

# Winterm™ 3000 Series Windows®-based Terminal Users Guide

Issue: 070601



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# **Winterm™ 3000 Series Windows®-based Terminal Users Guide**

**Issue: 070601**

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

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## FCC Statement

This equipment has been tested and found to comply with the limits for either Class A or Class B digital devices (refer to “Terminal Requirements Compliance”), pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.



### Caution

Changes or modifications not covered in this manual must be approved in writing by the manufacturer’s Regulatory Engineering department. Changes or modifications made without written approval may void the user’s authority to operate the equipment.

## Terminal Requirements Compliance

### FCC Compliance

Models 3200LE, 3230LE, 3320SE, 3350SE, 3360SE, 3630LE, 3730LE, and 3720SE terminals meet Class B requirements.

### IEC/EN Compliance

Models 3200LE, 3230LE, 3320SE, 3350SE, 3360SE, 3630LE, 3730LE, and 3720SE terminals meet Class B requirements.

## Canadian DOC Notices

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

### Class A

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 Règlement sur le brouillage radioélectrique édicté par le Ministère des Communications du Canada.

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## **IEC/EN Notice**

These products conform to the requirements of IEC950 and EN60950.

These products conform to requirements of EN55022 for Class A equipment or EN55022 for Class B equipment (refer to "Terminal Requirements Compliance").

## **Models 3320SE, 3350SE, and 3360SE Terminals**

For use with External Power Supply DVE Model DSA-0301-05 or certified equivalent model supplied by the manufacturer, rated minimum 5V/4A.

## **Models 3200LE and 3230LE Terminals**

For use with External Power Supply DVE Model DSA-0151D-12 or certified equivalent model supplied by the manufacturer, rated minimum 12V/1.5A.

## **Model 3630LE Terminals**

For use with External Power Supply Ilan Model F1650K or certified equivalent model supplied by the manufacturer, rated minimum 12 V/3.5A.

## **Noise Suppressor**

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

## **Cable Notice**

The use of shielded I/O cables is required when connecting this equipment to any and all optional peripheral or host devices. Failure to do so may cause interference and violate FCC and international regulations for electromagnetic interference.



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# About the Users Guide

The *Winterm 3000 Series Windows-based Terminal Users Guide* contains the information you will need to use and troubleshoot a WBT (Windows-based Terminal). This guide is written primarily for desktop users and covers the Models 3200LE, 3230LE, 3320SE, 3350SE, 3360SE, 3630LE, 3720SE, and 3730LE.

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## Guide Overview

The users guide consists of the following chapters:

- Introducing the 3000 Series Windows-based Terminals
- General Terminal Information
- Display Configuration
- Integrated Terminal Monitor Adjustments
- Keyboard and Mouse Configuration
- Managing Connections
- Browser Configuration
- Multiple Sessions
- Getting Help

This guide contains information about:

- WBT features and management
- The user interface



### Note

The on-line version of this guide features a link to the Wyse home page at [www.wyse.com](http://www.wyse.com).



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# Guide Conventions

## Text Format

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

**Table 1   Text Format**

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

---

## User Interface Menu Control

Table 2 describes the command buttons used for user interface menu control on a 3000 Series WBT.

**Table 2 User Interface Menu Control**

Command Button	Function
<b>X</b>	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.
<b>OK</b>	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.
<b>Cancel</b>	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.
<b>Apply</b>	Found in dialog boxes and on properties sheets. Click on this command button to save changes without quitting a dialog box or properties sheet. This command button is sometimes not activated.
<b>Next</b> or <b>Accept</b>	Found in wizards. Click on these command buttons to display the next dialog box in the sequence.
<b>Back</b>	Found in wizards. Click on this command button to return to the previous dialog box.
<b>Finish</b>	Found in wizards. Click on this command button to finish the wizard.

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# 1

## Introducing the 3000 Series Windows-based Terminals

Winterm 3000 Series WBTs (Windows-based Terminals) are graphical display terminals that are designed to connect to Windows 2000 or Windows NT TSE (Terminal Server Edition) servers via either the Microsoft RDP (Remote Desktop Protocol) or the Citrix ICA (Independent Computing Architecture) protocol. Winterm 3000 Series WBTs are also capable of connecting to legacy servers using “text-based terminal” emulation software that resides on the WBT. Please consult the *Terminal Emulation User’s Guide*, provided with your terminal for information on configuring emulations, and “Managing Connections” for information on managing the sessions.

RDP is a Microsoft-developed protocol based on, and is an extension of, the ITU (International Telecommunications Union) T.120 protocol standards and is provided with the Windows 2000 and Windows NT TSE operating systems. ICA is a protocol developed by Citrix Systems and is part of the MetaFrame software package, which is available in versions for either Windows 2000 or Windows NT TSE. Both protocols are multi-channel capable and allow for separate virtual channels that carry highly encrypted presentation data, serial device communications, licensing information, and other data (including keyboard and mouse activity, etc.). In addition, ICA has other extended capabilities such as sound and printer support.

Both protocols allow an application’s user interface to execute on a Windows-based terminal while the application’s logic executes on the server.

---

### Models Summary

All Winterm 3000 Series terminals with at least 8 MB of RAM are supported by version 3.5.1 of the terminal software.

Currently available Wyse Winterm 3000 Series terminals are:

- Modular type, Models 3200LE, 3230LE, 3320SE, 3350SE, and 3360SE
- Integrated-display type, Models 3630LE, 3720SE, and 3730LE



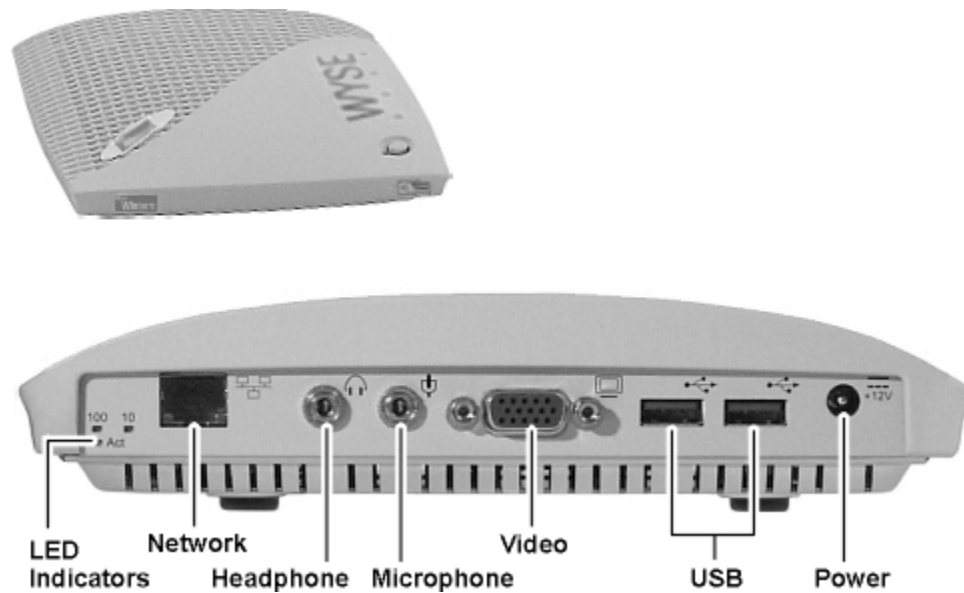
#### Note

Monitors are not provided with modular-type Wyse Winterms. Monitors are integral to Models 3630LE, 3720SE and 3730LE. For modular-type terminals, your system administrator must provide a monitor and a video interface cable.

## Model 3200LE Terminal

The Model 3200LE terminal is the entry-level, modular-type 3000 Series terminal. The connectors for power input, the network, a monitor, a USB keyboard (with mouse), USB peripherals, headphones, and a microphone are on the back of the terminal. The power push-button switch is on the top of the unit. The following figure shows a Model 3200LE terminal and its connectors.

**Figure 1-1 Model 3200LE Terminal and Connectors**



The following items are provided with Model 3200LE terminals:

- Power supply
- Power cord (with domestic versions only)
- Keyboard (with domestic versions only)
- Mouse
- Installation and user information (also available at [www.wyse.com](http://www.wyse.com))



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**Note**

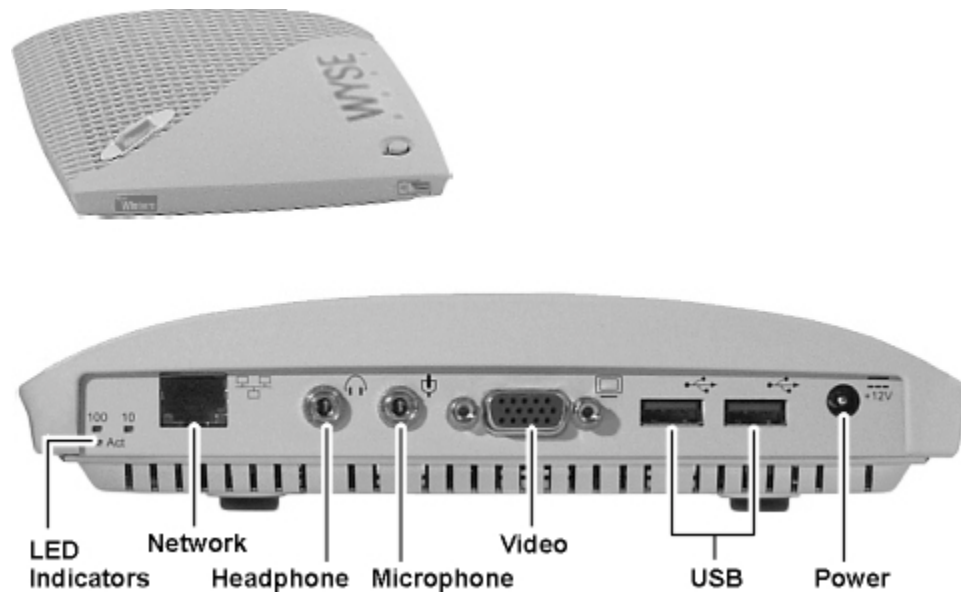
An optional mounting kit is also available. For more information call 1-800-800-WYSE (9973).



## Model 3230LE Terminal

The Model 3230LE terminal is the lower mid-level, modular-type 3000 Series terminal. The connectors for power input, the network, a monitor, a USB keyboard (with mouse), USB peripherals, headphones, and a microphone are on the back of the terminal. The power push-button switch is on the top of the unit. The following figure shows a Model 3230LE terminal and its connectors.

