

User's Manual

CDMA Modem Manager (Model : CLP-100A, NVW-CA81)

FCC RF EXPOSURE INFORMATION

WARNING! *Read this information before using your phone*



In August 1996 the Federal Communications Commission (FCC) of the United States with its action in Report and Order FCC 96-326 adopted an updated safety standard for human exposure to radio frequency electromagnetic energy emitted by FCC regulated transmitters. Those guidelines are consistent with the safety standard previously set by both U.S. and international standards bodies. The design of this phone complies with the FCC guidelines and these international standards.



Operating Requirements

This device was tested in a notebook computer with the significant source of emissions (antenna) kept 1.5 cm. from the body. Please maintain a minimum of 1.5cm separation distance between the user's body and the device to comply with FCC RF exposure requirements.

Table of Content

1. About CDMA Wireless Modem	
1.1 Before Starting	3
1.2 Getting Help	3
1.3 Modem Manager Software	3
1.4 Compression Software	3
2. Care and Maintenance of your Modem	
2.1 Care and Maintenance Tips	4
3. Installation	
3.1 Hardware System Requirements	5
3.2 Software Installation	6
4. Using windows Modem Manager	
4.1 Overview	9
4.2 Tray Icon	9
4.3 Main Window	10
4.4 Dialog Boxes	17
4.5 User Interaction During Connection	33
4.6 Error Messages	34

1. ABOUT CDMA WIRELESS MODEM

Before you can use your CDMA Wireless Modem, you will need to do the following:

1. Install Modem Manager, the modem software, on your laptop or notebook computer
2. Insert the modem into the PC card slot
3. Activate the modem to use your account, if it has not already been activated.

The first time you insert the modem, the Activation Wizard will launch automatically and guide you through the activation process.

* Caution: Do not insert the modem into a PC card slot before installing the software.

1.1 Before Starting

In order to use your Account, you will first need to insure your modem is activated. Activation is the process of configuring your modem to use your account. When you insert the modem for the first time, the Activation Wizard will launch automatically. The wizard will guide you through the activation process

1.2 Getting Help

For questions about using your CDMA Wireless Modem, call Customer Care at 1-800-555-5555 or see us at www.novatelwireless.com

1.3 Modem Manager Software

The software required to operate the CDMA Wireless Modem is located on the CD ROM that came with the modem. The software consists of the Modem driver (the software that provides the interface between your operating system and the modem), and an application called Windows Modem Manager. Any time you use the CDMA Wireless Modem, you must run Windows Modem Manager which performs these function:

- Connecting to the Network
- Providing information about your connection status, such as signal strength
- Notifying you when you receive Modem Messages
- Setting preferences.

1.4 Compression Software

The CD Rom also contains Compression software. Compression software enables you to use the Enhanced Internet Connection to obtain high speed Internet access. More information about this software is available on the web site.

2. CARE AND MAINTENANCE OF YOUR MODEM

2.1 Care and Maintenance Tips

As with any electronic device, the Modem must be handled with care to ensure reliable operation. Follow these guidelines in using and storing your modem:

- Do not apply adhesive labels to the bottom or top of the modem. This may cause the modem to become jammed inside the card slot.
- Extend the antenna by pulling gently on the knob at the end. The antenna clicks into place with the hinge about 0.4 inches (1cm) from the end of the card.
- Optimal signal strength is usually obtained when the antenna is perpendicular to the modem. The antenna should bend easily at the hinge. Do not forcefully bend the antenna.
- When the modem is not in use, retract the antenna. To retract the antenna, while the antenna is perpendicular to the modem, push the hinge to insert the bottom section of the antenna and push the remainder of the antenna into the card.
- The modem should fit easily into your PC slot. Forcing the card into a slot may damage connector pins.
- Protect the card from liquid, dust, and excessive heat.
- When not installed in your computer, store the modem in a safe place.

3. INSTALLATION

This section provides all the information you need to install the Modem Manager software. You must install the Windows Modem Manager before inserting the modem for the first time.

3.1 Hardware System Requirements

Before installing the software, ensure that your computer is running a supported operating system and meets the CDMA Wireless Modem Manager hardware requirements.

Modem Manager System Requirements

Modem Manager is supported on

- Windows 95 OSR 2*
- Windows 98 and 98 SE
- Windows NT**
- Windows 2000

To install the Windows Modem Manager software, you require these system resources:

Card Slots:	1 Type II PCMCIA (PC Card Slot)
Communications Ports	1 available
Disk Drive	CD-Rom
I/O Resources	1 IRQ, 16 Bytes I/O Space
Memory	16 MB
Disk Space	2MB

* See Appendix A for instructions on determining your Windows 95 version.

** If you are using Windows NT, you require Service Pack 5 or 6a and third party management software.

3.2 Software Installation

3.2.1 Software Installation Procedure

If you are using Windows 2000, you must be logged on as the administrator to install the software. If you are using Windows NT, you should ensure that Windows Dial-Up Networking and TCP/IP protocol are installed.*

If you are using Windows NT, ensure that CardWizard version 5.2, or other card management software, is installed before you attempt to install the Modem Manager software. You must install a modem profile and ensure that Remote Access Service is installed before you install the Modem Manager software.**

Follow these steps to install Modem Manger:

1. Close any Windows programs that are running.
2. If the CD that came with the CDMA Wireless Modem is not already in the CD-ROM drive, insert it. The CD should start automatically, launching the installation wizard.
3. If the CD does not start automatically, launch the installation wizard by selecting Start>Run ... from the task bar and entering *d:\Setup\setup.exe*, where d is the drive letter for your CD_ROM drive.
 - The installation wizard checks that Windows components required by Modem Manager are installed. If not, the wizard displays a message telling you what components are missing. If this window appears, click OK to exit the window and terminate the installation. Install the necessary components before re-trying the installation.
4. A message is displayed indicating that Modem Manager will be installed. Check **OK**.
5. The installation wizard guides you through the Modem Manager installation. Use the **Next>** and **<Back** button to proceed through the wizard, noting the following:
 - To install Modem Manager, you must indicate that you accept the terms of the software license agreement by clicking the Yes button on the Software License Agreement window.

* Instructions on installing Windows Dial-Up Networking and TCP/IP protocols for Windows NT are described in Appendix A.

** Instructions on installing the modem profile and Remote Access Service components (with CardWizard) are provided in Appendix B.

- The **ReadMe** file displayed in the wizard describes any known issues with the Modem Manager software.
 - Watcher is installed in the folder *\Program Files\ Wireless\Windows Modem Manager* unless you use the Browse.. button on the Chose Destination Location window to specify a different path.
 - The name specified on the Select Program Folder window (Wireless unless you change it) is the name assigned to the Windows Modem Manager software in the Windows Control Panel. (This is the name that appears in the Add/Remove Programs Properties windows of the Control Panel.)
 - When the Windows Modem Manager installation is complete the Compression software installation wizard is launched.
6. On the Compression window click Cancel if you do not want to install Compression. (Note: Compression is required to make high speed Enhanced Internet Connections). Click Next to proceed with the Compression installation, noting the following:
- To install Compression, you must indicate that you accept the terms of the software license agreement by clicking the **Yes** button on the Compression License Agreement window.
 - Compression is installed in the folder *\Program Files\Compression* unless you change the destination folder.
 - On the Browser Configuration window, use option to configure the default browser (recommended) to ensure that your Internet browser has the settings required for an Enhanced Internet Connection.
 - A checkbox allows you to indicate whether to display the Windows Modem Manager README file. When the box is checked, the file is displayed in Windows Notepad. Exit from Notepad when you have finished reading the file to view the final screen of the installation wizard.
7. On the final screen, click the Finish button.
8. Extend the modem antenna. (See the Care and Maintenance Section for guidelines on extending the antenna and inserting the modem.)
9. With the logo facing up, gently insert the modem into an unused PC Card slot.* Insertion of the card triggers Windows to search for and load a device driver for the modem.

* Do not force the modem into the slot as this may damage the connector pins.

10. If you are running Windows 2000, the Digital Signature Not Found screen may be displayed twice. Click the Yes button each time it appears.

On completion of this step, Modem Manager software is installed and your CDMA Wireless Modem is ready for use.

3.2.2 Card Insertion and Removal

3.2.2.1 *Inserting CDMA Wireless Modem*

When you insert the modem into the card slot, the following should occur:

- The PC should beep (unless sound effects are disabled).
- The PC Card icon should appear in the system tray (if it is not already displayed).

Users of Windows NT (with Card Wizard installed)

CardWizard displays this screen whenever you insert the modem:

This message can be disabled in CardWizard (under Options>Notify). See the CardWizard documentation for details.

The CDMA Wireless Modem turns on as soon as you insert it.

3.2.2.2 *Removing CDMA Wireless Modem.*

To properly remove the modem:

Users of Windows 95, 98, and 2000

1. Close Modem Manager, if it is open.
2. Click the PC Card icon in the system tray. A message bar appears.
3. Click the message bar. A dialog box then notifies you that it is safe to remove the device.
4. Click OK and eject the modem.

Users of Windows NT (with CardWizard installed)

1. Eject the Modem Card. CardWizard displays a message indicating the card has been removed.

4. USING WINDOWS MODEM MANAGER

4.1 Overview

Windows Modem Manager has the following functions

- Diagnostic and configuration
- Feedback about the status and operation of the modem
- Connecting to data service

However, the Standard Microsoft Dial Up Networking Application is the primary means of connecting to data service.

The Modem Manager application automatically detects if the modem is configured for service and will auto-launch the activation wizard upon initiation if the modem is not configured.

The main window provides **control** information over the modem's connection to the network, and displays other necessary **status** information.

4.2 Tray Icon

Depending on the status of the modem, the icon will change as outlined in the following table.

