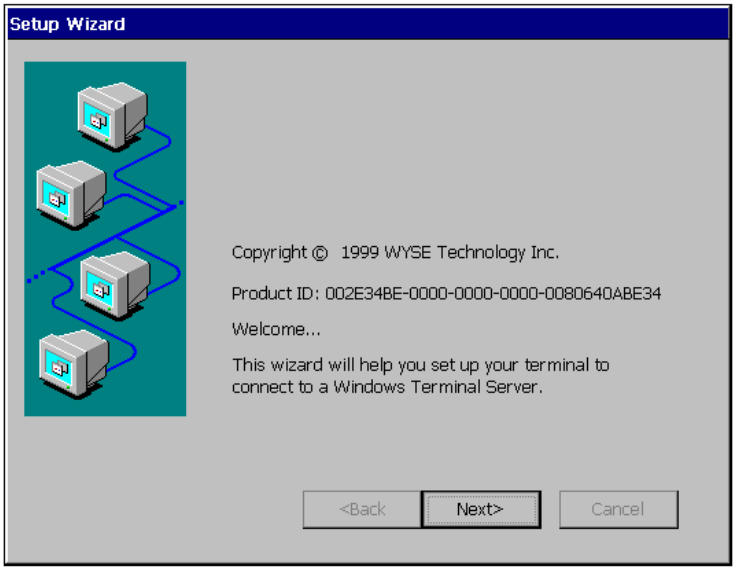
The **Setup Wizard** is used for initial setup of the terminal's properties. The wizard runs when:

- You power-up your terminal for the first time.
- Your terminal has been restarted with a **G** key reset (described later).
- A new image has been downloaded to your terminal but is older than the image currently in use.
- You use the **Reset the Terminal to Factory-Default Property Settings** function on the **General** properties sheet.

The **Setup Wizard** lets you set terminal network configuration and terminal display parameters. Any future changes can be made using the **Terminal Properties** dialog box. You can launch this dialog box from the **Winterm Connection Manager** by pressing the **F2** key. See "Resetting Terminal Properties."

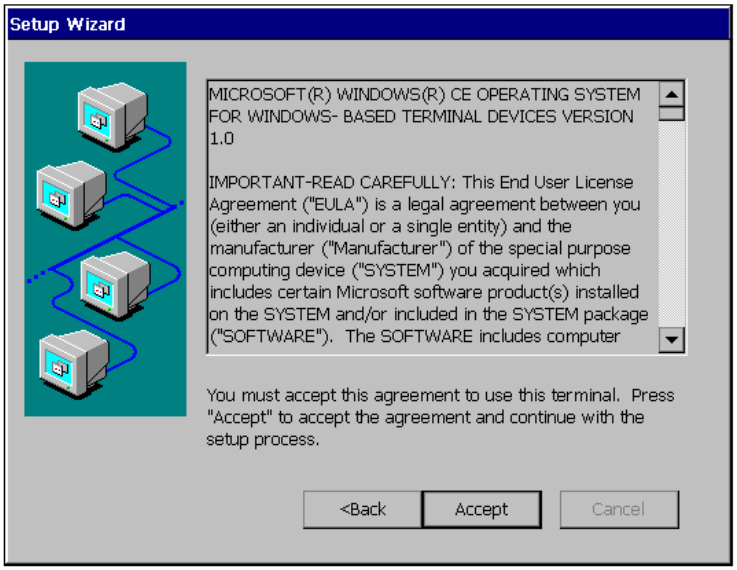
There are seven dialog boxes that display in succession during the process. Each dialog box is self-explanatory. Some dialog boxes are informational and require no user input. Other dialog boxes will prompt you for network and display information. Following are the seven dialog boxes of the wizard.

Figure 11-1 Welcome Dialog Box



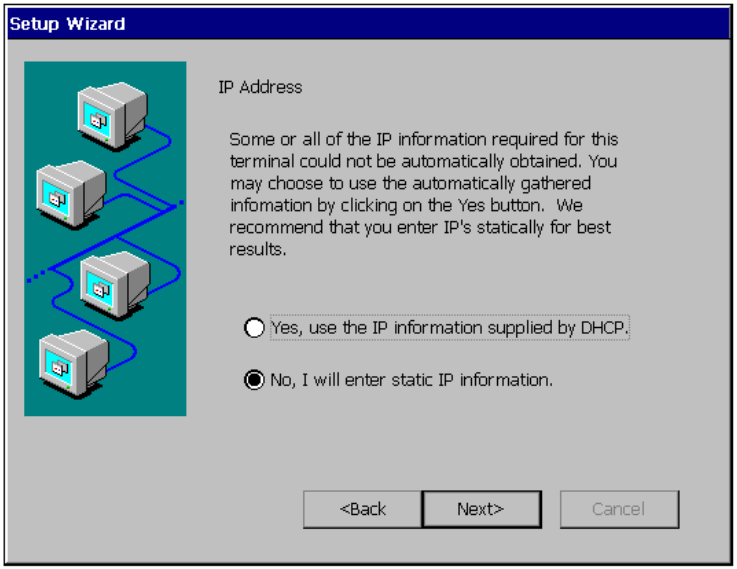
This dialog box is informational, providing product information.

Figure 11-2 EULA (End User License Agreement) Dialog Box



Read the license agreement carefully. The full text of the agreement is provided in the front of the guide as the EULA.

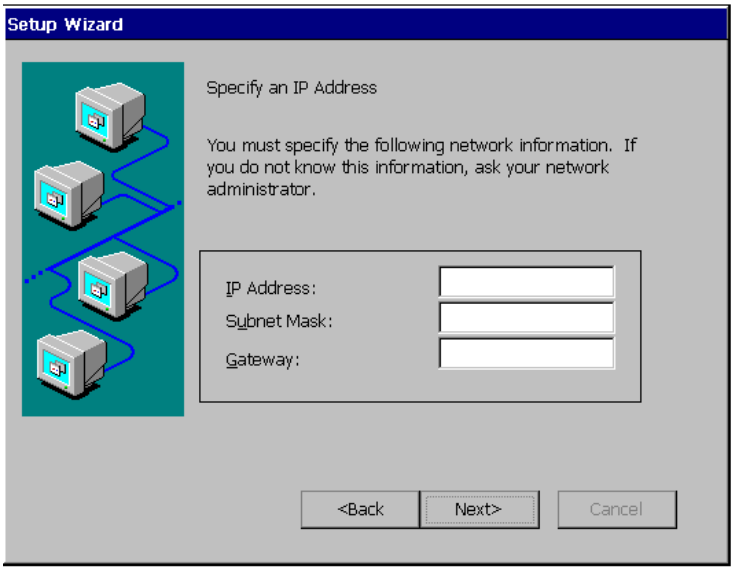
Figure 11-3 IP Address Dialog Box



Click on one of the two radio buttons to select a method for supplying IP addresses. The buttons are mutually exclusive, with **No, I will enter static IP information** as the default:

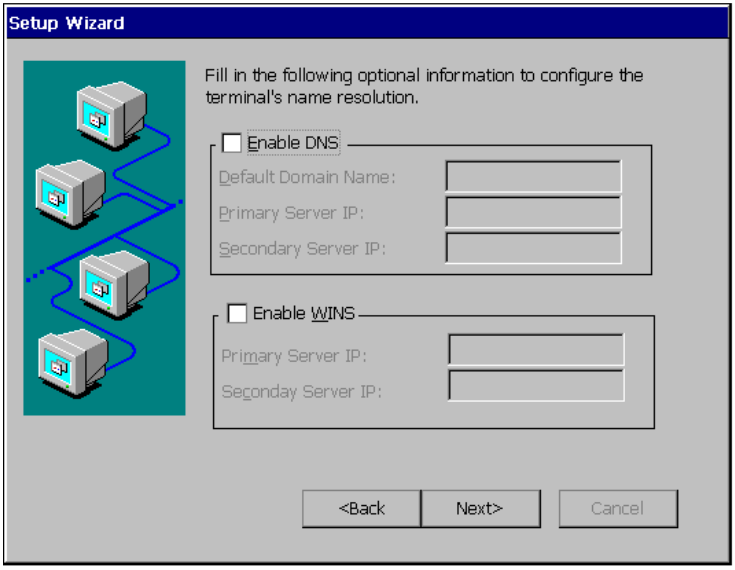
- If you keep the default, the **Specify an IP Address** and **Optional Information** dialog boxes will display in succession.
- If you select **Yes, use the IP information supplied by DHCP**, only the **Optional Information** dialog box will display.

Figure 11-4 Specify an IP Address Dialog Box



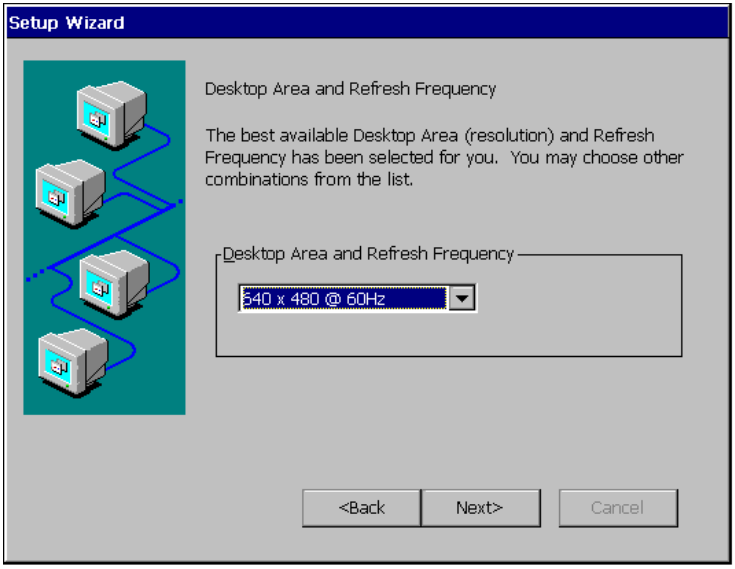
Enter the information requested in the fields provided. By default the fields are blank.

Figure 11-5 Optional Information Dialog Box



Check a box to enable name resolution. Enter the information in the field provided. If you do not know the information, ask your network administrator. By default the check boxes are unselected.

Figure 11-6 Desktop Area and Refresh Frequency Dialog Box



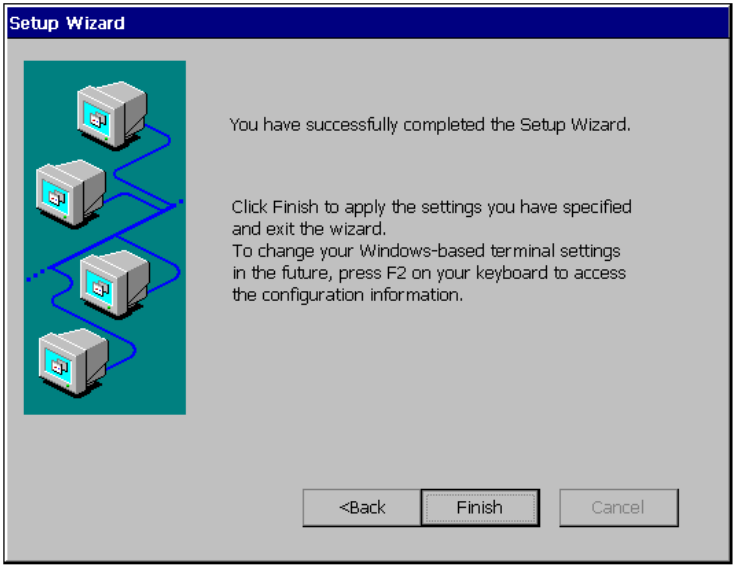
Select from the **Desktop Area and Refresh Frequency** scroll list to set your resolution. The default setting is **640 x 480 @ 60Hz**. Other settings are:

- **640 x 480 @ 75Hz**
- **800 x 600 @ 60Hz**
- **800 x 600 @ 75Hz**
- **1024 x 768 @ 60Hz**
- **1024 x 768 @ 75Hz**

Note

There may be more resolution settings in the list on your terminal.

Figure 11-7 Finish Dialog Box



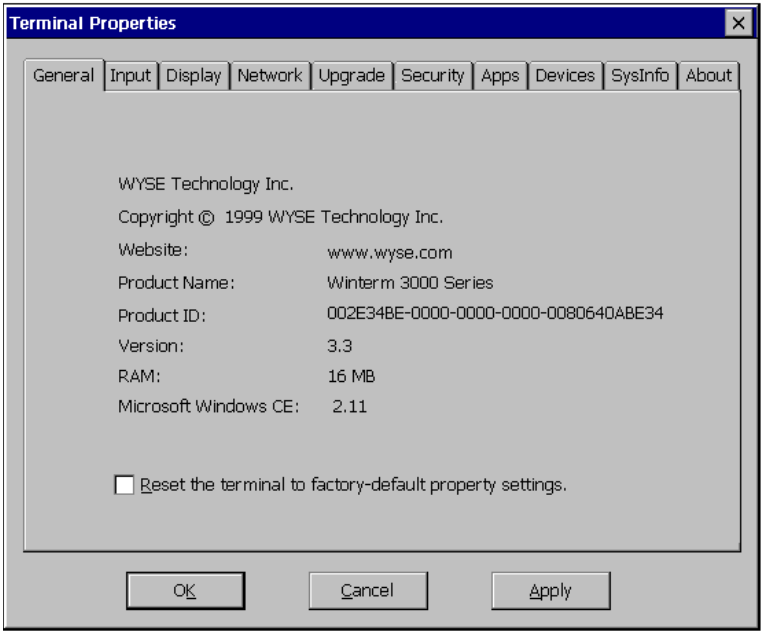
This dialog box is informational.

Click on the **Finish** command button to apply your selections and quit the **Setup Wizard**. After the **Setup Wizard** closes, the **Terminal Settings Change** dialog box displays. See “Resetting Terminal Properties” for further information.

12 Changing Terminal Properties

Terminal properties can be changed at any time during normal terminal operation using the **Terminal Properties** dialog box. The following figure shows this dialog box.

Figure 12-1 Terminal Properties Dialog Box



Note

The amount of RAM that is available depends on the model of terminal in use.

Using the Terminal Properties Dialog Box

Invoke this dialog box by pressing the **F2** key from the **Winterm Connection Manager**.

The **Terminal Properties** dialog box consists of a total of ten properties sheets that can be invoked by clicking on their individual tabs. The following seven sheets can be used to change terminal properties:

- **Input** - discussed in “Input Configuration.”
- **Display** - discussed in “Display Configuration.”
- **Network** - discussed in “Network Configuration.”
- **Upgrade** - discussed in “FTP Pull Firmware Upgrades.”
- **Security** - discussed in “Security Properties.”
- **Apps** - discussed in “Additional Applications.”
- **Devices** - discussed in “Dial-Up Connections.”

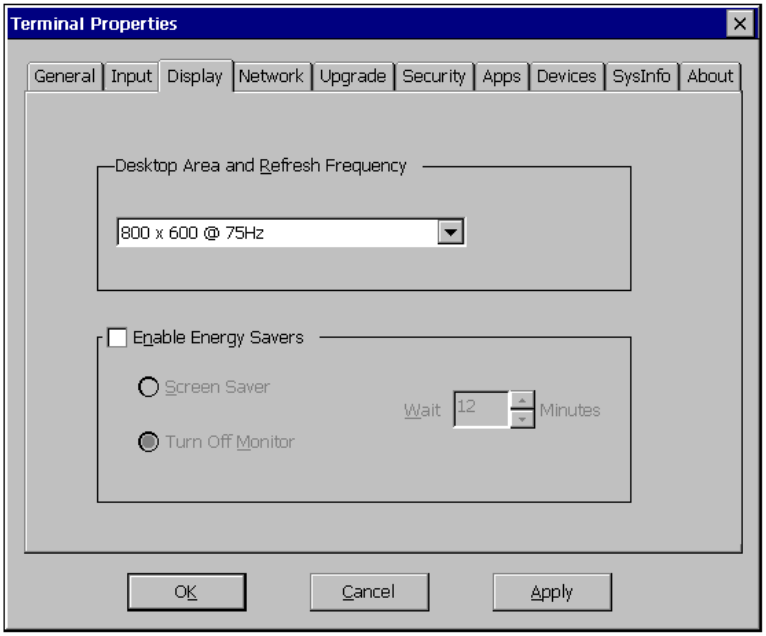
These properties sheets are discussed in detail in the following chapters of this guide. The **General**, **SysInfo**, and **About** properties sheets are discussed in “General Terminal Information.”

When terminal properties have been changed, the **Terminal Settings Change** dialog box is used to restart the terminal. See “Shutting Down the Terminal” for more information about this dialog box.

13 Display Configuration

The **Display** properties sheet lets you configure the terminal's display screen. Figure 13-1 shows this properties sheet.

Figure 13-1 Display Properties Sheet



Using the Display Properties Sheet

To invoke this properties sheet:

1. Press **F2** to invoke the **Terminal Properties** dialog box.
2. Click on the **Display** tab.

The following table discusses the functions of this properties sheet.

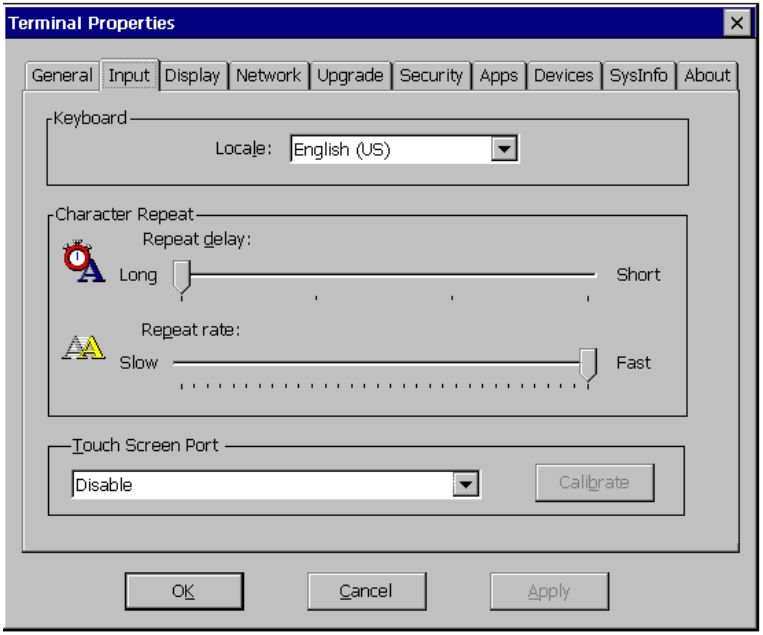
Table 13-1 Display Properties Sheet

Function	Description
Desktop Area and Refresh Frequency	The scrolling list box displays the current terminal display resolution. Scroll and click on a selection to change resolution. The default is **600 x 480 @ 60 Hz.**
Enable Energy Savers	Click on this check box to enable the energy saver functions. When you check this box, the three functions in the group box are activated: **Screen Saver** Click on this radio button to enable the screen saver. By default this function is not activated. **Turn Off Monitor** Click on this radio button to use this function as an energy saver. The function works by shutting off the terminal's display rather than displaying a screen saver. By default this function is not activated. When it is activated, this function is enabled. **Wait** Adjust the amount of time (in minutes) that elapses before the energy saver function you have selected starts. You can enter your own number or use the scrolling list. By default the function is not activated. When it is activated, the default is **12**.

14 Input Configuration

The **Input** properties sheet lets you configure your terminal's keyboard and the optional touch screen. The following figure shows the properties sheet.

Figure 14-1 Input Properties Sheet



Using the Input Properties Sheet

To invoke this properties sheet:

1. Press **F2** to invoke the **Terminal Properties** dialog box.
2. Click on the **Input** tab in the **Terminal Properties** dialog box.

The following table describes the functions of this dialog box.

Table 14-1 Input Properties Sheet

Function	Description
Keyboard	**Locale** Use this scroll list to select a language for the keyboard: **Belgian Dutch** **Belgian French** **Brazilian (ABNT)** **Canadian Eng (Multi)** **Canadian Fr (Multi)** **Canadian French** **Danish** **Dutch** **English (UK)** **English (US)** (default) **Finnish** **French** **German** **Italian** **Italian (142)** **Japanese** **Latin American** **Norwegian** **Portuguese** **Spanish** **Spanish Variation** **Swedish** **Swiss French** **Swiss German** **US International** **Note** An IEPC keyboard is required for any language other than **English (US)**.