**Figure 1-2 Model 3230LE Terminal and Connectors**



The following items are provided with Model 3230LE terminals:

- Power supply
- Power cord (with domestic versions only)
- Keyboard (with domestic versions only)
- Mouse
- Installation and user information (also available at [www.wyse.com](http://www.wyse.com))



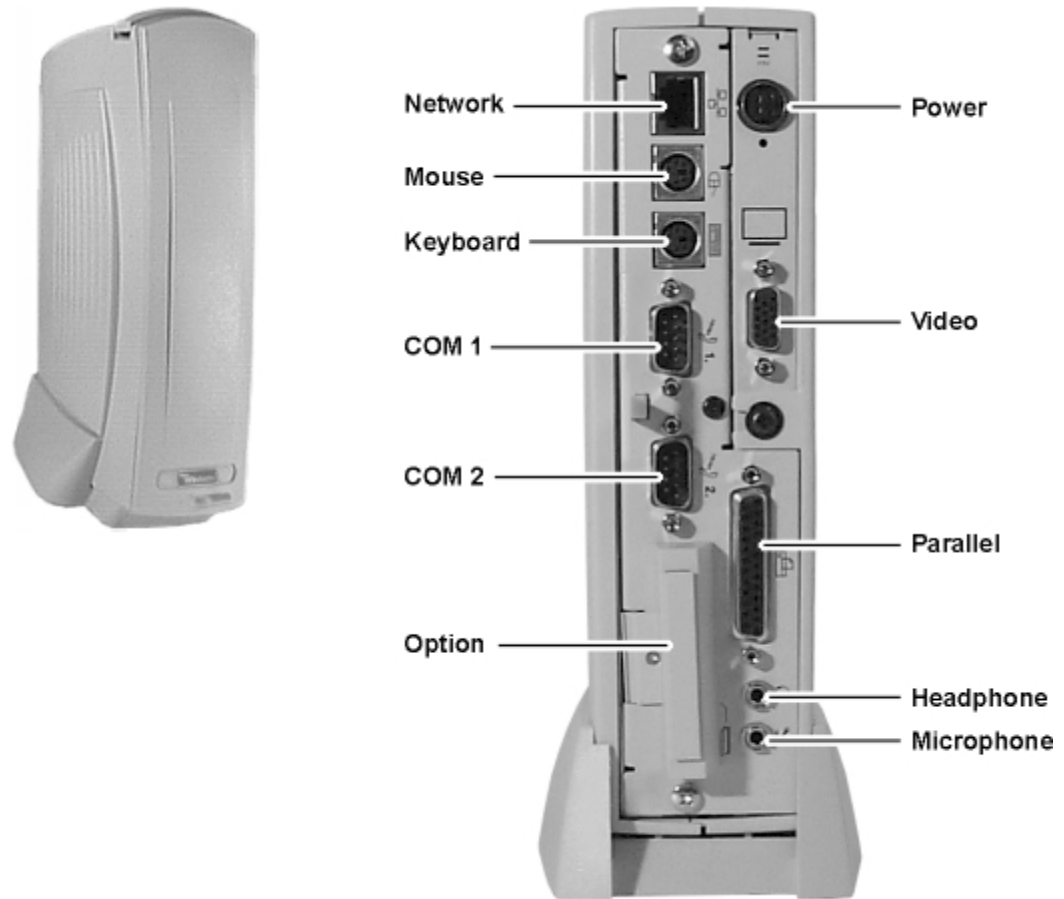
### Note

An optional mounting kit is also available. For more information call 1-800-800-WYSE (9973).

## Model 3320SE Terminal

The Model 3320SE terminal is a standard modular-type 3000 Series terminal. The connectors for power input, a monitor, a keyboard, a mouse, the network, serial/parallel peripherals, headphones, and a microphone are on the back of the unit. The power push-button switch is on the top of the unit. An option slot provides a method of connecting supported peripheral devices. The following figure shows a Model 3320SE terminal and its connectors.

**Figure 1-3 Model 3320SE Terminal and Connectors**



The following items are provided with Model 3320SE terminals:

- Power supply
- Power cord (with domestic versions only)
- Desktop mounting stand
- Keyboard (with domestic versions only) and mouse
- Installation and user information (also available at [www.wyse.com](http://www.wyse.com))



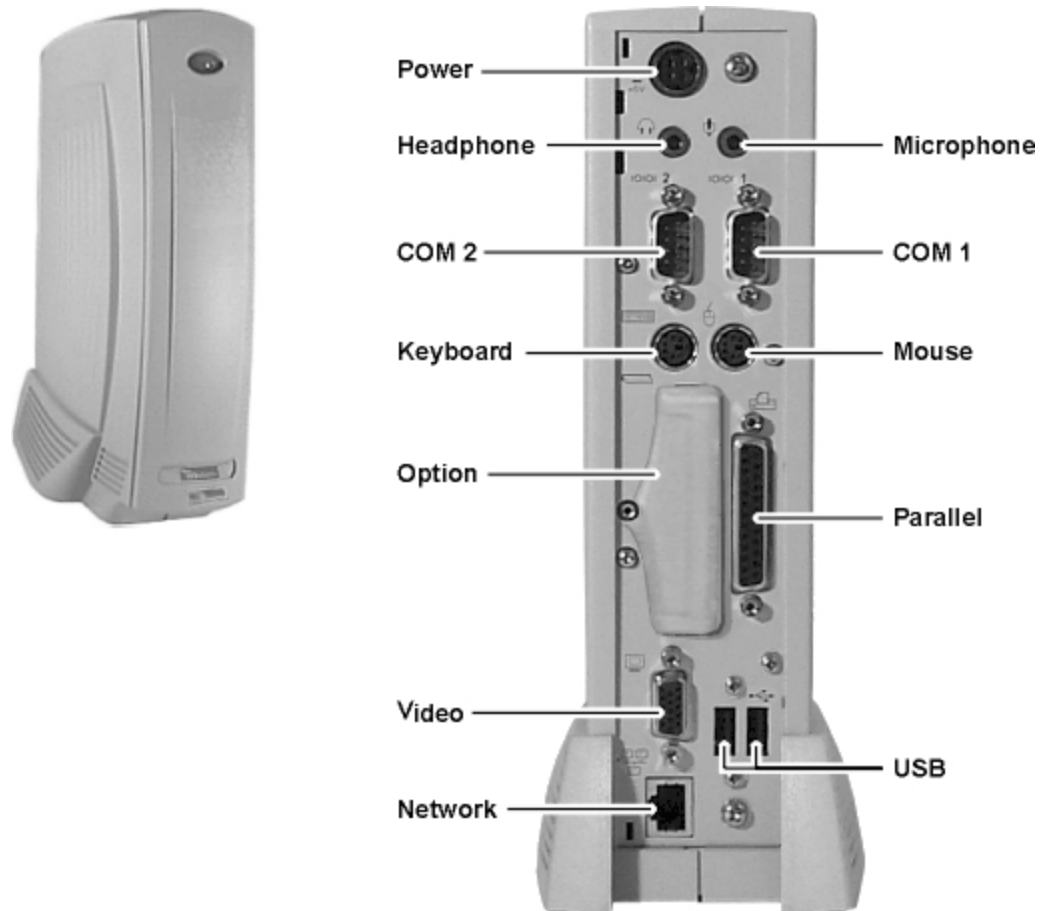
**Note**

Optional wall-mount and cable shroud kits (P/N 920190-01 and P/N 920198-01) are available. For more information call 1-800-800-WYSE (9973).

## Model 3350SE Terminal

The Model 3350SE terminal is a medium-performance, standard modular-type 3000 Series terminal. The connectors for power input, a monitor, a keyboard, a mouse, the network, serial/parallel and USB peripherals, headphones, and a microphone are on the back of the unit. An option slot provides a method of connecting supported peripheral devices. The power push-button switch is on the front of the unit. The following figure shows a Model 3350SE terminal and its connectors.

**Figure 1-4 Model 3350SE Terminal and Connectors**



The following items are provided with Model 3350SE terminals:

- Power supply
- Power cord (with domestic versions only)
- Desktop mounting stand (integral)
- Keyboard (with domestic versions only) and mouse
- Installation and user information (also available at [www.wyse.com](http://www.wyse.com))



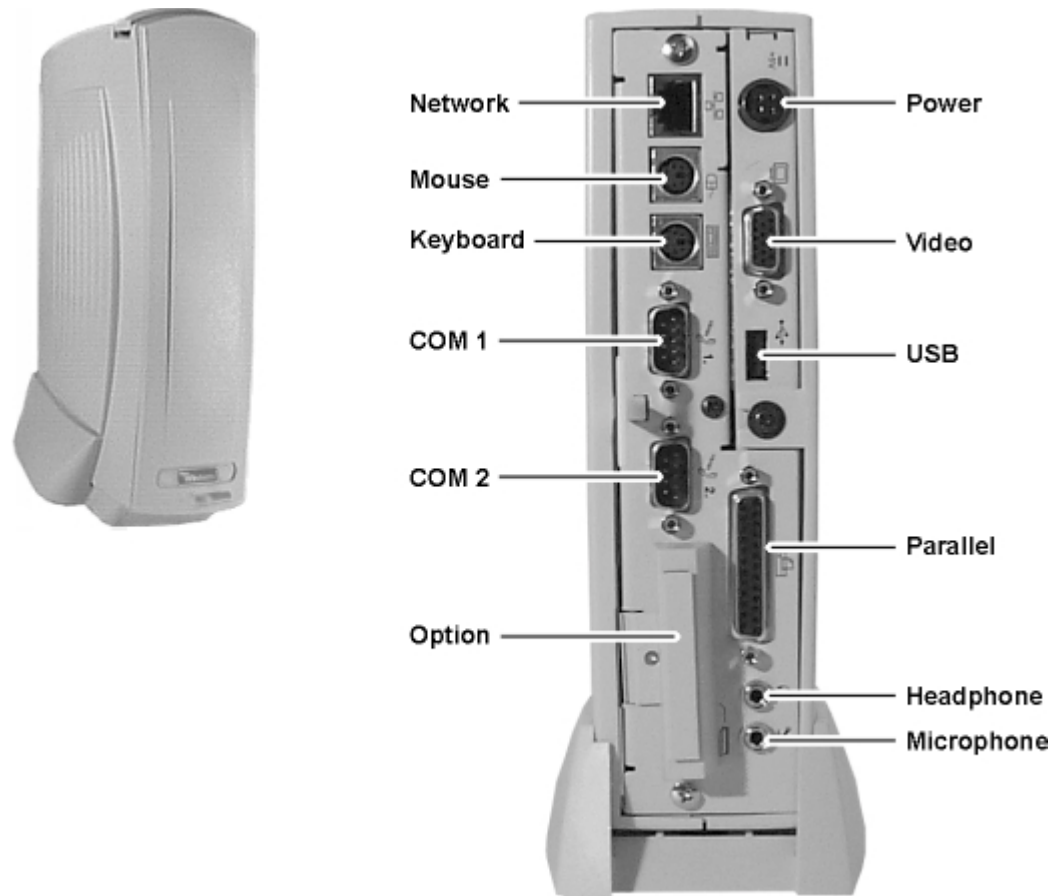
**Note**

An optional wall-mount kit (P/N 920189-01) is available. For more information call 1-800-800-WYSE (9973).

## Model 3360SE Terminal

The Model 3360SE terminal is a high-performance, standard modular-type 3000 Series terminal. The connectors for power input, a monitor, a keyboard, a mouse, the network, serial/parallel and USB peripherals, headphones, and a microphone are on the back of the unit. An option slot provides a method of connecting supported peripheral devices. The power push-button switch is on the top of the unit. The following figure shows a Model 3360SE terminal and its connectors.

