EV620 USER MANUAL WITH MOBILINK 2.0™

The information contained in this document is subject to change without notice and should not be construed as a commitment by Novatel Wireless Inc. unless such commitment is expressly given in a covering document.

***Part 15.21

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment. Such modifications could void the user's authority to operate the equipment.

NOTE: The module device has been approved for use with external antennas up to 5dBi of gain that are greater than 20cm from all persons. The OEM is responsible for ensuring that the antenna installation meets these requirements or if not is responsible for ensuring SAR evaluation is performed on the final product. Class II permissive changes by the grantee or New FCC ID are needed for use of this device in products operated in portable RF exposure conditions.

GETTING STARTED
In This Section

- Description of Your Merlin

- The Package

- System Requirements

- Care of Your Merlin

- Installing MobiLink 2 on Windows 2000

- Windows 2000 detects your UMTS Merlin

- Installing MobiLink 2 on Windows XP

- Windows XP detects your UMTS Merlin

This section will walk you through how to get started using your Merlin, including software and driver installation, inserting the card so Microsoft Windows is able to detect and install the drivers for your Merlin and setting up a data session to connect to the Internet.

1.1   YOUR ACCOUNT

For information about your account, User Name, Password and Access Point Name, please contact your Service Provider.

1.2   YOUR MERLIN

The MobiLink 2 software will allow you to control and monitor your connection to the network. It will also allow you to send and receive SMS (Short Messaging Service), get online help and has an address book.

1.3   THE PACKAGE

➢   MobiLink 2 software on installation CD

Revision A

➢ Quick Start Guide

1.4   GETTING STARTED

Before you use your Merlin, you must first:

1.   Have an active account with a Service Provider.

2.   Install the MobiLink 2 software, located on the installation CD.

3.   Launch MobiLink 2, create a profile if necessary and select the Connect button.

1.5   SYSTEM REQUIREMENTS

➢   133 MHz or faster Pentium- compatible

➢   Windows 2000 or XP (Home and Professional)

➢   64 MB RAM

➢   16 MB available hard drive space

➢   CD-ROM drive

1.6   CARE OF YOUR MERLIN

Novatel Wireless recommends the following handling guidelines:

➢   Handle with care.

➢   Avoid storing your Merlin in extreme temperatures.

1.7   INSTALLING MOBILINK 2

This portion of the guide will instruct you how to install the MobiLink 2 software from the Installation CD.

1.7.1 Windows 2000 Installation

1.   Insert the installation CD in the CD drive of your PC.

2.   If the auto-run does not start, double-click on the Autorun.exe on the CD.

3.   The "Preparing to Install" window will appear as below.
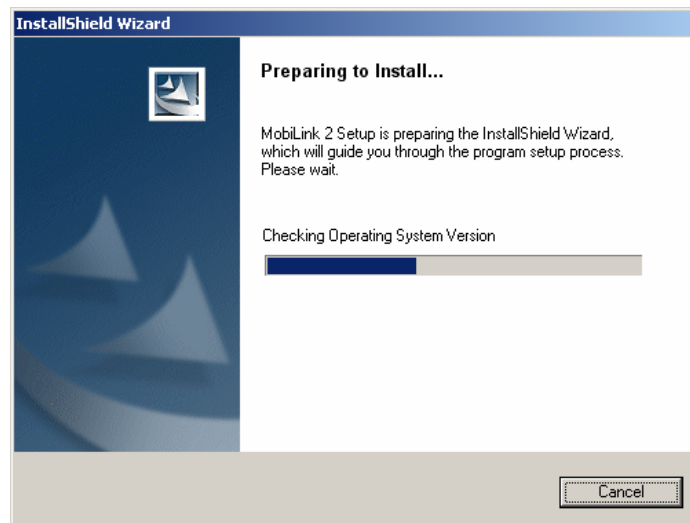
PREPARING TO INSTALL WINDOW

4.   Following preparation the "Welcome to the InstallShield Wizard for MobiLink 2 will appear. See Figure 1.
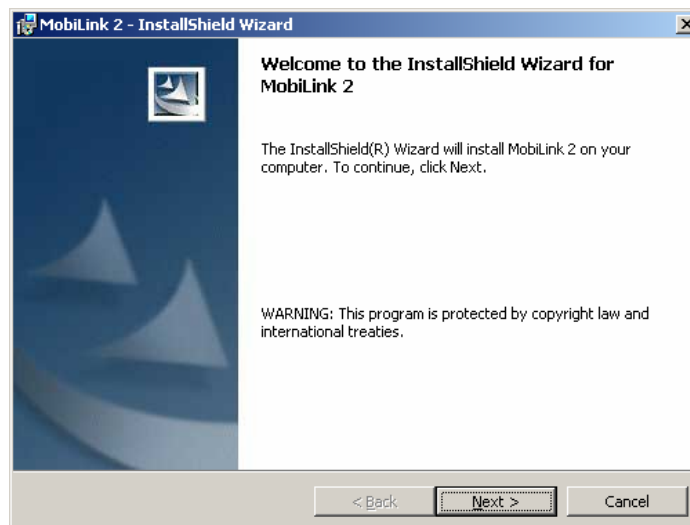
FIGURE 1

5.   Read the information and click **Next.**

6.   The "License Agreement" window will appear next. See Figure 2.
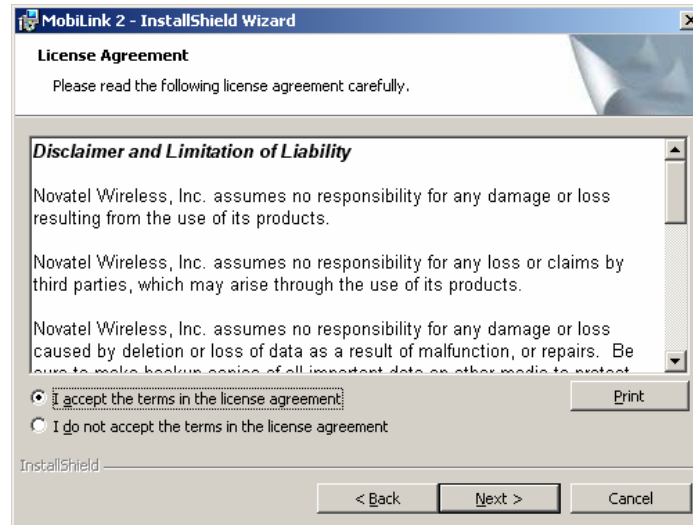

FIGURE 2

7.   Read the License Agreement and acknowledge your agreement by selecting "I accept the license agreement". Then click **Next.**