<i>Status</i>	<i>Icon Shown</i>
Modem detected but no data session has been established, either because modem is in idle state or there is an error	
Modem detected and a data session is currently established	

If only the tray icon is open and the main window has been closed, the user can open the main window again by re-launching the application using the entry in the *Start* menu, or by Right Clicking on the System tray icon.

4.2.1 Mouse-Over

When the user leaves the cursor over the icon, a small tool tip will be displayed showing the connection status.

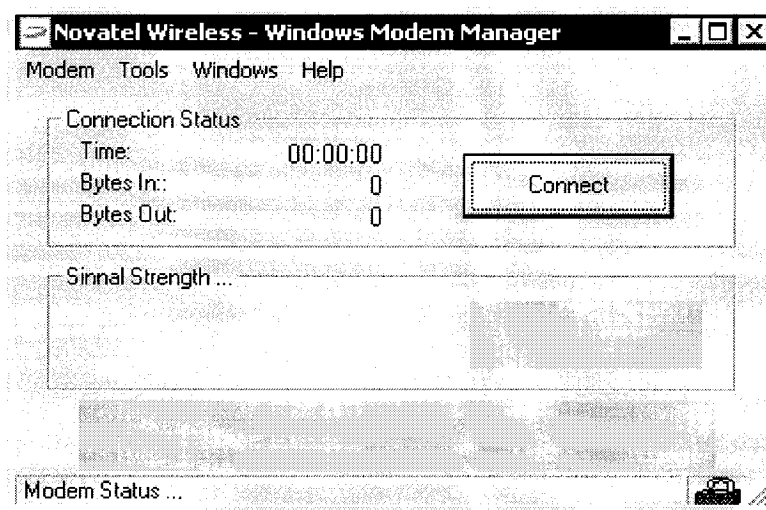
4.2.2 Right-Click

Right-clicking on the tray icon will open the pup-up menu: Open Windows Modem Manager, Connect, Disconnect, and Exit.

4.2.3 Double-Click

Double-clicking on the icon will open the Modem Manager application with the most recently used view displayed.

4.3 Main Window



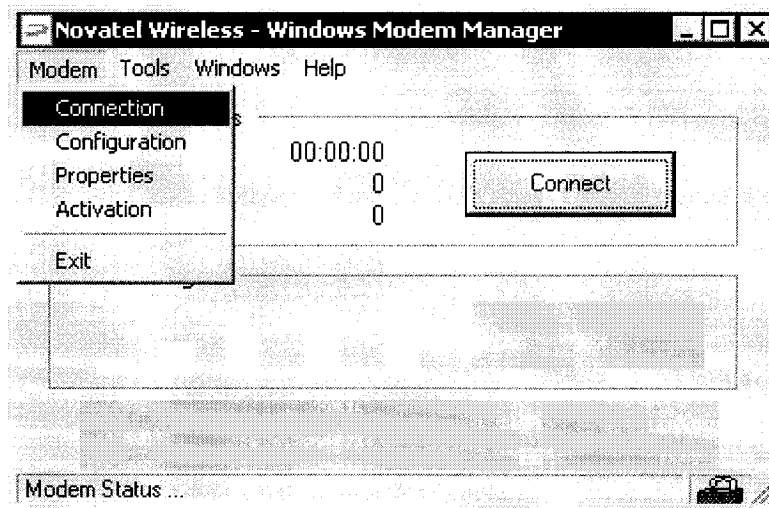
Main Window provides basic modem status and menu bar to access more options.

Connect	When click this button, the modem attempts to initiate a data session.
Disconnect	When click this button, the modem closes the data session.

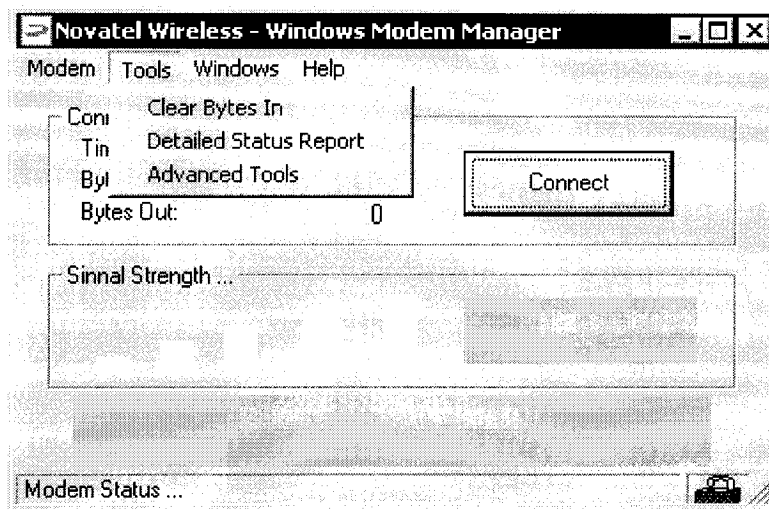
4.3.1 Menu Bar

The menu bar will be shown as follows.

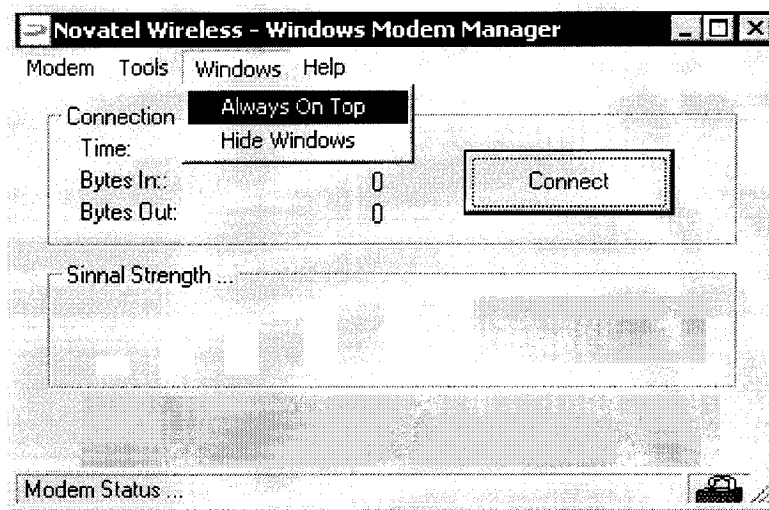
Modem:



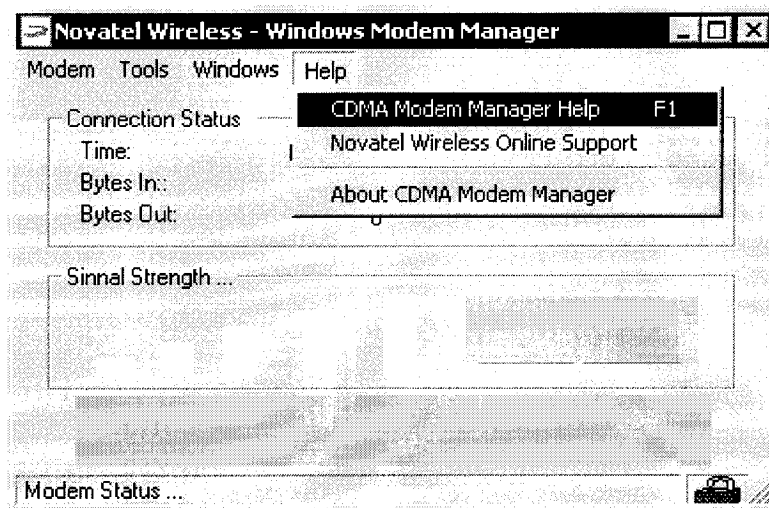
Tools:



Windows:



Help:



A description of the intent of each menu is given in the table below.

<i>Menu</i>	<i>Description</i>
Modem	Commands that directly manipulate or query the modem and are used on a daily basis.
Tools	Commands that manipulate or query the modem in order to diagnose a problem or test out the modem and/or its connection.
Window	Commands that involve the placement of the Modem Manager window on the desktop.
Help	Commands that involve information about the Windows Modem Manager application including the online-help.

The operation of commands in the menu bar is detailed in the table below.

<i>Menu</i>	<i>Command</i>	<i>Implementation</i>
Modem	Connection	When selected, the <i>Modem Connection Manager</i> will open. User may add or delete the connection information. User also may set up the properties and default settings, review details; attempt to initiate a data session.
	Configuration	When selected, opens the <i>Modem Configuration</i> dialog box, which includes the network service setting, received data type options, and lock/unlock options. Computer time and local time are also displayed.
	Properties	When selected, opens the <i>Modem Properties</i> dialog box. When the modem cannot be detected, this command is disabled. Accelerator Ctrl+p.
	Activation	When Selected the Activation Wizard utility will be opened. When the modem cannot be detected, this command is disabled.
	Exit	When selected, an open connection is closed and the Windows Modem Manager application closes completely, removing the tray icon and main window from sight. Accelerator Alt+x.
Tools	Clear Bytes In	When selected, the number of bytes number will be cleared.
	Detailed Status Report	When selected, a <i>CDMA Modem Status</i> window will be displayed.
	Advanced Tools	A security code is required to access this <i>Advanced Tools</i> window.
Window	Always on Top	A check mark beside the text will indicate whether or not this option is selected. When selected, the window will always be displayed in front of any other active applications. When not selected, the window will be covered when other applications are made active.
	Hide Window	When selected, the main Modem Manager window is closed but the tray icon remains. The modem's network connection is not altered.