**Figure 1-5 Model 3360SE Terminal and Connectors**



The following items are provided with Model 3360SE terminals:

- Power supply
- Power cord (with domestic versions only)
- Desktop mounting stand
- Keyboard (with domestic versions only) and mouse
- Installation and user information (also available at [www.wyse.com](http://www.wyse.com))



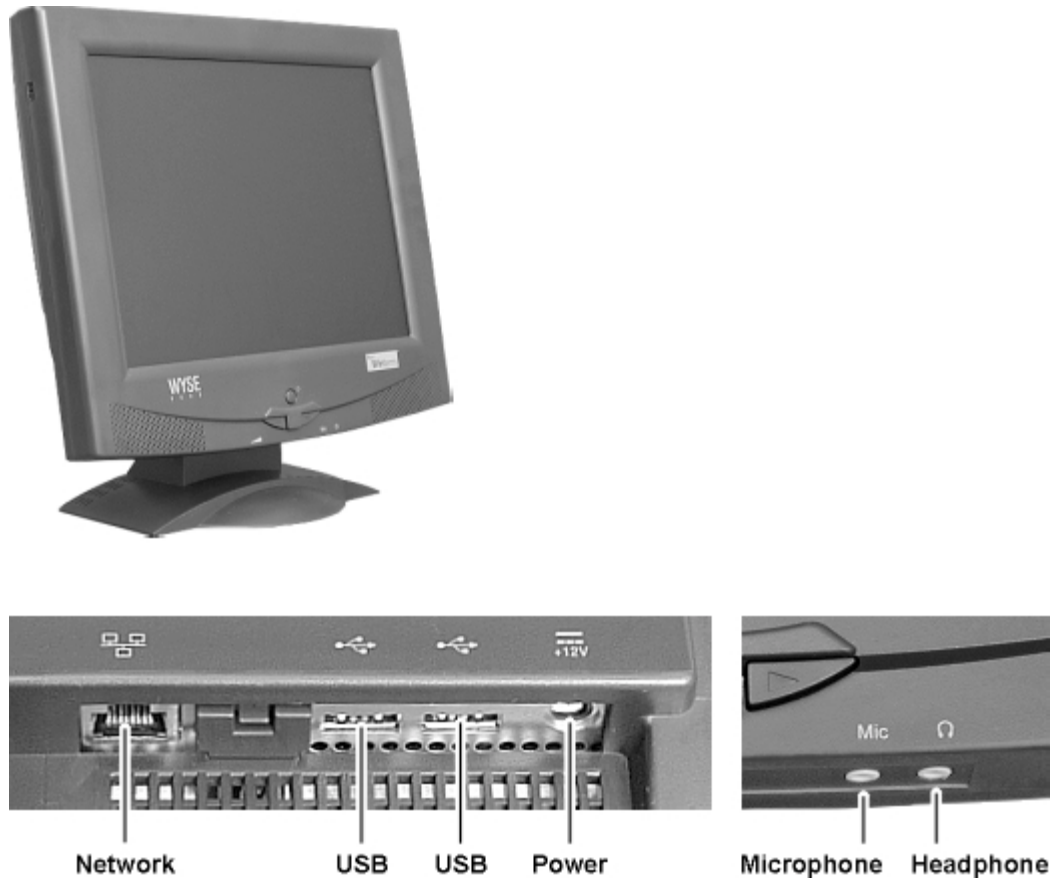
### Note

Optional wall-mount and cable shroud kits (P/N 920190-01 and P/N 920198-01) are available. For more information call 1-800-800-WYSE (9973).

## Model 3630LE Terminal

The Model 3630LE terminal is a medium-performance, integrated-type 3000 Series terminal with a 15" color flat-panel display. The connectors for power, a USB keyboard (with mouse), the network, and USB peripherals are on the back of the unit. The power push-button switch, the monitor controls, and connectors for a microphone and headphones are on the front of the unit. The following figure shows a Model 3630LE terminal and its connectors.

**Figure 1-6 Model 3630LE Terminal and Connectors**



The following items are provided with Model 3630LE terminals:

- Power supply
- Power cord (with domestic versions only)
- Keyboard (with domestic versions only) and mouse
- Installation and user information (also available at [www.wyse.com](http://www.wyse.com))

## Model 3720SE Terminal

Model 3720SE is an integrated type 3000 Series terminal with a 15" color CRT display. The connectors for AC power input, the keyboard, a mouse, the network, serial/parallel peripherals, headphones, and a microphone are on the back of the unit. An option slot provides a method of connecting supported peripheral devices. The power push-button switch and the monitor controls are on the front of the unit. The following figure shows a Model 3720SE terminal and its connectors.

**Figure 1-7 Model 3720SE Terminal and Connectors**



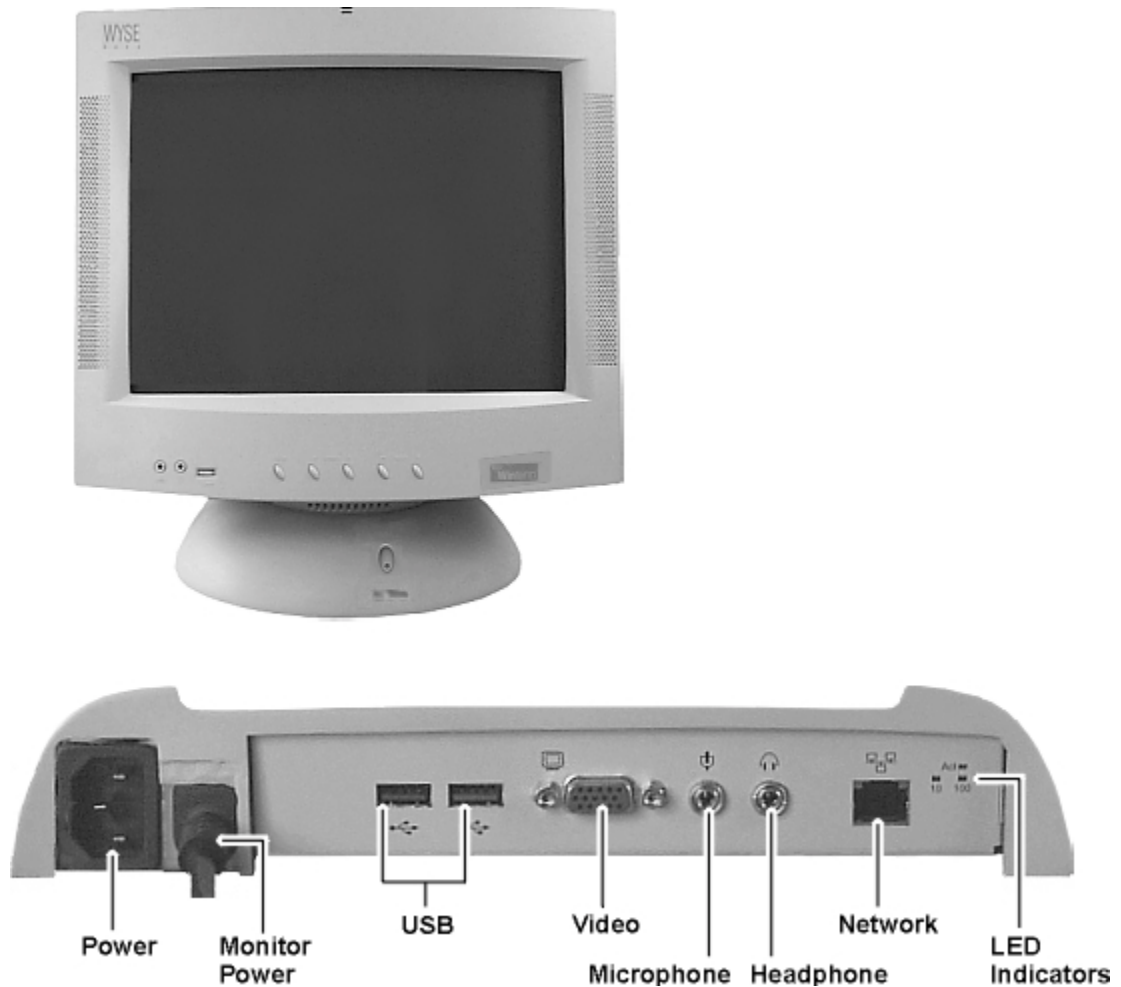
The following items are provided with Model 3720SE terminals:

- Power cord
- Keyboard (with domestic versions only) and mouse
- Installation and user information (also available at [www.wyse.com](http://www.wyse.com))

## Model 3730LE Terminal

The Model 3730LE is an integrated type 3000 Series terminal with a 17" color CRT display. The connectors for a USB keyboard (with mouse), USB peripherals, the network, and connectors for the base and monitor subunit power, monitor video, and audio cables are on the back of the terminal. The audio jacks and the monitor controls are on the front of the monitor panel and the power push-button switch is on the base. The following figure shows a Model 3730LE integrated terminal and its connectors.

**Figure 1-8 Model 3730LE Terminal and Connectors**



The following items are provided with Model 3730LE terminals:

- Power cord (with domestic versions only)
- Keyboard (with domestic versions only)
- Mouse
- Installation and user information (also available at [www.wyse.com](http://www.wyse.com))

## 3000 Series Terminal Features

The following table lists the features of each WBT model.

**Table 1-1 Terminal Features**

Feature	3200LE	3230LE	3320SE	3350SE	3360SE	3630LE	3720SE	3730LE
Windows 3.1, Windows 95, Windows 98, and Windows NT applications via Windows 2000	✓	✓	✓	✓	✓	✓	✓	✓
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			✓	✓	✓			
Single USB port					✓			
Dual USB ports	✓	✓		✓		✓	✓	✓
Optional touch screen support		✓			✓			✓
Support for monochrome or color monitor		✓			✓			
Desktop (standard) or wall-mount (optional kit)		✓			✓			
Support for PCMCIA modem					✓			
Print Spooling		✓			✓	✓		✓
Secure RDP & ICA		✓			✓	✓		✓
Media Player		✓			✓	✓		✓
16-bit color support		✓			✓	✓		✓



Table 1-1 Terminal Features, Continued

Feature	3200LE	3230LE	3320SE	3350SE	3360SE	3630LE	3720SE	3730LE
PCMCIA support for CISCO Aironet™ Wireless Ethernet Card					✓			
Network Time Services		✓			✓	✓		✓
Microsoft Internet Explorer 4 support		✓			✓	✓		✓

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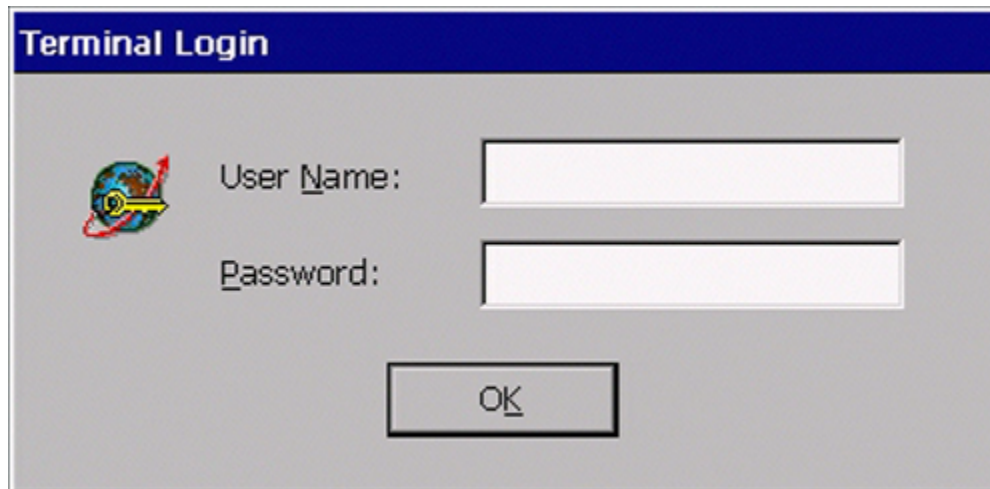
# 2

## General Terminal Information

### Logging On

If security is enabled (an administrative function), when you turn on your WBT the Terminal Login dialog box shown below (see Figure 2-1) displays (unless your system administrator has configured your terminal for automatic login with your User Name and Password). Type in your user name and password, then click the OK button.

**Figure 2-1 Terminal Login Dialog Box**

The image shows a 'Terminal Login' dialog box with a blue title bar. On the left is a globe icon with a red arrow and a key. To the right of the icon are two text input fields. The first is labeled 'User Name:' and the second is labeled 'Password:'. Below these fields is an 'OK' button.