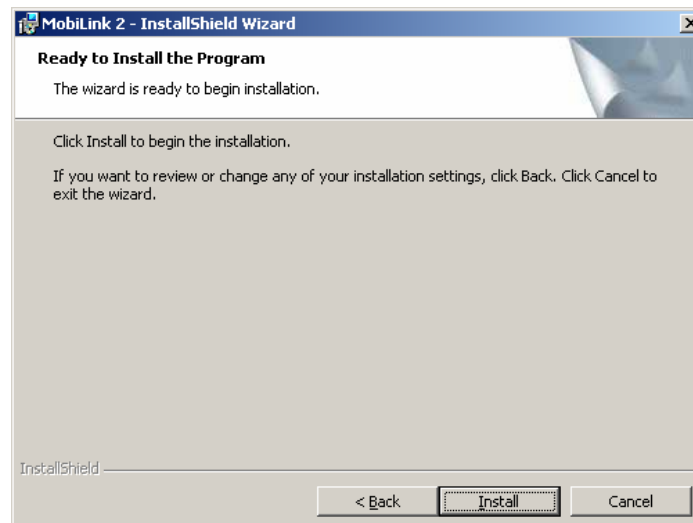8.   The "Ready to Install the Program" window will appear. See Figure 3.

FIGURE 3

9.   Click **Install.**

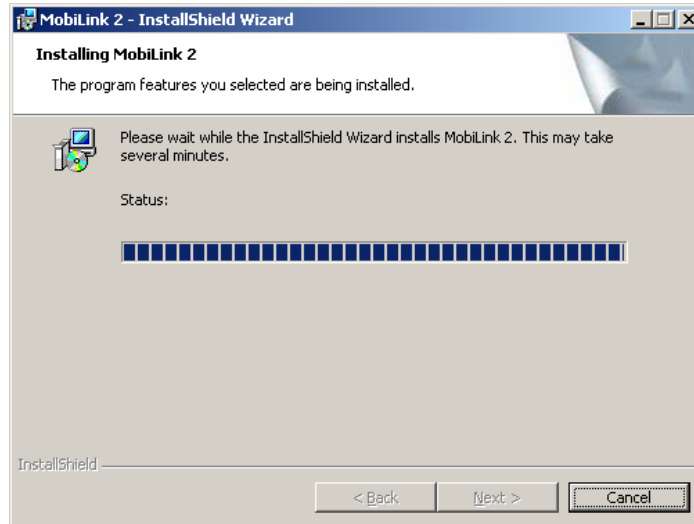10. The "Installing MobiLink 2" window will appear while MobiLink 2 is being installed. See Figure 4.

FIGURE 4

11. When the installation is complete, the "InstallShield Wizard Completed" window will appear. See Figure 5.
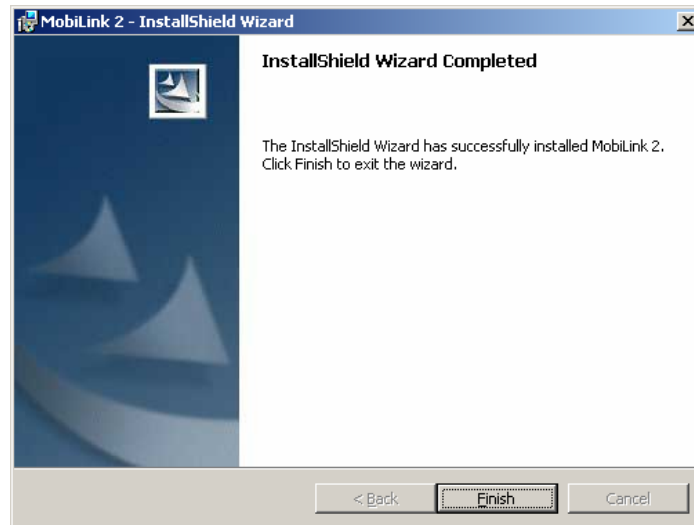

FIGURE 5

12. Click **Finish.**
13. Restart your PC.

1.7.2 Windows 2000 detects your Merlin

After the Novatel Wireless Parent driver is installed, a "multifunction device" driver will be installed. Additional drivers installed are, the Novatel Wireless Modem Primary Port and the Novatel Wireless Secondary Port. See Figure 8, 9, 10, and 11.
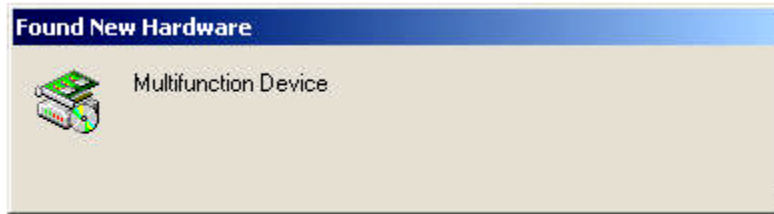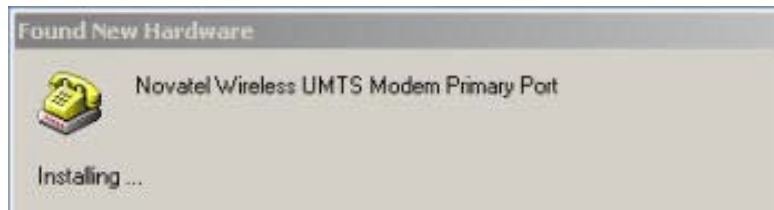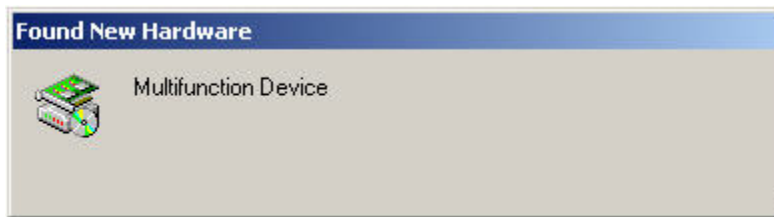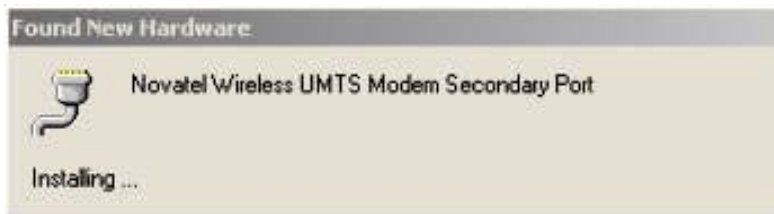
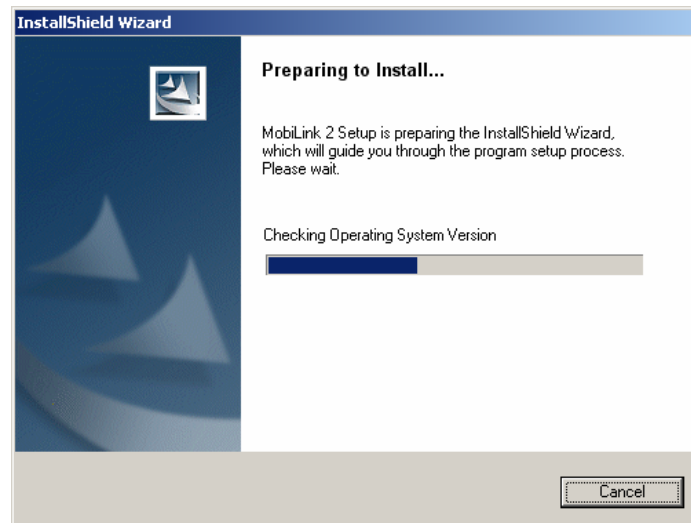FIGURE 8