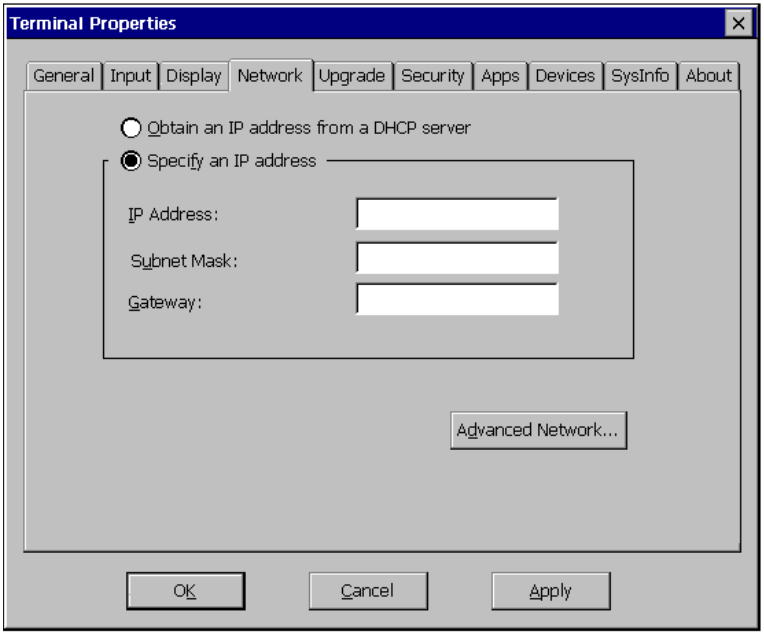
Table 14-1 Input Properties Sheet, Continued

Function	Description
Character Repeat	Group box used to set the character repeat parameters. **Repeat Delay** Use this slider control to adjust the repeat delay of keyboard characters. **Repeat Delay** determines how quickly the same character will appear on screen when typed more than once. **Repeat Rate** Use this slider control to adjust the repeat rate of a keyboard character. **Repeat Rate** determines how quickly the same character will appear on screen when the associated key is held down.
Touch Screen Port	Use this drop-down scroll list to name the port that your optional touch screen will be connected to. The choices are: • **Disable** • **Serial cable on Com1** • **Serial cable on Com2** The default is **Disable**.

15 Network Configuration

The **Network** properties sheet lets you configure your network. See Figure 15-1 for this properties sheet.

Figure 15-1 Network Properties Sheet



Using the Network Properties Sheet

To invoke this properties sheet:

1. Press **F2** to invoke the **Terminal Properties** dialog box.
2. Click on the **Network** tab.

The following table discusses the functions of the **Network** properties sheet.

Table 15-1 Network Properties Sheet

Function	Description
Obtain an Address from a DHCP Server	Click on this radio button to enable DHCP addressing. An IP address will be automatically assigned to your terminal by the DHCP server.
Specify an IP Address	Use this group box to enter a specific IP address. **IP Address** Enter a static IP address in this field. **Subnet Mask** Enter the subnet mask of the IP address. **Gateway** Enter the gateway of the IP address. **Advanced Network** **Note** This command button is activated when **Specify an IP Address** is enabled. Click on this command button to invoke the **Advanced Network Settings** dialog box: **Enable DNS** Use this group box to set domain, primary, and secondary IP addresses for DNS. **Enable WINS** Use this group box to set the primary and secondary IP addresses of a WINS server.

Note

The **Network** properties sheet on your terminal may have an extra function. It is named **Network Speed**. The functions list for the pull-down scroll box is as follows:

- **Auto Detect**
- **10 Mbs - Half Duplex**
- **10 Mbs - Full Duplex**
- **100 Mbs - Half Duplex**
- **100 Mbs - Full Duplex**

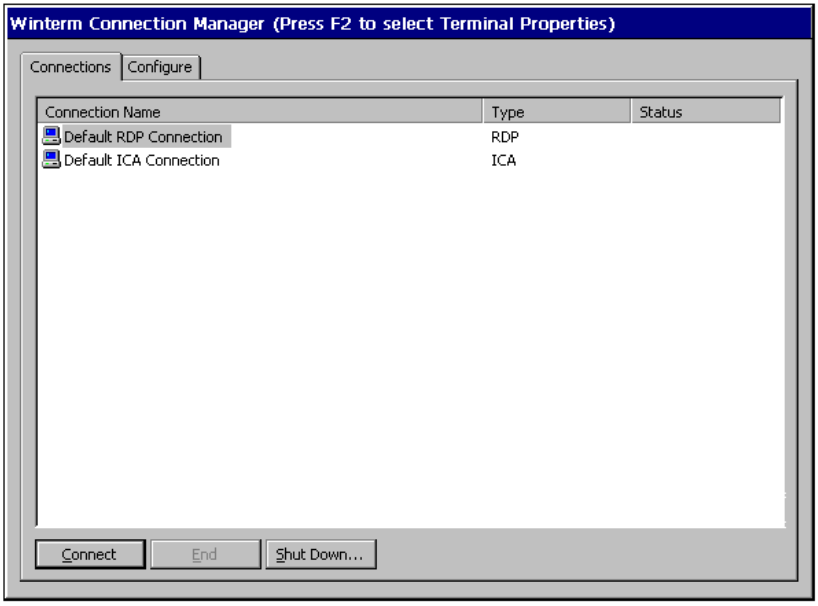
Note

If you do not know your network's communication speed or whether the communication link should be half- or full-duplex, contact your system administrator.

16 Connections Management

The **Winterm Connection Manager** dialog box is designed to help you manage your terminal's network connections. The dialog box displays after the terminal's initial splash screen, and consists of the **Connections** properties sheet and the **Configure** properties sheet. Figure 16-1 shows the **Winterm Connection Manager** dialog box.

Figure 16-1 Winterm Connection Manager Dialog Box



Using the Connections Properties Sheet

The functions of the **Connections** properties sheet are used to make (launch) terminal connections. Figure 16-1 shows the **Connections** properties sheet, the default of the **Winterm Connection Manage**r dialog box.

After a connection is created, it will show in the **Connection Name** list. The connection's name will be listed under **Connection Name** and the type of connection will be listed under **Type**. See "Creating New Connections" for further information.

The **Connections** properties sheet contains four functions. The following table identifies and describes each of them.

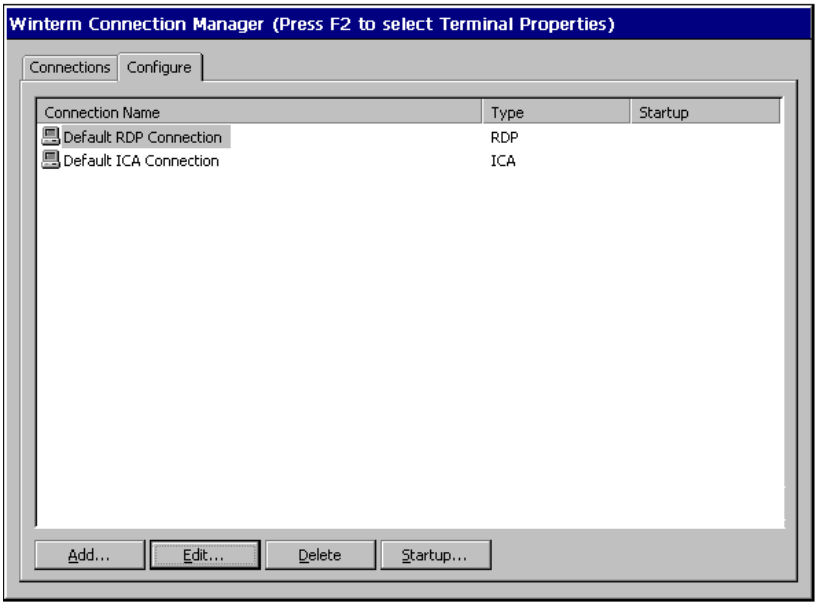
Table 16-1 Connections Properties Sheet

Function	Description
Connection Name	This box lists the connections that you have created. See "Using the Configure Properties Sheet" for information about creating connections. **Default RDP Connection** is the default.
Connect	Click on the **Connect** command button to make the highlighted connection. Click on a connection in the **Connection Name** list box to highlight it. You can also double-click on a selection to make a connection.
End	Click on the **End** command button to end the connection process. When you press the **End** button and the connection is active, the **End Task** dialog displays. This command button is enabled when a session is active.
Shut Down	Click on the **Shut Down** command button to: • Log off of the terminal • Shut down the terminal • Shut down and restart the terminal See "Shutting Down the Terminal" for more information.

Using the Configure Properties Sheet

The **Configure** properties sheet allows the user to add, modify, delete, and configure connections. Figure 16-2 shows the **Configure** properties sheet.

Figure 16-2 Configure Properties Sheet



Invoke this properties sheet by clicking on the **Configure** tab.

Note

If the **Hide Configure Tab** function on the **Security** properties sheet is enabled, the **Configure** tab will not show.

Note

If a **Guest** or a **User** logs in with security enabled, the **Configure** tab will not show.

After a connection is added or edited, it will appear in the **Connection Name** list. The connection's name will be listed under **Connection Name**, and the type of connection will be listed under **Type**. Also, if the connection is designated as the start-up connection, a **Yes** will display in **Startup**. The remainder of this section discusses adding connections. See "Editing Connections" and "Using the Startup Function" for further information.

The **Configure** properties sheet contains five basic functions. The following table identifies and describes each of them.

Table 16-2 Configure Properties Sheet

Function	Description
Add	The **Add** button allows the user to create a new connection. When this button is pressed, the **New Connection** dialog box displays. See "Creating New Connections" for further information about adding new connections to the **Connection Name** list. See "Multiple Sessions" for running more than one session at a time.
Edit	The **Edit** command button allows the user to edit or modify the properties of an existing connection. When this button is pressed, the **Properties** dialog box displays. See "Editing Connections" for more information about editing connections.
Delete	The **Delete** button lets you delete a connection. When you click this command button, the **Confirm Connection Delete** dialog box displays. Click on **Yes** to complete the deletion. Click on **No** to cancel the deletion.
Startup...	The **Startup** button allows the user to specify the startup behavior of a connection. See "Using the Startup Function" for more information.
Connection Name	The **Connection Name** list box allows the user to view and select connections for the purposes of adding, editing, and deleting connections, or for specifying the startup behavior of a connection.

Note

A connection name must be selected for the **Edit**, **Delete**, and **Startup** functions to be enabled.

17 ICA Client Settings

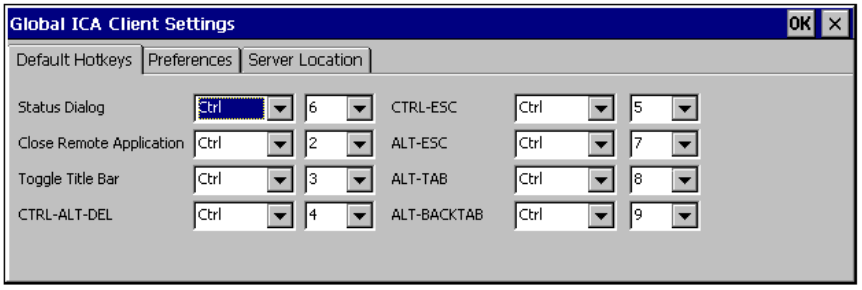
ICA client settings are handled in the **Global ICA Client Settings** dialog box. This dialog box is invoked through the **Apps** properties sheet found in the **Terminal Properties** dialog box. See “Additional Applications” for detailed information about the **Apps** properties sheet.

There are three properties sheets associated with the **Global ICA Client Settings** dialog box. A description of the functions of each sheet follows.

Setting the Default Hotkeys

Hotkeys can be used during ICA sessions to invoke various functions. Some hotkeys control the behavior of ICA Windows, while others emulate standard Windows hotkeys. To set hotkeys, access the **Default Hotkeys** properties sheet. It is the default properties sheet for the **Global ICA Client Settings** dialog box. The following figure shows the **Default Hotkeys** properties sheet.

Figure 17-1 Default Hotkeys Properties Sheet



Use the pull-down scroll boxes on the **Default Hotkey** properties sheet to customize default hotkey key sequences. The following table describes the hotkeys.

Table 17-1 Default Hotkeys Properties Sheet

Function	Description
Status Dialog	Displays the ICA connection status.
Close Remote Application	Disconnects an ICA client from the server and closes the client window on the local desktop. When you use this hotkey, the open session continues to run on the server. If you do not want to leave your session running in a disconnected state, log off.
Toggle Title Bar	Alternately hides and displays the client window title bar: • Use the title bar to drag the client window to different positions on the local desktop. • Remove the title bar to maximize your work space.
Ctrl+**Alt**+**Del**	Displays the **Windows NT Security** dialog box.
Ctrl+**Esc**	On WinFrame servers, pressing this key sequence displays the **Remote Task List**. On MetaFrame servers, pressing this key sequence displays the Windows NT **Start** menu.
Alt+**Esc**	This hotkey cycles the focus through your minimized icons and opens the associated applications.
Alt+**Tab**	This hotkey cycles through applications that have been opened. A window appears, displaying the programs as you cycle through them.
Alt+**Backtab**	This hotkey sequence cycles through applications that have been opened in a session, but in the opposite direction.

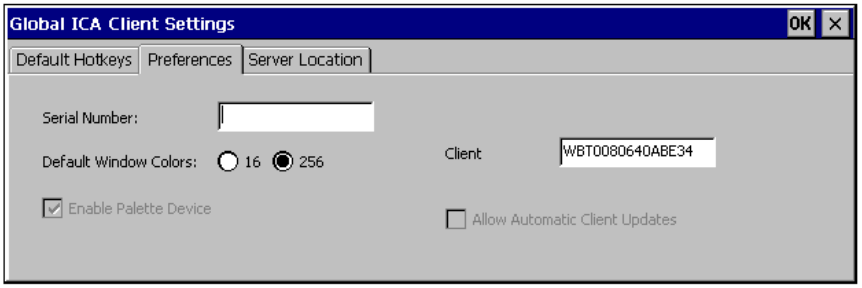
Setting Terminal Preferences

Use the **Preferences** properties sheet to change default settings. To invoke the **Preferences** properties sheet:

1. Click on the **ICA Client Settings** command button on the **Apps** properties sheet.
2. Click the **Preferences** tab.

The **Preferences** properties sheet displays. Figure 17-2 shows the **Preferences** properties sheet.

Figure 17-2 Preferences Properties Sheet



The following table describes each function of the properties sheet.

Table 17-2 Preferences Properties Sheet

Function	Description
Serial Number	This is the serial number of your ICA Client software. This field is only necessary when you are using the ICA Windows CE Client with a product such as WinFrame Host/Terminal, which requires each client to have a Citrix PC Client Pack serial number in order to connect to the server. If a serial number is required, you must enter it exactly as it appears on the serial number card. The **Serial Number** field is not used by MetaFrame servers.
Default Window Colors	In the **Window Colors** field, select **16** or **256** colors. When using a PPP connection, 16 color mode may provide better performance. If the window options specified exceed the capabilities of the client hardware, the maximum size and color depth supported by the CE operating system are used.
Enable Palette Device	This feature is not yet supported.
Client	This text box allows you to change the client name of your client device. The Citrix server uses the client name to uniquely identify resources (such as mapped printers) associated with a given client device. The client name should be unique for each computer running a copy of a Citrix ICA Client. If you do not use unique client names, device mapping and application publishing may not operate correctly. The default is **WBT<mac address>**.
Allow Automatic Client Updates	This feature is not yet supported.

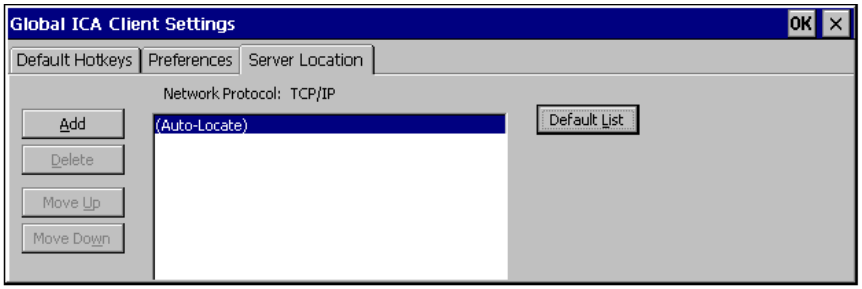
Setting the Server Location

Use the **Server Location** properties sheet to construct a list of ICA servers. To invoke this properties sheet:

1. Click on the **ICA Client Settings** command button on the **Apps** properties sheet.
2. Click the **Server Location** tab.

The **Server Location** properties sheet displays. The following figure shows this sheet.

Figure 17-3 Server Location Properties Sheet



The following table describes each of the functions of this sheet.

Table 17-3 Server Location Properties Sheet

Function	Description
Add	Click on this command button to add a server to the list.
Delete	Use this button to delete the name of a server from the list.
Move Up	Click on this button to move the name of a server up in the list.
Move Down	Click on this button to move a server down in the list.

Table 17-3 Server Location Properties Sheet, Continued

Function	Description
	Note **Delete, Move Up,** and **Move Down** are not activated unless there is at least one ICA server in **Network Protocol: TCP/IP**. See the next table entry.
Network Protocol: TCP/IP	Use this list to select an ICA server. The default is **(Auto-Locate)**.
Default List	Use this button to recall the previous list.

18 Multiple Sessions

Starting Multiple Sessions

To start multiple sessions:

1. From the **Winterm Connection Manager**:
   a. Click on your first connection to create your first session.
   b. Press **Ctrl**+**Alt**+**End** to return the **Winterm Connection Manager**.
   c. Click on the next connection to create another session.
2. Using autologin:
   a. Click on the **Security** tab in the **Terminal Properties** dialog box.
   b. Click on the **Autologin Enable** function.
   c. Go to the **User Accounts** list box and select an account that is not **Administrator** and has multiple connections associated with it.
   d. Make a connection.
3. Using **Multiple AutoStart**:
   a. Click on the **Security** tab in the **Terminal Properties** dialog box.
   b. Click on the **Modify User** command button.
   c. Click on the **Multiple AutoStart** check box.
   d. Make a connection.

Manipulating Multiple Sessions

With a session or multiple sessions open, you can toggle between sessions. To toggle between sessions:

- Press **Ctrl**+**Alt**+↑ to proceed to the previous session.
- Press **Ctrl**+**Alt**+↓ to proceed to the next session.

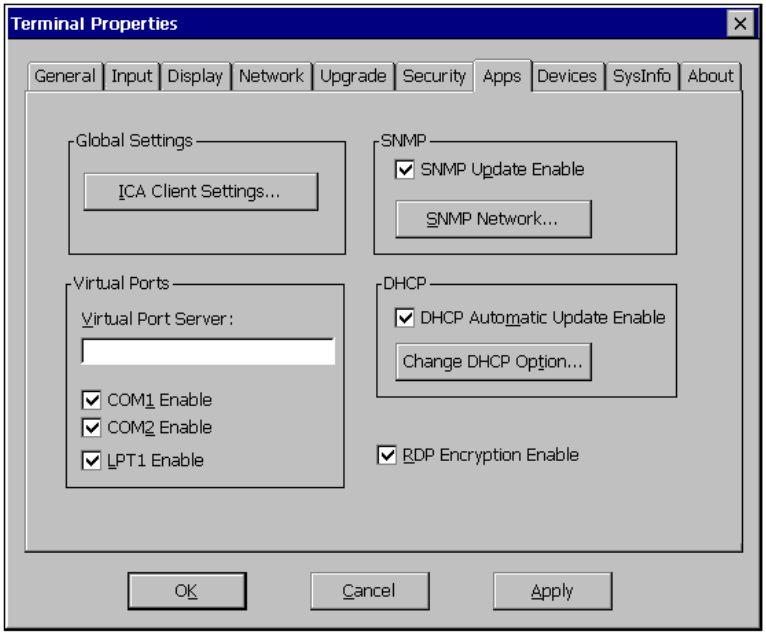
You can also return to the **Winterm Connection Manager** by pressing **Ctrl**+**Alt**+**End**.

19 Additional Applications

Use the **Apps** properties sheet to use the following additional applications:

- ICA client settings
- RDP encryption option
- Virtual port option
- SNMP management
- DHCP options

Figure 19-1 Apps Properties Sheet



Using the Apps Properties Sheet

To invoke the **Apps** properties sheet:

1. Press **F2** to invoke the **Terminal Properties** dialog box.
2. Click on the **Apps** tab in the **Terminal Properties** dialog box.

Table 19-1 describes the functions of the **Apps** properties sheet.

Table 19-1 Apps Properties Sheet

Function	Description
Global Settings	Group box used to manage ICA sessions. **ICA Client Settings** Click on the **ICA Client Settings** command button in the **Global Settings** group box. See “ICA Session Management” for detailed information about ICA session management.
Virtual Ports	Group box used to set up the virtual port option. **Virtual Port Server** Type in the address of the virtual port server. **Com1 Enable** or **Com2 Enable** or **LPT1 Enable** Click on one or all of these check boxes to assign that port as a virtual port. These functions are not mutually exclusive.
RDP Encryption Enable	Click this check box to check and enable RDP encryption. By default this function is enabled. **Caution** If your WTS server does not support encryption, this function must be disabled.
SNMP Update Enable	Check this box to enable terminal firmware updates through SNMP.

Table 19-1 Apps Properties Sheet, Continued

Function	Description
SNMP Network...	Use this command button to invoke the **SNMP Network Administration** dialog box. See “SNMP Network Administration.”
DHCP Automatic Update Enable	Check this box to enable automatic firmware upgrades. See “DHCP Firmware Upgrades” and “Changing DHCP Option IDs.”
Change DHCP Option...	Use this command button to invoke the **Change DHCP Option IDs** dialog box. See “DHCP Option IDs.”