If security has not been enabled or your terminal has been configured for automatic login, the **Winterm Connection Manager** (Figure 2-5) is the first screen you will see after your terminal boots. From the connection manager press **F2** to display the **Terminal Properties** dialog box.

Two of the properties sheets in this dialog box provide general information about your WBT. They are the **General** properties sheet and the **SysInfo** properties sheet. The following paragraphs discuss these properties sheets.

## Access Levels

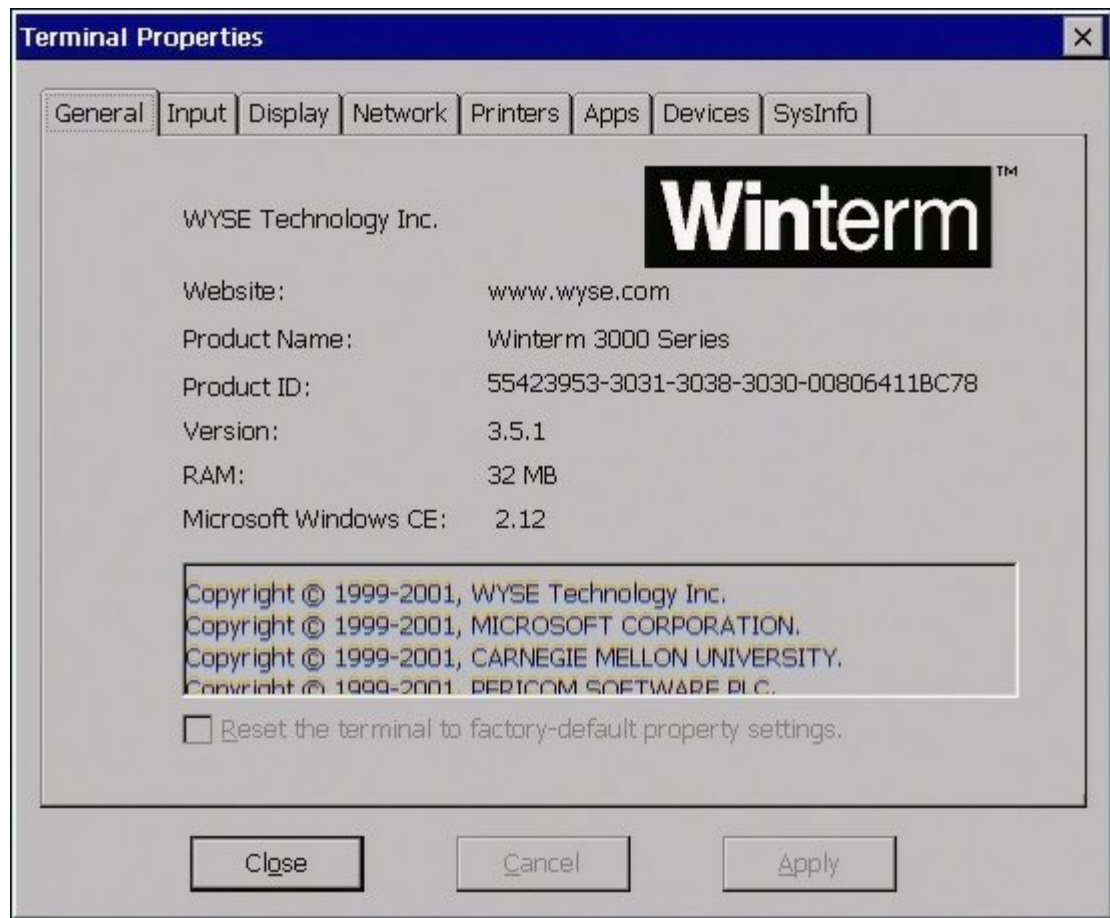
The terminal allows three different levels of access: Administrator, User, and Guest. These levels are assigned to specific User Names by your System Administrator.

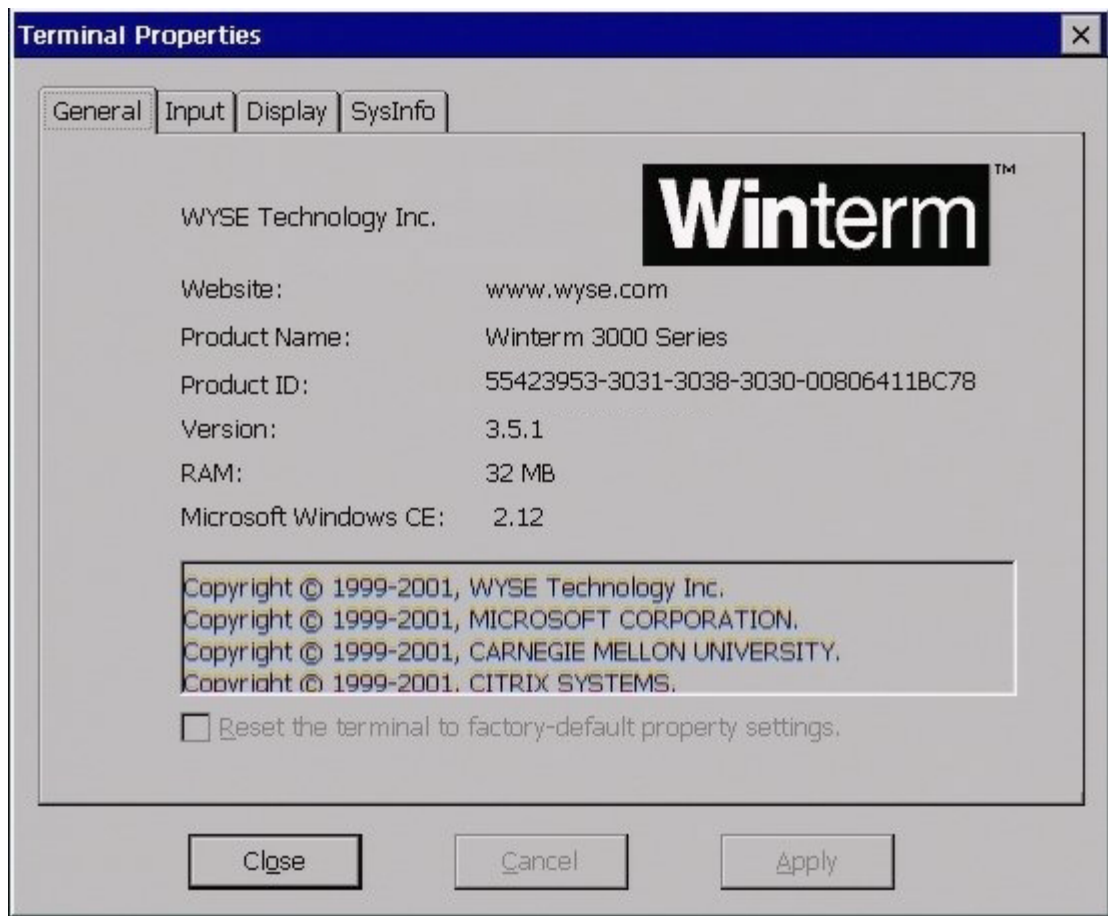
Each access level grants certain rights to the user according to the level specified, Administrator having total access and control over all functions of the terminal, User having control over all except the Security functions, and Guest having minimal rights.

The following figures show the Terminal Properties available to each kind of user.

**Figure 2-2 Administrator-Level Terminal Properties Screen**



**Figure 2-3 User-Level Terminal Properties Screen**

**Figure 2-4 Guest-Level Terminal Properties Screen**

Additionally, the **Configure** tab in the **Winterm Connection Manager** window is only available to Administrator-level users. Information regarding the use of Administrator-level functions is available in the *Winterm 3000 Series Windows-based Terminal Administrators Guide*.

**Note**

If you turn on your WBT and the **Setup Wizard** displays, contact your system administrator. If you are a system administrator, see the administrators guide.

**Note**

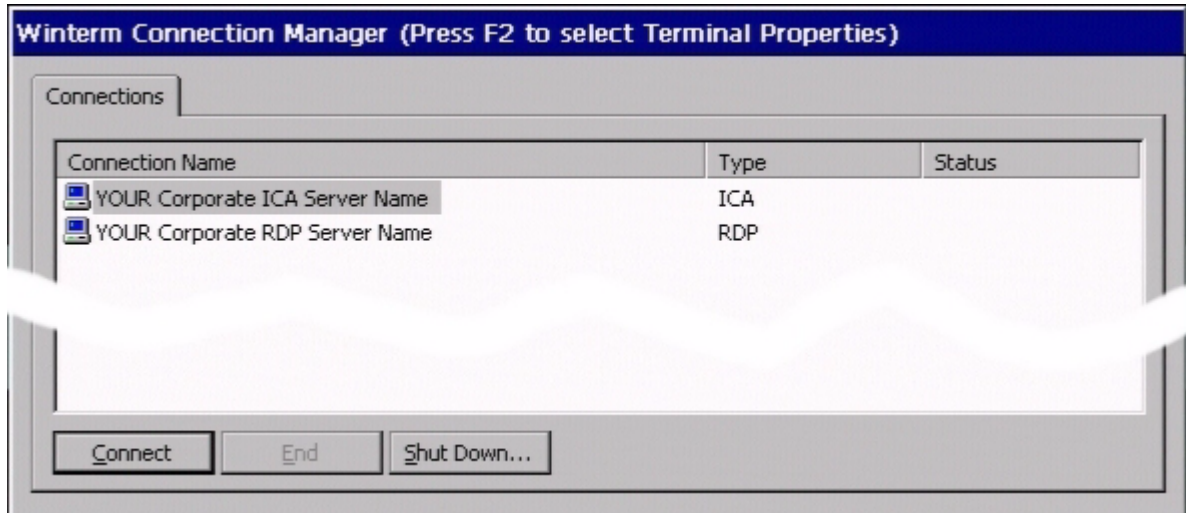
See "Managing Connections" in this guide for more information about the **Winterm Connection Manager**.

**Note**

For more information about the **Terminal Properties** dialog box, see your system administrator. If you are a system administrator, see the administrators guide.

The connection manager allows you to connect to one or more servers. See Chapters 6 and 8 for more information about connections and sessions.

**Figure 2-5 Winterm Connection Manager**



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## Version and Copyright Information

The **General** properties sheet includes information about the current software on your terminal and copyright statements. See Figure 2-6. The **General** properties sheet is the default for the dialog box.

**Figure 2-6 General Properties Sheet**

Read the information on this sheet. Click on **Close** to return to the **Winterm Connection Manager**. By default **Cancel** and **Apply** are deactivated.

**Note**

The amount of RAM shown on this properties sheet depends on the model of terminal in use.

**Caution**

There is one function on the **General** properties sheet, **Reset the Terminal to Factory Default Property Settings**. Contact your system administrator before using this function.



## System Information

The **SysInfo** properties sheet contains terminal and network information. See Figure 2-7.

Click on the **SysInfo** tab to invoke this properties sheet. Read the information on this sheet. Click on **Cancel** or **Apply** to return to the **Winterm Connection Manager**.

**Figure 2-7 SysInfo Properties Sheet**

The screenshot shows a Windows-style dialog box titled "Terminal Properties" with a close button (X) in the top right corner. Below the title bar is a tabbed interface with tabs for "General", "Input", "Display", "Network", "Printers", "Apps", "Devices", and "SysInfo". The "SysInfo" tab is currently selected. The main area of the dialog is divided into several sections by thin lines. The "Network Card" section contains a "MAC Address:" field with the value "00:80:64:11:BC:78". The "Hardware Number" section contains "Serial Number:" (59BU10800038) and "Revision:" (N/A). The "TCP/IP Settings" section contains "IP Address:" (132.237.6.187), "Subnet Mask:" (255.255.255.0), "Gateway:" (132.237.6.1), "DNS:" (Enable), "Default Domain:", "DNS Servers:" (132.237.2.26, 132.237.2.174), "WINS:" (Enable), and "WINS Servers:" (132.237.1.251). The "DHCP Settings" section contains "DHCP:" (132.237.1.251), "Lease:" (12h), and "Elapsed:" (31 min). The "Flash Memory" section contains "Device 1:" (16 MB). At the bottom of the dialog are three buttons: "Close", "Cancel", and "Apply".