FIGURE 9

FIGURE 10

FIGURE 11

Windows has now detected and installed the drivers for your Merlin. Proceed to Section 2.

1.7.3 Windows XP Installation

1.   Insert the installation CD in the CD drive of your PC.

2.   If the auto-run does not start, double-click on the Autorun.exe on the CD.

3.   The "Preparing to Install" window will appear as below.

PREPARING TO INSTALL WINDOW

4.   Following preparation the "Welcome to the InstallShield Wizard for MobiLink 2" will appear. See Figure 12.

FIGURE 12

5.   Read the information and click **Next**

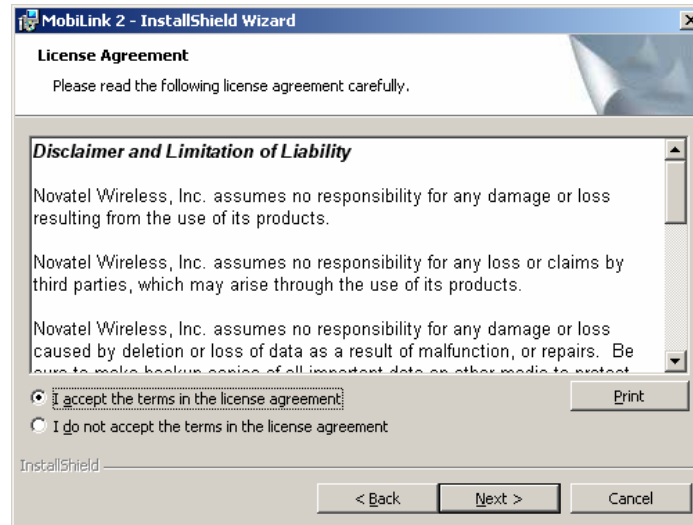6.   The "License Agreement" window will appear next. See Figure 13.

FIGURE 13

7.   Read the License Agreement and acknowledge your agreement by selecting "I accept the terms in the license agreement". Then click **Next.**

8.   The "Ready to Install the Program" window will appear. See Figure 14.
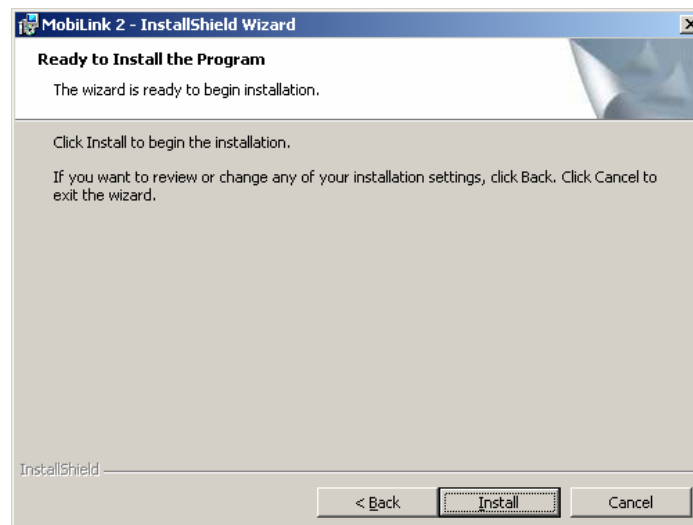
FIGURE 14

9.   Click **Install.**

10. The "Installing MobiLink 2" window will appear while MobiLink 2 is being installed. See Figure 15.

FIGURE 15

11. When the installation is complete, the "InstallShield Wizard Completed" window will appear. See Figure 16.

FIGURE 16

12. Click **Finish.**

13. Restart your PC.

1.7.4 Windows XP detects your modem

CALLOUT

FIGURE 21

FIGURE 23

Windows has now detected and installed the drivers for your card. Proceed to Section 2.