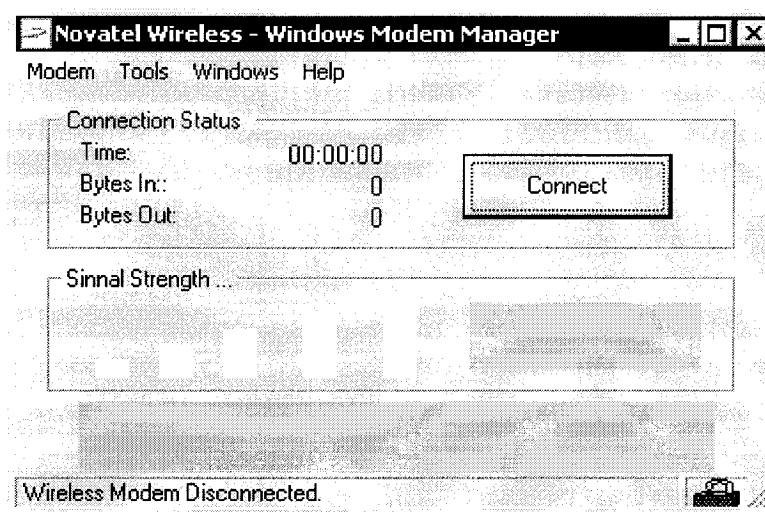
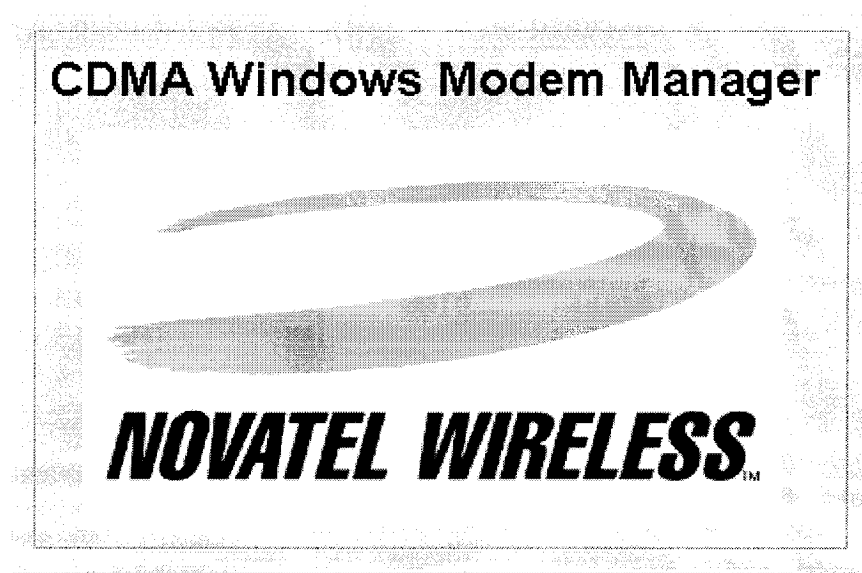
<i>Menu</i>	<i>Command</i>	<i>Implementation</i>
Help	Modem Manager Help	When selected, the online, context-sensitive Modem Manager help is launched. Accelerator Alt+h.
	Wireless Online Support	Opens a new window of the default web browser to the support section of the Wireless website. Accelerator Alt+o.
	About Modem Manager	Opens the <i>About Modem Manager</i> dialog box, which is described in section 5.5 Accelerator Alt+a.

4.3.2 Network Connection Status Strings

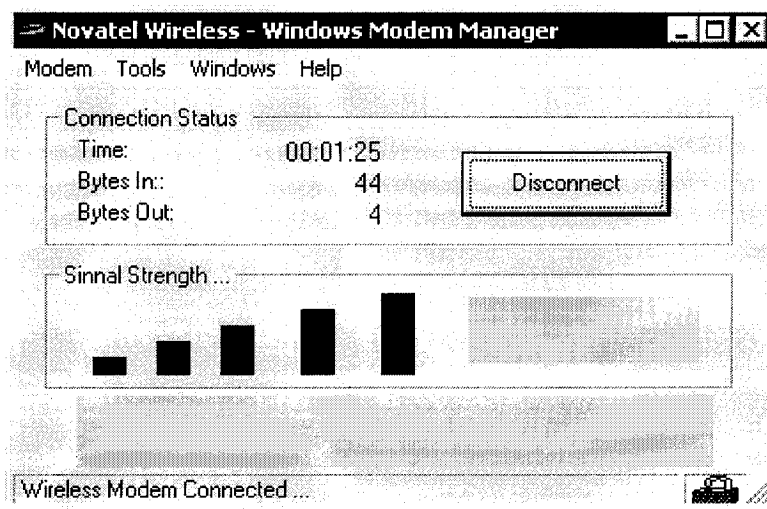
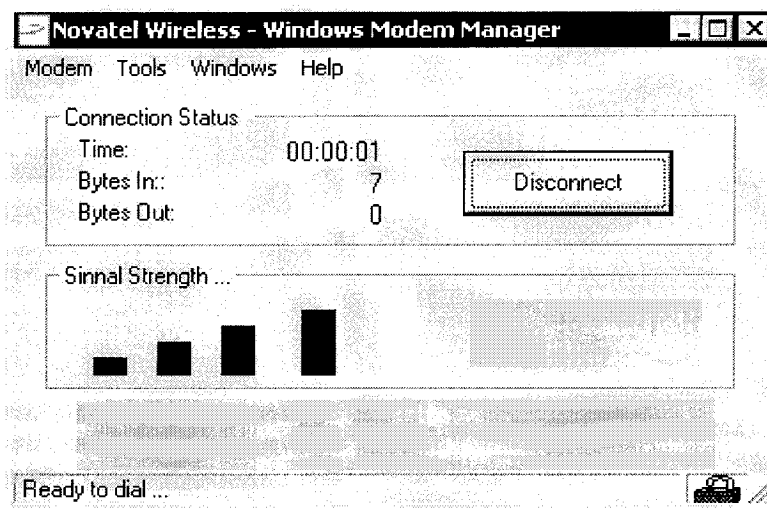
- Connected. Time 00:01:05 <--- indicating connection time
- Connected. Roam Time 00:01:05 <--- indicating connection time
- Disconnecting. Time 00:01:05 <--- indicating connection time
- Registered, home network
- Registered, roaming
- No modem found
- No service found
- Not registered
- Searching for operator
- Registration denied

4.3.3 Main Windows Basic View

When the application is launched, the modem initializes before Windows Modem Manager can be used. During modem initialization, below splash window appears.



The basic view shows both the status and the signal strength. A *Disconnect* or *Connect* button is provided that launches a data session using the configuration of the installed Microsoft Dial Up networking Session. As for the main windows view the *Disconnect/Connect* button is displayed. After clicked the *Connect* button, the connection status is shown as follows:



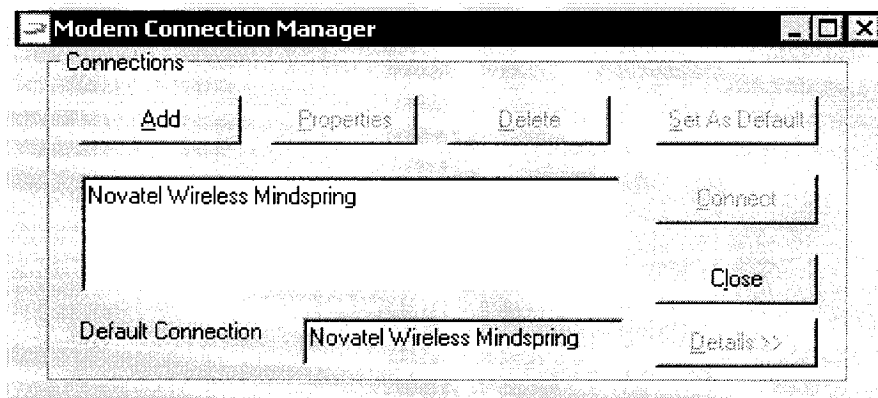
Description of the fields and buttons are explained in the below table.

Field/Control Label	Implementation
Signal Strength	A five-bar indicator in which the number of black-filled bars indicates the signal strength. The value of each bar should be equivalent to the typical cell phone. If there is no service available, this field will be blank. When disabled, the field label will remain but the field itself will be empty.
Disconnect/Connect	Context-sensitive button that is labeled <i>Disconnect</i> and allows the user to close an established data session. If the modem has been detected but no session is open, this button is labeled <i>Connect</i> and allows the user to initiate a data session. If the modem has not been detected, this control is disabled.
Connection Time	Time indicates how long the modem has been connected.
Bytes In	How many bytes have been sent to the comm. port.
Bytes Out	How many bytes have been received from the comm. port.

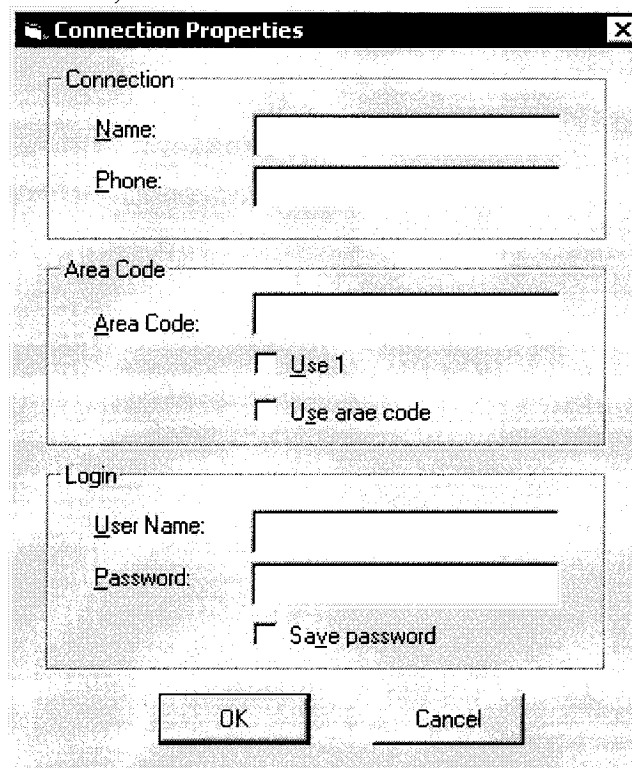
4.4 Dialog Boxes

4.4.1 Modem Connection Manager Dialog Box

The *Modem Connection Manager* dialog box displays fields that the user can add or change modem connection information. The detailed view retains the same connection status section as the basic view, but the second section is expanded to show more information.