Terminal Properties	
General Input Display Network Printers Apps Devices SysInfo	
<b>Network Card</b>	
MAC Address:	00:80:64:11:BC:78
<b>Hardware Number</b>	
Serial Number:	59BU10800038
Revision:	N/A
<b>TCP/IP Settings</b>	
IP Address:	132.237.6.187
Subnet Mask:	255.255.255.0
Gateway:	132.237.6.1
DNS:	Enable
Default Domain:	
DNS Servers:	132.237.2.26, 132.237.2.174
WINS:	Enable
WINS Servers:	132.237.1.251
<b>DHCP Settings</b>	
DHCP:	132.237.1.251
Lease:	12h
Elapsed:	31 min
<b>Flash Memory</b>	
Device 1:	16 MB
Close Cancel Apply	

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# 3

## Display Configuration

From the **Winterm Connection Manager** (Figure 2-5) press **F2** on your keyboard. The **Terminal Properties** dialog box displays (see Figure 3-1). The **Display** properties sheet available in this dialog box allows you to configure display screen resolution and turn on the energy savers functions.

To invoke this properties sheet click on the **Display** tab in the **Terminal Properties** dialog box.

## Display Screen Resolution

This paragraph discusses display screen resolution referring to Figure 3-1 and using Table 3-1.

**Figure 3-1 Display Properties Sheet**

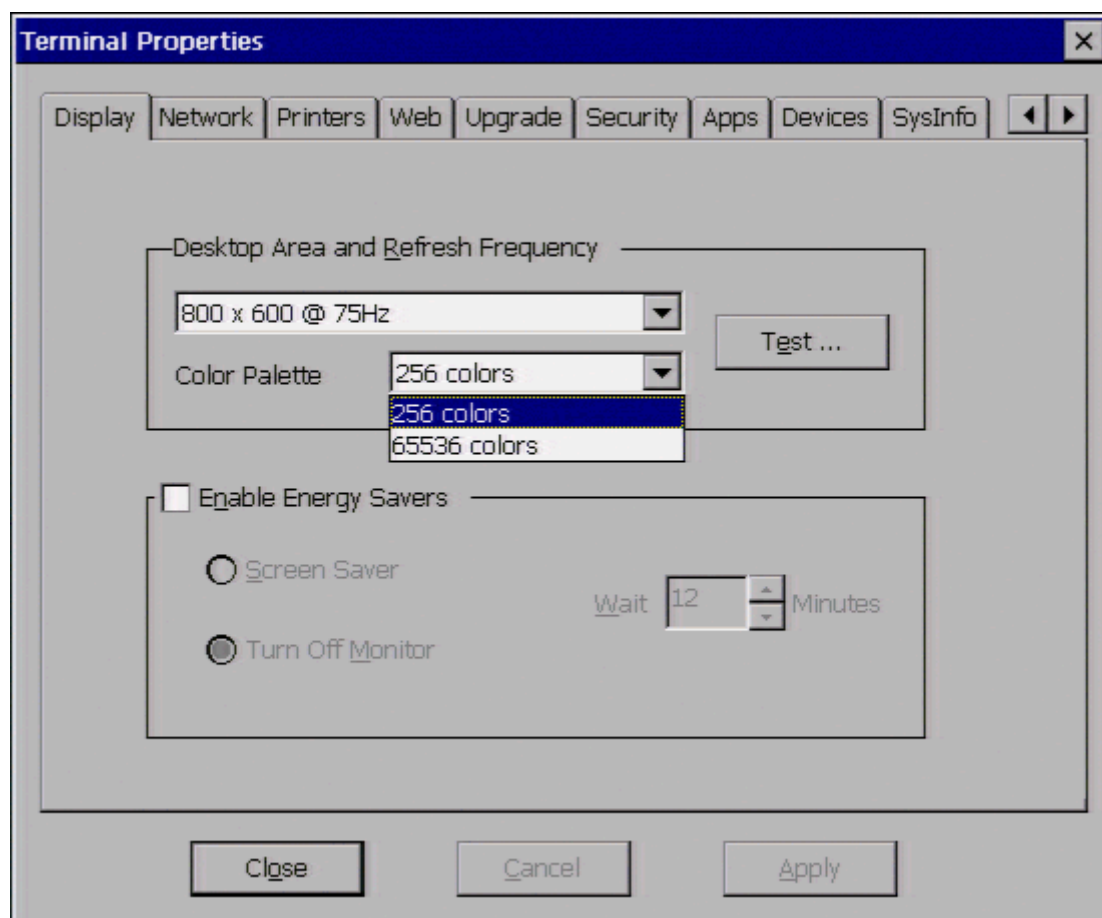
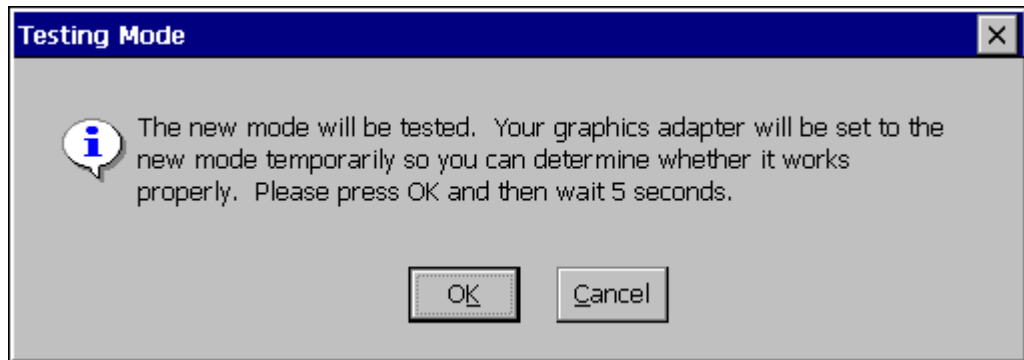




Table 3-1 Display Screen Resolution

Display Properties Sheet Area Called...	To Use...
<b>Desktop Area and Refresh Frequency</b>	<p>The scrolling list box displays the current terminal display screen resolution. Scroll and click on a selection to change the resolution. The default is <b>640 x 480 @ 60 Hz</b>.</p> <p><b>Test</b> Click on this command button to test the setting selected in the above scrolling list box. The following dialog box displays:</p>



Follow the instructions in the dialog box. If you click on **OK**, a test pattern will display. If you click on **Cancel**, the test is cancelled.

Table 3-1 Display Screen Resolution, Continued

Display Properties Sheet Area Called...	To Use...
	After several seconds the following dialog box displays: <div data-bbox="724 386 1312 623"></div>
	Follow the instructions in the dialog box. If you click on <b>Yes</b> , you will return to the <b>Display</b> properties sheet. If you click on <b>No</b> , the following dialog box will display: <div data-bbox="709 812 1456 1115"></div>
	Follow the instructions in the dialog box.

---

## Energy Savers

This paragraph discusses energy saving features, referring to Figure 3-1 and using Table 3-2.

**Table 3-2 Energy Savers**

Display Properties Sheet Area Called...	To Use...
<b>Enable Energy Savers</b>	<p>Click on this check box to activate the energy saver functions. When you check this box, all three functions in the group box are activated:</p> <p><b>Screen Saver</b> Click on this radio button to enable the screen saver. By default this function is not activated.</p> <p><b>Turn Off Monitor</b> 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 <b>Enable Energy Savers</b> is activated, this function is enabled.</p> <p><b>Wait</b> Adjust the amount of time (in minutes) that elapses before the energy saver function you have selected starts. You can enter a number or use the scrolling list. By default the function is not activated. When it is activated, the default is <b>12</b>.</p>

---

To finish, click on **Apply**, then **Close**. The following dialog box displays:

**Figure 3-2 Terminal Settings Change Dialog Box**



You can also click on **Cancel** to cancel any changes and return to the **Winterm Connection Manager**.



# 4

## Integrated Terminal Monitor Adjustments

### Model 3630LE

Figure 4-1 shows the user controls available on the Model 3630LE flat-panel terminal. They are described in Table 4-1.

Figure 4-1 Model 3630LE User Controls

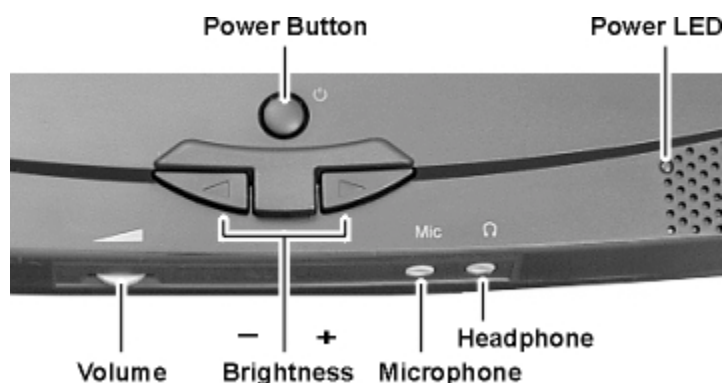


Table 4-1 Model 3630 User Controls


Control	Definition
Power Button and Power LED	Press the double-action push button to turn power on and off. The power LED indicates power status (green - full on, amber - standby or shutting down). Be sure to close all connections and shut down the operating system before turning power off. <div> <b>Caution</b> Do not remove power to the terminal while the Power LED is lit (green or amber). This could damage the contents of flash memory.</div>

Table 4-1 Model 3630 User Controls, Continued

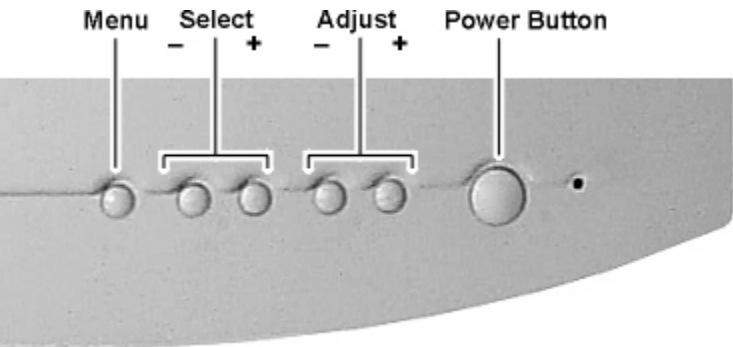
Control	Definition
Brightness	Increases or decreases the strength (lightness or dimness) of the display image.
Volume	Controls the audio volume from the speakers, or if the headphones are plugged in the speakers will be disabled and the headphone volume is controlled.
<div><div><div></div></div><div>Note</div></div> The microphone (Mic) input is not yet supported by software on the Model 3630LE.	

Model 3720SE

This section explains the various user adjustments available on the Model 3720SE terminal monitor.