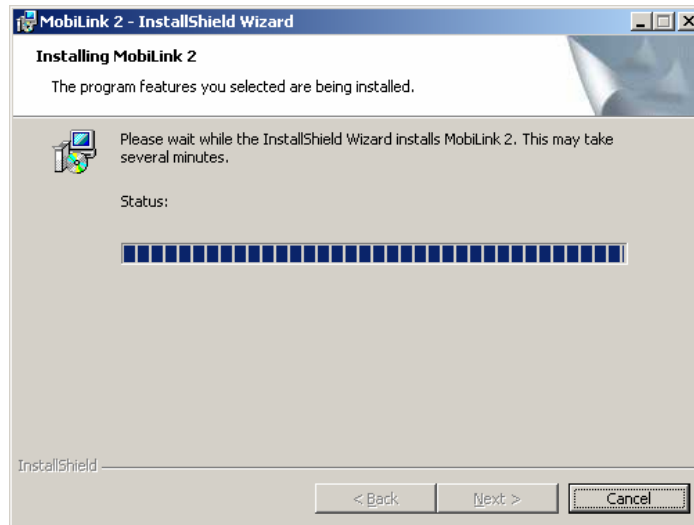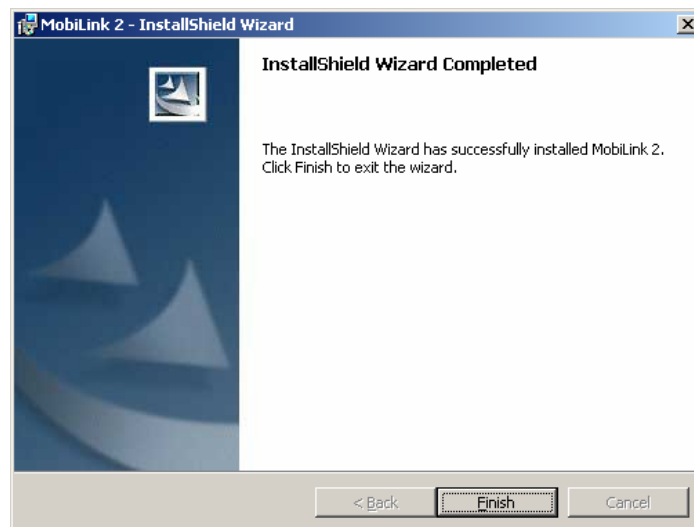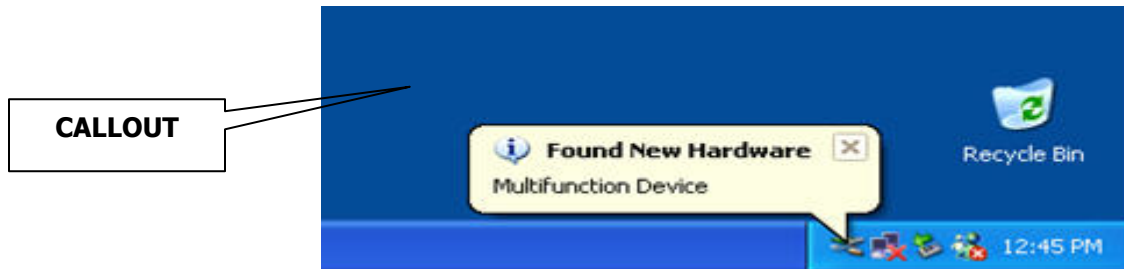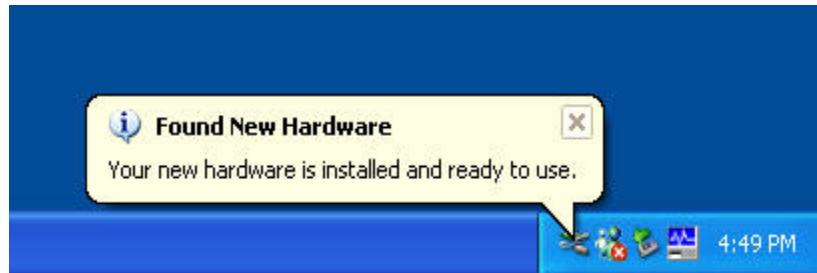# 2   MOBILINK 2

In This Section

- Describing MobiLink 2 Software Suite
- Starting MobiLink 2
- MobiLink's Main Window
- Using MobiLink 2 to connect to and disconnect from the Network
- MobiLink's 2 features
- Create a data session with MobiLink 2

This section will describe the MobiLink 2 Software Suite, how to use MobiLink 2 to connect to and disconnect from the Network along with the various functions associated with the buttons and the menu.

2.1 MOBILINK 2 OVERVIEW

The Novatel Wireless MobiLink™ Communications Software Suite is a family of wireless connectivity applications that connect mobile devices using, Wireless Wide Area Networks (WWAN), Wireless Local Area Networks (Wi-Fi) and Ethernet in a single application to allow quick and easy access to email, the Internet and corporate networks anytime, anywhere.

The MobiLink Communications Software Suite of applications contains a messaging client that manages 2 way Short Message Service (SMS), an address book client that manages contacts and phone numbers, a connection manager that manages the various connections, and a customization utility to manage and generate pre-loaded profiles. The following section will detail the features of each application.

2.2 STARTING MOBILINK 2

To start MobiLink 2, double-click on the MobiLink 2 icon that MobiLink 2 places on your desktop during the installation process.

2.2.1 Main Display Window

Active Profile Selection Menu

Icon Display

Signal Strength Indicator

Mobile Links
WWAN, WiFi, Ethernet

Connection Status

MOBILE VIEW

3G Network
Connect\Disconnect
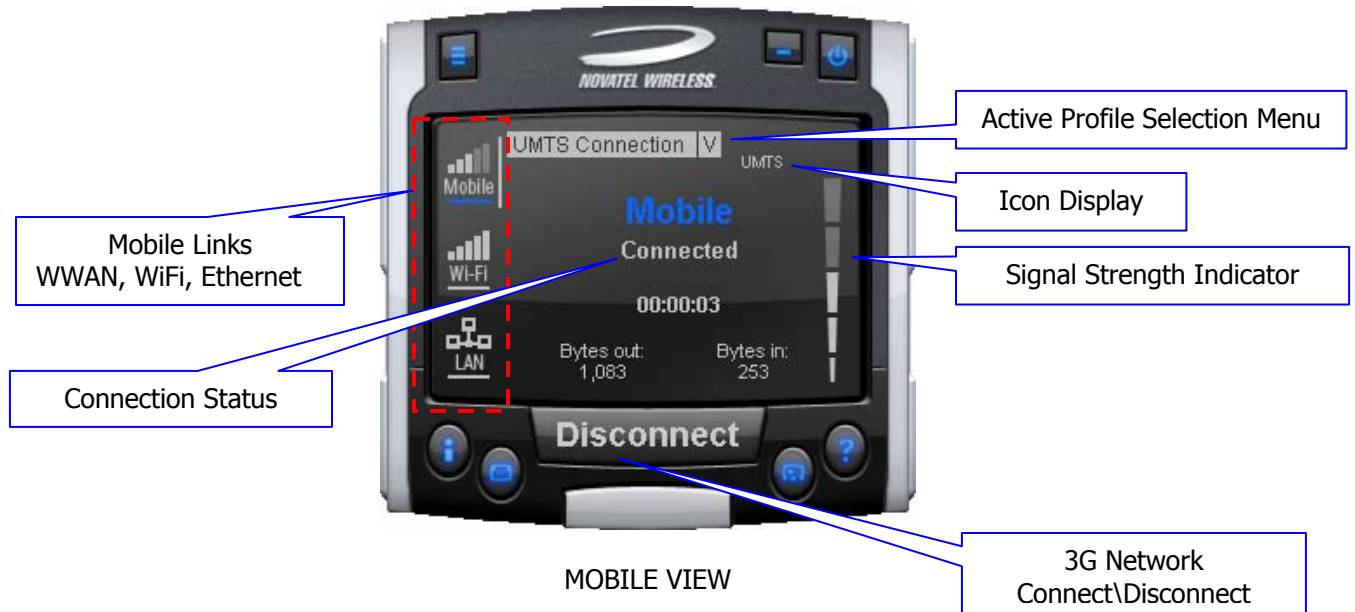
2.2.2 Main Display Window Description

|	
Mobile Links:	Active icon selection to change main display, as well as status indication for all the three types of connections. The blue line indicates which connection Windows is using to connect to the Internet.
Mobile View:(select Mobile icon)	
Connect/Disconnect Button:	Connects or Disconnects you from the Network.
Signal Strength Indicator:	Indicates the strength of the RF signal in your vicinity or area.
Active Profile Selection:	Choose a profile (Username,Password,APN,QoS) among many.
Icon Display will display:	
WWAN Technology Display:	HSDPA, UMTS, GPRS, GSM , IS95a, 1XRTT or EVDO
	Indicates Roaming, device is away from the home network
	3G in dormant mode (May not be applicable for all MAs)
	New SMS message available.
	Device is locked – Connection will be disabled in this state.
Wi-Fi View:(Select Wi-Fi icon)	Displays information about the Wi-Fi connection. See MobiLink 2 help for more information.
LAN View: (Select LAN icon)	Displays information about the LAN connection. See MobiLink 2 help for more information.