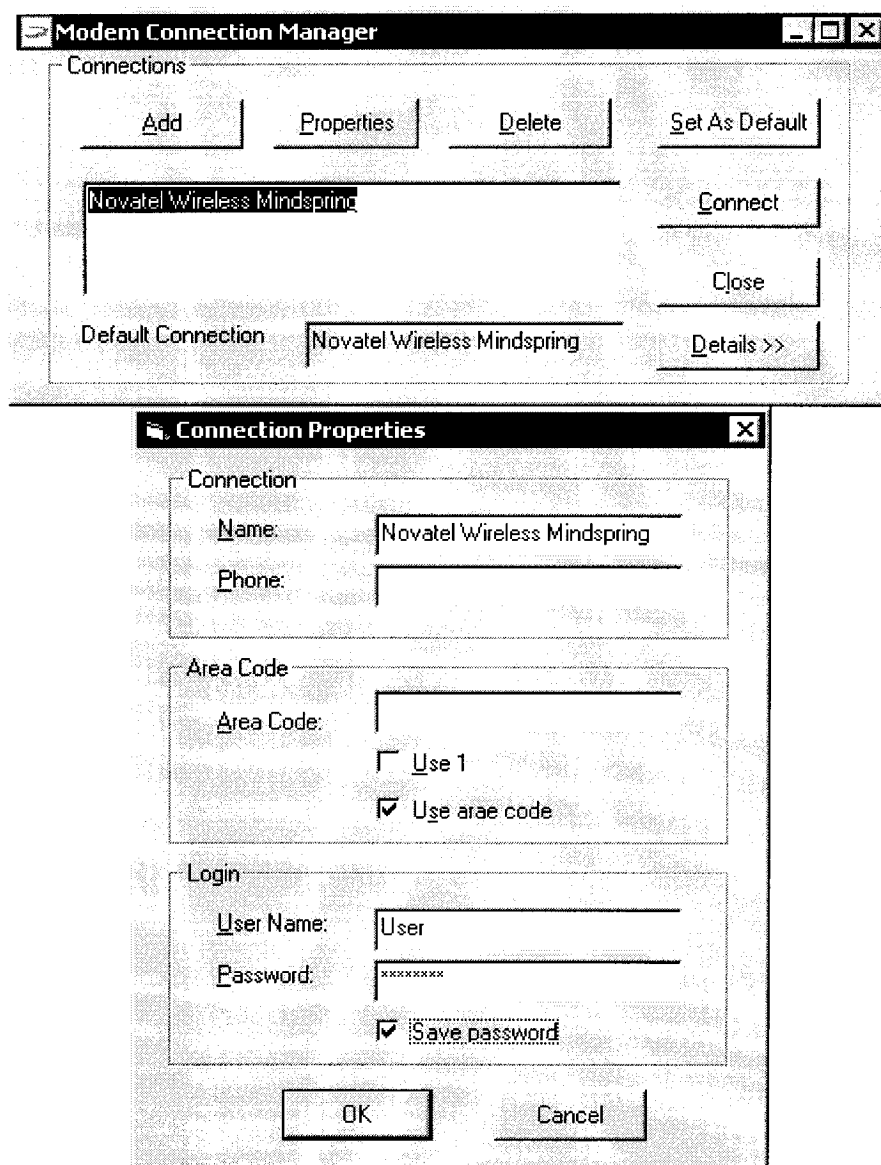


If clicking on <Add> button, it will ask for the connection information:

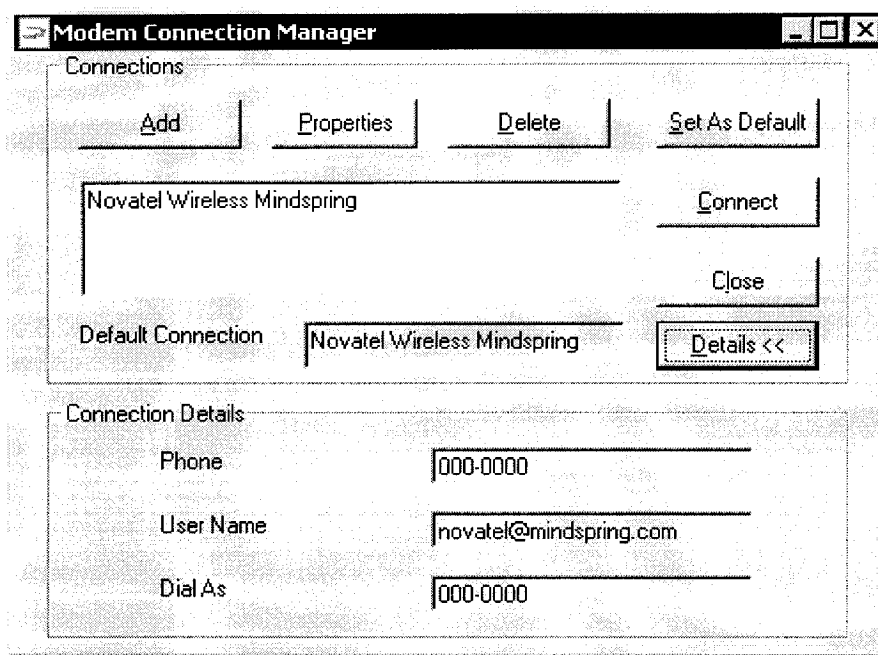


When the user added connection information on the list, clicking on *OK* button back to the *Modem Connection Manager* window. If the user highlighted the Connection Name,

the other buttons will be enabled. If clicking on *Properties* button, it will show the selected connection information:

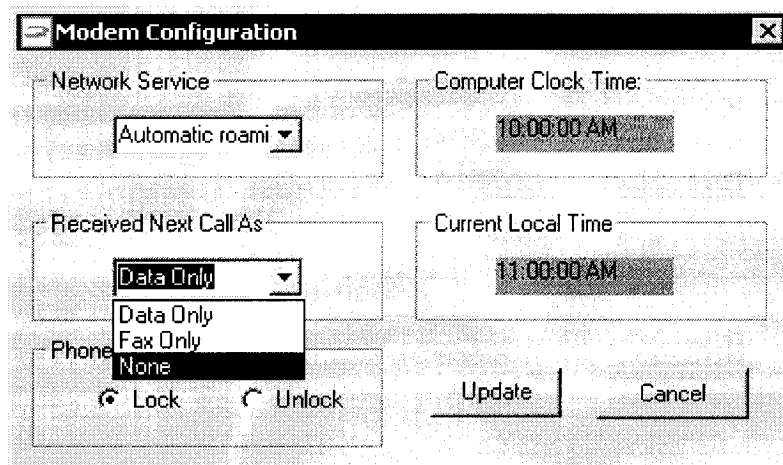
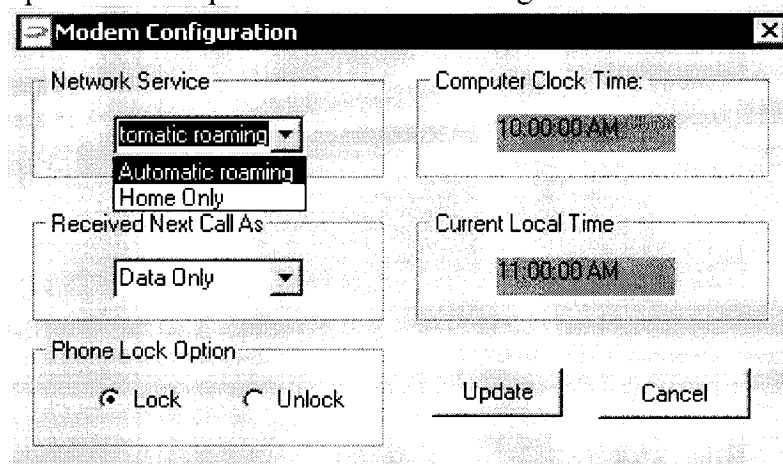


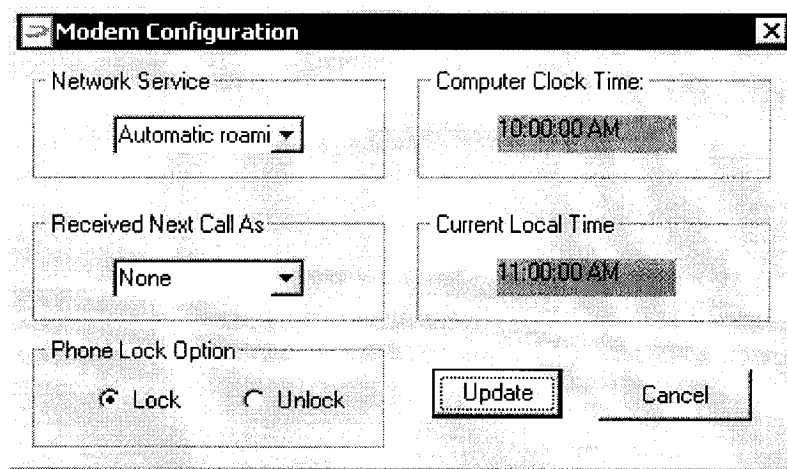
Clicking on the *Details >>* or *Details <<* button to review the detail connection information:



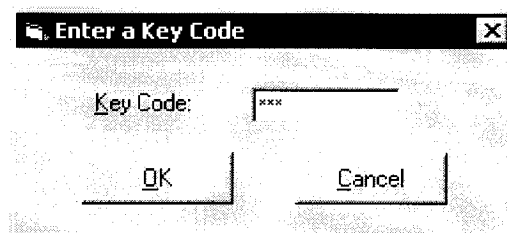
4.4.2 Modem Configuration Dialog Box

The *Modem Configuration* dialog box displays fields that the user can change in order to configure and customize the modem. It will not include any fields that involve the operation of data sessions that are controlled separately by the OS. *Update* and *Cancel* buttons will be provided for update or cancel the changes.