20 Shutting Down the Terminal

Use the **Shutdown Window** dialog box to log off, shut down, or shut down and restart the terminal. The following figure shows the **Shutdown Window** dialog box.

Figure 20-1 Shutdown Window Dialog Box

Using the Shutdown Window Dialog Box

Click on the **Shutdown** command button in the **Winterm Connection Manager** to invoke this dialog box.

The following table describes the functions of this dialog box.

Table 20-1 Shutdown Window Dialog Box

Function	Description
Logout	Click on this radio button to invoke the **Terminal Login** dialog box. By default this function is not activated. You must enable the terminal's security function to activate it.
Shutdown the Terminal	Click on this radio button to shut down the terminal without restarting it. A dialog box displays after you initiate this action. It prompts you as to whether you want to continue. By default this function is activated.
Shutdown and Restart	Click on this radio button to shut down then restart the terminal. By default this function is activated.

Using the Terminal Settings Change Dialog Box

When you change terminal properties using the **Setup Wizard** or the **Terminal Properties** dialog box, you will click on either the **Finish** or **OK** command button to save your new settings and close the application. The **Terminal Settings Change** dialog box will then display. Figure 20-2 shows the **Terminal Settings Change** dialog box.

Figure 20-2 Terminal Settings Change Dialog Box

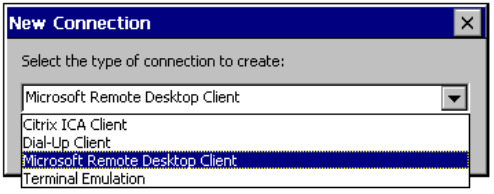
This dialog box contains the **Restart** command button. The terminal must be restarted in order for your new settings to take effect. Click on **Restart** to restart the terminal. The **Winterm Connection Manager** displays. See “Connections Management” for detailed information about configuring and making terminal connections.

Connection Configuration

21 Creating New Connections

The **New Connection** dialog box is used to create new connections. Figure 21-1 shows the **New Connection** dialog box.

Figure 21-1 New Connection Dialog Box



To invoke the dialog box:

1. Click on the **Configure** tab in the **Winterm Connection Manager** dialog box.
2. Click on **Add** command button on the **Configure** properties sheet.

See “Connection Management” for details about the **Winterm Connection Manager**.

Choosing a Connection Protocol

Use the scroll list shown in the dialog box above to select the type of connection protocol you want. When you choose from the list above, you are deciding which connection protocol you want use to connect to a server. Four selections are available:

- **Citrix ICA Client**

  ICA (Independent Computing Architecture) protocol, which connects to an ICA (Winframe/Metaframe) server. See “ICA Connections” for further instructions about how to create this kind of connection.
- **Dial-Up Client**

  Connects using a modem and PPP (Point-to-Point Protocol). See “Dial-Up Connections” for further instructions about how to create this kind of connection.
- **Microsoft Remote Desktop Client**

  RDP (Remote Desktop Protocol), which connects to a WTS (Windows Terminal Server) server. See “RDP Connections” for further instructions about how to create this kind of connection.
- **Terminal Emulation**

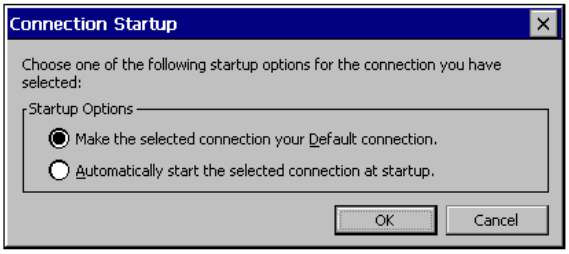
  Connects to multiple terminal emulation applications. See “Terminal Emulation Connections” for further instructions about how to create this kind of connection.

Once you have made your selection, click on **OK** to proceed with creating a connection.

Using the Startup Function

Your terminal can be set to automatically connect to a server when you turn your terminal on. This function is set using the **Connection Startup** dialog box. The following figure shows this dialog box.

Figure 21-2 Connection Startup Dialog Box



To invoke the **Connection Startup** dialog box:

1. Click on the **Configure** tab in the **Winterm Connection Manager** dialog box.
2. Click on the **Startup** command button on the **Configure** properties sheet.

Startup Options

Click on one of the two radio buttons in the **Startup Options** group box (in the **Connection Startup** dialog box above) to select a start-up option:

- **Make the Selected Connection Your Default Connection**

  Enable this function to use the connection you selected in the **Winterm Connection Manager** as the default connection. The default connection is the connection that always appears in the **Connection Name** list.

- **Automatically Start the Selected Connection at Startup**

  When you enable this function, your terminal will automatically use the connection you selected in the **Winterm Connection Manager**.

Note

The functions in the **Startup Options** group box are mutually exclusive.

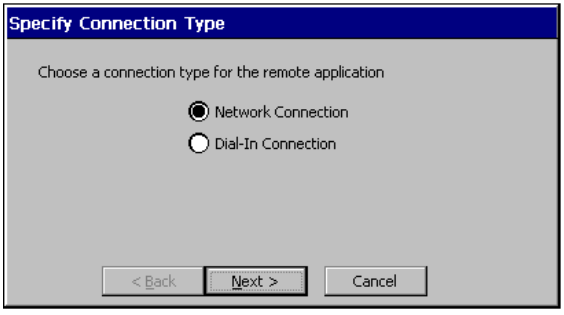
22 ICA Connections

Use the **Specify Connection Type** dialog box to start configuring an ICA connection. ICA connects to a server running Citrix WinFrame or MetaFrame.

Using the Specify Connection Type Dialog Box

Figure 22-1 shows the **Specify Connection Type** dialog box.

Figure 22-1 Specify Connection Type Dialog Box

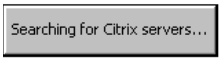


- **Network Connection**
  - Click on this radio button to create a network ICA connection. This type of connection requires a direct line to the network, such as 10Base-T. See “Network Connections.”
- **Dial-In Connection**
  - Click on this radio button to create a serial ICA connection. This type of connection is made using a modem. See “Dial-In Connections.”

Network Connections

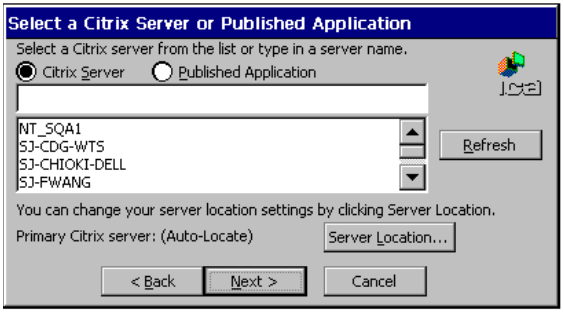
Select **Network Connection**, then click on the **Next** button. A Citrix search message displays:

Figure 22-2 Citrix Search Message



If the connection is not found, the following sequence of dialog boxes displays. Use them to set up your network ICA connection.

Figure 22-3 Select a Citrix Server or Published Application Dialog Box



To use the **Select a Server or Published Application** dialog box:

1. Click on either **Citrix Server** or **Published Application**.
2. Select a server or an application from the drop-down scroll list, or type the information in the text entry box.

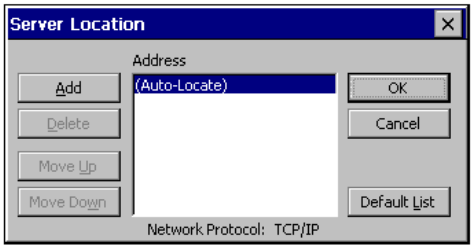
Note

The **Refresh** command button refreshes the drop-down scroll list.

Note

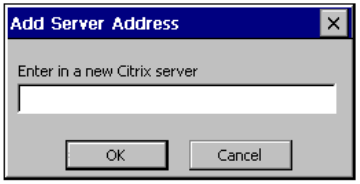
The **Server Location** command button invokes the **Server Location** dialog box. The server in **Server Location** will act as a master browser for creation of the **Address** list. See Figure 22-4.

Figure 22-4 Server Location Dialog Box



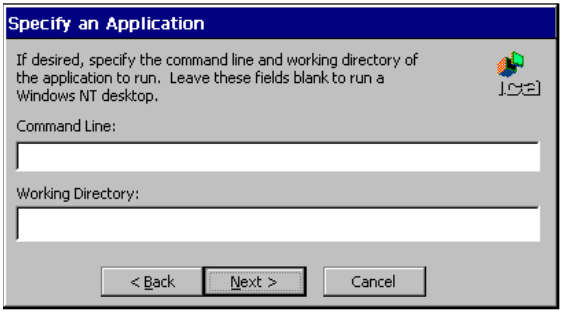
3. If you want to add a server address, click on the **Add** command button to invoke the **Add Server Address** dialog box.

Figure 22-5 Add Server Address Dialog Box



4. Enter the name of the Citrix server.
5. Click on **Next**.

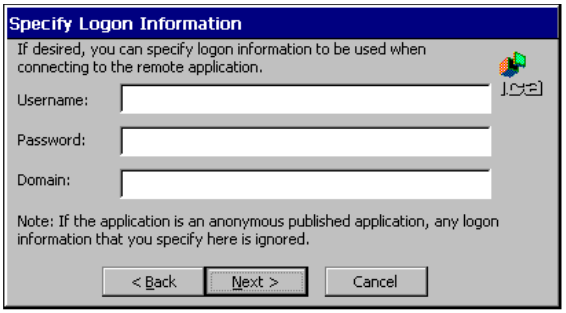
Figure 22-6 Specify an Application Dialog Box



To use the **Specify an Application** dialog box:

1. Enter the command line and directory of the application that you intend to invoke.
2. Click on **Next**.

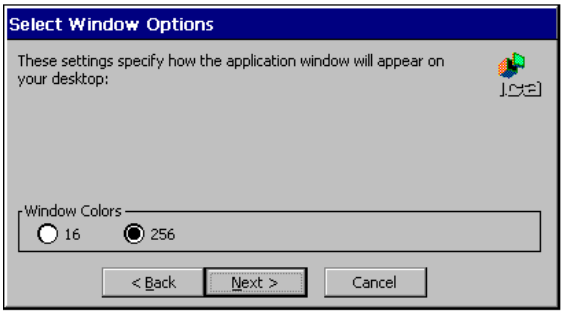
Figure 22-7 Specify Logon Information Dialog Box



To use the **Specify Logon Information** dialog box:

1. If needed, enter a user name, a password, and a domain for connecting to an application.
2. Click on **Next**.

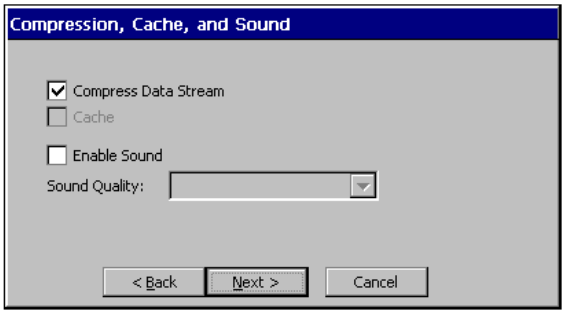
Figure 22-8 Select Window Options Dialog Box



To use the **Select Window Options** dialog box:

1. Click on the desired number of colors to display, either **16** or **256**.
2. Click on **Next**.

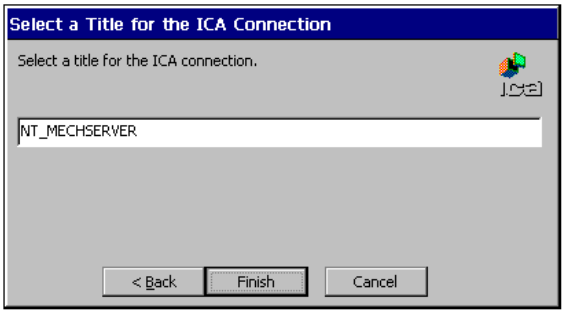
Figure 22-9 Compression, Cache, and Sound Dialog Box



To use the **Compression, Cache, and Sound** dialog box:

1. Enable or disable the following functions:
   a. **Compress Data Stream -** Applies compression
   b. **Cache -** Not supported yet
   c. **Sound - High, Medium, and Low** sound quality selectable with this function.
2. Click on **Next**.

Figure 22-10 Select a Title for the ICA Connection Dialog Box

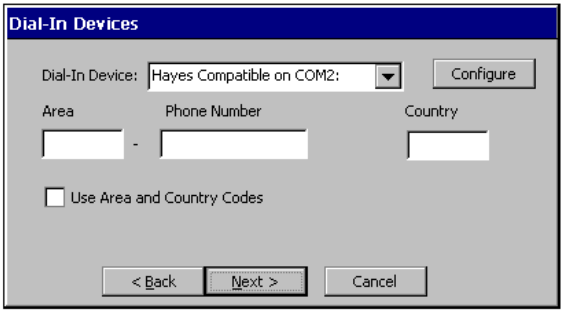


To use the **Select a Title for the ICA Connection** dialog box, click on **Finish**.

Dial-In Connection

Choose **Dial-In Connection**, then click on the **Next** button. The following sequence of dialog boxes displays. Use them to set up your dial-in ICA connection.

Figure 22-11 Dial-In Devices Dialog Box



To use the **Dial-In Devices** dialog box:

1. From the **Dial-In Device** drop-down scroll list, select one of the following:
   a. A modem connection such as **Hayes Compatible on Com1**.
   b. A serial connection such as **Serial Cable on Com1**.
2. Enter the area code, the phone number, and the country code in the appropriate fields.
3. Click on **Configure** to use the **Device Properties** dialog box. (See “Using the Device Properties and Configure Command Buttons” for more information on the **Configure** command button).
4. See Figures 22-6 through 22-10 and the related text for information about the dialog boxes in this sequence.

When you are finished with the configuration, the **Winterm Connection Manager** displays, listing your new ICA connection.

23 Dial-Up Connections

Use the **Dial-Up Configuration Wizard** to configure a dial-up connection. Dial-up connections use a modem and PPP to connect to a server.

Using the Dial-Up Configuration Wizard

Following are the three dialog boxes that display in succession during this configuration process. When you are finished with the configuration, the new connection will be added to the **Connection Name** list in the **Winterm Connection Manager**.

Figure 23-1 Dial-Up Configuration Wizard 1

To use the first dialog box:

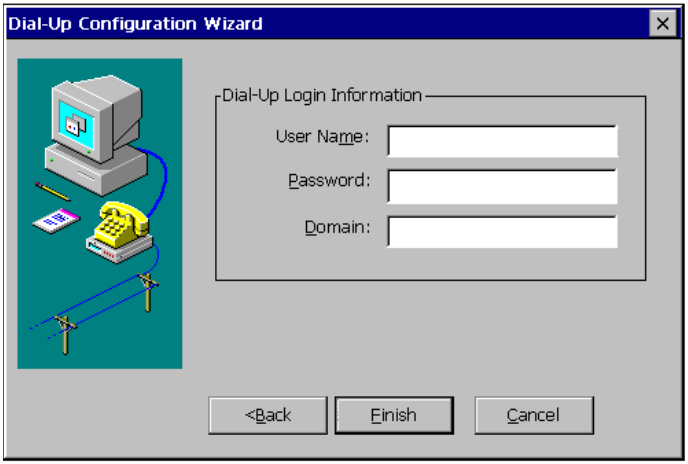
1. Enter a name for your dial-up connection.
2. Click on **Next**.

Figure 23-2 Dial-Up Configuration Wizard 2

To use the second dialog box of the wizard:

1. Select from the **Serial Port** drop-down scroll list one of the following:
   a. A modem connection such as **Hayes Compatible on Com1**.
   b. A cable connection (serial connection) such as **Serial Cable on Com1**.
2. Enter your information in the pertinent fields. **Country Code** and **Area Code** will activate if **Use Country Code and Area Code** is enabled.
3. See “Using the Dialing Properties and Configure Command Buttons” to get information about the **Dialing Properties** and **Configure...** command buttons.
4. See “Using the TCP/IP Settings and Security Command Buttons” for information about the **TCP/IP Settings...** and **Security** command buttons.
5. Click on **Next**.

Figure 23-3 Dial-Up Configuration Wizard 3



To use the third dialog box:

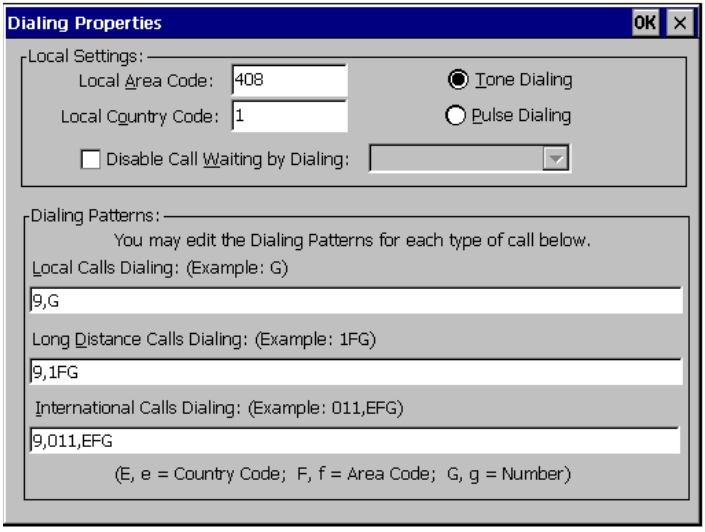
1. Enter your information in the pertinent fields. If you do not know the information, call your system administrator.
2. Click on **Finish**.

The **Winterm Connection Manager** displays, listing your new dial-up connection.

24 Using the Dialing Properties and Configure Command Buttons

The following sections provide information about some of the elements of the **Dial-Up Configuration Wizard**. This chapter covers dialing properties and device properties.Dialing properties are set using the **Dialing Properties** dialog box (Figure 24-1). Device properties are set using the **Device Properties** dialog box (Figure 24-2).

Figure 24-1 Dialing Properties Dialog Box



Using the Dialing Properties Dialog Box

Use the **Dialing Properties** dialog box to set the dialing properties for your dial-up connection. See “Dial-Up Connections” to find out how to invoke this dialog box.

The following table discusses the functions of the dialog box.

Table 24-1 Dialing Properties Dialog Box

Function	Description
Local Settings	Set local dialing locale and dialing type in this group box. **Local Area Code** Enter the local area code that you want to use. **Local Country Code** Enter the local country code of the country that you are dialing to. The default for this field is **1**. **Note** Refer to a phone directory for country codes. **Disable Call Waiting By Dialing:** **1.** Click on the check box. **2.** Select from the drop-down scroll list one of the following: • ***70,** • **70#,** • **1170,** **Tone Dialing** Click on this radio button to enable tone dialing. **Tone Dialing** is the default. **Pulse Dialing** Click on this radio button to enable pulse dialing.

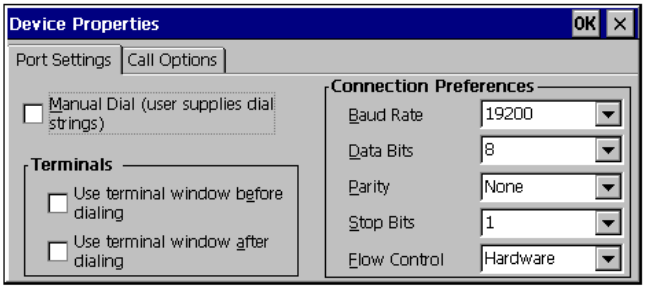
Table 24-1 Dialing Properties Dialog Box, Continued

Function	Description
Dialing Patterns	Use this group box to set your modem's dialing patterns. **Local Calls Dialing** Enter the local call dialing pattern. The default is **9,G**. **Local Long Distance Calls Dialing** Enter the long distance call dialing pattern. The default is **9,1FG**. **International Calls Dialing** Enter the international call dialing pattern. The default is **9,011,EFG.** **Note** An explanation of the lettering scheme for dialing patterns is located below the function **International Calls Dialing**.

Using the Device Properties Dialog Box

Use the **Device Properties** dialog box to configure a device (modem) for a dial-up connection.

Figure 24-2 Device Properties Dialog Box



See “Dial-Up Connections” to find out how to invoke this dialog box.

The **Device Properties** dialog box contains two properties sheets:

- **Port Settings**
- **Call Options**

The following sections discuss these properties sheets.

Port Settings

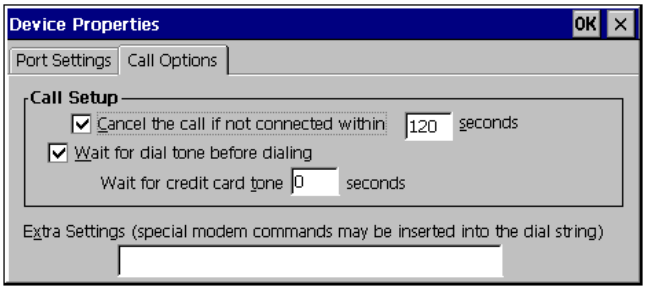
See Figure 24-2 to view the **Port Settings** properties sheet. It is the default of the **Device Properties** dialog box. The following table discusses the functions of this properties sheet.