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

Figure 4-2 Model 3720SE Display Controls



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

**Table 4-2    Model 3720SE Terminal Front Panel**

Button	Function
<b>MENU</b> (OSD)	<p>To use:</p> <p>Press the <b>MENU</b> button to invoke the OSD (refer to the following figure).</p> <p>Press the plus [+] or minus [-] <b>SELECT</b> buttons to select the adjustment you want to make (see Table 4-3 for settings).</p> <p>Press the <b>ADJUST</b> plus [+] or minus [-] buttons to make your adjustment.</p> <p>Press <b>MENU</b> to save your adjustments and close the OSD.</p> <p> <b>Note</b></p> <p>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 <b>MENU</b> button to invoke the OSD again.</p>
<b>SELECT</b> (Brightness)	Press the plus [+] and minus [-] buttons on the terminal’s front panel to increase or decrease the display’s brightness.
<b>ADJUST</b> (Contrast)	Press the plus [+] and minus [-] buttons on the terminal’s front panel to increase or decrease the display’s contrast.

**Figure 4-3    Model 3720SE OSD (On-Screen Display) Menu**

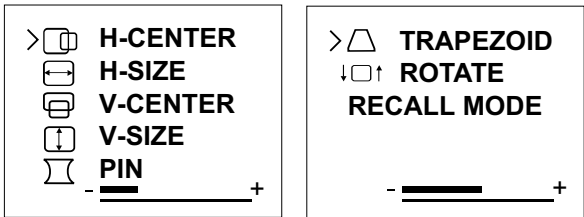
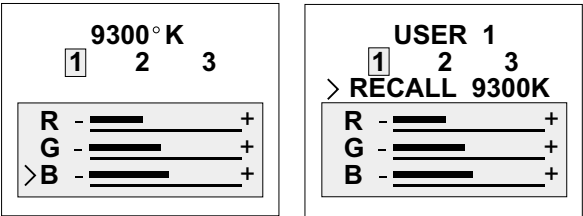


Table 4-3 (following) describes the functions of the OSD menu.

Table 4-3 Model 3720SE OSD Menu

Function	Description
H-CENTER	<b>H-CENTER</b> adjusts the screen's horizontal center from left to right.
H-SIZE	<b>H-SIZE</b> adjusts the screen's width.
V-CENTER	<b>V-CENTER</b> adjusts the screen's vertical center, top to bottom.
V-SIZE	<b>V-SIZE</b> adjusts the screen's height.
PIN	<b>PIN</b> (Pincushion) adjusts screen distortion, where both sides of the display sag inward toward the center or bow outward from it.
TRAPEZOID	<b>TRAPEZOID</b> adjusts the screen's right- and left-hand sides so they are parallel.
ROTATE	<b>ROTATE</b> 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):  <b>RECALL MODE</b> Preset 1 is <b>9300°K</b> Preset 2 is <b>6550°K</b> Preset 3 is <b>5500°K</b>  The color adjustments are:  <b>R</b> This adjusts the display's red hues.  <b>G</b> This adjusts the display's green hues.  <b>B</b> This adjusts the display's blue hues.

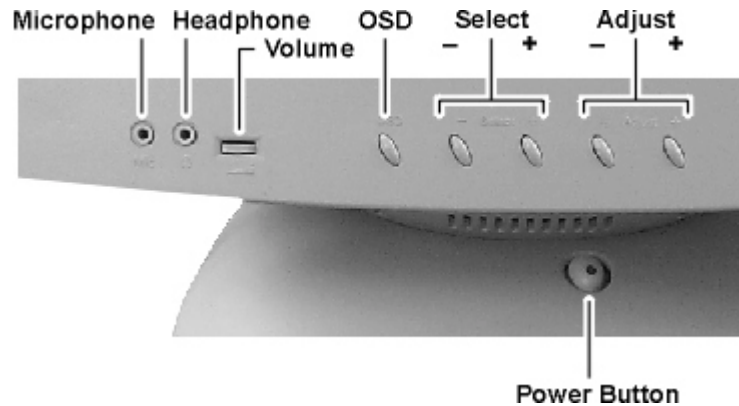
Figure 4-4 Model 3720SE Recall Mode



## Model 3730LE

This section explains the various user adjustments provided on the Model 3730LE terminal monitor.

**Figure 4-5 Model 3730LE Display Controls**



### Operation

#### OSD

Press the **OSD** button to access the OSD master picture, which includes a resolution and frequency indicator as well as the **Adjustment Window**. Press the button again to manually close the window (the window will automatically close after 10 seconds of inactivity).

#### Select

After activating the On-Screen Display window by pressing the **OSD** button (see above), the **Select** button allows you to choose the desired adjustment. Pressing the **Select +** or **Select -** button will step through all available adjustment icons (controls). The selected item will be highlighted red.

#### Adjust

After activating the item to be adjusted with the **Select** button, press the **Adjust** button. A window containing an adjustment bar will appear. Pressing the **Adjust +** button will cause the bar to increase; pressing the **Adjust -** button will cause the bar to decrease.

To continue selecting monitor adjustments, press the **Select** key once again to choose the item to be changed, then press the **Adjust** key to adjust the display. Continue in this manner until all adjustments have been made.

After completing all adjustments, press the **OSD** button again to close the Adjustment Window.

## Volume

Used to adjust audio volume.



### Note

The microphone (Mic) input is not yet supported by software on the Model 3730LE.

## Auto Registration

Adjustments are automatically registered after the **Adjust** switch is pressed, or by letting the display automatically close the windows after 15 seconds of inactivity.

## Recall factory default settings

To cancel adjustments and recall presets (revert to factory settings), press the **Select** - and **Adjust** - buttons simultaneously to activate the recall function. This resets the display mode to the factory-preset value.

## Auto Degauss

This model is equipped with an automatic degaussing function. Degaussing is automatically activated when the display is cold (**i.e., after having been powered off for at least 20 minutes**) and power is applied. If the monitor is repositioned while warm and discoloration is observed, turn off the monitor and allow it to cool or select the degauss option in the OSD display. Upon power-up, the monitor is automatically degaussed and the discoloration will disappear.

**Table 4-4 Screen Control Definitions**

Control	Definition
<b>Brightness</b>	Increases or decreases the intensity (illumination) of the image.
<b>Contrast</b>	Increases or decreases the strength (lightness or dimness) of the image.
<b>Horizontal Position</b>	Moves the image horizontally on-screen left (-) or right (+).
<b>Horizontal Sizing</b>	Increases (+) or decreases (-) the size of the image horizontally.
<b>Vertical Position</b>	Moves the image vertically on screen up (+) or down (-).
<b>Vertical Sizing</b>	Increases (+) or decreases (-) the size of the image vertically.
<b>Pincushion</b>	Adjusts the side pincushion (or barreling).
<b>Pinbalance</b>	Adjusts the curvature of the left and right sides of the image.
<b>Trapezoid</b>	Corrects the image shape to a rectangle.

**Table 4-4 Screen Control Definitions, Continued**

Control	Definition
<b>Parallel</b>	Corrects the image shape to a rectangle.
<b>Color temperature</b>	Adjusts the color temperature.  When you select 9300K or 6500K mode, you can restore 9300K or 6500K settings to the factory preset values. When you select User mode, you can change Red or Blue video output gain as desired.
<b>OSD</b>	Moves the OSD position.
<b>Recall</b>	Resets the display settings to their original factory values.
<b>Degauss</b>	Improves image clarity by demagnetizing the metal frame of the CRT. For best results, turn the terminal off, wait 20 minutes, then turn it on again. Allow a minimum of 20 minutes to elapse before using the <b>Auto Degauss</b> function, or select the <b>Degauss</b> function from the OSD screen.
<b>Rotation</b>	Corrects the screen tilt by adjusting the screen image to be horizontally level (adjust VR at back cover near the signal cable).

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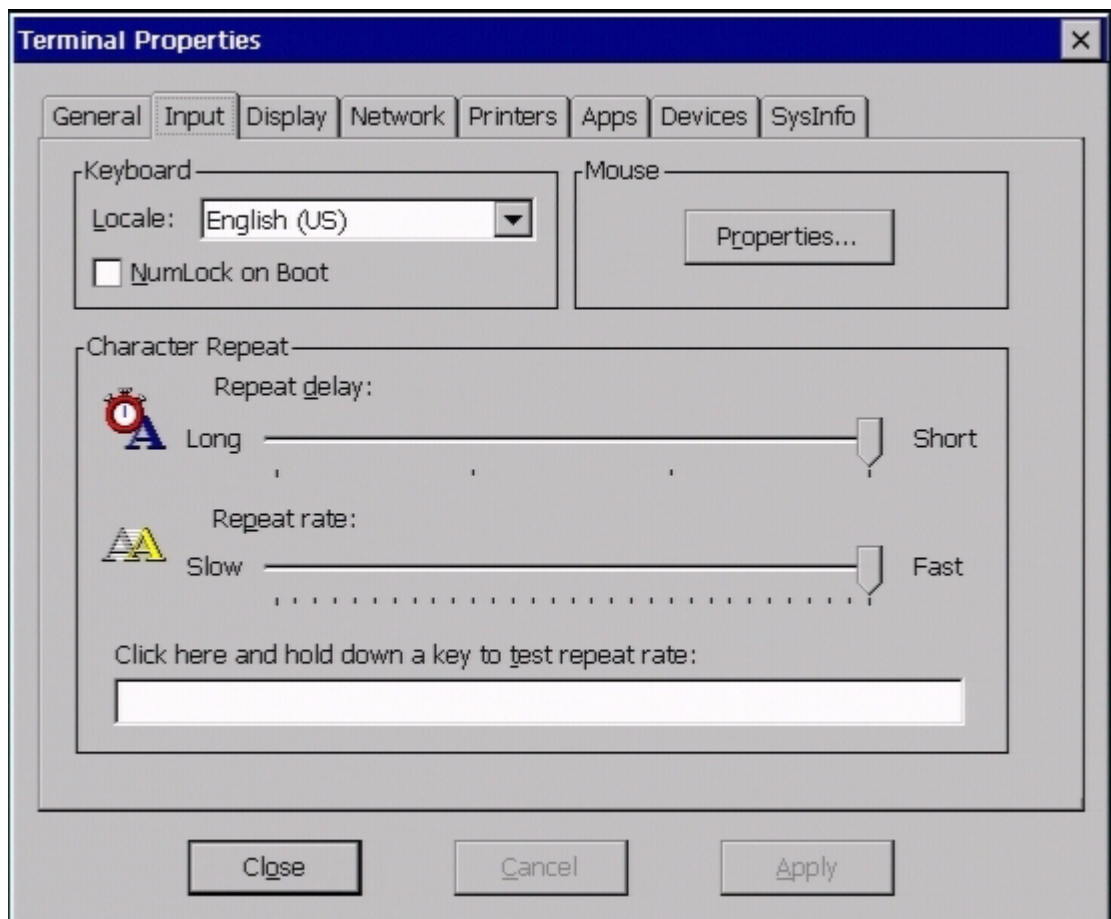
# 5

## Keyboard and Mouse Configuration

From the **Winterm Connection Manager** you can configure your terminal's keyboard and mouse. Press **F2** on your keyboard. The **Terminal Properties** dialog box displays. In this dialog box is a properties sheet you can use for setting up your keyboard and mouse. It is the **Input** properties sheet. Figure 5-1 shows this properties sheet.

To invoke this properties sheet click on the **Input** tab.

**Figure 5-1 Input Properties Sheet**



# Keyboard

This paragraph discusses configuring your keyboard, referring to Figure 5-1 and using Table 5-1.