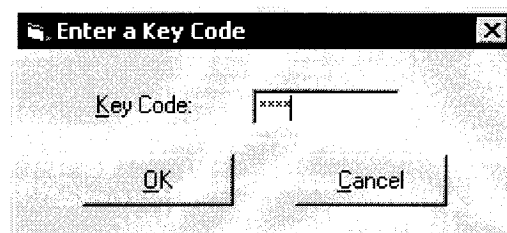
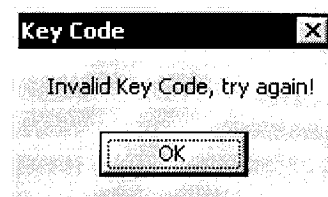




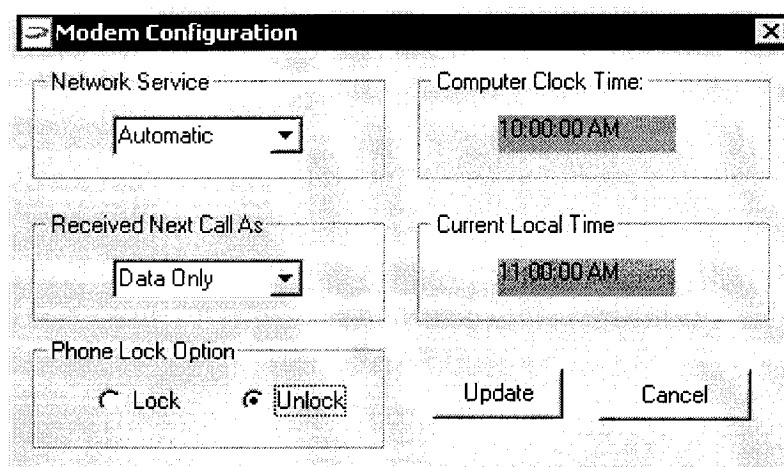
If you select the *Unlock* option, a Key Code setting box will show as follows:



If typed a wrong Key Code, you have to re-type it again until three times fail, a warning message will show up:



After the user typed a correct Key Code and clicking on *OK* button, the change from Lock to Unlock status is done, otherwise, it will remain on the lock status. No *Key Code* is required from Unlock to Lock option.

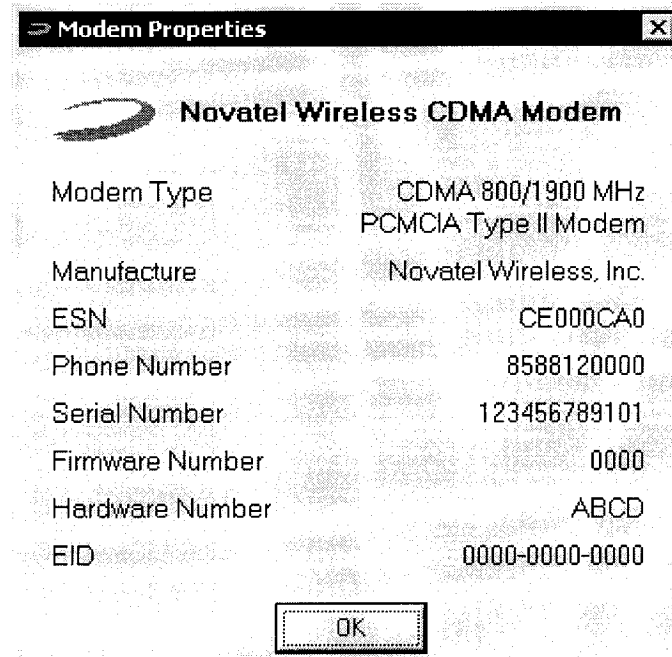


The table below explains the fields provided in this dialog box.

<i>Field/Control Label</i>	<i>Implementation</i>
Network Service	
Automatic roaming	When selected, searches PRL for service, then does a complete system scan
Home Only	When selected, searches only programmed SID for service
Received Next Call As	
Data Only	Drop Down box, when selected, Sets service negotiation to answer all incoming calls as DATA. Default setting.
FAX Only	Drop Down box, when selected, Sets service negotiation to answer all incoming calls as FAX until user configures incoming calls to data
None	Drop Down box, when selected, Sets service to none (or voice data).
Time	
Computer Clock Time	Displays Computer System time in hours minutes and seconds 10:00:00 AM
Current Local Time	Displays Local CDMA time from network in hours minutes and seconds 11:00:00 AM
Phone Lock Option	This sets up a phone lock directly. However, when click <i>Unlock</i> button, a Key Code is required to change from <i>Lock</i> to <i>Unlock</i> status. If fails to type a corrected key code, this option remains the lock status.
Update	This button saves any changes to the configuration. The <i>Modem Configuration</i> dialog box closes and the main Modem Manager window becomes active.
Cancel	This button does not save any changes to the configuration. The <i>Modem Configuration</i> dialog box closes and the main Modem Manager window becomes active.

4.4.3 Modem Properties Dialog Box

The *Modem Properties* dialog box displays the fields listed in the *Modem Properties*. The dialog box must be closed before the main Modem Manager window can be made active.

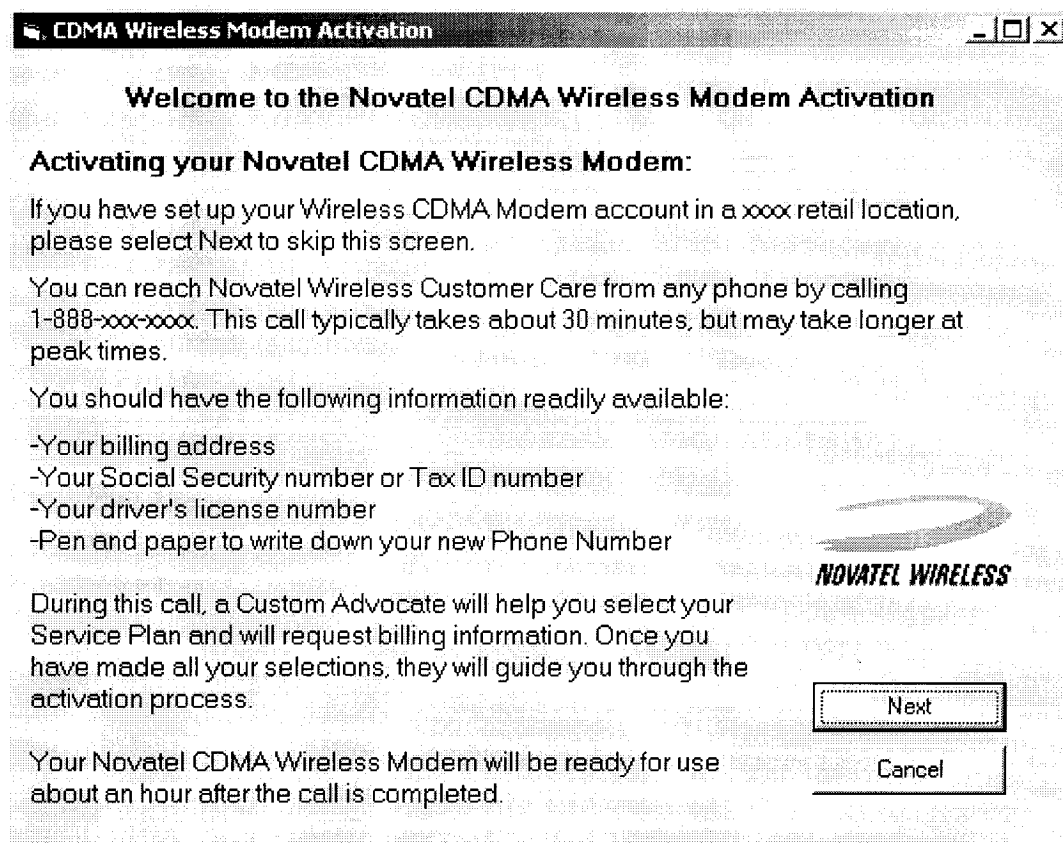


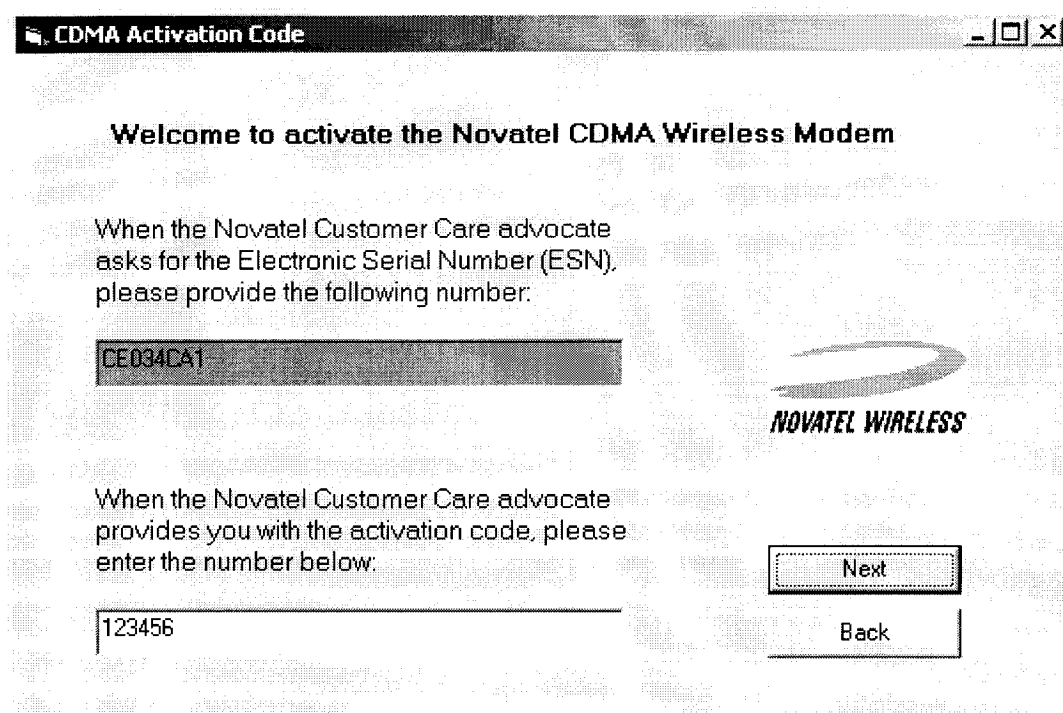
The table below describes the implementation of each of the fields shown above.