Table 24-2 Port Settings Properties Sheet

Function	Description
Manual Dial	Click on this check box to set up for manual dialing.
Terminals	Use this group box to record terminal windowing information: • **Use Terminal Window Before Dialing** • **Use Terminal Window After Dialing**
Connection Preferences	Use this group box to set modem connection parameters.

Call Options

Figure 24-3 Call Options Properties Sheet



Click on the **Call Options** tab to invoke the **Call Options** properties sheet. The following table discusses the functions of this properties sheet.

Table 24-3 Call Options Properties Sheet

Function	Description
Call Setup	Use this group box to configure the following call parameters: **Cancel the Call if Not Connected Within** **1.** Enter in this field the number of seconds to wait before a call is canceled. **2.** Click the check box to enable the function. The default is **120** with the function enabled. **Wait for Dial Tone Before Dialing** Click on the check box to enable the function. The default for this function is enabled. **Wait for Credit Card Tone** Enter in the field the period (in seconds) of time to wait. The default is **0**.
Extra Settings	Use this field for special modem commands.

Note

See “Null Modem Cable Pin Assignments” for a suggested null modem cable for use with your terminal.

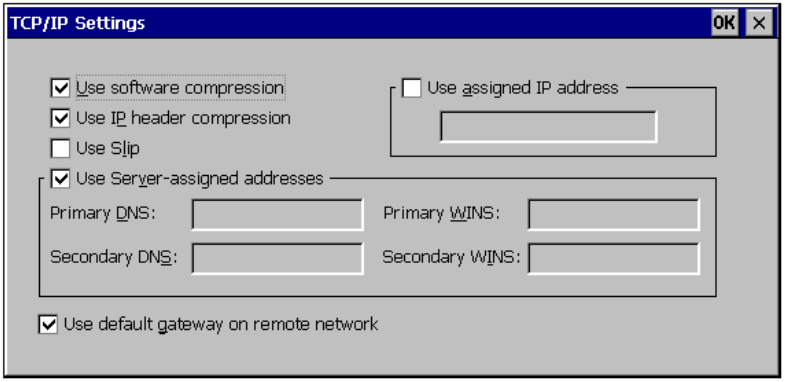
25 Using the TCP/IP Settings and Security Command Buttons

The following sections provide information about some of the elements of the **Dial-Up Configuration Wizard**. This chapter covers TCP/IP settings and dial-up security.

Using the TCP/IP Settings Dialog Box

Click on the **TCP/IP Settings** command button in the second dialog box of the **Dial-Up Configuration Wizard** to set TCP/IP dial-up settings. When this command button is pressed, the **TCP/IP Settings** dialog box displays. Figure 25-1 shows this dialog box.

Figure 25-1 TCP/IP Settings Dialog Box



The following table discusses the functions in this dialog box.

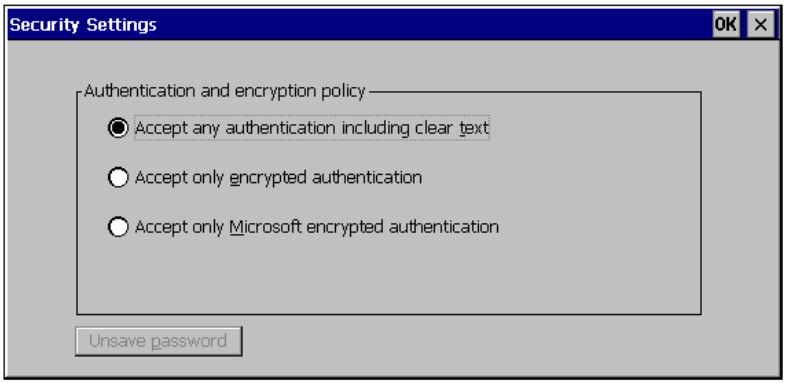
Table 25-1 TCP/IP Settings Dialog Box

Function	Description
Use Software Compression	Click on this check box to enable this function. By default, this function is activated and enabled.
Use IP Header Compression	Click on this check box to enable **Use IP Header Compression**. By default, this function is activated and enabled.
Use SLIP	Click on this check box to enable this function. SLIP is Serial Line Internet Protocol. By default, this function is activated and enabled.
Use Assigned IP Address	Click here to activate this text box. By default, the text entry box is not activated.
Use Server-Assigned IP Addresses	Click here to disable server-assigned addresses and to activate the text entry boxes for typing-in addresses. By default, the text entry box is not activated.
Use Default Gateway on Remote Network	Click on this check box to enable this function. By default, the function is activated and enabled.

Using the Security Settings Dialog Box

Click on the **Security...** command button in the second dialog box of the **Dial-Up Configuration Wizard** to configure dial-up security. When this command button is pressed, the **Security Settings** dialog box displays. Figure 25-2 shows this dialog box.

Figure 25-2 Security Settings Dialog Box



The following table discusses the functions in this dialog box.

Table 25-2 Security Settings Dialog Box

Function	Description
Accept Any Authentication Including Clear Text	Click on this radio button to set your terminal to accept any authentication including clear text. Authentication determines whether a request originated from the correct user or application.
Accept Only Encrypted Authentication	Click on this radio button to set your terminal to accept only encrypted authentication. Encryption is a method of “hiding” data that is transmitted across a network.
Accept Only Microsoft Encrypted Authentication	Click on this radio button to set your terminal to accept only Microsoft encrypted authentication.

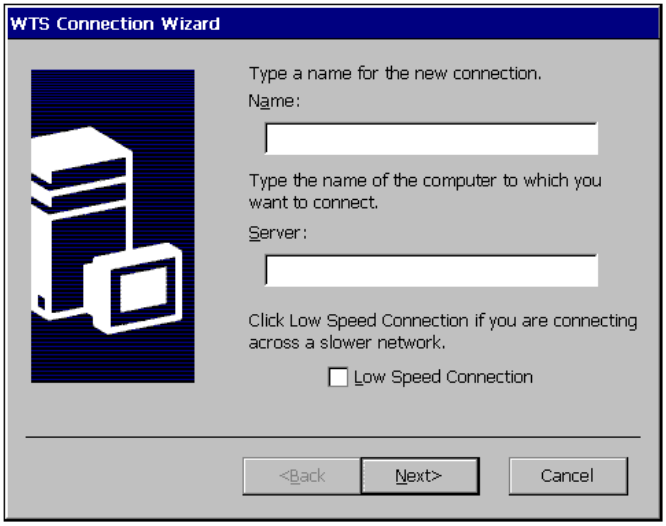
26 RDP Connections

Use the **WTS Connection Wizard** to configure an RDP connection. RDP connects to a server running Microsoft WTS (Windows Terminal Server). See “Creating New Connections” for more information about how to invoke this wizard.

Using the WTS Connection Wizard

Following are the four dialog boxes that display in succession during the configuration process. When you are finished with the wizard, the new connection will be added to the **Connection Name** list in the **Winterm Connection Manager**.

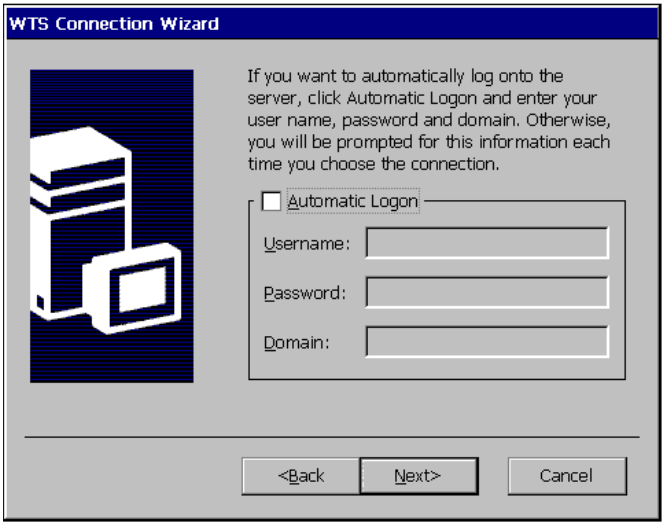
Figure 26-1 WTS Connection Wizard 1



To use the first dialog box:

1. Enter a name for your dial-up connection in **Name**.
2. Enter the name of the server in **Server**.
3. Check the **Low Speed Connection** check box if appropriate.
4. Click on **Next**.

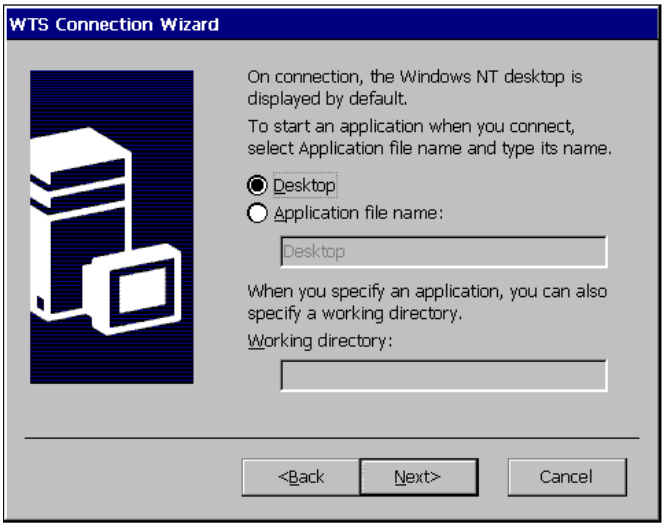
Figure 26-2 WTS Connection Wizard 2



To use the second dialog box:

1. Check the **Automatic Logon** check box if appropriate.
2. Enter a user name, password, and a domain to complete the information.
3. Click on **Next**.

Figure 26-3 WTS Connection Wizard 3



To use the third dialog box in the wizard:

1. Click on either the **Desktop** or **Application File Name** radio buttons.
2. If you clicked on **Desktop**, click on **Next**.
3. If you clicked on **Application File Name**:
   a. Enter the name of the desktop.
   b. Enter the name of the directory where it resides.
   c. Click on **Next**.

Figure 26-4 WTS Connection Wizard 4

To use the fourth dialog box, click on **Finish**. The **Winterm Connection Manager** displays, listing your new RDP connection.

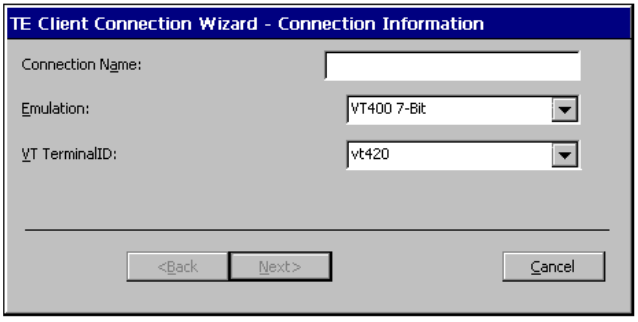
27 Terminal Emulation Connections

Use the **TE Client Connection Wizard** to set up a terminal emulation connection. Terminal emulation connections use VT (Virtual Terminal) and Telnet to connect to servers. See “Creating New Connections” for more information about how to invoke this wizard.

Using the TE Client Connection Wizard

Following are the three dialog boxes of this wizard. When you are finished configuring a connection, the new connection will be added to the **Connection Name** list in the **Winterm Connection Manager**.

Figure 27-1 TE Client Connection Wizard - Connection Information



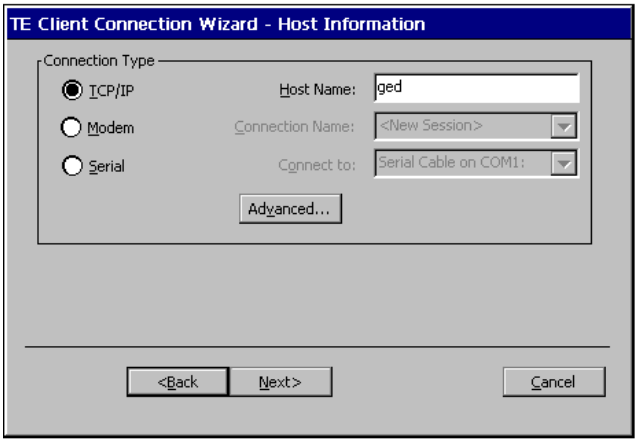
To use the **Connection Information** dialog box:

1. Enter the connection name in **Connection Name**.
2. Select the emulation type in **Emulation**. Use Table 27-1 to match and select the terminal type taken from the second drop-down scroll list initially named **VT TerminalID**.
3. Click on **Next**.

Table 27-1 Terminal Emulation and Terminal Type

Terminal Emulation	Terminal Type
Select:	Then select from **VT TerminalID**:
VT52, VT100, VT400 7-Bit (default), or **VT400 8-Bit**	**vt100**, **vt101**, **vt102**, **vt125**, **vt220**, **vt240**, **vt320**, **vt340**, **vt420** (default), **vt131**, or **vt132**
Select:	The function is deactivated.
ANSI BBS, **SCO Console**, **IBM 3151**, **WY50**, **WY50+**, **TVI910**, **TVI920**, **TVI925**, **ADDS A2**, **HZ1500**, or **WY60**	
Select:	Then select from **IBM 3270 Model**:
IBM3270	**3278-2-E**, **3278-3-E**, **3278-4-E**, **3278-5-E**, **3279-2**, **3279-3**, **3279-4**, **3279-5**, or **3287-1**
Select:	1. Select from **IBM 5250 Model**:
IBM5250	**5291-1**, **5292-2**, **5251-11**, **3179-2**, **3196-A1**, **3180-2**, **3477-FC**, **3477-FG**, **3486-BA**, **3487-HA**, or **3487-HC** 2. Check the **Right Ctrl Acts as Enter Key**, the **Left Ctrl Acts as Reset Key**, or the **IBM5250 Monochrome** check boxes if you want these functions enabled for 5250 emulation.

Figure 27-2 TE Client Connection Wizard - Host Information

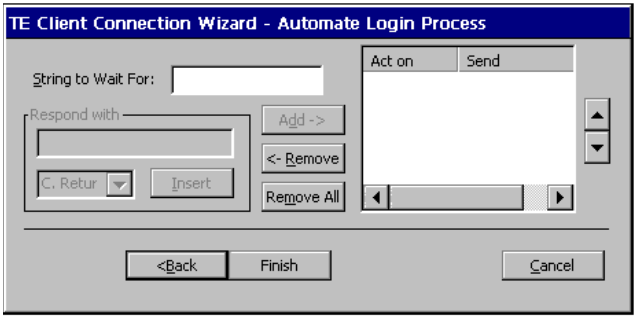


To use the **Host Information** dialog box:

1. Click on **TCP/IP**, **Modem**, or **Serial**:
2. If you clicked on **TCP/IP**:
   a. Enter the host name in **Host Name**.
   b. Use the **Advanced** command button if appropriate. (See “Using the TCP/IP Telnet Configuration Dialog Box” for information about the **Advanced** command button).
   c. Click on **Next**. The **Automate Login Process** dialog box displays. See Figure 27-3 and proceed with these instructions.

3. If you clicked on **Modem**:
   a. Select a connection from **Connection Name**.
   b. Use the **Configure** command button if appropriate. (See “Using the Modem Settings Dialog Box” for information about the **Configure** command button).
   c. Click on **Next**. The **Automate Login Process** dialog box displays. See Figure 27-3 and proceed with these instructions.
4. If you clicked on **Serial**:
   a. Make a selection from **Connect To**.
   b. Use the **Configure** command button if appropriate. (See “Using the Configuration of Serial Cable on Com1 Dialog Box” for information about the **Configure** command button).
   c. Click on **Next**. The **Automate Login Process** dialog box displays. See Figure 27-3 and proceed with these instructions.

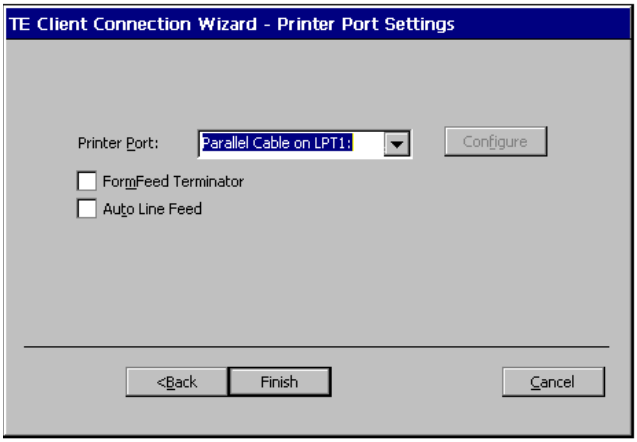
Figure 27-3 TE Client Connection Wizard - Automate Login Process



To use the **Automate Login Process** dialog box:

1. Fill in the **Parameters** group box as appropriate.
2. Fill in the **Script** group box as appropriate.
3. Click on **Finish**.

Figure 27-4 TE Client Connection Wizard - Printer Port Settings



To use the **Printer Port Settings** dialog box:

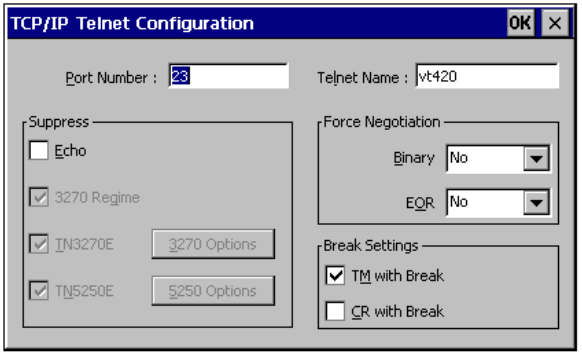
1. Select the appropriate printer port from the **Printer Port** list.
2. Click on **FormFeed Terminator** or **Auto Line Feed**, if appropriate.
3. Use the **Configure** command button, if appropriate. (See “Using the Configuration of Serial Cable on Com1” dialog box for information about the **Configure** command button).
4. Click on **Finish** to finish the wizard.

The **Winterm Connection Manager** displays, listing your new terminal emulation connection.

Using the TCP/IP Telnet Configuration Dialog Box

The **Advanced** command button invokes the **TCP/IP Telnet Configuration** dialog box. Figure 27-5 shows this dialog box.

Figure 27-5 TCP/IP Telnet Configuration Dialog Box



The following table discusses the functions of a Telnet connection.

Table 27-2 TCP/IP Telnet Configuration

Function	Description
Port Number	Enter the Telnet port number. The default is **23**.
Suppress	Use the functions of this group box as needed: • **Echo** • **3270 Regime** • **TN3270E** • **TN5250E** • **3270 Options**

Table 27-2 TCP/IP Telnet Configuration, Continued

Function	Description
	The following dialog box shows the **TN3270 Options** dialog box, displayed when the **3270 Options** command button is pressed.

Use this dialog box to set up 3270 options:

- **3270 LU Device Name** - This group box is used to identify the LU (Logical Unit).
- **TN3270E Options** - This group box is used to set TN3270E options. The options are **Bind**, **Responses**, and **SysReq**.

Note
Associate, **LU1 Printer**, and **LU3 Printer** are deactivated.

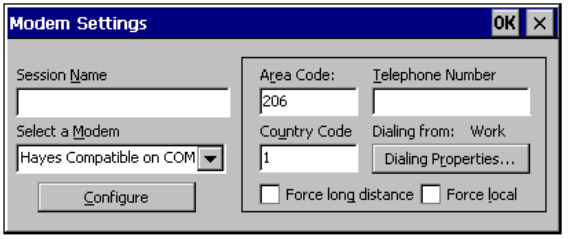
Table 27-2 TCP/IP Telnet Configuration, Continued

Function	Description
	• **TN5250 Options** The following dialog box shows the **TN5250 Options** dialog box, displayed when the **5250 Options** command button is pressed.  Use this dialog box to set up 5250 options. They are: · **Device Name** - Name of the device assigned to a Telnet session. · **User**, **Password**, **Library**, and **Menu** - Initial entries on a standard startup screen. · **Program** - Name of the initial program. **Note** All entries are 10 characters or less.
Telnet Name	Enter the Telnet virtual terminal name. The default depends on emulation (VT400, 7-bit, default is **vt420**).
Force Negotiation	Use the **Binary** and **EOR** drop-down scroll lists to configure negotiation parameters. The defaults are **No** and **No**.
Break Settings	Use the **TM with Break** and **CR with Break** check boxes to configure break settings. The default for both functions is activated but not enabled.

Using the Modem Settings Dialog Box

The **Configure** command button invokes the **Modem Settings** dialog box. Figure 27-6 shows this dialog box.

Figure 27-6 Modem Settings Dlalog Box



The following table discusses the available modem settings.