2.2.3 MobiLink 2 Buttons

Menu button: Displays the various features of MobiLink 2

Web browser button: Launches your Web browser

SMS Client button: Launches MobiLink's SMS client

Address Book Client button: Launches MobiLink's address book client

Online help button: Launches MobiLink's online help

Minimize button: Will minimize MobiLink 2

Exit button: Will exit out of MobiLink 2

2.2.4 Features

Click on the Menu Button will display various features of MobiLink 2

NOTE: SEE MOBILINK 2'S ONLINE HELP FOR MORE DETAILS ON THE FEATURES

PROFILE MANAGER:	This menu item enables you to create, edit and delete a 3G profile. (See MobiLink's online help for more details)
CONFIGURATION ITEM:	This menu item enables you to manage MobiLink's settings, including;
General tab:	Settings of the user interface preferences.
Mobile tab:	Settings of the connection preferences; locking card and Network selection. (See MobiLink's online help for more details)
WiFi tab:	Displays all Wi-Fi adapters on system. Clicking on **PROPERTIES** will launch standard Windows Wireless Network Connection properties dialog window.
LAN tab:	Displays all Ethernet adapters on system. Clicking on **PROPERTIES** will launch standard Windows LAN Connection properties dialog window.
PROPERTIES ITEM:	This menu item will display;
Firmware Version:	This is software programmed in the modem.
IMEI:	A unique number that identifies your modem on the network
Manufacturer:	Novatel Wireless
REPORT ITEM:	Statistical information about the current connection (See MobiLink's online help for more details)
TRANSPARENCY:	Transparency in percent of the application (See MobiLink's online help for more details)
ABOUT BUTTON DISPLAYS:	MobiLink's version
EXIT:	Exit MobiLink 2

2.2.5 Creating a data session

NOTE: PLEASE ENSURE YOU HAVE AN ACTIVE UMTS DATA ACCOUNT WITH A UMTS SERVICE PROVIDER, THE SIM MUST BE ENABLED FOR UMTS AND SMS AS REQUIRED.

1.   Double-click on the MobiLink 2 icon ![MobiLink] that MobiLink 2 places on your desktop during the installation process.

2.   The MobiLink 2 software will then initialize your Merlin. See Figure 24.

FIGURE 24

3.   The Merlin will now search for available networks. See Figure 26.

FIGURE 26

THE MERLIN WILL THEN ATTEMPT TO "ATTACH" TO THE NETWORK, AND IF SUCCESSFUL, YOU WILL SEE FIGURE 27.

FIGURE 27

NOTE: ONCE ATTACHED TO THE NETWORK, YOU CAN CHOOSE AN AVAILABLE PROFILE TO CONNECT TO THE NETWORK FROM THE ACTIVE PROFILE SELECTION MENU (CLICKING ON V SYMBOL) OR CREATE A PROFILE IF NECESSARY.

NOTE: BEFORE PROCEEDING TO THE NEXT STEP, IF YOU ARE REQUIRED TO CREATE A NEW PROFILE (I.E YOU CANNOT CONNECT TO THE NETWORK OR YOU DON'T SEE ANY PROFILES, YOU WILL NEED THE FOLLOWING INFORMATION FROM YOUR SERVICE PROVIDER TO CREATE A PROFILE. A BASIC PROFILE CONSISTS OF;

- Profile Name – Your Name of choice
- User Name – (if required by your service provider)
- Password – (if required by your service provider)
- APN (Access Point Name) – Obtained by your Service Provider
- Phone Number – You might have to enter the standard phone number *98#

To create a new profile, click on the Menu Button, and choose Profile Manager from the drop down menu. The Profile Manager Window will appear. See Figure 28.
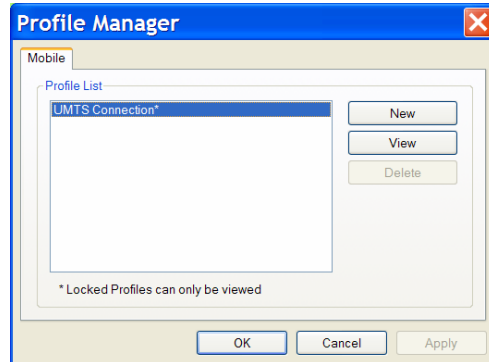
FIGURE 28

Click **New**. The Profile Wizard Window Step 1 of 3 will appear. See Figure 29.
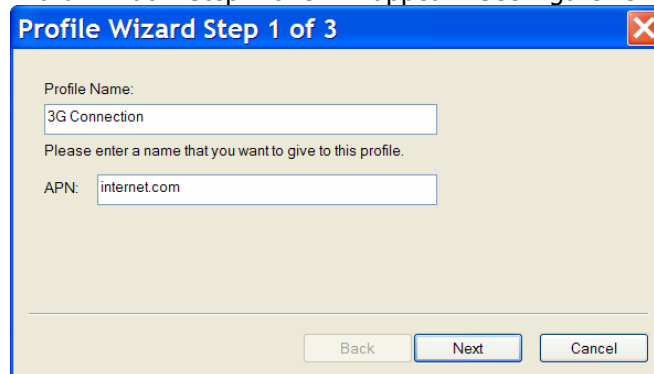
FIGURE 29

Enter your name of choice for the profile, example, 3G Connection and your APN provided to you by your service provider, example, internet.com. Click Next. The Profile Wizard Window Step 2 of 3 will appear. See Figure 30.

FIGURE 30

Revision A
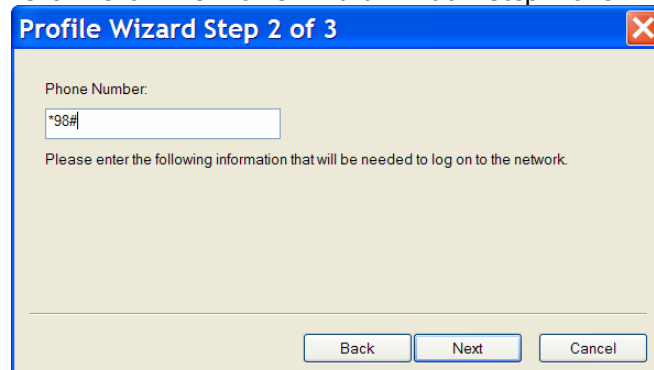
Enter the phone number *98#. Click **Next**. The Profile Wizard Window Step 3 of 3 will appear. See Figure 31.