<i>Field/Control Label</i>	<i>Implementation</i>
Modem Type	Type of modem
Manufacture	Manufacture of the modem
ESN	A unique number read from the CDMA Modem.
Phone Number	After installation the modem manager software, this is the phone number of the modem
Serial Number	Electronic serial number of the modem
Firmware Version	Version of the firmware currently installed in the modem
Hardware Version	Hardware Version number
EID	Equipment ID
OK	This button closes <i>Modem Properties</i> dialog box and the main Modem Manager window becomes active.

4.4.4 Activation Wizard

The Activation Wizard should automatically launch if the modem has not yet been activated, and the modem manager is launched:





CDMA Activation Code

Welcome to activate the Novatel CDMA Wireless Modem

When the Novatel Customer Care advocate asks for the Electronic Serial Number (ESN), please provide the following number:

CE034CA1

When the Novatel Customer Care advocate provides you with the activation code, please enter the number below:

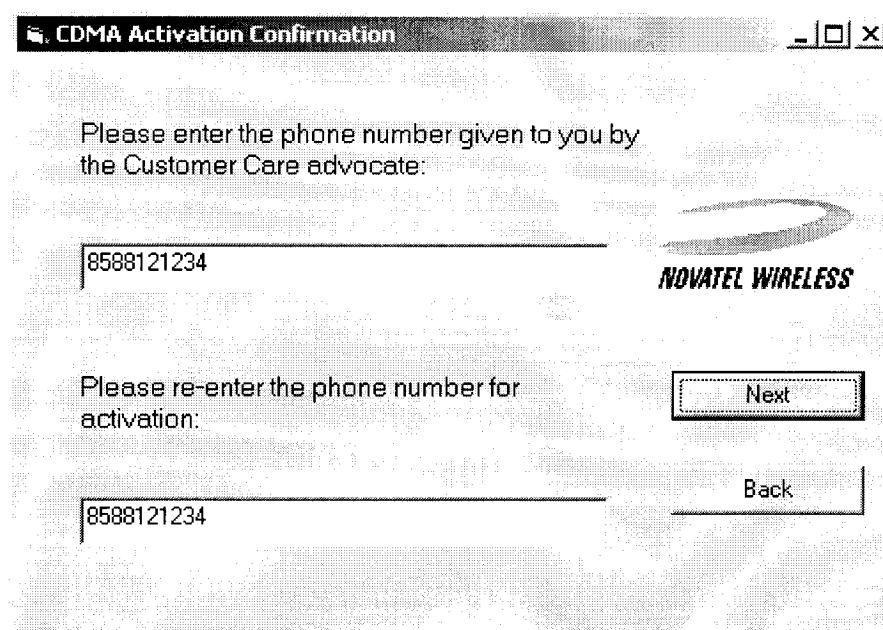
123456

NOVATEL WIRELESS

Next

Back

This 6-digit number is also called as a security number (SPC).



CDMA Activation Confirmation

Please enter the phone number given to you by the Customer Care advocate:

8588121234

Please re-enter the phone number for activation:

8588121234

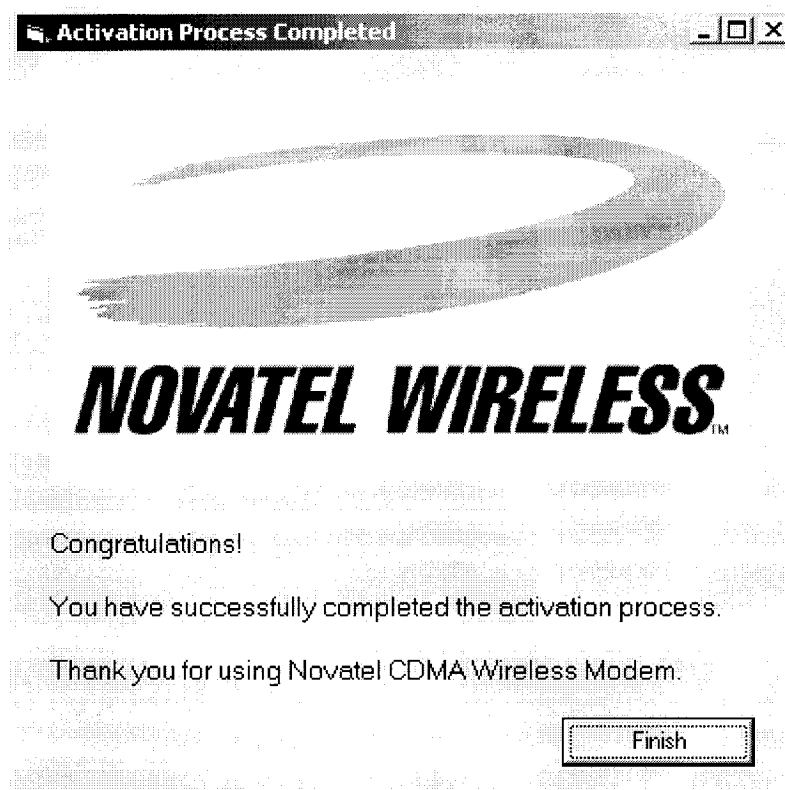
NOVATEL WIRELESS

Next

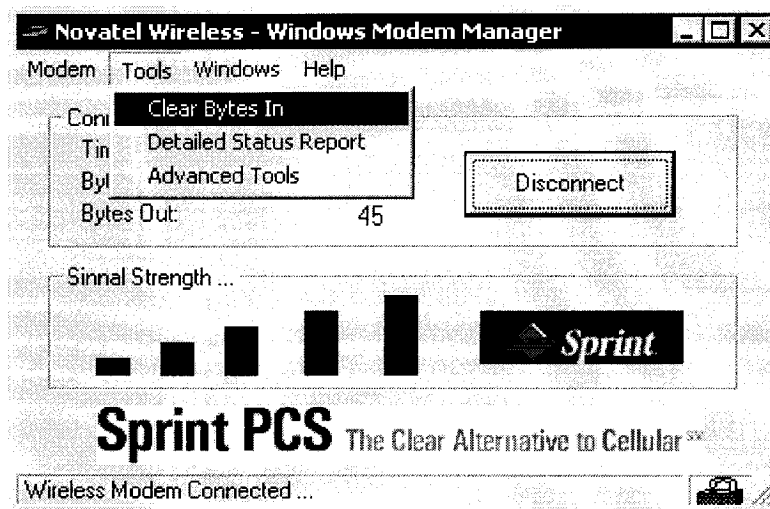
Back

Upon entering correct SPC the user will be presented with a screen to enter phone number, SID.

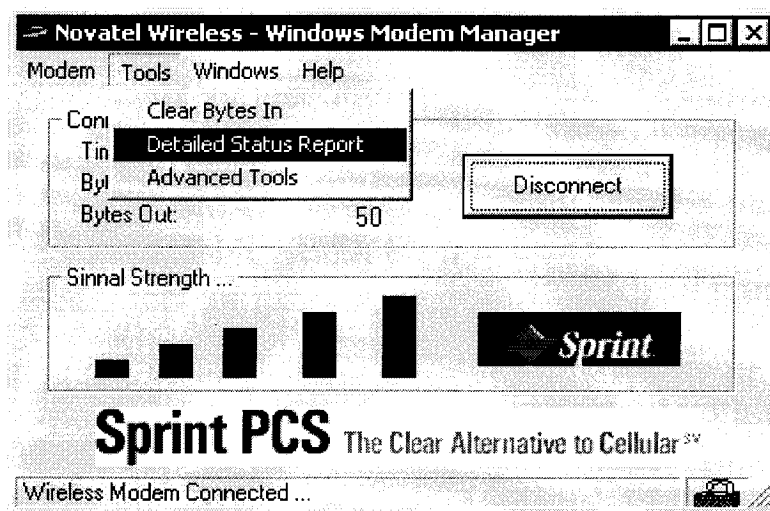
Once the user has put in information and checks *OK*, the utility should display for a confirmation screen.



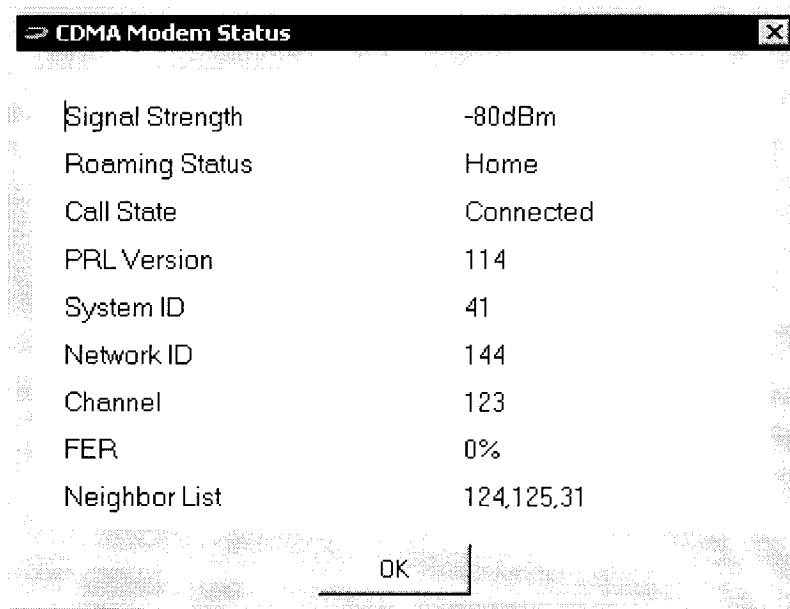
4.4.5 Tools



These tools provide information for user and enable users to clear the accumulated bytes transferred.