Table 5-1 Keyboard

Input Properties Sheet Area Called...	To Use...
Keyboard	<div>Use this group box to configure your keyboard:</div> <div>Locale</div> <div>Use this scroll list to select a language for the keyboard:</div> <div><div><div>Belgian Dutch</div><div>Belgian French</div><div>Brazilian (ABNT)</div><div>Canadian Eng (Multi)</div><div>Canadian FR (Multi)</div><div>Canadian French</div><div>Croatian</div><div>Czech</div><div>Danish</div><div>Dutch</div><div>English (UK)</div><div>English (US)</div><div>Finnish</div><div>French</div><div>German</div><div>Greek</div><div>Hungarian</div><div>Italian</div><div>Italian (142)</div></div><div><div>Japanese</div><div>Latin American</div><div>Norwegian</div><div>Polish (214)</div><div>Polish (programmer)</div><div>Portuguese</div><div>Romanian</div><div>Russian</div><div>Slovak</div><div>Slovenian</div><div>Spanish</div><div>Spanish Variation</div><div>Swedish</div><div>Swiss French</div><div>Swiss German</div><div>Turkish-F</div><div>Turkish-Q</div><div>US International</div></div></div> <div>Click on a selection to highlight it. The default is English (US).</div> <div><div><div><div></div></div><div>Note</div></div><div>An IEPC keyboard is required for any language other than <b>English (US)</b>. The keyboard layouts are different for each of the languages listed above.</div></div> <div><div>NumLock On Boot</div><div>Click on this check box to enable the <b>Num Lock</b> function on your keyboard. When checked, the keyboard will boot up with the <b>Num Lock</b> function enabled.</div></div>

Table 5-1 Keyboard, Continued

Input Properties Sheet Area Called...	To Use...
<b>Character Repeat</b>	<p>The group box used to set the keyboard character repeat parameters:</p> <p><b>Repeat Delay</b> Use this slider control to adjust the repeat delay of keyboard characters. <b>Repeat Delay</b> determines how quickly the same character will appear on screen when typed more than once.</p> <p><b>Repeat Rate</b> Use this slider control to adjust the repeat rate of a keyboard character. <b>Repeat Rate</b> determines how quickly the same character will appear on screen when the associated key is held down.</p>

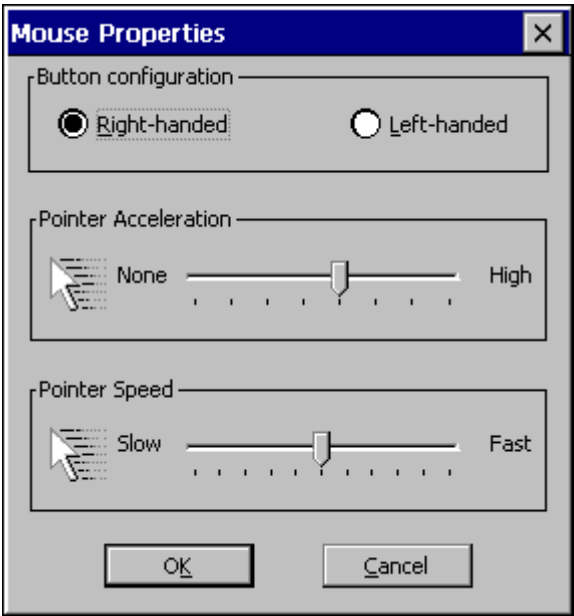
To finish, click on **Apply** then **Close** to apply the changes you made and return to the **Winterm Connection Manager**.

# Mouse

This section discusses configuring your mouse referring to Figure 5-1 and using Table 5-2.

Table 5-2 Mouse

Input Properties Sheet Area Called...	To Use...
Mouse	Use the following dialog box to configure mouse attributes.
Properties...	Click on this command button to invoke the <b>Mouse Properties</b> dialog box. Use it to set your mouse properties.



**Button Configuration**

Select from:  
**Right-handed**  
**Left-handed**  
to choose which button you will use on your mouse. The default is **Right-handed**.

**Pointer Acceleration**

Use this slider control to adjust the acceleration of the mouse.

**Pointer Speed**

Use this slider control to adjust the speed of the mouse.

To finish, click on **Apply** then **Close** to apply the changes and return to the **Winterm Connection Manager**.



# 6

## Managing Connections

The **Winterm Connection Manager** is designed to help you manage your network connections. The manager consists of the **Connections** properties sheet and the **Configure** properties sheet. With it you can configure, make, and end connections, and gracefully shut down the terminal. Figure 2-5 shows the **Winterm Connection Manager**.

The **Winterm Connection Manager** is automatically invoked when the terminal is turned on.



### Note

If you turn on your WBT and the **Setup Wizard** displays, contact your system administrator. If you are a system administrator, see the administrators guide.

---

### Configuring a Connection

The functions of the **Configure** properties sheet are used to add, modify, and delete connections. See your system administrator or the administrators guide for more information about configuring connections.

---

### Making a Connection

The functions of the **Connections** properties sheet (see Figure 2-5) are used to:

- Make terminal connections
- Display the status of a connection
- End a connection
- Shut down the terminal gracefully




### Note

The **Connections** properties sheet is the default sheet displayed by the **Winterm Connection Manager**.

Table 6-1 identifies and describes each of functions of the properties sheet.

**Table 6-1   Connections Properties Sheet**

Function	Description
Connection Name	<p>This application window lists the connections that you can use. <b>Default RDP Connection</b> and <b>Default ICA Connection</b> are the default connections for the window.</p> <div> <b>Note</b> See the administrators guide for information about creating connections.</div>
Type	<p>This list shows the type of connection. The defaults are <b>RDP</b> and <b>ICA</b>.</p>
Status	<p>This list shows the status of the connection. If a connection is live, the status for that connection will be <b>Active</b>. If a connection is not live, the list will show a blank.</p>
Connect	<p>Click on a connection in the <b>Connection Name</b> list box to highlight it. Click on the <b>Connect</b> command button to make the highlighted connection. You can also double-click on a selection to make a connection.</p>
End	<p>See Ending a Connection.</p>
Shutdown	<p>See Shutting Down the Terminal.</p>

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## Ending a Connection

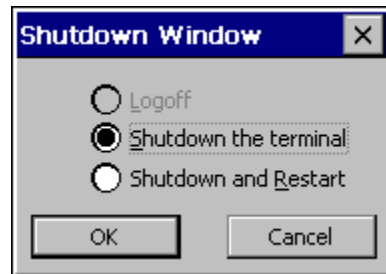
Click on the **End** command button to end the connection process. When you press the **End** button and the connection is active, the **End Task** dialog displays. The **End** command button is enabled when one or more sessions become active.

---

## Shutting Down the Terminal


Use the **Shutdown Window** dialog box to log off, shut down, or shut down and restart the terminal. Figure 6-1 shows the **Shutdown Window** dialog box.

**Figure 6-1 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 6-2 Shutdown Window Dialog Box**

Function	Description
<b>Logout</b>	Click on this radio button to invoke the <b>Terminal Login</b> dialog box. By default this command button is not activated. The terminal's security function must be enabled to activate this radio button.   <b>Note</b> See the administrators guide or contact your system administrator for more information about logging out.
<b>Shutdown the Terminal</b>	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 about whether you want to continue. By default this radio button is activated and enabled.
<b>Shutdown and Restart</b>	Click on this radio button to shut down then restart the terminal. By default this function is enabled but not activated.

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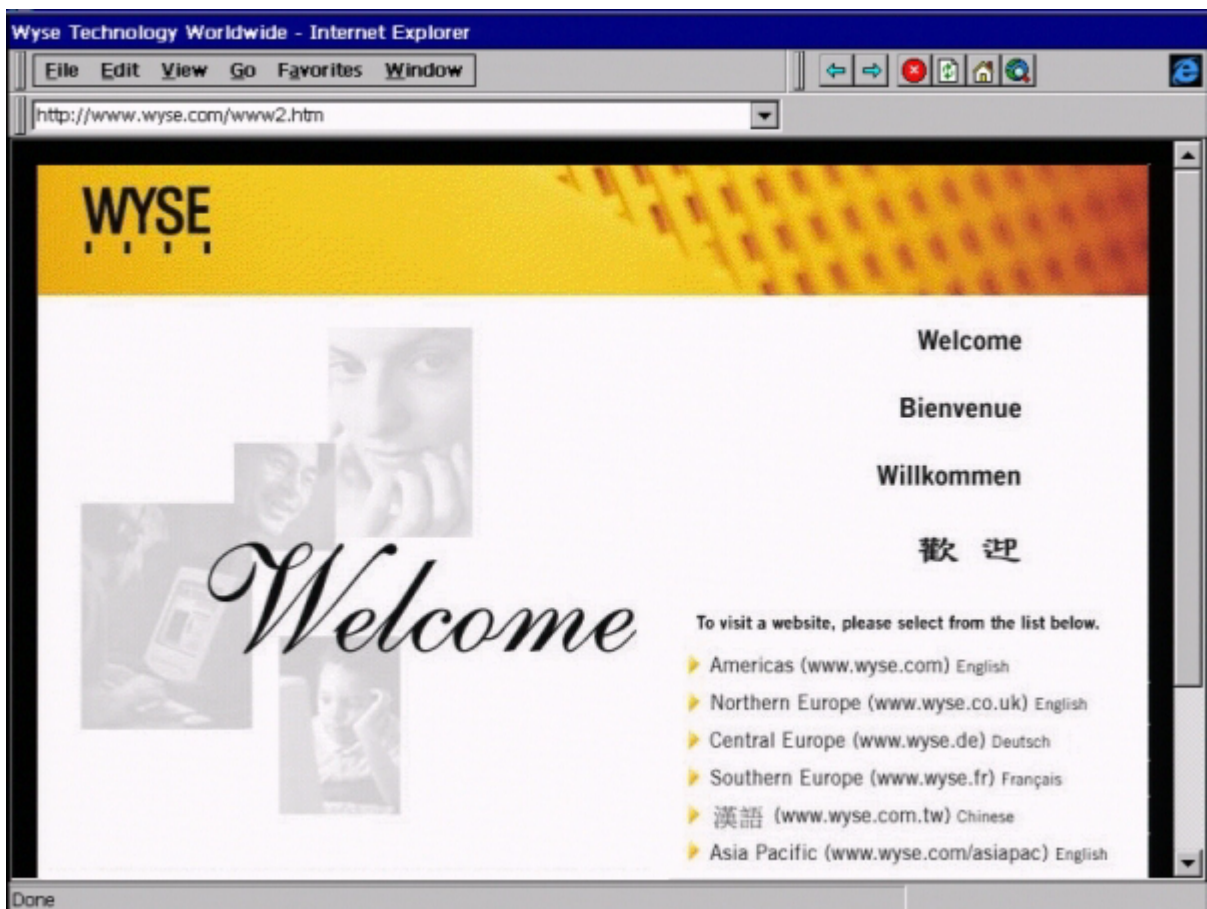


# 7

## Browser Configuration

The Microsoft Internet Explorer Web browser is resident on 3000 Series terminals that are factory-configured with at least 16 MB of flash memory (see the note below). This chapter describes how to set the client-based browser as a connection using the **Winterm Connection Manager**.