FIGURE 31

Enter your Username, Password and Confirm password. Click **Finish**. You will now see your profile in the profile list. See Figure 32. Click **OK**.
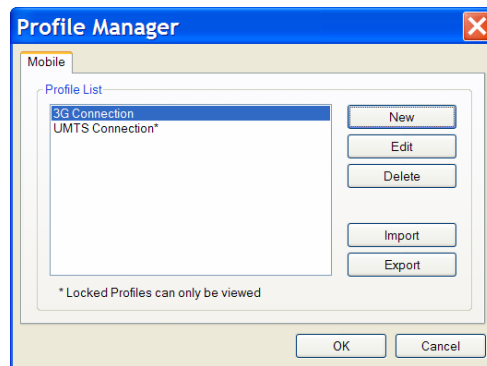
FIGURE 32

You have now created a profile that will appear in the Active Profile Selection Menu. See Figure 33.

FIGURE 33

4. Select the available profile or a profile that you created from the Active Profile Menu (clicking on V symbol) See Figure 33 above.
5. Click **Connect.**

FIGURE 34

6. Your Merlin will attempt to connect to the network. See Figure 35.

FIGURE 35

7. Following successful authentication, your Merlin will connect to the network. See Figure 36.

FIGURE 36

8. To disconnect from the network, click the **Disconnect** button.

3   SENDING AND RECEIVING SMS MESSAGES

In This Section

- What is SMS

- Use The SMS client in MobiLink 2 to send SMS messages

- Use the SMS client in MobiLink 2 to read messages

This section will assist you in using the Short Messaging System client in MobiLink 2

3.1   WHAT IS SMS

Short Message Service (SMS) is the transmission of short text messages to and from mobile devices. Messages cannot be longer than 160 alpha-numeric characters and cannot contain any images or graphics.
To send or receive an SMS message you only have to be attached to the Network. You may also send and receive SMS messages while connected to the Network.

NOTE: ANY SMS MESSAGES WILL BE SUBJECT TO THE TERMS AND AGREEMENTS OF YOUR SERVICE WIRELESS PROVIDER. THIS MEANS THE SENDING OF SMS MESSAGES MAY BE CHARGED AN ADDITIONAL FEE BY YOUR WIRELESS PROVIDER

**NOTE: THE SMS CLIENT ICON WILL ONLY BECOME ACTIVE ONCE YOU ARE ATTACHED, HENCE YOU MAY SEND AND RECEIVE SMS MESSAGES WHILE ATTACHED TO THE NETWORK.
ATTACHED TO NETWORK: YOU CANNOT TRANSFER DATA.
CONNECTED TO NETWORK: YOU CAN TRANSFER DATA (BROWSE INTERNET, CHECK EMAIL ETC...)**
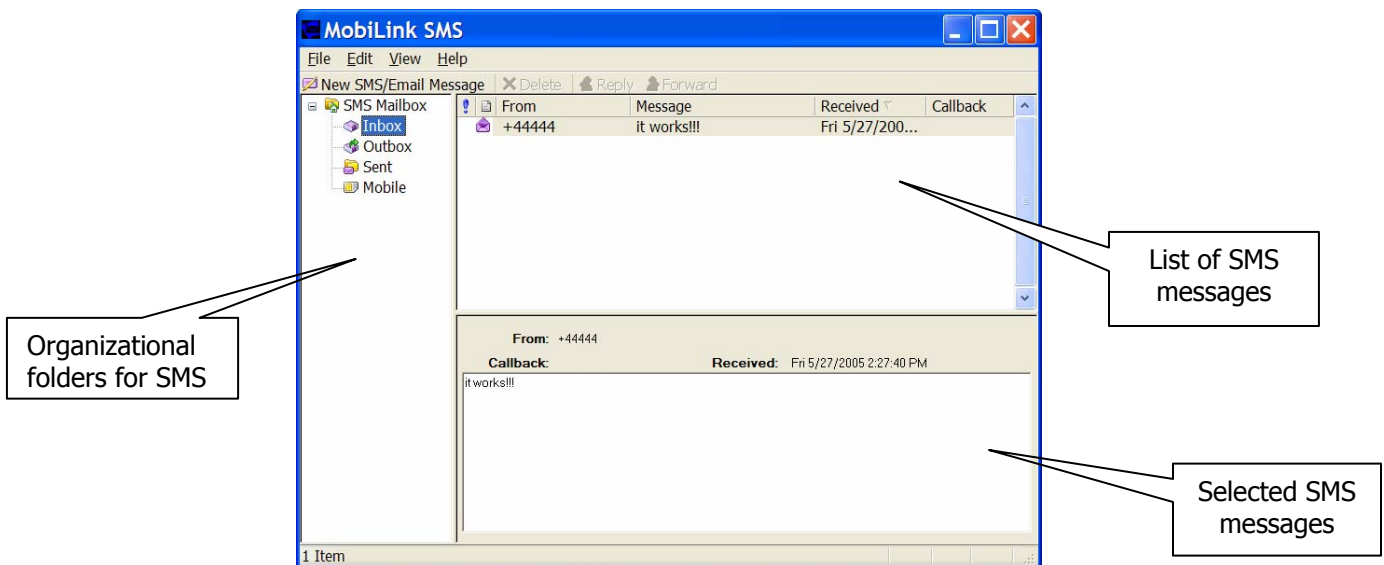
3.2   MOBILINK'S SMS WINDOW

FIGURE 37

MobiLink SMS Toolbar Description
New SMS/Email Message: Creates a new message
Delete: Deletes the selected SMS message(s)
Reply: Copies the sender field to a new message
Forward   Copies the message contents to a new message

SMS Mailbox Description
Inbox: contains received messages
Outbox: is a temporary storage place for messages waiting to be sent
Sent: stores the SMS messages that have been sent

3.2.1 Sending SMS Messages

1.   Launch the MobiLink 2 application (See section 2.2.5 Creating a data session). After your Merlin has attached to the network (Step 5 of section 2.2.5), the SMS button will become active. See figure 38.