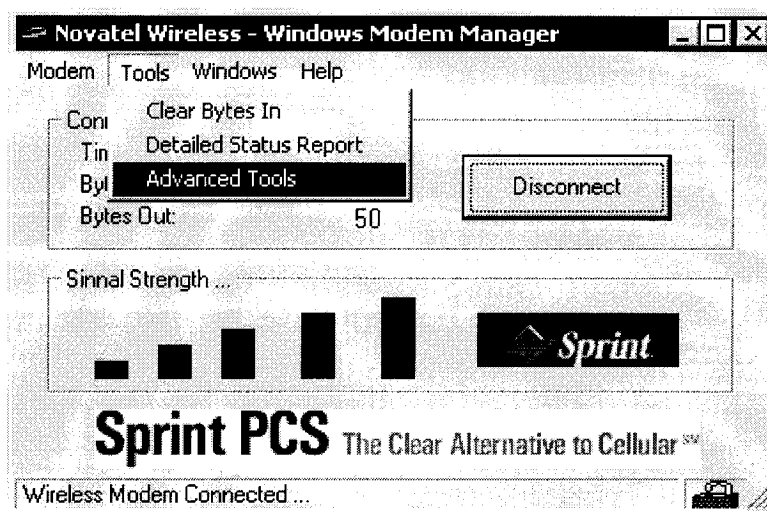


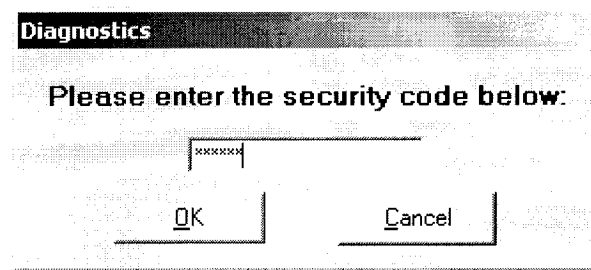
Detailed Status Report will show the current status of CDMA communications



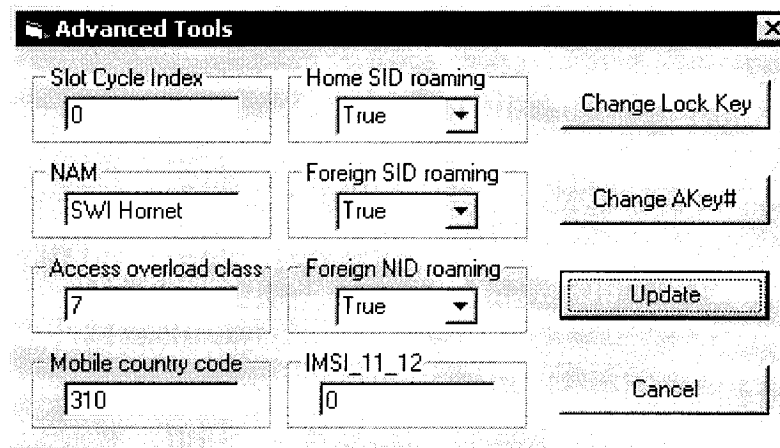
Sample of Detailed Status Report Dialog Box

Advanced tools provide advanced diagnostic information or settings for Technical Support representatives and network technicians and can be accessed after obtaining a security code from a Technical Support representative. To access this window, a 6-digit security code (SPC) must be entered in the following box:





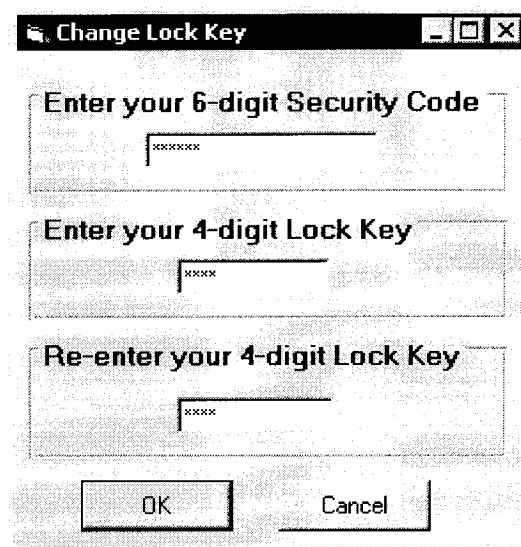
Clicking *OK*



The table below describes the implementation of each of the fields shown above.

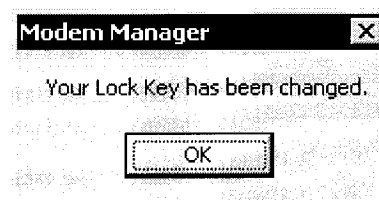
<i>Field/Control Label</i>	<i>Implementation</i>
Slot Cycle Index	Slot Cycle Index mode
NAM	NAM mode
Access overload class	Access overload class mode
Mobile country code	Mobile country code mode
IMSI_11_12	IMSI_11_12 mode
Home SID roaming	True or False
Foreign SID roaming	True or False
Foreign NID roaming	True or False
<i>Change Lock Key</i>	Allows user to change the 4-digit Lock Key number, a security code is required to make this change.
<i>Change Akey#</i>	Allows user to change the 6-digit Akey# number, a security code is required to make this change.
<i>Update</i>	Saves any changes to the configuration. The <i>Advanced Tools</i> dialog box closes and the main Modem Manager window becomes active.
<i>Cancel</i>	Does not save any changes to the configuration. The <i>Advanced Tools</i> dialog box closes and the main Modem Manager window becomes active.

Change Key Lock button



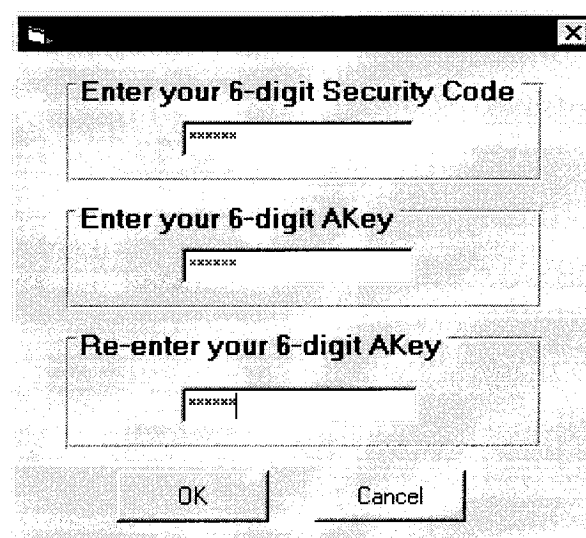
A dialog box titled "Change Lock Key" with a standard Windows window border. It contains three input fields, each with a label and a masked input area. The first field is labeled "Enter your 6-digit Security Code" and has a mask of "xxxxxx". The second field is labeled "Enter your 4-digit Lock Key" and has a mask of "xxxx". The third field is labeled "Re-enter your 4-digit Lock Key" and has a mask of "xxxx". At the bottom, there are two buttons: "OK" and "Cancel".

After clicking on *OK* button:



A small dialog box titled "Modem Manager" with a close button (X) in the top right corner. It contains a single line of text: "Your Lock Key has been changed." Below the text is an "OK" button.

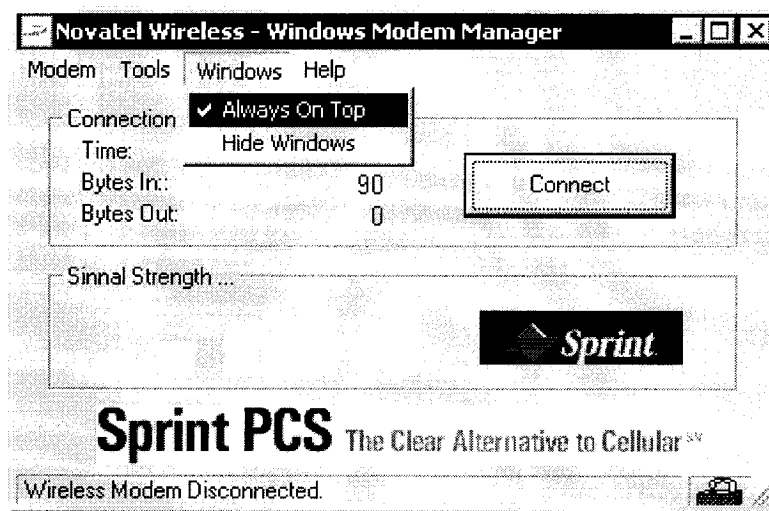
Change Akey# button



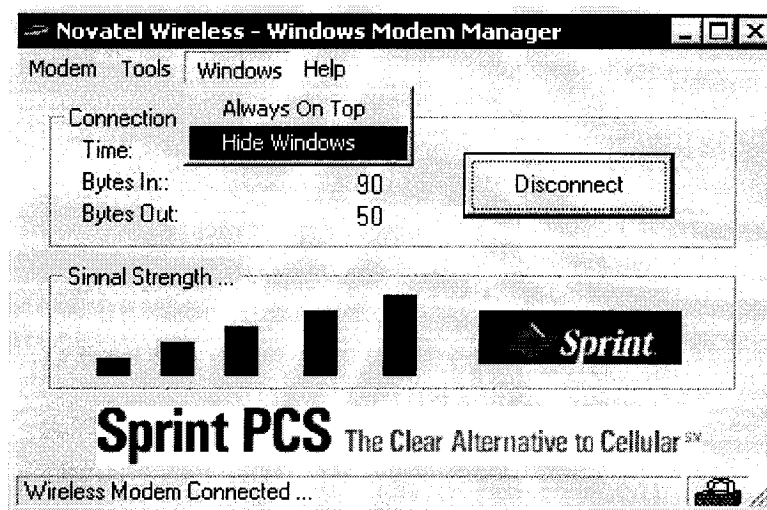
A dialog box with a standard Windows window border. It contains three input fields, each with a label and a masked input area. The first field is labeled "Enter your 6-digit Security Code" and has a mask of "xxxxxx". The second field is labeled "Enter your 6-digit AKey" and has a mask of "xxxxxx". The third field is labeled "Re-enter your 6-digit AKey" and has a mask of "xxxxxx". At the bottom, there are two buttons: "OK" and "Cancel".