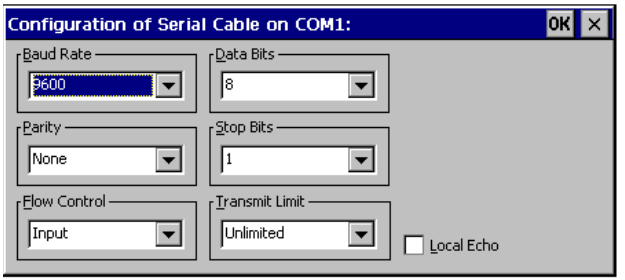
Table 27-3 Modem Settings Dialog Box

Function	Description
Session	Enter the name of your session.
Select a Modem	Select a modem from the drop-down scroll list.
Configure	See “Using the Dialing Properties and Configure Command Button” for more information.
Dialing Properties	Use this list to configure: • **Area Code** • **Country Code** • **Force Long Distance** • **Telephone Number** • **Dialing Properties** • **Force Local**

Using the Configuration of Serial Cable on Com1 Dialog Box

The **Configure** command button invokes the **Configuration of Serial Cable on Com1** dialog box. Figure 27-7 shows this dialog box.

Figure 27-7 Configuration of Serial Cable on Com1 Dialog Box



The following table discusses this dialog box.

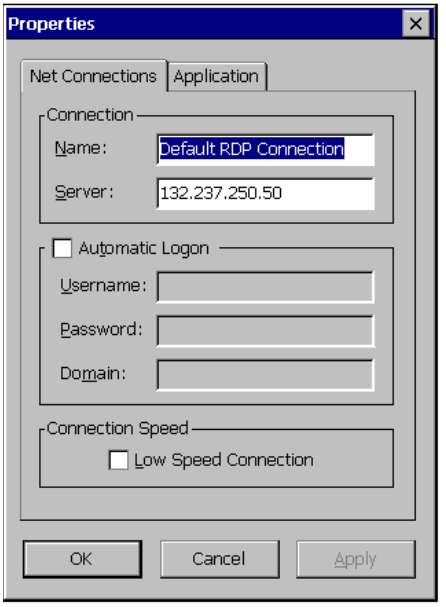
Table 27-4 Configuration of Serial Cable on Com1 Dialog Box

Function	Description
Configuration of a Serial Cable on Com1	Use these functions to configure a serial cable: • **Baud Rate** • **Parity** • **Flow Control** • **Data Bits** • **Stop Bits** • **Transmit Limit** Each is presented as a drop-down scroll list. Click on the upper-right down arrow to display the list and select a value. The defaults are listed (consecutive to the **Function** list to the left) as follows: • **9600** • **None** • **Input** • **8** • **1** • **Unlimited**
Local Echo	Click on this check box to enable local echo.

28 Editing Connections

The **Winterm Connection Manager** lets you edit individual RDP connection parameters. It is done through the **Properties** dialog box. The following figure shows the **Properties** dialog box.

Figure 28-1 Properties Dialog Box



Using the Properties Dialog Box

The **Properties** dialog box consists of two properties sheets. Depending on your connections configuration, you use one of these properties sheets to edit connection parameters. To invoke the dialog box:

1. Click on the **Configure** tab in the **Winterm Connection Manager** dialog box.
2. Click on the **Edit** command button on the **Configure** properties sheet.

Note

The functions of this dialog box are for editing RDP connections only. ICA, Dial-Up, and Terminal Emulation connections can be edited using their respective setup wizards. See “ICA Connections,” “Dial-Up Connections,” or “Terminal Emulation Connections” for further information.

Using the Net Connections Properties Sheet

The **Net Connections** properties sheet is displayed by default for the **Properties** dialog box. See Figure 28-1. Use this properties sheet to reconfigure a network connection.

The following table describes the functions of the **Net Connections** properties sheet.

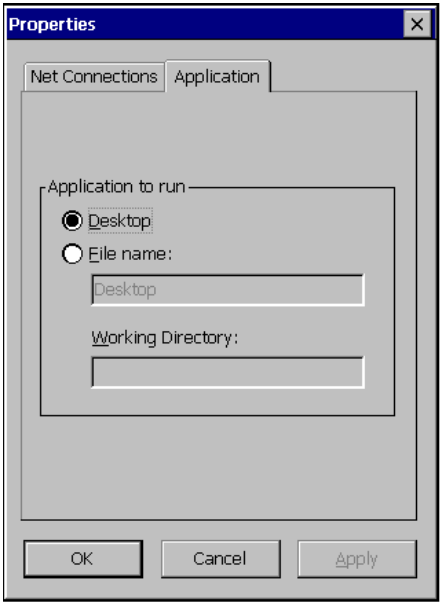
Table 28-1 Net Connections Properties Sheet

Function	Description
Connection	Select a connection from the **Connection Name** list in the **Terminal Connection Manager**. Use the following functions to change the connection's network parameters: **Name** Enter the name of the connection in this field. When **OK** is selected, your changes will be saved and **Name** will replace what was selected. **Server** Enter the address of the server in this field.
Automatic Logon	Click on this check box to enable automatic logon for your terminal. Enabling this function enables the **Username**, **Password**, and **Domain** fields: **Username** Enter your user name. **Password** Enter your password. **Domain** Enter your domain.
Connection Speed	**Low Speed Connection** Click on this to enable low-speed connection.

Using the Application Properties Sheet

Invoke the **Application** properties sheet by clicking on the **Application** tab in the **Properties** dialog box. The following figure shows this sheet.

Figure 28-2 Application Properties Sheet



The following table describes the functions of the **Application** properties sheet.

Table 28-2 Application Properties Sheet

Function	Description
Application to Run	Select a connection from the **Connection Name** list in the **Terminal Connection Manager**. Use the following functions to edit application types: **Desktop** Click on this radio button to include a desktop application in your connection parameters. **File Name** Click on this radio button to include a file in your connection parameters. Enter the name of the file in the field provided. **Working Directory** Enter the directory path to the file provided in **File Name**.

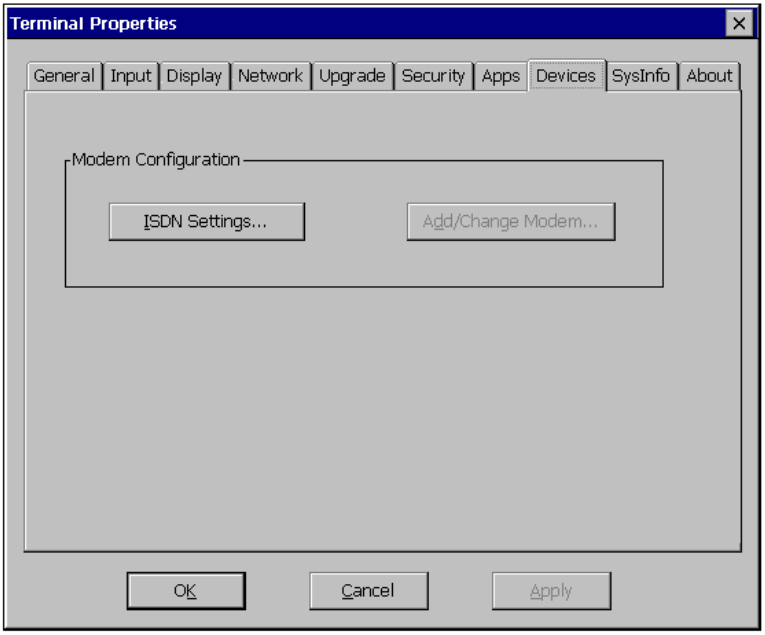
Note

Desktop and **File Name** are mutually exclusive. **File Name** must be selected in order to use the **File Name** and **Working Directory** fields.

29 Modem Connection Configuration

The **Devices** properties sheet contains functions to change ISDN settings and add new modems. These are modem connection parameters. See Figure 29-1 for a view of the **Devices** properties sheet.

Figure 29-1 Devices Properties Sheet



Using the Devices Properties Sheet

To invoke this properties sheet,

1. Press **F2** to invoke the **Terminal Properties** dialog box.
2. Click on the **Devices** tab in the **Terminal Properties** dialog box.

The following table describes the functions of this dialog box.

Table 29-1 Devices Properties Sheet

Function	Description
ISDN Settings	Click on this command button to invoke the **ISDN Settings** dialog box. See the following heading “ISDN Settings.”
Add/Change Modem	Click on this command button to invoke the **Adding New Modems** dialog box. See the following heading “Adding New Modems.”

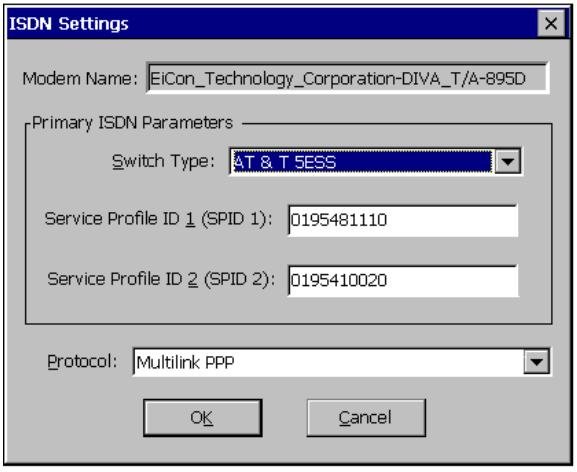
ISDN Settings

Use the **ISDN Settings** dialog box to set the terminal's ISDN settings. If you do not know this information, please ask your system administrator.

Note

These settings are specific to Eicon-Tech modems only.

Figure 29-2 ISDN Settings Dialog Box



To invoke the dialog box, click on the **ISDN Settings...** command button on the **Devices** properties sheet.

Table 29-2 discusses the functions of the **ISDN Settings** dialog box.

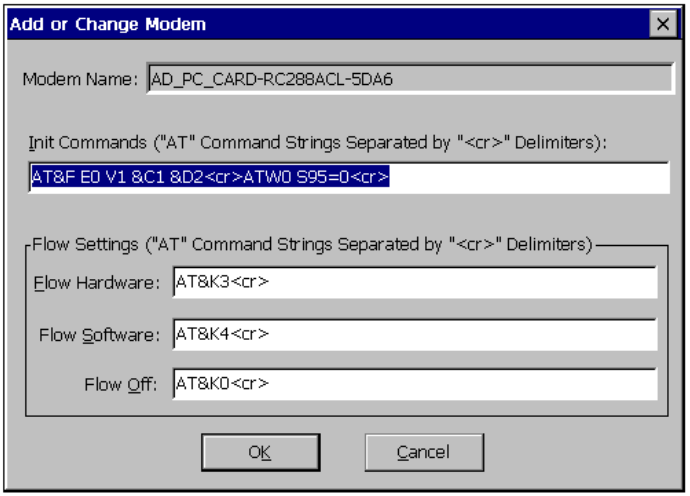
Table 29-2 ISDN Settings Dialog Box

Function	Description
Modem Name	This field displays the brand name of the modem in your system.
Primary ISDN Parameters	Use this group box to configure the following ISDN parameters: **Switch Type** Use this drop-down scroll list to select the switch type. The default is **AT & T 5ESS**. **Service Profile ID 1** Use this field to enter **Service Profile ID 1**. This field only allows numbers. The default is **0195481110**. **Service Profile ID 2** Use this field to enter **Service Profile ID 2**. This field only allows numbers. The default is **0195410020**.
Protocol	Use this drop-down scroll list to select a protocol. The default is **Multilink PPP**.

Adding or Changing Modems

Use the **Add or Change Modem** dialog box to add a new modem or change the parameters for a modem that has already been added.

Figure 29-3 Add or Change Modem Dialog Box



To invoke the dialog box, click on the **Add/Change Modem...** command button on the **Devices** properties sheet.

Table 29-3 discusses the functions of this dialog box.

Table 29-3 Add or Change Modem Dialog Box

Function	Description
Modem Name	This field displays the brand name of the modem in your system.
Init Commands	Enter a modem initialization command string in this field. The default is **ATEOV1&C1&D1<cr>**.
Flow Settings	Use this group box to set the following flow settings: **Flow Hardware** Enter a flow hardware command string in this field. The default is **AT&K3<cr>**. **Flow Software** Enter a flow software command string in this field. The default is **AT&K4<cr>**. **Flow Off** Enter a flow hardware command string in this field. The default is **AT&K0<cr>**.

Note

The Hayes command set is discussed in greater detail in “Modem AT Commands.”

Terminal Firmware Upgrades

30 Cable Firmware Upgrades

The following section describes the cable method of firmware download. The cable method for all terminals is parallel download, using a Laplink® cable and the MS-DOS xfer.exe program.

Setup

The following equipment may be needed, depending on the download procedure used:

- IBM-compatible PC with a CD-ROM drive and a parallel/serial port.
- Terminal firmware upgrade diskette or CD.
- LapLink or equivalent parallel port communications cable (used only if parallel port is used for downloading).

To validate an image file before downloading, type ***check*** <***filename.ext***> at the DOS command line, then press **Enter**. The check utility verifies the image file.

Note

For convenience, drive D:\ is used for the CD drive. You should substitute the appropriate drive letter for your PC.

Flash Parallel Download Procedure

This procedure includes both manual and auto download instructions. The download procedure will not work unless your PC is booted to DOS.

1. Record the terminal's current configuration.

Caution

All previous settings will be lost. Upgrading the firmware defaults the current configuration to the factory default settings.

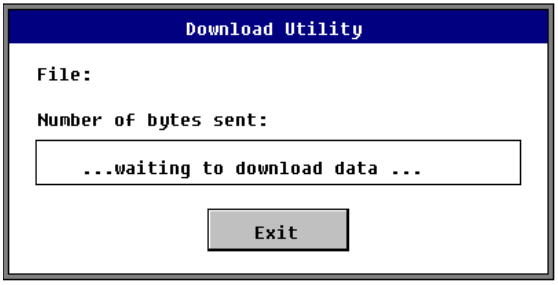
2. Turn off the terminal.
3. Connect a parallel LapLink cable from the parallel port of your PC to the parallel port of the terminal.
4. Insert the firmware upgrade CD into your PC.
5. Type ***D:***\ at the DOS prompt to select the drive where the download files exist. Use the ***dir*** command to find the files.
6. Perform either "Manual Download" or "Auto Download."

Manual Download

Use the following instructions to perform a manual download.

1. Type ***xfer*** <***filename.ext***> at the DOS prompt
2. Press **Enter**, and the **Download Utility** dialog box appears. See the following figure.

Figure 30-1 Download Utility Dialog Box



3. Power-up the terminal to initiate the download.

The **Firmware Upgrade** dialog box appears, showing that the download is in progress. When the download is complete, disconnect the parallel cable. The **Setup Wizard** will appear.

Note

If the download dialog box remains on the screen longer than 1 minute, press the **Enter** key. A prompt to repeat or quit the operation appears. If the download fails, quit the procedure, check all cables and connections, then repeat from Step 2.

Auto Download

Use the following instructions to perform an auto download:

1. Log on to the root of the drive where the installation batch file resides (usually D:).
2. Type install at the DOS prompt, then press **Enter**. The **Download Utility** dialog box appears and the install program prompts you through the download procedures.
3. When you are finished with your download, disconnect the LapLink cable and reconnect the peripheral cables.
4. Power-up the terminal and reconfigure its communications and options settings.
5. Check the **About** dialog box to verify the download revision.

Cable Pinouts

Parallel Download Cable Pinouts

The following table lists the parallel download cable pinouts.

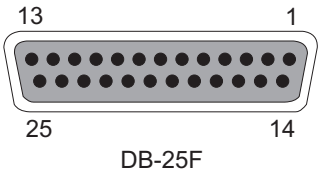
Table 30-1 Parallel Download Cable Pinouts

PC Side	Terminal Side
Pin 01	Pin 01
Pin 02	Pin 15
Pin 03	Pin 13
Pin 04	Pin 12
Pin 05	Pin 10
Pin 06	Pin 11
Pin 07	*
Pin 08	*
Pin 09	*
Pin 10	Pin 05
Pin 11	Pin 06
Pin 12	Pin 04
Pin 13	Pin 03
Pin 14	Pin 14
Pin 15	Pin 02
Pin 16	Pin 16
Pin 17	Pin 17
Pins 18 to 25	Pin 25 Gnd

* - Pin(s) not connected

The following figure shows the connector for the parallel download cable.

Figure 30-2 Parallel Download Cable Connectors



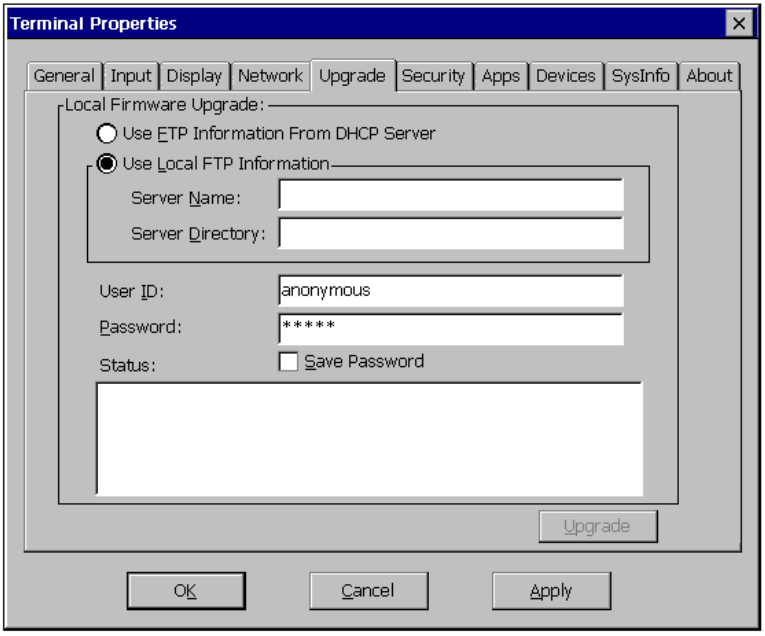
31 FTP Pull Firmware Upgrades

Use the **Upgrade** properties sheet to:

1. Set up a terminal for communication with an FTP server.
2. Perform FTP pull upgrades.

See Figure 31-1.

Figure 31-1 Upgrade Properties Sheet



Using the Upgrade Properties Sheet

To invoke this properties sheet:

1. Press the **F2** key.
2. Click on the **Upgrade** tab in the **Terminal Properties** dialog box.

The following table describes the functions found on this properties sheet.

Table 31-1 Upgrade Properties Sheet

Function	Description
Local Firmware Upgrade	Use this group box to upgrade your terminal's firmware using an FTP server. The functions are: **Use FTP Information from DHCP Server** Select this function if you want to get the FTP server and directory information from a DHCP server. Click on this radio button to select the function. By default the function is enabled. **Use Local FTP Information** Select this function if you want to enter the FTP server you will use for the upgrade. Click on the radio button to select the function. By default the function is disabled. **Server Name** Enter the name or IP address of the FTP server where *bootstrap.exe* and the upgrade firmware reside. The default is blank. **Server Directory** Enter the directory on the FTP server where bootstrap.exe resides. The default is blank. **User ID** Enter your user account in this field. The default is **Anonymous**. **Password** Enter your password in this field. The default is *****.

Table 31-1 Upgrade Properties Sheet, Continued

Function	Description
	Status This display box shows status information about the connection to the FTP server, and the firmware download. Connect and download errors are also reported. The default is blank. **Save Password** Check this box to save the entered password in the registry.
Upgrade	Click on this command button to initiate the upgrade procedure. By default the button is disabled until an entry is made in the **FTP Server** field.

FTP and Bootstrap.exe

The download is initiated through the **Upgrade** command button on the **Upgrade** properties sheet. Information in the **Upgrade** properties sheet must be filled out to ensure a proper download. See “Resetting Properties” for more details about this properties sheet.

Bootstrap.exe and params.ini must be installed on your FTP server to use this method of download. To install these files, drag and drop them from the CD-ROM to the appropriate directory on your FTP server. The upgrade firmware can be obtained from manufacturer’s customer support.

The Upgrade Process

To upgrade:

1. Place bootstrap.exe, params.ini, and the new firmware file on your FTP server.
2. Press **F2** to invoke the **Terminal Properties** dialog box.
3. Click on the **Upgrade** properties sheet tab and enter the appropriate information.
4. Click on the **Upgrade** command button.

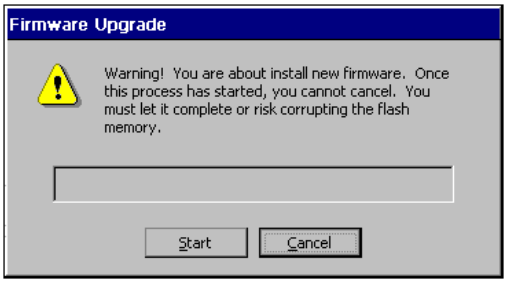
The bootstrap program uses **Server Name**, **User ID**, **Password**, and **Server Directory** from the **Upgrade** properties sheet to access the FTP server. The program performs the upgrade, checks for errors, and reboots the terminal.

Note

An upgrade can not be cancelled once it has started.

A series of dialog boxes displays during the upgrade.