SMS CLIENT BUTTON

FIGURE 38

NOTE: AT THIS POINT YOU WILL NOT BE ABLE TO SEND OR RECEIVE DATA (BROWSE WEB OR CHECK EMAILS) UNLESS YOU CONNECT TO THE NETWORK BY CLICKING THE CONNECT BUTTON

2.   Click on the SMS client icon, see Figure 38, and the MobiLink 2 SMS window will appear. See Figure 37 above.

3.   Click on the New SMS/Email message button to create a new message. See Figure 39.
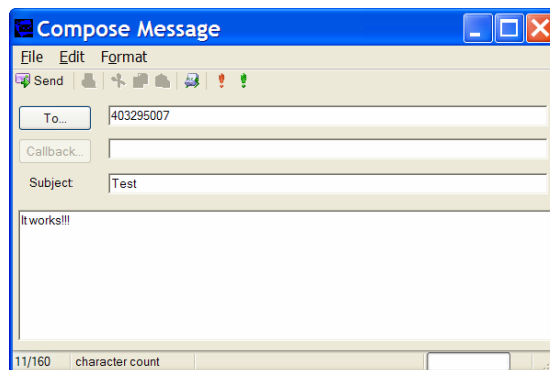

FIGURE 39

4.   In the **To** box, type the phone number of each recipient, separating names with a semicolon (;). To add phone numbers from the Address Book, click the **To** button and then select the phone number.

5.   Type your message, and then click **Send** on the toolbar.

3.2.2 Receiving and Reading SMS Messages

Once you are attached to the Network, you are able to receive SMS messages.   MobiLink 2 will notify you when you receive an SMS message. See Figure 40.

SMS Notification

FIGURE 40

After the SMS Client receives your messages, you can read messages by launching the SMS client. MobiLink's SMS window will appear. See Figure 37 above.

Click the **Inbox** icon in the Folders list.
To view the message in the lower pane, click the **message** in the message list.
You may also view messages from the **OUTBOX** and **SENT** folders.

4 DETERMINE MERLIN STATES

In This Section

- Determine the current state of your UMTS Merlin, by interpreting the cadence (flashing sequence) and colour of the Light Emitting Diode

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The Light Emitting Diode (LED) is a device that lights up when power is applied to it. Interpreting the LED's flashing sequence and color, will provide you with the current state of your Merlin

NOTE: WHEN THE MODEM TRANSITIONS FROM ONE STATE TO ANOTHER, THE ACTUAL LED DISPLAY WILL NOT CHANGE IMMEDIATELY, RATHER, IT WILL ONLY CHANGE ONCE THE MODEM HAS CONFIRMED THAT THE NEW STATE IS VALID. FOR EXAMPLE, WHEN THE MODEM IS TAKEN OUT OF A SERVICE AREA IT MIGHT TAKE THE MODEM 10 TO 90 SECONDS TO CONFIRM THAT NO SERVICE IS AVAILABLE AT WHICH TIME THE LED DISPLAY WILL CHANGE STATES ACCORDINGLY.

PDP (Packet Data Protocol) Context Activation Process: To connect to a PDN (Packet Data Network), such as the Internet, some sort of session description information needs to exist (i.e. type of IP network, quality of service, IP address etc…) to enable agreement on the characteristics of any data flow between the network and the mobile terminal. This is essentially, what PDP 'context' activation is.

Circuit Switched (CS) Data connection is basically similar to a land line modem dial up call. A dedicated connection is set up for the duration of the call regardless of whether data is transferred or not.

A Packet Switched (PS) Data connection is typically set up once. Within packet-switched networks, data is divided (disassembled and packaged) into packets before it is sent. Packets are routed through the networks based on a destination address contained within each packet. Once all the packets arrive at their respective destinations, the data is recompiled (unpacked and assembled). There is no need to re-establish the connection before each transmission.

5   TROUBLESHOOTING

In This Section

- Troubleshooting common problems

This section will assist you in resolving common problems that might arise during installation or connecting to the network.

1.1   CANNOT INSTALL MOBILINK 2

POSSIBLE CAUSE: YOU DON'T HAVE ADMINISTRATIVE PRIVILEGES

RESOLUTION:

Windows 2000 and XP

1.   Talk to your system administrator if applicable
2.   Log onto your computer as an administrator, or create an user account with administrator privileges

1.2   PROBLEM: WHEN I RUN THE MOBILINK 2 SOFTWARE, I GET THE MESSAGE "SIM NOT FOUND – CHECK ORIENTATION

POSSIBLE CAUSE: PROBLEM WITH YOUR SIM CARD.

RESOLUTION:

1.   Make sure you have inserted the SIM card exactly as the picture in this manual, or on the back of Merlin or Quick Start Guide, noting the location and orientation of the bevel corner

2.   Make sure the contacts of the SIM card are clean

1.3   PROBLEM: MODEM CANNOT READ SIM. LED FLASHING RED

POSSIBLE CAUSE: SIM LOCKED OR SIM SELF DESTRUCTED

RESOLUTION

1.   Enter in your PIN as required. See Section 2.2.5 Creating a data session
2.   Contact your Service Provider if you entered your PIN number incorrectly 3 times. You will require a PUK code.
3.   If you enter the PUK code incorrectly 3 times, the SIM is designed to self destruct. You will have to be issued a new SIM. Contact your Service Provider.

4. Depending on where you purchased your Modem, the Modem could have a Service Provider Lock (SIMLOCK) which ties the modem to a particular set of SIMs. Please contact the Service Provider to unlock the Modem.

1.4 PROBLEM: WHEN I RUN MOBILINK 2 SOFTWARE, THE WINDOW "SEARCHING FOR NETWORK" WILL BE DISPLAYED CONTINUOUSLY

POSSIBLE CAUSE: OUT OF UMTS COVERAGE AREA

RESOLUTION: RELOCATE TO AN AREA OF COVERAGE. CONTACT YOUR SERVICE PROVIDER FOR DETAILS OF THEIR COVERAGE AREAS.

1.5 PROBLEM: CANNOT BROWSE THE WEB

POSSIBLE CAUSE 1: INCORRECT USER NAME, PASSWORD OR ACCESS POINT NAME (APN).