4.4.6 Windows

For the Windows option, *Always On Top* can be checked or unchecked.

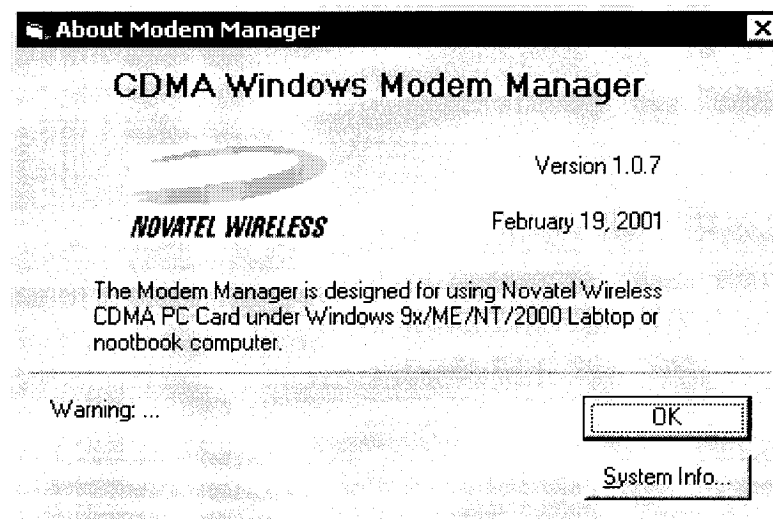


Hide Windows shows a system tray icon, indicating the status of the connection. Right-clicking on the tray icon will open the pup-up menu: Open CDMA Modem Manager,| Connect, Disconnect, and Exit.



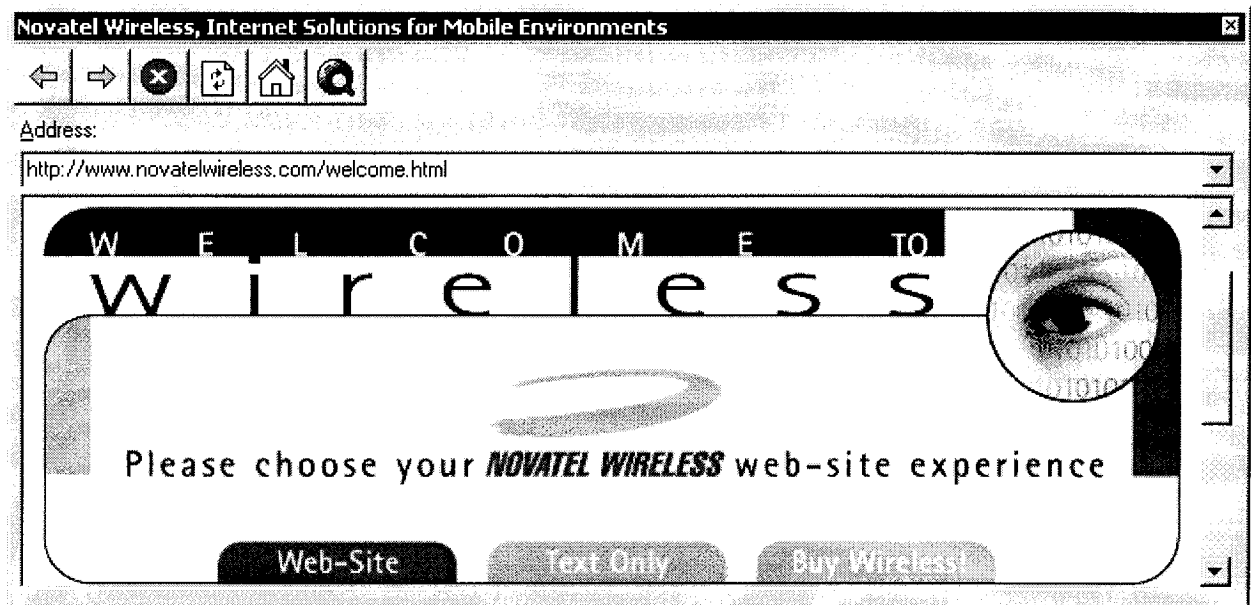
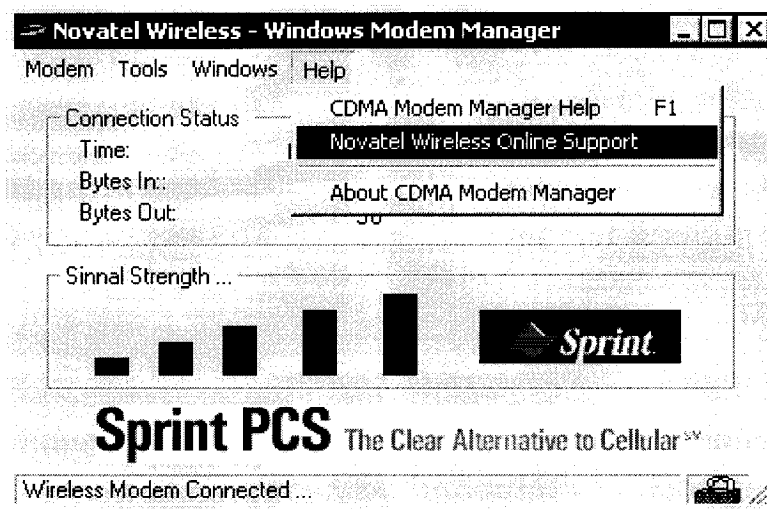
4.4.7 Help Menus

The *About Modem Manager* dialog box displays information regarding the Modem Manager application itself, including copyright and trademark information and the software version.



<i>Field/Control Label</i>	<i>Implementation</i>
Version	Simple text field, right justified, containing the version number of the software.
	Simple text field, right justified, containing the date of the software build.
OK	Button that closes the dialog box, making the main window active.
Copyright information	Simple text field containing all copyright information. When applicable, the width of the window should be set so that this field takes up the complete width of the panel.

Wireless Online Support will launch the CDMA Modem Manager support web page for help or software upgrades:



4.5 User Interaction During Connection

In order to illustrate how the user will interface with the software when a successful connection attempt occurs, the following sections are provided.

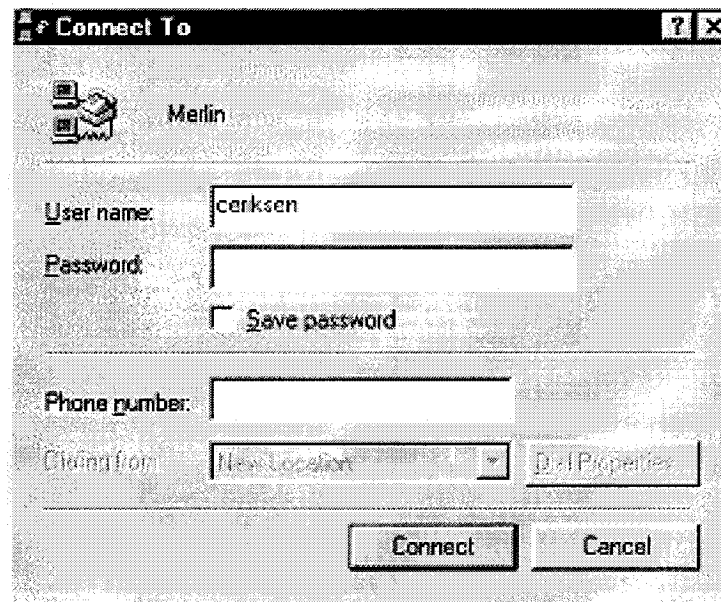
4.5.1 DUN

4.5.1.1 *Connecting Using Modem Manager*

The user can attempt to connect to the network by opening Modem Manager or by using the standard Microsoft Dial Up Networking Session configured upon installation. The user needs to use either the *Connect* command in either the main menu or tray icon menu or the *Connect* button. Depending on the type of service available and the network preference, the appropriate dialog boxes will be displayed as described below.

4.5.1.2 *Dialog Boxes*

This is the standard dial-up networking connection box provided by Windows. Depending on the version of Windows and the connection settings, it looks somewhat similar to that shown below.

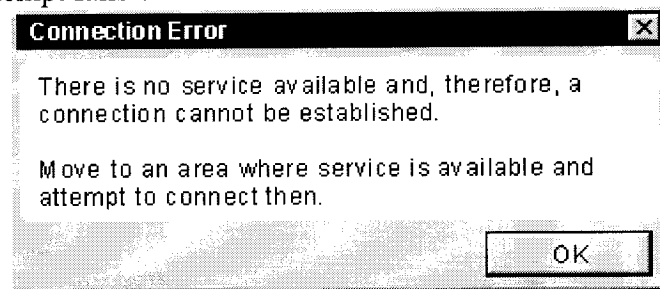


4.5.1.3 *Connecting Using Dial-Up Networking Connection Icons*

The user can also attempt to connect without using Modem Manager by clicking the DUN icons created when the software is installed.

4.6 Error Messages

The connection attempt fails because there is no service available



Modem cannot be detected