Figure 31-2 Firmware Upgrade Dialog Box 1

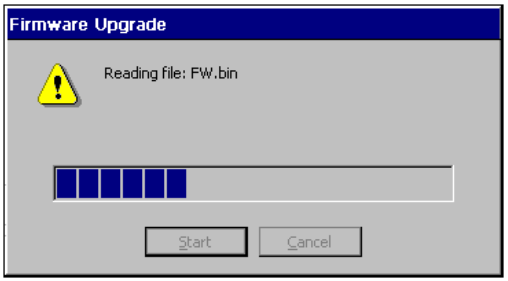


This is the first dialog box that displays. Read for information and click on **Start** to upgrade, or **Cancel** to quit the process.

Note

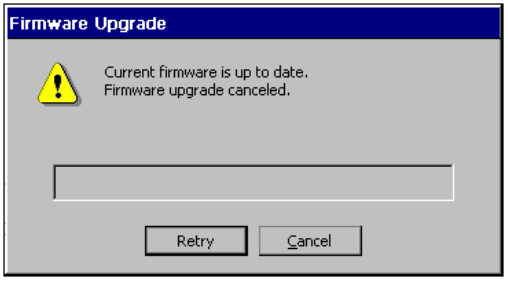
If you are downloading the same version of firmware that is already on the terminal, a dialog box displays reporting that you are downloading the same version.

Figure 31-3 Firmware Upgrade Dialog Box 2



After **Start** is clicked, the download begins.

Figure 31-4 Firmware Upgrade Dialog Box 3



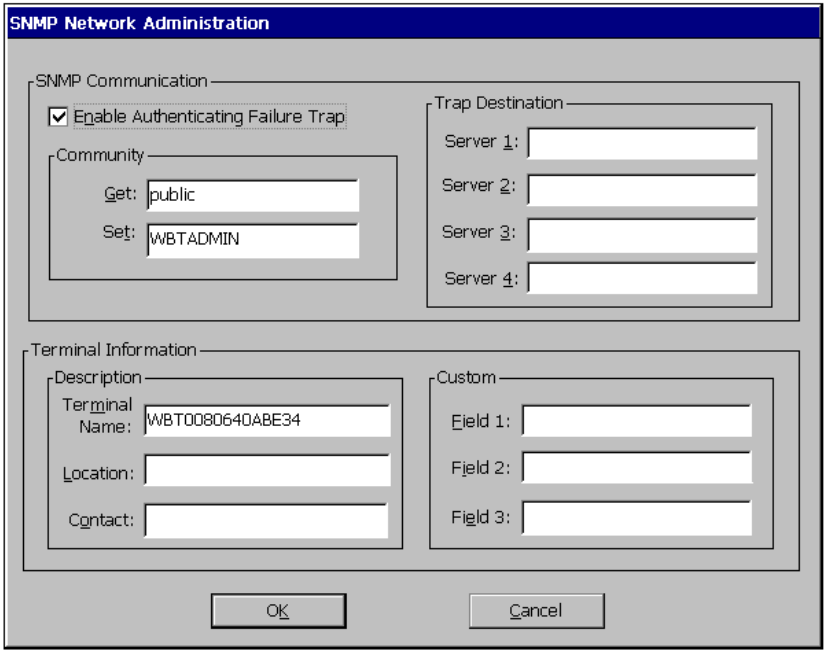
If your current firmware is up to date, the process will automatically stop, displaying this dialog box. Click on **Retry** to restart the upgrade. Click on **Cancel** to quit.

When the upgrade is complete, the terminal will reboot.

32 Administering Terminals Using SNMP

The **SNMP Network Administration** dialog box contains the functions that you can use to administer to the terminals on your SNMP network. See Figure 32-1.

Figure 32-1 SNMP Network Administration Dialog Box



Using the SNMP Network Administration Dialog Box

To invoke this dialog box:

1. Press the **F2** key to invoke the **Terminal Properties** dialog box.
2. Click on the **Apps** tab to invoke the **Apps** properties sheet.
3. Click on the **SNMP Network Administration** command button.

The following table discusses the functions of this dialog box.

Table 32-1 SNMP Network Administration Dialog Box

Function	Description
SNMP Communication	Use this group box to set up SNMP communication using the following functions: **Enable Authenticating Failure Trap** Check this box to enable the authenticating failure trap. **Community** Use this group box to configure the network management of a community. **Get** This field takes the name of the community the SNMP management software will manage with read permission only. If this field is left blank, the community for that terminal will be public. The default for this field is **Public**. **Set** This field contains the name of the community the SNMP management software will manage with write permission. By default, the set community that the terminal belongs to is called **WBTADMIN**. The default for this field is **WBTADMIN**. **Note** All **Get** and **Set** names are case sensitive and lower case. **Trap Destination** **Server 1:**, **Server 2:**, **Server 3:**, and **Server 4:** are fields that supply the names or IP addresses of the servers to which the terminal sends SNMP traps.

Table 32-1 SNMP Network Administration Dialog Box, Continued

Function	Description
Terminal Information	Use this group box to list information about terminals. **Description** Use this group box to describe a terminal. **Terminal Name** Type the name of a terminal in this field. On default, this displays the WBT and the MAC address of the product. **Location** Type the location of the terminal in this field. **Contact** Type the name of the administrator of the subject terminal in this field. **Custom** Use the following fields to type in any custom message associated with the subject terminal: • **Field 1** • **Field 2** • **Field 3** Each field will take 23 characters maximum.

33 SNMP Upgrades

Manual SNMP Firmware Upgrades

1. Ensure that the Wyse custom MIB (Management Information Base) is compiled by your SNMP manager.

Note

In order to initiate an SNMP upgrade, you must know the FTP or TFTP server's IP address or machine name, and the absolute path to the image on the FTP or TFTP server.

Note

In the Wyse custom MIB the enterprise number for Wyse is 1.3.6.1.4.1.714. Therefore, in this section Wyse is equivalent to 1.3.6.1.4.1.714.

2. Enable **SNMP Update Enable** if it is not enabled.
3. Using the **SNMP/Network Administrator** dialog box, verify that the community and set community names for the terminal match the community and set community names in the SNMP manager.

Note

You can set the **Set Community** name for a terminal if you have DHCP enabled by setting DHCP Option 164 to the set community name your SNMP manager uses.

4. Using your SNMP manager:
   a. Go to Wyse 1.2.3.8.1.2 (wbt3UpDnLoadTable).
   b. Go to Wyse 1.2.3.8.1.1.2.1.2 (wbt3UpDnLoadID), user defined string.

Note
The above is used in traps to identify the download operation.

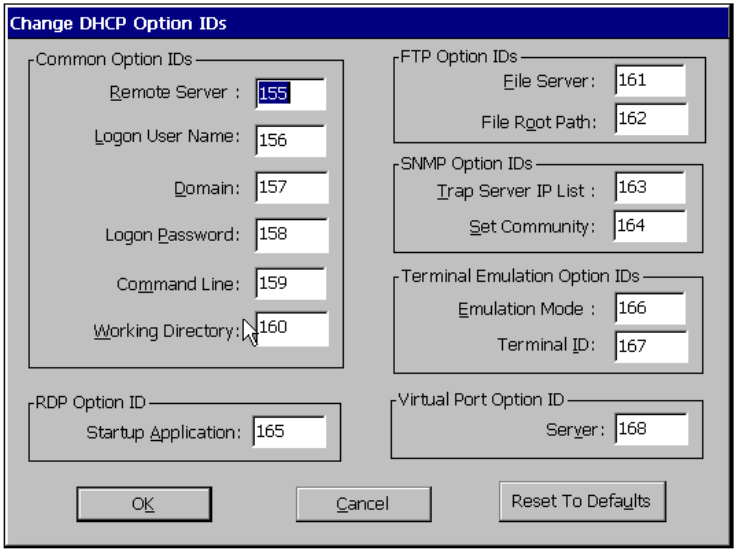
   c. Go to Wyse 1.2.3.8.1.1.2.1.3 (wbt3UpDnLoadOp), and set its value to 1 (Download).
   d. Go to Wyse 1.2.3.8.1.1.2.1.4 (wbt3UpDnLoadSrcFile), and set its value to the absolute path of the directory where the image file and params.ini are located.
   e. Go to Wyse 1.2.3.8.1.1.2.1.6 (wbt3UpDnLoadFileType), and set its value to 0 (Binary).
   f. Go to Wyse 1.2.3.8.1.1.2.1.7 (wbt3UpDnLoadProtocol), and set its value to 0 (FTP or TFTP).
   g. Go to Wyse 1.2.3.8.1.1.2.1.8 (wbt3UpDnLoadFServer), and set its value to the IP address or DNS name of the FTP or TFTP server.
   h. Go to Wyse 1.2.3.8.1.4 (wbt3SubmitLoadJob), and set its value to 1 (Ready).

Step 4h will initiate an SNMP upgrade to your terminal. If the download is configured properly, the new image will download and the terminal will reboot automatically to factory defaults.

34 Changing DHCP Option IDs

Use the **Change DHCP Option IDs** dialog box to set up DHCP option IDs for terminal administration and upgrade. See Figure 34-1 for a view of this dialog box.

Figure 34-1 Change DHCP Option IDs Dialog Box



Note

Option 158 is not supported yet. It is reserved for future use.

Using the Change DHCP Option IDs Dialog Box

Your terminal uses DHCP and the information on the **Change DHCP Option IDs** dialog box to:

- Help establish ICA and RDP connections
- Perform automated firmware updates
- Help define terminal emulation connections
- Specify the virtual port server
- Implement remote management of SNMP parameters

To invoke this dialog box:

1. Press the **F2** key.
2. Click on the **Apps** tab.
3. Click on the **Change DHCP Option** command button.

The following table describes the functions of this dialog box.

Table 34-1 Change DHCP Option IDs Dialog Box

Function	Description
Common Option IDs	Group box used to assign DHCP option IDs to common DHCP variables. The number in each field is the DHCP option ID. The following field titles are the DHCP variables: • **Remote Server** • **Logon User Name** • **Domain** • **Logon Password -** reserved for future use • **Command Line** • **Working Directory**
RDP Option IDs	Group box used to set the following RDP option IDs: **Startup Application**
FTP Option IDs	Group box used to set the following FTP option IDs: • **File Server** • **File Root Path**

Table 34-1 Change DHCP Option IDs Dialog Box, Continued

Function	Description
SNMP Option IDs	Group box used to set the following SNMP option IDs: • **Trap Server IP List** • **Set Community**
Terminal Emulation Option IDs	Group box used to set the following terminal emulation option IDs: • **Emulation Mode** • **Terminal ID**
Virtual Port Option IDs	Group box used to set the following virtual port option IDs: **Server**
Reset To Defaults	Click on this command button to reset all option IDs to the default values. **Note** The values shown in Figure 34-1 are the terminal default values.

35 DHCP Firmware Upgrades

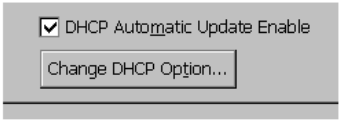
Automatic DHCP Firmware Upgrades

1. Press the **F2** key for the **Terminal Properties** dialog box.
2. Click on the **Network** tab.
3. Click on the **Obtain an IP Address From DHCP Server** radio button, if the function is not enabled. See Figure 35-1.

Figure 35-1 Obtain an IP Address From DHCP Sever Radio Button

4. Click on the **Apps** tab.
5. Click on the **DHCP Automatic Update Enable** check box on the **Apps** properties sheet, if the function is not enabled. See Figure 35-2.

Figure 35-2 DHCP Automatic Update Enable Check Box



Note

You have now enabled the automatic DHCP function. You will also need to configure your DHCP option IDs. Make sure your DHCP options match the options on the DHCP server.

6. Click on the **Change DHCP Option...** command button**.**
7. Use the **Change Option IDs** dialog box to change options, then click on **OK** to save.

Note

Pay special attention to these FTP Option IDs functions: **File Server** (the location of the server where the firmware resides), and **File Root Path** (the location of the firmware).

8. Click on the **Upgrade** tab.
9. Click on the **Use FTP Information From DHCP Server** radio button on the **Upgrade** properties sheet.

Note

You will need the image and the params.ini files on the FTP server to do the upgrade.

10. Shut down the terminal. See “Shutting Down the Terminal” for more information.

Your terminal will automatically upgrade itself when it is powered-up again.

Manual DHCP Firmware Upgrades

1. Follow instruction 1 through 3 and 5 through 8 in “Automatic Firmware Upgrades.”
2. Click on the **Upgrade...** command button on the **Upgrade** properties sheet.

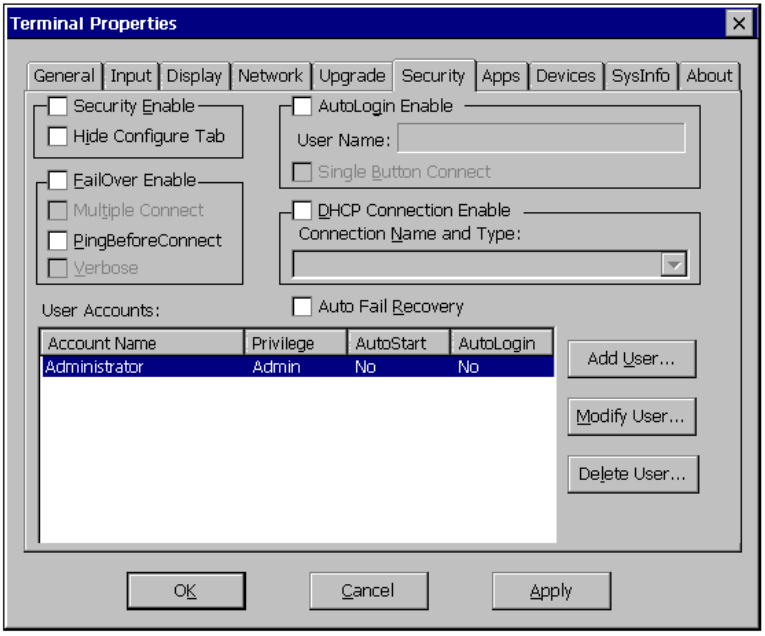
This will initiate the firmware upgrade. Once the upgrade is complete, the terminal will reboot to the **Setup Wizard**.

Client Security

36 Security Properties

Use the **Security** properties sheet to access security features and global terminal functions. You can also use this sheet to set up terminal accounts. Figure 36-1 shows the **Security** properties sheet.

Figure 36-1 Security Properties Sheet



Using the Security Properties Sheet

To invoke the **Security** properties sheet:

1. Press **F2** to invoke the **Terminal Properties** dialog box.
2. Click on the **Security** tab.

The following table describes the functions of this properties sheet.

Table 36-1 Security Properties Sheet

Function	Description
Security Enable	This group box is used to enable terminal security and connection configuration access. It contains the following functions: **Security Enable** Click to enable terminal security, and deactivate the **Hide Configure Tab** function. By default this function is disabled. **Hide Configure Tab** Click to enable. This function hides the **Configure** tab in the **Winterm Connections Manager**. By default this function is disabled.
Failover Enable	Use this group box to manipulate connection features. See “Failover” for more information. **Failover Enable** Click to enable the failover function. Enabling this function deactivates the **PingBeforeConnect** function. and activates **Multiple Connect** and **Verbose** functions. By default this function is disabled. **Multiple Connect** Click to enable this function. Failover must be enabled before you can access this function. By default this function is not activated. **PingBeforeConnect** Click to enable this function. Enabling this function will activate **Verbose**. By default this function is disabled.

Table 36-1 Security Properties Sheet, Continued

Function	Description
Failover Enable, continued	**Verbose** Click to enable the **Verbose** connection function. By default the box is not activated. This function becomes activated when either **Failover** or **PingBeforeConnect** is enabled.
AutoLogin Enable	This group box is used to configure login parameters. See “Autologin and Autoconnect” for more information about autologin. **AutoLogin Enable** Click to enable the function. AutoLogin is enabled only for the user name currently highlighted in the **User Accounts** list box. Enabling the autologin function activates **Single Button Connect**. By default the function is disabled. **User Name** This field is activated by enabling **AutoLogin Enable**. By default the field is blank. **Single Button Connect** Click to enable the function. See the chapter “Terminal Login” for more information. By default the function is not activated.
DHCP Connection Enable	Use this group box to access the DHCP connection list. **DHCP Connection Enable** Click to enable the function. Enabling this function activates the **Connection Name and Type** list. By default this function is disabled. **Connection Name and Type** A scroll list that displays all connections available to your terminal. You must select the connection that will use information supplied by DHCP. By default this function is not activated.

Table 36-1 Security Properties Sheet, Continued

Function	Description
Auto Fail Recovery	Click on the check box to enable the function. Auto fail recovery is a function that checks the validity of a disconnect, and closes down a connection if disconnect checks true. By default, the function is activated but not enabled.
User Accounts	A list box displaying: **Account Name** Lists the account names. **Privilege** Lists the privilege type, either **Admin**, **User**, or **Guest**. **AutoStart** Lists the autostart permission, either **Yes** or **No**. **AutoLogin** Lists the autologin permission, either **Yes** or **No**. For more information about user accounts see “Terminal Accounts.”
Add User	See “Adding Terminal Accounts.”
Modify User	See “Modifying and Deleting Terminal Accounts.”
Delete User	See “Modifying and Deleting Terminal Accounts.”

37 Terminal Accounts

A terminal account is a group of connection and configuration parameters organized into a file (account) and assigned to a terminal user. Terminal accounts can include specific connections, securtiy enable, password protection, **Autologin** and/or **Autostart**, and **Single Button Connect**. The three types of accounts are:

- **Guest**
- **User**
- **Administrator**

Guest Accounts

The **Guest** account has the fewest amount of privileges. With this account you can not:

- Configure a connection
- Gain access to the password function

With this account type you can only:

- Use the **Screen Saver**, **Touch Screen**, **Character Repeat**, and **Keyboard Locale** functions
- Adjust display resolution

User Accounts

With a **User** account, you will not be able to configure the connection for the account. You will be able to access the password function. You can also:

- Use the **Network** properties sheet
- Use the **Apps** properties sheet with the exception of **SNMP** and **DHCP**
- Use the **Devices** properties sheet with the exception of **Add/Change Modem**

Administator Accounts

The **Administrator** account has the greatest amount of privileges. With this account you can:

- Use **Enable Password Change** (change the password for an account)
- Configure or reconfigure the connection for an account
- Use all the other functions of the terminal

Using Terminal Accounts

Terminal accounts are created and managed by using the **Add User...**, and **Modify User...** command buttons. Terminal accounts are deleted using the **Delete User...** command button. These buttons are found on the **Security** properties sheet.

Note

There is a built-in account called **Administrator**. It can not be deleted or revised. The account's password can be changed and is **<blank>** by default.

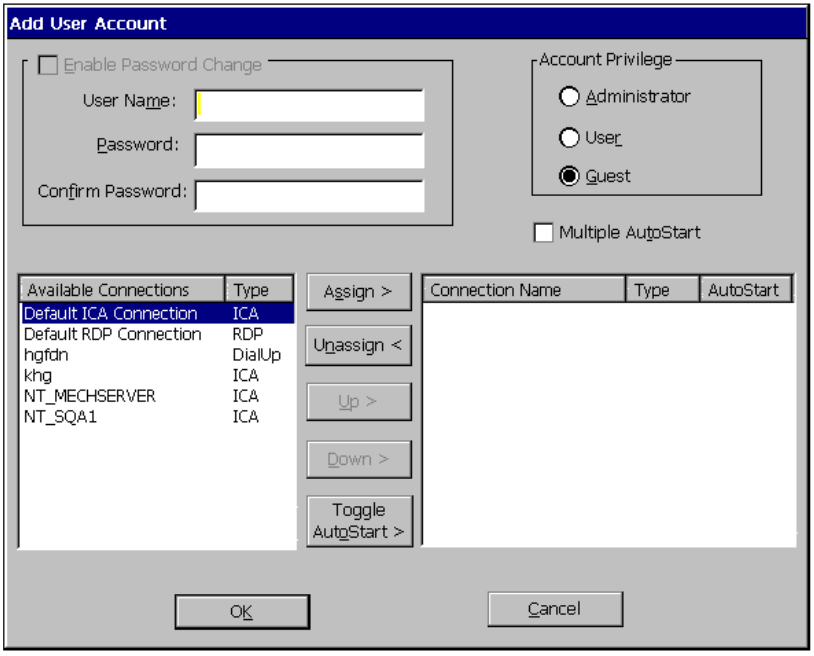
For more information about terminal accounts, see:

- "Security Properties"
- "Creating Terminal Accounts"
- "Modifying and Deleting Terminal Accounts"

38 Creating Terminal Accounts

The **Add User Account** dialog box is used to create terminal accounts. The following figure shows this dialog box.

Figure 38-1 Add User Account Dialog Box



Using the Add User Account Dialog Box

Use the **Add User Account** dialog box to set up the parameters for new terminal accounts. To invoke this dialog box:

1. Press **F2** while in the **Winterm Connection Manager**.
2. Click on the **Security** tab in the **Terminal Properties** dialog box.
3. Click on the **Add User...** command button.

The following table describes the functions of the **Add User Account** dialog box.