Figure 7-1 Internet Explorer Browser Window



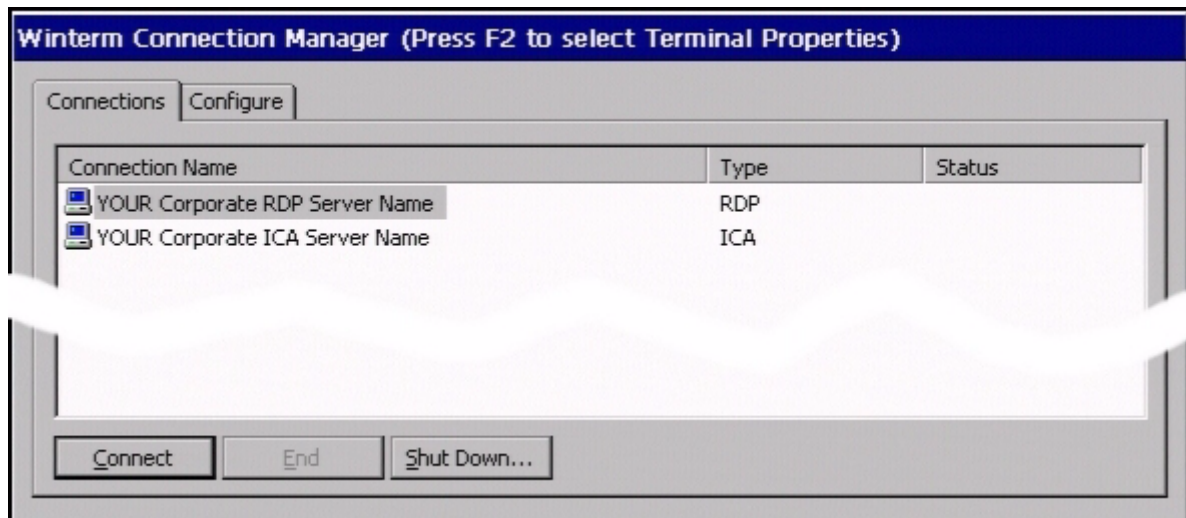
### Note

To display the amount of flash memory installed in your terminal, refer to the Sysinfo properties sheet, described in "System Information." Terminals with less than 16 MB of flash memory may be upgraded with additional memory to support the factory image that includes Internet Explorer. For more information call 1-800-GET-WYSE (1-800-438-9973).

## Adding a Browser Connection

When you first power-up your Winterm you will see the **Winterm Connection Manager**.

**Figure 7-2 Winterm Connection Manager**



The **Winterm Connection Manager** allows you to configure your local browser. Click on the **Configure** tab to begin setting up your browser.

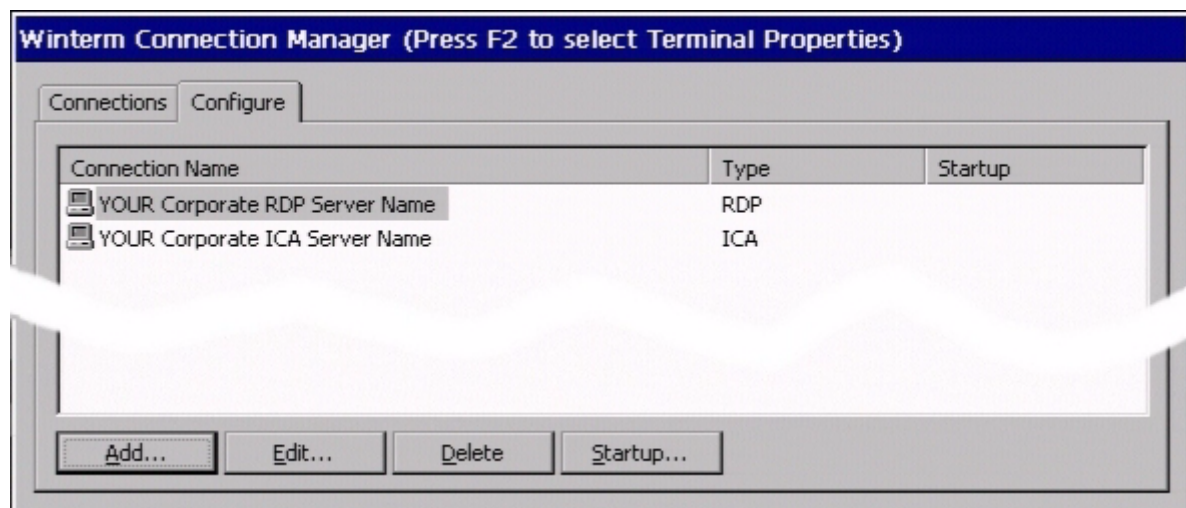


### Note

The operating system installed on the terminal supports 40-bit encryption. Some secure Web sites may require a higher level of encryption to allow a connection.

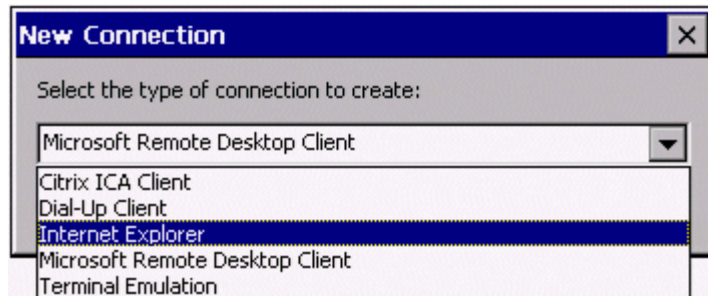
A new set of buttons will appear at the bottom of the **Winterm Connection Manager** window.

**Figure 7-3 Configure Tab Buttons**



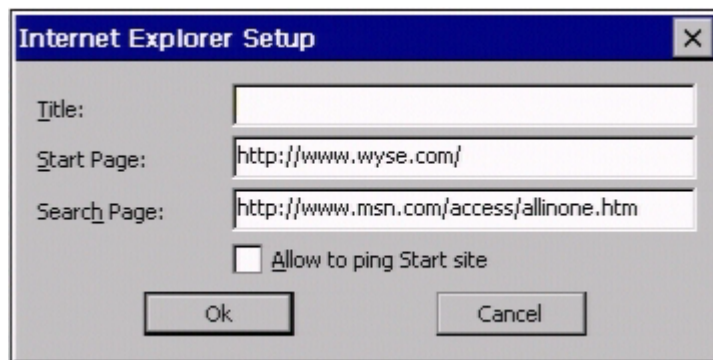
Click the **Add** button and choose Internet Explorer from the drop-down box and click on the **OK** button.

**Figure 7-4 New Connection Dialog**



Type a name for your browser connection in the title box of the Internet Explorer Setup dialog box and click **OK**.

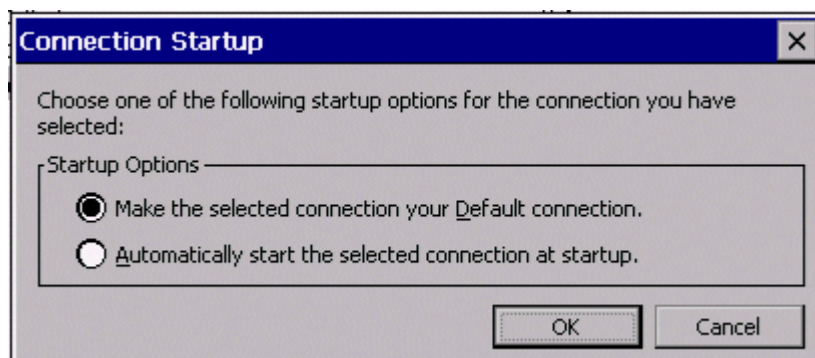
**Figure 7-5 Internet Explorer Setup Dialog Box**



Click the **Connections** tab at the top of the **Winterm Connection Manager** window.

If you want to have the browser automatically open when you start your terminal, click the **Automatically start the selected connection at startup** radio button in the **Connection Startup** dialog box, Figure 7-6.

**Figure 7-6 Connection Startup Dialog Box**



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# 8

## Multiple Sessions

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### Setting Up Multiple Sessions

To start multiple sessions:

1. Click on a connection in the **Connection Name** list in the **Winterm Connection Manager** to launch your first session. (See “Managing Connections” for more information about configuring connection parameters).
2. Press **Ctrl+Alt+End** while the connection is active to return to the **Winterm Connection Manager**.
3. Click on another connection in the **Connection Name** list to launch another session.

---

### Managing Multiple Sessions

Your terminal is designed to handle multiple sessions. The number of active sessions you can have with your terminal is dependent on the following factors:

- Amount of RAM
- The types of connections open
- Number of sessions configured



#### Note

The terminal emulation software provided with your terminal limits the number of simultaneous terminal emulation connections to eight.

See your system administrator for detailed information about your terminal's ability to conduct multiple sessions.

---

### Manipulating Multiple Sessions

With multiple sessions active, 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**.

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# 9

## Getting Help

Getting Help provides solutions to problems that may occur while you are using your terminal.

---

### Troubleshooting Your Terminal

Troubleshooting the Terminal, Table 9-1, lists some common problems and the solutions to those problems.

**Table 9-1 Troubleshooting the Terminal**

Problem	Solution
When you turn on the terminal nothing happens.	<ol style="list-style-type: none"><li>1. Ensure that the VGA connector is securely connected (modular terminals only).</li><li>2. Ensure that the power cord is connected to the power connector on the terminal's back panel or power supply (as appropriate for the terminal in use).</li><li>3. Ensure that the power cord is plugged into an AC outlet that works.</li></ol>
When you turn on the terminal the screen remains blank and the power indicator light remains orange.	<p><b>For Model 3350SE:</b></p> <p>Turn the terminal off, then on again.</p> <p><b>All other models:</b></p> <p>Depress the power push button for at least 5 seconds to execute a power reset.</p>
During power up the following message displays:  <b>Keyboard testing failed</b>	<p>Ensure that the keyboard cord is connected to the keyboard (PS/2 or USB) connector on the terminal's back panel.</p>
When you turn on the terminal, the <b>Winterm Connection Manager</b> or the <b>WBT Setup Wizard</b> appears, but the mouse does not function.	<p>Ensure that the mouse cord is properly connected.</p>

**Table 9-1 Troubleshooting the Terminal, Continued**

Problem	Solution
You are not able to make a network connection using the <b>Winterm Connection Manager</b> .	<ol style="list-style-type: none"> <li>1. Verify that the network cable is properly attached to the terminal.</li> <li>2. Verify that the network cable is connected to a hub or other network outlet.</li> <li>3. Check with your network system administrator to ensure that the WBT is set up properly and that the server you are trying to connect to is operating correctly.</li> </ol>
While connected to a server the keyboard and the mouse freeze.	<p>The connection to the server may be broken.</p> <ol style="list-style-type: none"> <li>1. Turn the terminal off, then on again.</li> <li>2. Attempt to make another connection.</li> </ol> <p>If you can not make the connection again:</p> <ol style="list-style-type: none"> <li>1. Verify that the network cable is properly connected.</li> <li>2. Check with your network system administrator to ensure that you are using the correct network cable.</li> </ol>
You are not able to print using the parallel port.	<ol style="list-style-type: none"> <li>1. Make sure that the printer is plugged into the AC outlet and turned on.</li> <li>2. Check the cable connection between the printer and the terminal.</li> <li>3. Ensure that the printer is on line.</li> <li>4. Ensure that the printer is properly configured in the print manager.</li> <li>5. Ensure that the printer has not been paused.</li> </ol>
You are not able to print using the serial port.	<ol style="list-style-type: none"> <li>1. Make sure that the printer is plugged into the AC outlet and turned on.</li> <li>2. Check the cable connection between the printer and the terminal.</li> <li>3. Ensure that the printer is on line.</li> <li>4. Ensure that the printer is properly configured in the print manager.</li> <li>5. Ensure that the printer has not been paused.</li> </ol>

**Note**

If any other error messages are displayed, you have any other problems, or you can not find a solution in this table, contact your network system administrator.



# 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: <ul style="list-style-type: none"> <li>• 100Base-TX: two pairs of high-quality twisted-pair wires</li> <li>• 100Base-T4: four pairs of normal-quality twisted-pair wires</li> <li>• 100Base-FX: fiber optic cables</li> </ul>
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.

## Glossary 2

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.

## Glossary 4

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.

## Glossary 6

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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