RESOLUTION 1: CHECK YOUR PROFILE FOR AN INCORRECT ENTRY OF THE ABOVE PARAMETERS. RE-ENTER THE PARAMETERS OR CONTACT YOUR SERVICE PROVIDER IF NECESSARY TO CONFIRM.
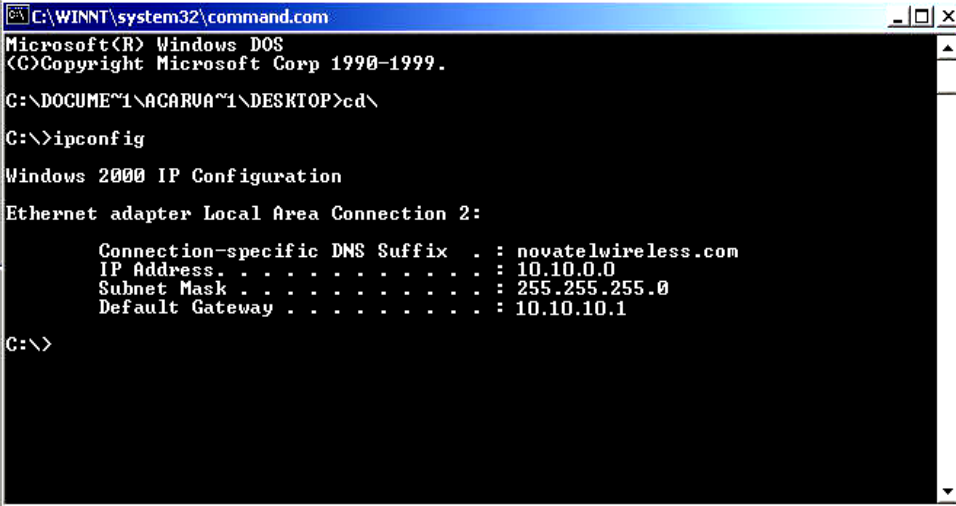
POSSIBLE CAUSE 2: NO IP ADDRESS

RESOLUTION 2:
IF YOU ARE CERTAIN THAT, THE USER NAME, PASSWORD AND ACCESS POINT NAME ARE CORRECT, CHECK TO SEE IF YOU ARE GETTING AN IP ADDRESS.

Windows 2000 and XP

1. Click **Start** > **Run** and type in **Command** in the Run Window. A DOS window should open. See Window 4

WINDOW 4

3. Type in cd\ and hit enter this will get you to the root directory
4. Type in ipconfig and hit enter.   You should have an IP address. If you don't have an IP address, please contact your Service Provider.
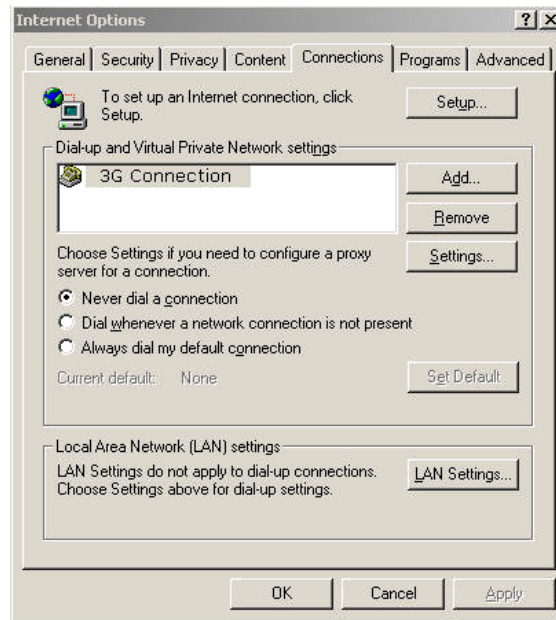
POSSIBLE CAUSE 3: INCORRECT SERVER SETTINGS

RESOLUTION 3:

5. In Internet Explorer go to Tools > Internet Options > Connections
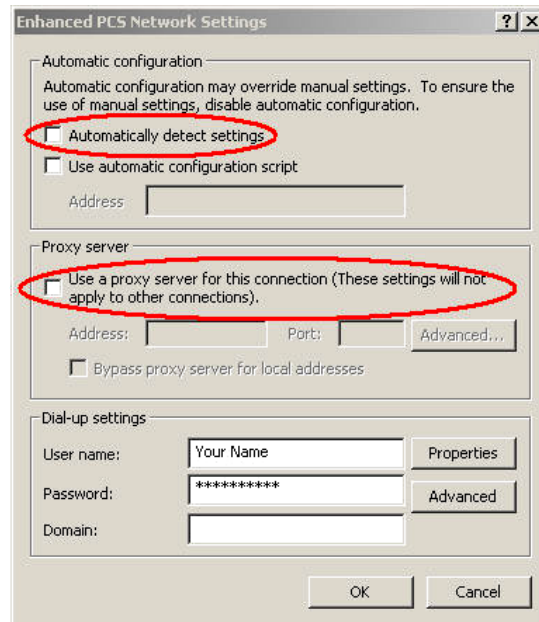

6. In Dial Up and Virtual Private Network Setting double click on 3G Connection – See Window

WINDOW 5

7. Check appropriate boxes if you are using a proxy server. See Window 6
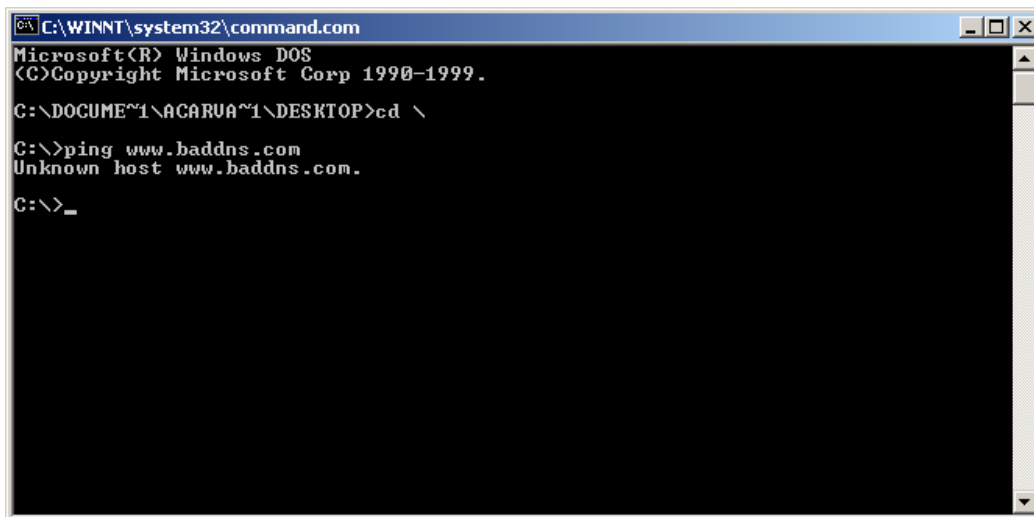
WINDOW 6

POSSIBLE CAUSE 4:   DNS SERVER PROBLEMS

RESOLUTION 4:

Windows 2000 and XP

1.   Click **Start** > **Run** and type in **Command** in the Run Window. A DOS window should open. See Window 7

WINDOW 7

2.   At the C prompt type in PING www.nvtl.com

- Response: Unknown host www.nvtl.com --- Usually faulty DNS. Call your Network Provider
- Response: Pinging nvtl.com [216.65.221.49] with 32 bytes of data. DNS ok even if you don't get reply.