Table 38-1 Add User Account Dialog Box

Function	Description
Enable Password Change	Group box used to set up password functions. **Note** The fields of this group box are limited to 20 characters or less. **Enable Password Change** Click to enable. Enabling the function will allow the user to change a password. This function is activated by assigning the account **User** account privilege. By default **Enable Password Change** is deactivated. **Username** Type in the new user name. By default the field is blank. **Password** Type in the password. By default the field is blank. **Confirm Password** Type in the password again. By default the field is blank.

Table 38-1 Add User Account Dialog Box, Continued

Function	Description
Available Connections	This is a list box displaying all the terminal's connections. It contains: **Available Connections** This list shows the connections available for terminal accounts. **Type** This section of the list displays the connection type for each connection: • **ICA** • **DialUp** • **RDP** • **TEC** (terminal emulation)
Assign	Click on this command button to copy a connection from **Available Connections** to **Connection Name**. You must first select (highlight) the connection you want to copy.
Unassign	Use this button to delete a connection from **Connection Name**. You must first select the connection you want to delete.
Up	Select a connection and click on the **Up** command button to move it up one place in the **Connection Name** list. If there is not two or more connections listed in **Connection Name**, the button is deactivated.
Down	Select a connection and click on the **Down** command button to move it down one place in the **Connection Name** list. If there is not two or more connections listed in **Connection Name**, the button is deactivated.
Toggle AutoStart	Click on this command button to toggle between **Yes** and **No**. These two choices are listed under **AutoStart** in **Connection Name**.

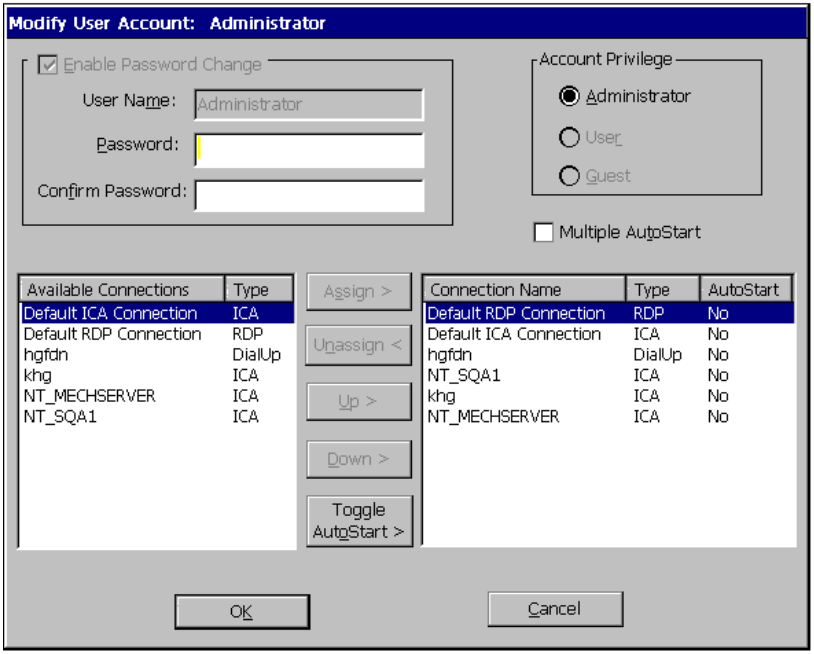
Table 38-1 Add User Account Dialog Box, Continued

Function	Description
Connection Name	List box displaying connections. To learn more, see the following: **Connection Name** This list shows the connections available to a terminal account. **Type** This section of the list displays the connection type of each connection. See **Type** above. **AutoStart** This section of the list displays whether the connection will or will not start automatically.
Account Privilege	Group box used to assign an account an account privilege: **Administrator** Click this radio button to assign the privileges of administrator to an account. If this function is enabled: • All connections in **Available Connections** are automatically assigned to **Connection Name** for use. • **Enable Password Change** is deactivated but enabled. Administrators will always have the ability to change their passwords. **User** Click this radio button to assign the privilege of user to an account. If **User** is enabled, **Enable Password Change** is activated. Administrators can give users the ability to change their password. **Guest** Click this radio button to assign the privilege of guest to an account. If **Guest** is enabled, then **Enable Password Change** is deactivated. Users with this account type can not change passwords.
Multiple AutoStart	Click to check this box and enable the multiple autostart function.

39 Modifying and Deleting Terminal Accounts

The **Modify User Account** dialog box is used to modify and delete terminal accounts. The **Delete** command button, discussed later in Deleting Terminal Accounts, is used to delete terminal accounts. Figure 39-1 shows the **Modify User Account** dialog box.

Figure 39-1 Modify User Account Dialog Box



Using the Modify User Account Dialog Box

To invoke this dialog box:

1. Press **F2** from the **Winterm Connection Manager**.
2. Click on the **Security** tab in the **Terminal Properties** dialog box.
3. Highlight the account to be modified and click on the **Modify User...** command button.

The following table describes the functions of the **Modify User Account** dialog box.

Table 39-1 Modify User Account Dialog Box

Function	Description
Enable Password Change	Group box used to set up password functions. **Enable Password Change** Click to enable. Enabling the function will allow the user to change the password. This function is only activated for **User** accounts. By default **Enable Password Change** is disabled. **Username** This field can not be modified. **Password** Type in the new password. By default the field is the old password, represented by several asterisks. **Confirm Password** Retype the password. By default the field is the old password, represented by several asterisks. **Note** The preceding fields are limited to 20 characters or less.
Available Connections	List box displaying connections. **Available Connections** This list shows all the connections available for terminal accounts. **Type** The section of the list that shows the connection type.

Table 39-1 Modify User Account Dialog Box, Continued

Function	Description
Assign	Click on this command button to copy a connection from **Available Connections** to **Connection Name**. You must first select to highlight the connection you want to copy.
Unassign	Use this button to delete a connection from **Connection Name**. You must first select (highlight) the connection you want to delete.
Up	Select a connection and click on the **Up** command button to move it up one place in the **Connection Name** list. If there is not two or more connections listed in **Connection Name**, the button is deactivated.
Down	Select a connection and click on the **Down** command button to move it down one place in the **Connection Name** list. If there is not two or more connections listed in **Connection Name**, the button is deactivated.
Toggle AutoStart	Click on this command button to toggle between **Yes** and **No**. These two choices are listed under **AutoStart** in **Connection Name**.
Connection Name	List box displaying connections. **Connection Name** This list shows the connections available for use by a terminal account. **Type** This is the section of the list that displays the connection type of each connection. **AutoStart** This is the section of the list that displays whether the connection will or the connection will not autostart.

Table 39-1 Modify User Account Dialog Box, Continued

Function	Description
Account Privilege	Group box used to assign an account an account privilege: **Administrator** Click this radio button to assign the privileges of administrator to an account. If this function is enabled: • All connections in **Available Connections** are automatically assigned to **Connection Name** for use. • **Enable Password Change** is deactivated but enabled. Administrators will always have the ability to change their passwords. **User** Click this radio button to assign the privilege of user to an account. If **User** is enabled, **Enable Password Change** is activated. Administrators can give Users the ability to change their password. **Guest** Click this radio button to assign the privilege of guest to an account. If **Guest** is enabled, then **Enable Password Change** is deactivated. Users with this account type can not change passwords.
Multiple AutoStart	Click to check this box and enable the multiple autostart function.

Deleting Terminal Accounts

Terminal accounts can be deleted from the **User Accounts** list on the **Security** properties sheet. To delete an account:

Caution
You can not recover a deleted account.

1. Click on the account that you want to delete in the **User Accounts** list.
2. Click on the **Delete User...** command button.

The following dialog box will display.

Figure 39-2 Delete User Account Confirmation Dialog Box

To delete the listed account, click on the **Yes** command button. The terminal account is removed from the database.

Note

You can not delete the built-in **Administrator** account.

40 Terminal Login

Terminal login is used as a terminal security measure. Only users with the correct **User Name** and **Password** will be able to log into the terminal. Figure 40-1 shows the **Terminal Login** dialog box.

Figure 40-1 Terminal Login Dialog Box

Logging Into the Terminal

To use the login feature:

1. Enable security. See “Security Properties” for more details.
2. Log out of the terminal by clicking on the **Shutdown** command button in the **Winterm Connection Manager**.
3. Click on the **Logout** radio button in the **Shutdown Window** dialog box.

The **Terminal Login** dialog box displays. In this dialog box:

1. Type in the correct **User Name** and **Password**.
2. Click on **OK** to log into the terminal again.

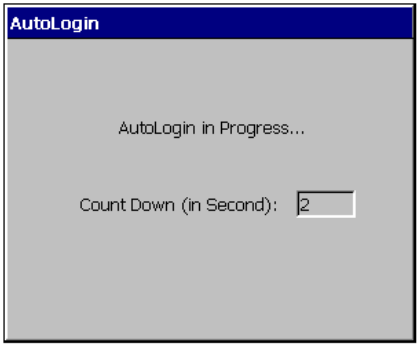
Autologin and Autoconnect

Autologin

The autologin feature is an automatic login function that does not use a dialog box as a prompt to log you into your terminal again. Whether you restart or log off, the **AutoLogin** dialog box displays, counts five seconds, then returns you to the **Winterm Connection Manager**.

This is a global function, so it does not matter what other functions you have enabled. Autologin is associated with an account and only one account can have autologin associated with it. It will always act in the same manner. The following figure shows the **AutoLogin** dialog box.

Figure 40-2 Autologin Dialog Box



AutoStart

AutoStart is a function that automatically connects you once you have logged into your terminal. Autostart can be added to any defined connection in any account. Each user can have different and/or multiple autostart connections. To use the function:

1. Enable security.
2. Select the account you want Autostart added to and click on the **Modify User** command button.

To enable this function:

1. Press **F2** to invoke the **Terminal Properties** dialog box.
2. Click on the **Security** tab to invoke the **Security** properties sheet.
3. Highlight the user's name in **User Accounts**.
4. Click on the **Autologin Enable** check box to enable the function.
5. Click on the **Single Button Connect** check box to enable the function.
6. Click on **OK**.
7. Click on the **Shutdown** command button in the **Winterm Connection Manager**.
8. Click on the **Logout** radio button to log out of the terminal.

The **Single Button Connect** dialog box appears.

Click on **Connect** to log into the terminal again. If the connection fails, the **Winterm Connection Manager** displays.

41 Failover

Failover is a connection feature that is enabled using the **Security** properties sheet. It forces the terminal to “ping” the intended device before making a connection to it. The function operates when **Failover Enable** is enabled on the **Security** properties sheet. Failover is global and wholly automatic to the terminal. It will work regardless of what connection you are trying to make, or what type of account you are logged in using. See “Security Properties” for more information about this function and how to invoke the properties sheet.

Note

Ping (Packet Internet Groper) is a network utility. It tests communication with nodes in a network by sending a packet to each selected node. Ping then waits to receive the echo response from that selected node.

Failover operates as follows:

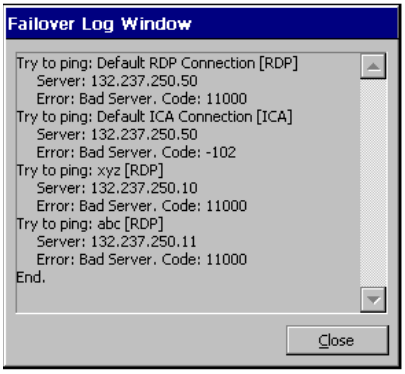
1. The terminal pings the intended connection, to determine whether or not it is available.
2. If pinging the intended device fails, the terminal pings each successive connection in the list.
3. For each connection:
   a. If ping is successful, the connection is made.
   b. If ping is not successful, the terminal pings the next connection.
   c. If the next connection is a serial connection, ping will stop. Ping will not work on a serial connection. Failover will not continue after encountering a serial connection, but will launch the serial connection if it is valid.

If failover pings all the connections in the list and a connection is not made, the function stops. The following figure displays.

Figure 41-1 Failover Message Box

Once failover is finished, the **Failover Log Window** dialog box displays. Figure 41-2 shows this dialog box.

Figure 41-2 Failover Log Window Dialog Box



The **Failover Log Window** is a list of all the connections that were pinged. The list reports both successful and unsuccessful pings.

Getting Help

42 Troubleshooting Your Terminal

This troubleshooting guide provides solutions to problems that may occur when making a terminal connection to a server. If you can not resolve an issue, call an authorized service center for assistance.

Table 42-1 lists some common problems and the solutions to those problems.

Table 42-1 Troubleshooting Your Terminal

Problem	Solution
When the terminal is powered-up, nothing happens.	Check the power cord. It should be plugged into an AC outlet and pushed all the way into the AC power connector on the terminal's back panel or power supply.
When the terminal is powered-up, the screen remains black. The power-on indicator light is orange.	Set the terminal to factory defaults. Factory defaults can be obtained by turning the terminal off, then on, while holding down the **G** key. When you see the terminal's splash screen, release the **G** key. The terminal's factory defaults are now restored.
When the terminal is turned on, the **Winterm Connection Manager** or the **WBT Setup Wizard** appears, but the mouse does not function.	Ensure that the mouse is plugged into the PS/2 mouse port on the terminal's back panel. **Note** See the installation section of this guide for the location of the PS/2 connector.
During the terminal's Power-On Self-Test, a message is displayed: **The terminal cannot detect a keyboard. The keyboard is bad, missing, or not connected properly**.	Ensure that a PS/2 keyboard with a PS/2 connector is firmly connected to the keyboard connector on the terminal's back panel.

Table 42-1 Troubleshooting Your Terminal, Continued

Problem	Solution
With a serial connection already established, the mouse cursor moves, but the keyboard input and mouse clicks do not work, and all the applications are frozen.	The serial connection to the server is broken. Turn the terminal off, then on. Log into the applications server again. If your terminal sustained a disconnect time-out, the original desktop prior to the disconnect will be reestablished (if the connection was defined to do so). If you can not log in to the terminal again: **1.** Verify that all cables between the terminal and the applications server are connected. **2.** Check to see if any modem connections between the terminal and server open. **3.** Ensure that the applications server's port that your session is connected to is working. **4.** Make sure you are using a shielded cable that meets RS-232 standards, and that you are operating within RS-232 standards.
The parallel printer connected to my terminal does not respond when I try to print to it.	**1.** Make sure that the printer is plugged into the proper outlet and turned on. **2.** Check the cable connection to the printer and to the terminal. **3.** Make sure that the printer is on line. **4.** Make sure that the printer is properly configured in the application server's Print Manager, and that the printer has not been paused. **Note** See "Terminal Port Pin Assignments" for parallel cable pin assignments.

Table 42-1 Troubleshooting Your Terminal, Continued

Problem	Solution
The serial printer connected to the terminal will not print.	**1.** Ensure that the power to the printer is turned on. **2.** Check the cable from the terminal to the printer for proper connection. **3.** Ensure that the printer is on line. **4.** Ensure that both the terminal's and the printer's serial ports are identically configured. Both must use the same handshaking protocol. **Note** See the printer's user's guide for information about printing from a serial connection. **5.** Ensure that the printer is configured properly in the applications server's print manager, and that the printer has not been paused. **Note** Refer to "Terminal Port Pin Assignments" for serial communications pin assignments. Pin assignments must be compatible with those on your printer's serial port.

Table 42-1 Troubleshooting Your Terminal, Continued

Problem	Solution
You are not able to make a network connection using the **Winterm Connections Manager**.	**1.** Press **F2** to invoke the **Terminal Properties** dialog box. **2.** Select the **Network** tab. **3.** Verify that the proper method for specifying the IP address is selected, DHCP or static IP. If a static IP address is selected, verify that the IP address, the subnet mask, and the gateway IP address are correct for the subnet that the terminal is connected to. **4.** Verify that a cable is connected to the network connector on the back panel of the terminal. **5.** Check the other end of the cable to ensure that it is connected to a hub or other network outlet. If DHCP addressing is selected, check with your network administrator to ensure that the DHCP server for your subnet is functioning properly.

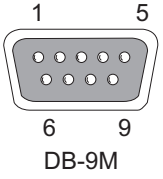
If any other error messages are displayed, or you have any other problems, you should restore the terminal to its default settings and reconfigure it. Factory defaults can be restored by disconnecting the power to the terminal, then reconnecting it while holding down the **G** key. Release the **G** key when the splash screen appears (for the 3320SE and 3720SE, also press and release the power management button, then release the **G** key). The terminal's defaults will be restored.

43 Terminal Port Pin Assignments

Serial and Parallel Ports

The following two figures show the pin assignments for the serial and parallel ports. These ports are located on the back panel of your terminal. See “Terminal Features” for information about the back panel.

Figure 43-1 Serial Port



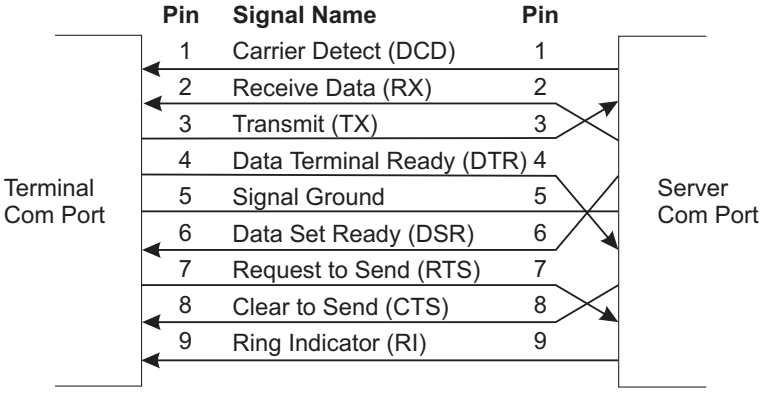
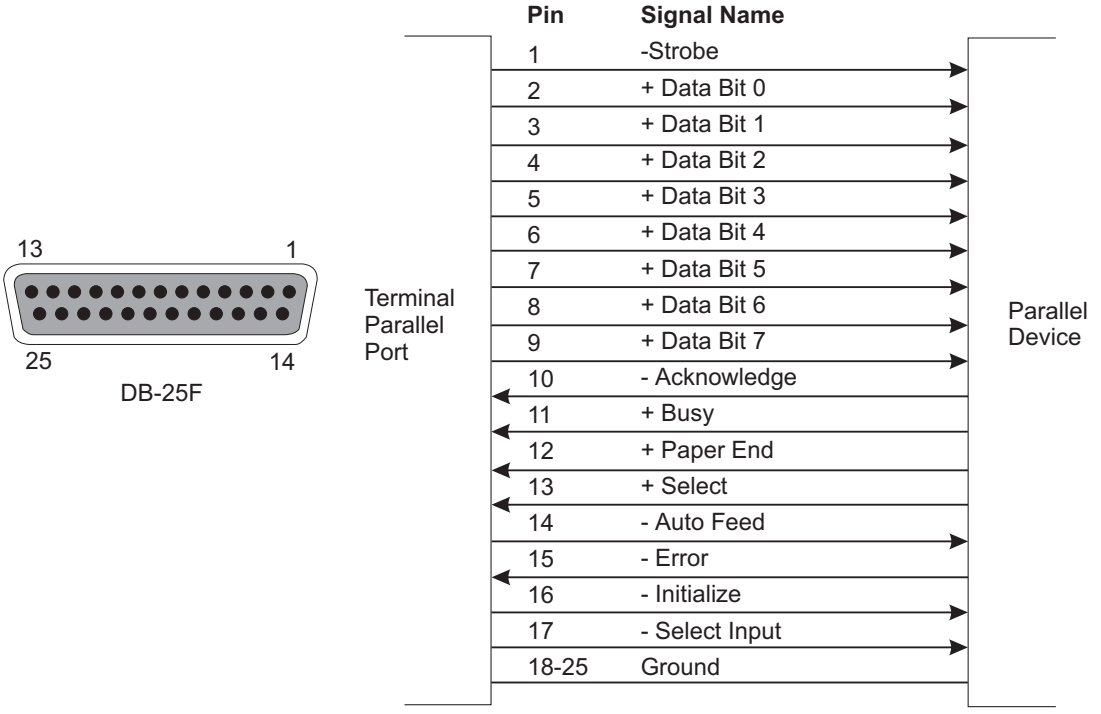


Figure 43-2 Parallel Port (EPP/SPP)



Note

The parallel pin assignments are Centronics-compatible.

44 Terminal Connector Pin Assignments

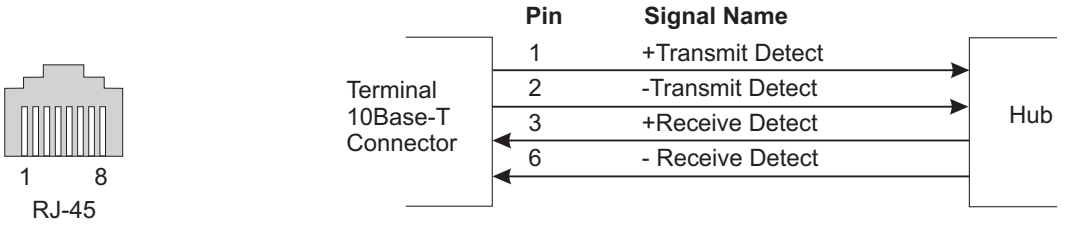
10Base-T and 100Base-T Connector

The following figure shows the pin assignments for the 10Base-T and 100Base-T connector. This connector is located on the back panel of your terminal. See “Terminal Features” for information about the back panel.

Note

It is recommended that you use Category 5 twisted-pair cable to connect your terminal to a hub.

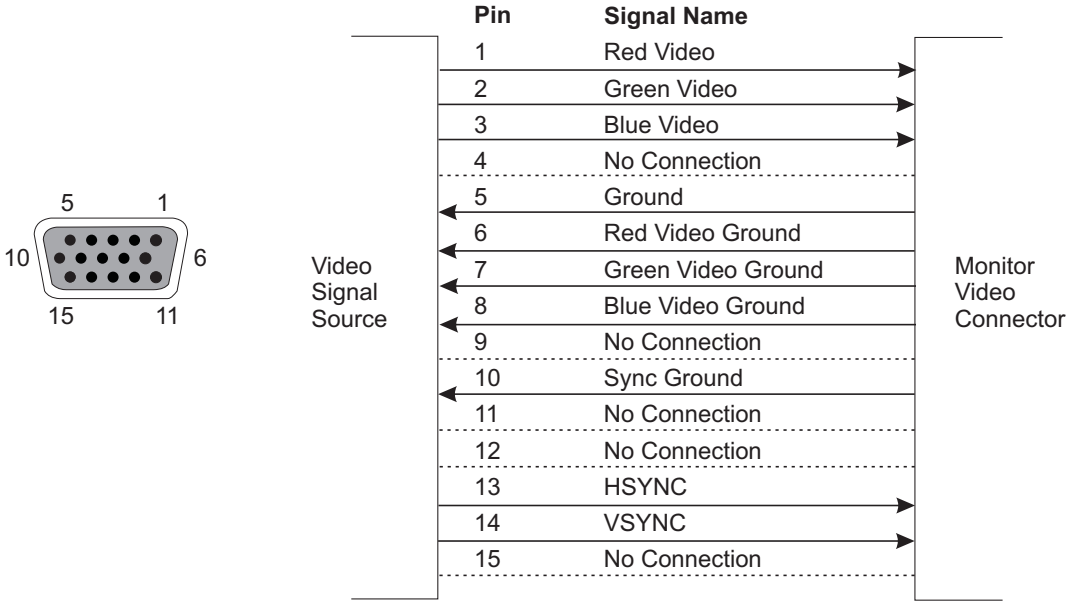
Figure 44-1 10Base-T and 100Base-T Connector



VGA Connector

The following figure lists the connector pin assignments for the terminal's VGA connector. This connector is located on the back panel of your terminal. See "Terminal Features" for information about the back panel.

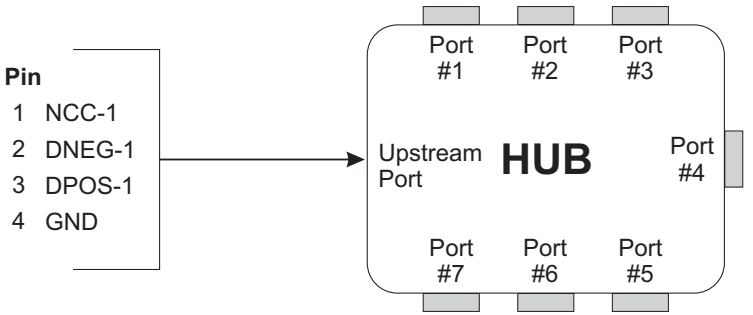
Figure 44-2 VGA Connector



USB Connector

The following figure lists the connector pin assignments for the terminal's USB connectors. These connectors are located on the back panel of your terminal. See "Terminal Features" for information about the back panel.

Figure 44-3 USB Connector



45 Null Modem Cable Pin Assignments

Table 45-1 outlines the pin assignments for a 9-pin serial port to a 25-pin serial port null modem cable.

Table 45-1 Null Modem Cable Pin Assignments

25 Pin	9 Pin
2 (transmit data)	2 (receive data)
3 (receive data)	3 (transmit data)
4 (request to send)	8 (clear to send)
5 (clear to send)	7 (request to send)
6, 8 (data set ready, carrier detect)	4 (data terminal ready)
7 (ground)	5 (ground)
20 (data terminal ready)	6, 1 (data set ready, carrier detect)

46 Modem AT Commands

The tables of this section list the modem AT command sets.

Table 46-1 AT Commands with No Lead-in Character

Command	Description
B, B0	ITU-T (CCITT) V.22 mode when at 1200 bps; V.21 at 300 bps
E1	Enable character echo to terminal in command mode
H, H0	Go on-hook (hang up)
N1	Connection speed set to highest possible DCE rate, Automode
Q, Q0	Modem returns result codes (Quiet disabled)
T	Tone dialing
V1	Full-word result codes (Verbose enabled)
W2	Negotiation progress codes disabled. Result code is DCE rate.
X4	Modem recognizes dialtone and busy, CONNECT nnnn result code enabled.
Y, Y0	Disable long-space disconnect
Z, Z0	Reset modem and recall User Profile 0

Table 46-2 AT Commands Beginning with “&”

Command	Description
&B1	Disable port rate adjust
&C1	Carrier detect follows data carrier
&D2	Hang up and go to command mode during On-to-Off DTR transition
&F, &F0	Recall factory settings as active configuration
&M0	Asynchronous mode
&N, &N0	Microcom QX/4232hs-compatible numeric result codes displayed
&Q5	Error Correction Mode V.42=> MNP=> Async
&T4	Grant request from remote for remote digital loopback test
&U1	Data compression enabled
&V	View active configuration, profiles (0,1), and numbers
&W, &W0	Save active configuration as User Profile 0
&Y, &Y0	Recall User Profile 0 on power-up

Table 46-3 AT Commands Beginning with "\"

Command	Description
\A3	Maximum MNP block size = 256 characters
\G, \G0	Disable port flow control DCE to DCE
\J,\J0	Disable port rate adjust
\L,\L0	MNP stream link
\N7	Set Auto-reliable mode (LAPM with fallback to MNP, then to normal)
\Q3	Bidirectional hardware flow control
\S	Display current Configuration, Long Version
\V, \V0	Disable /REL connect codes
\X,\X0	XON/XOFF pass-through disabled

Table 46-4 AT Commands Beginning with "%"

Command	Description
%C1	Data compression requested (V.42bis in LAPM, MNP5 in MNP)
%E, %E0	Disable Auto-retrain
%L	Report Line Signal Level in -dBm
%Q	Report Line Signal Quality
%R	Display all S registers
%V	Display firmware version

Glossary

The following glossary is a list of commonly used terms in this guide.

Term	Definition
10Base-T	One of several adaptations of the Ethernet (IEEE 802.3) standard for Local Area Networks (LANs). The 10Base-T standard (also called Twisted Pair Ethernet) uses a twisted-pair cable with a maximum length of 100 meters. The cable is thinner and more flexible than the coaxial cable used for the 10Base-2 or 10Base-5 standards.
100Base-T	A networking standard that supports data transfer rates up to 100 Mbps (100 megabits per second). 100Base-T is based on the older Ethernet standard. Because it is 10 times faster than Ethernet, it is often referred to as Fast Ethernet. Officially, the 100Base-T standard is IEEE 802.3u. Like Ethernet, 100Base-T is based on the CSMA/CD LAN access method. There are several different cabling schemes that can be used with 100Base-T, including: • 100Base-TX: two pairs of high-quality twisted-pair wires • 100Base-T4: four pairs of normal-quality twisted-pair wires • 100Base-FX: fiber optic cables
Bootstrap	A technique designed to cause a circuit, stage, or operation to bring itself into a desired state by means of its own action. Used as a machine routine, the bootstrap technique involves loading the first few instructions into storage; these instructions are then used to bring in the rest of the routine--usually by entering a few manual instructions or by using a special keystroke combination.
CHAP	Challenge-Handshake Authentication Protocol. An authentication scheme used by PPP servers to validate the identity of the originator of the connection upon connection or any time later.
CRT	Cathode-Ray Tube. A large vacuum tube with a viewing face in which an electron beam is focused and controlled to form characters and other images.

CTS	Clear to Send. Control signal sent from the DCE. Indicates that the DTE may send data.
DCE	Data Communications Equipment. Devices that provide the functions required to establish, maintain, and terminate a data transmission connection, e.g., a modem.
DHCP	Dynamic Host Configuration Protocol. A protocol for assigning dynamic IP addresses to devices on a network.
DNS	Domain Name Service. A general-purpose distributed, replicated, data query service chiefly used on the Internet for translating host names into Internet addresses.
Download	To transfer data from a processing unit to an attached device. For example, from a host to the terminal.
DSR	Data Set Ready. A hardware signal sent by a communications device to indicate readiness to send and receive data.
DTE	Data Terminal Equipment. A device that acts as the source and/or destination of data and which controls the communication channel. DTE includes terminals, computers, protocol converters, and multiplexors. DTE is usually connected via an RS-232 serial line to Data Communication Equipment (DCE), typically a modem. It is necessary to distinguish these two types of devices because their connectors must be wired differently if a straight-through cable (pin 1 to pin 1, pin 2 to pin 2 etc.) is to be used. DTE should have a male connector and should transmit on pin three and receive on pin two. It is a curious fact that many modems are actually DTE according to the original standard.
DTR	Data Terminal Ready. A hardware signal sent by a terminal to indicate readiness to send and receive data.
Ethernet	A baseband local area network specification developed jointly by Digital Equipment Corp., Xerox, and Intel to interconnect computer equipment using coaxial cable and transceivers. An Ethernet LAN provides ten million bits per second of capacity for high-speed terminal-to-computer communication or computer-to-computer file transfer.
FCC	Federal Communications Commission. The Government body that regulates all telecommunications originating in the U.S., including transmission over telephone lines.
Firmware	A computer program or software stored permanently in a PROM or ROM or semi-permanently in an EPROM.

Flow control	The procedure for regulating the flow of data between two devices, flow control prevents the loss of data when one device's receiving buffer has reached its capacity.
FTP	File Transfer Protocol. FTP is a program for transferring files in TCP/IP environments such as the Internet in which a user, acting as a client, downloads files from a remote server. FTP is a core component in every TCP/IP system and is implemented at the Applications layer with respect to the OSI protocol model. Its operation is based on the Telnet program and TCP. FTP is available on a wide variety of computer systems and serves as a common protocol for transferring files between systems.
GUI	Graphical User Interface (pronounced "gooey"). The use of pictures rather than just words to represent the input and output of a program. A program with a GUI runs under some windowing system (e.g. Microsoft Windows®). The program displays certain icons, buttons, and dialog boxes in its windows on the screen. The user mainly controls these objects by moving a pointer on the screen (typically controlled by a mouse) and selecting certain objects by pressing buttons on the mouse while the pointer is pointing at them.
Hz	Hertz. A unit of frequency equal to 1 cycle per second.
ICA	Independent Computing Architecture. A three-part server-based computing technology that separates an application's logic from its user interface and allows 100% application execution on the server.
Integrated CRT terminal	A terminal with a monitor and connections on the back for a keyboard and mouse.
Interface	A shared boundary defined by common physical interconnection characteristics, signal characteristics, and meaning of interchanged signals.
Internet	The Internet is a global web of interconnected computers and computer networks that are interconnected under a common set of network protocols that allows them to function as a single large network (see TCP/IP).
IP address	Internet Protocol Address. The 32-bit, 4-byte address assigned to machines using the Internet with TCP/IP. It is usually represented in dotted decimal notation. Provides interconnectivity among a variety of independent host systems.

ISDN	Integrated Services Digital Network. Evolving switched network standard that provides end-to-end digital voice and data communication services.
kb or kilobit	1,024 bits. Commonly referred to as 1 thousand bits.
kB or kilobyte	1,024 bytes. Commonly referred to as 1 thousand bytes.
kbps or kb/s	Kilobits per second. An abbreviation meaning thousands of bits per second.
Load Balancing Services	A management add-on to Citrix WinFrame and MetaFrame servers that allows administrators to group multiple WinFrame and/or MetaFrame servers into scalable “server farms” to deliver the best application performance and server resource utilization.
Mb or megabit	1,048,576 bits. Commonly referred to as 1 million bits.
Mbps or Mb/s	Megabits per second.
MetaFrame	The world’s first Server-based Computing software for Microsoft Windows NT 4.0 Server, Terminal Server Edition multi-user software (co-developed by Citrix).
MIB	Management Information Base. A database of managed objects accessed by network management protocols.
Modem	(Mo)dulator/(dem)odulator. Data communication equipment (DCE) devices that provide connections for computers into the public switched telephone network (PSTN). They convert (modulate) the digital signals of computers into analog signals that can be transmitted over telephone lines. A modem at the other end of the link then demodulates the signals back to digital bits.
Modular terminal	Desktop client that works with existing standard monitors.
Network	An interconnected group of nodes; a series of points, nodes, or stations connected by communications channels; the assembly of equipment through which connections are made between data stations.

Null modem	A cable, especially an RS-232 cable, for connecting serial ports on two computers directly, rather than via modems. Since, according to the specification, both computers should transmit on pin three of their RS-232 connectors and receive on pin two, a null modem cable needs to connect one computer's pin two to the other's pin three and vice versa. It also needs to have male connectors at both ends (again, according to the specification).
OSD	On Screen Display.
Packet	A group of bits (including data and call control signals) transmitted as an identifiable unit on a packet-switched network (PSN).
PAP	Password Authentication Protocol. An authentication scheme used by PPP servers to validate the identity of the originator of the connection. PAP applies a two-way handshaking procedure. After the link is established the originator sends an id-password pair to the server. If authentication succeeds the server sends back an acknowledgment; otherwise it either terminates the connection or gives the originator another chance.
Parallel port	An input/output port that allows the entire bit pattern for a single character to be sent at one time, usually used to connect a printer to a computer.
Parity check	The addition of non-information bits (specifically, parity bits) to make up a transmission block (a number of bits transmitted as unit) that ensures the total number of ones is always either even (even parity) or odd (odd parity). The parity check is used to detect transmission errors.
PCMCIA	Personal Computer Miniature Connector Interface Adapter. Hardware and software standards for credit-card-sized integrated circuit cards.
Ping	Packet InterNet Groper. A protocol used in the Transmission Control Protocol (TCP) environment to test whether a node or remote device is communicating on a local area network (LAN) or wide area network (WAN). The protocol provides for transporting an echo response from a host system, a client, or a gateway. It is a useful tool for locating problems on the network related to failed connections and software problems. One datagram is sent every second over the network and any response is displayed.

PPP	Point-to-Point Protocol. A serial communication protocol that operates over dialup or leased (dedicated) lines to provide connections into IP networks. It sets up and monitors router sessions and frames the data transmitted over the line.
Protocol	A set of formal rules describing how to transmit data, especially across a network. Low-level protocols define the electrical and physical standards to be observed, bit- and byte-ordering, and the transmission and error detection and correction of the bit stream. High level protocols deal with the data formatting, including the syntax of messages, the terminal to computer dialogue, character sets, sequencing of messages, etc.
RAM	Random-Access Memory. A mass store that provides fast access to any storage location by means of vertical and horizontal coordinates. Information is written in or read out using the same procedure. The memory cycle time is the same for any location addressed because there is no waiting or sorting time required, as there is when data items are stored sequentially.
RAS	Remote Access Services. A service provided by Windows NT that allows most of the services which would be available on a network to be accessed over a modem link. The service includes support for dialup and logon, and then presents the same network interface as the normal network drivers (albeit slightly slower). It is not necessary to run Windows NT on the client - there are client versions for other Windows operating systems.
RDP	Remote Desktop Protocol. A computing technology that separates an application’s logic from its user interface and allows 100% application execution on the server.
RS-232 cable	A cable for serial interfaces between the terminal and communications devices, such as a modem. The cable connects to the 25-pin serial port at the back of the terminal. Maximum cable length is 50 feet; maximum signaling rate is 20 Kbits/sec.
RTS/CTS flow control	Request to Send/Clear to Send flow control. Enables flow control on the local serial line. RTS is pin 4 of the 25-pin RS232/423 connector. CTS is pin 5 of the connector. RTS is an output of the terminal; CTS is an input to the terminal.

Serial port	A connector on a computer to which you can attach a serial line connected to peripherals that communicate using a serial (bit-stream) protocol. The most common type of serial port is a 25-pin D-type connector carrying RS-232 signals. Smaller connectors (e.g. 9-pin D-type) carrying a subset of RS-232 are often used on personal computers.
Server	The control computer on a local area network that controls software access to workstations, printers, and other parts of the network. Under Citrix's server-based computing model, the server performs all application execution functions.
SNMP	Simple Network Management Protocol. The industry standard protocol for managing TCP/IP networks. This protocol queries agents in managed devices and passes information to the management console.
Start bit	In asynchronous transmission, the first bit of any given character used to alert the receiving system to recognize the related incoming data.
Stop bit	In asynchronous transmission, the last bit of any given character, used to alert the receiving system that transmission of the character is complete.
SVGA	Super Video Graphics Adapter. A DRAM-based VGA adapter that supports both monochrome and color high-resolution graphics and provides extended resolutions of usually 1024 x 768.
TCP/IP	Transmission Control Protocol/Internet Protocol. The de facto standard Ethernet protocols incorporated into 4.2BSD UNIX. TCP/IP was developed by DARPA for Internet working and encompasses both network layer and transport layer protocols (in the OSI model). While TCP and IP specify two protocols at specific protocol layers, TCP/IP is often used to refer to the entire DOD protocol suite based upon these, including Telnet, FTP, UDP and RDP.
Telnet	Telnet is the login and terminal emulation program for Transmission Control Protocol/Internet Protocol (TCP/IP) networks such as the Internet. Its primary function is to allow users to log into remote host systems.
Terminal	A data terminal equipment DTE device. An input/output device made up minimally of a video display, keyboard, and sometimes a central processing unit, connected to a modem, for data communications.

Terminal emulator	A program that allows a computer to act like a particular brand or type of terminal. The computer thus appears as a terminal to the host computer and accepts the same escape sequences for functions such as cursor positioning and clearing the screen.
Thin-client	A low-cost computing device that works in a server-centric computing model. Thin clients typically do not require state-of-the-art, powerful processors and large amounts of RAM and ROM because they access applications from a central server or network. Thin clients can operate in a Server-based Computing environment.
Timeout	A time interval within which certain operations must occur; for example, the time allotment for the terminal to connect to a login host. After the timeout, the process can either be repeated or discontinued.
Total Cost of Ownership (TCO)	A model that helps IT professionals understand and manage the budgeted (direct) and unbudgeted (indirect) costs incurred for acquiring, maintaining and using an application or a computing system. TCO normally includes training, upgrades, and administration as well as the purchase price. Lowering TCO through single-point control is a key benefit of Server-based Computing.
Touch screen	A type of display screen that has a touch-sensitive transparent panel that can sense when someone is touching it, and is able to furnish a computer with precise information as to exactly where on the screen the touch occurred. Touch screens are used with software that uses the information provided by the screen touch to respond to user requests.
USB	Universal Serial Bus. An external peripheral interface standard for communication between computer and external peripherals over an inexpensive cable using biserial transmission. USB is standard on current (1999) Macintosh computers and is promoted by Intel as an option for the IBM PC where it is supported by later versions of Windows 95. USB works at 12 Mbps with specific consideration for low-cost peripherals. It supports up to 127 devices and both isochronous and asynchronous data transfers. USB cables can be up to 5 meters long and include built-in power distribution for low-power devices. It supports daisy chaining through a tiered star multidrop topology.

Virtual Port	Incoming Telnet and rlogin connections are not associated with a physical port. Instead, they are associated with a virtual port, port 0, which serves for the duration of the connection. Each virtual port is created with a default set of characteristics. The Define Port commands can be used to customize a virtual port during the Telnet/Rlogin session; however, these customizations can not be saved. The port reverts to the default set of characteristics when the session is closed.
WAN	Wide Area Network. A data-communications system covering a large geographic area, usually digital circuits having moderate to high data rates (e.g., 56 to 64 kbps up to 1.5 to 2 Mbps).
Windows Terminal Server	A network device that is attached to non-network serial devices, such as terminals, printers and modems, or to an Ethernet network.
Windows-based Terminal	A fixed-function thin-client device that connects to a Citrix WinFrame or MetaFrame server and Terminal Server to provide application access. The key differentiator of a WBT from other thin devices is that all application execution occurs on the server; there is no downloading or local processing of applications at the client.
WinFrame	A multi-user Windows application server, based on Windows NT, developed under license from Microsoft.
WINS	Windows Internet Naming Service. WINS allows machines to dynamically register their name-to-address mappings. WINS is also a flat name space without the concept of hierarchy and requires each WINS server to maintain a complete database of entries through replication.
Winterm	Trademarked logo for Windows-based terminals manufactured by Wyse Technology Inc.
X-ON/X-OFF	Transmitter On/Transmitter Off. Control characters used for flow control, instructing serial devices to start transmission (X-ON) and stop transmission (X-OFF).

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