

# Ripwave™ MX PC Card (PMX) User's Guide

---



Part Number 40-00460-00R  
Revision A, Version 1.0, PV1.3  
August 25, 2006

## Proprietary

All information disclosed by this document is the proprietary property of Navini Networks, Inc. and is protected by copyright, trademark, and/or trade secret laws. All rights therein are expressly reserved.

# TABLE OF CONTENTS

<i>Permissions, Trademarks &amp; Distribution</i> .....	3
<i>Safety</i> .....	4
<i>Regulatory Information</i> .....	5
<b>INTRODUCTION</b> .....	<b>6</b>
<b>PMX MODELS</b> .....	<b>6</b>
<b>MINIMUM COMPUTING REQUIREMENTS</b> .....	<b>6</b>
<b>PHYSICAL CHARACTERISTICS</b> .....	<b>7</b>
<b>INSTALLING YOUR PMX</b> .....	<b>8</b>
<b>ACCESSING THE INTERNET</b> .....	<b>10</b>
<b>REMOVING YOUR PMX</b> .....	<b>11</b>
<b>INDICATOR LIGHT</b> .....	<b>12</b>
<b>TROUBLESHOOTING</b> .....	<b>13</b>
Installing Navini Diagnostics Tool (NavDiag) .....	13
Troubleshooting Using Navini Diagnostics .....	17
NavDiag Screen Options.....	20
<b>UNINSTALLING NAVDIAG SOFTWARE</b> .....	<b>23</b>
<b>OPTIONAL DESKTOP ANTENNA</b> .....	<b>25</b>
<b>CARE AND MAINTENANCE</b> .....	<b>26</b>
<b>UPGRADING THE PMX SOFTWARE</b> .....	<b>27</b>
<b>ADDENDUM 1: PMX - PC TROUBLESHOOTING</b> .....	<b>28</b>
<b>ADDENDUM 2: END USER SOFTWARE LICENSE AGREEMENT</b> .....	<b>32</b>

## Permissions, Trademarks & Distribution

Copyright© 2006, Navini Networks, Inc. All information contained herein and disclosed by this document is confidential and the proprietary property of Navini Networks, Inc. and all rights therein are expressly reserved. Acceptance of this material signifies agreement by the recipient that the information contained in this document is confidential and that it will be used solely for the purposes set forth herein. Acceptance of this material signifies agreement by the recipient that it will not be used, reproduced in whole or in part, disclosed, distributed, or conveyed to others in any manner or by any means – graphic, electronic, or mechanical, including photocopying, recording, taping, or information storage and retrieval systems – without the express written permission of Navini Networks, Inc.

Navini Networks and Ripwave are registered trademarks. The Navini Networks logo, Smart WiMax, Zero-Install, and Unwired by Navini are trademarks of Navini Networks, Inc. Other product and company names mentioned herein may be trademarks and/or service marks of their respective owners.

**Except for the hardware warranty, nothing herein constitutes any representation, warranty, assurance, or guaranty of any kind.**

Because of continuing developments and improvements in design, manufacturing, and deployment, material in this document is subject to change without notification and does not represent any commitment or obligation on the part of Navini Networks, Inc.

Navini Networks, Inc. shall have no liability for any error or damages resulting from the use of this document.

All Navini Networks logos and trademarks are the property of Navini Networks, Inc. Unauthorized usage is strictly prohibited without the express written permission of Navini Networks, Inc.



© 2006 Navini Networks, Inc. All rights reserved.

## Safety

To optimize safety and expedite installation and service, read this document thoroughly. Follow all warnings, cautions, and instructions marked on the equipment and included in this document.

To aid in the prevention of injury and damage to property, cautionary symbols have been placed in this document to alert the reader to known potentially hazardous situations, or hazards to equipment or procedures. The symbols are placed before the information to which they apply. However, any situation that involves heavy equipment and electricity can become hazardous, and caution and safety should be practiced at all times when installing, servicing, or operating the equipment.



Caution Symbol - possible equipment or property damage.



Warning Symbol - could cause personal injury or otherwise be hazardous to your health

Navini Networks, Inc., expressly requires that when using Navini electronic equipment always follow the basic safety precautions to reduce the risk of electrical shock, fire, and injury to people and/or property.

1. Follow all warnings and instructions that come with the equipment.
2. Do not use the equipment while you are in a bathtub, shower, pool, or spa. Exposure of the equipment to water could cause severe electrical shock or serious damage to the equipment.
3. Do not allow any type of liquid to come in contact with the equipment. Unplug the equipment from the power source before cleaning. Use a damp cloth for cleaning. Do not use any soaps or liquid cleaners.
4. Follow all airport and FAA regulations when using the equipment on or near aircraft.
5. Do not use the PMX near medical equipment, life support equipment, or any equipment that may be susceptible to any form of radio interference. In such areas, the PMX must be powered off.
6. The driver or operator of any vehicle should not operate the PMX while in control of a vehicle. Doing so will detract from the driver or operator's control and operation of the vehicle.
7. Do not disassemble the equipment. Removing covers exposes dangerous voltages or other risks and also voids the warranty. Incorrect reassembly can cause equipment damage or electrical shock. Only an authorized repair technician should service this product.
8. Do not expose the equipment to extreme hot or cold temperatures.
9. Do not use the equipment under the following conditions:
  - When the equipment has been exposed to water or moisture.
  - When the equipment has been damaged.
  - When the equipment does not operate properly or shows a distinct change in performance.

## Regulatory Information

This Ripwave MX PC Card (PMX) has been tested with a typical laptop computer with a side loading PCMCIA bay. This PMX must not be co-located or operated in conjunction with any antenna (other than the one furnished by Navini and included in the package) or transmitter. Use of this device in any other configuration may exceed the FCC, ETSI, or other regulatory bodies RF Exposure compliance limit.

If this equipment causes interference to radio or television reception, which can be determined by turning the equipment off and on, the user should try to correct the interference by one or more of the following measures:

- 1) Reorient or relocate the receiving antenna,
- 2) Increase the separation between the equipment and the receiver,
- 3) Consult the dealer or an experienced radio technician for additional suggestions.

FCC guidelines stipulate that the antenna should be more than 2.5 cm (1") from bystanders and 1.2 cm (0.472") from the user. When in use, the antenna should be pointed vertically upward. When using the Desktop Antenna with the PMX, a minimum distance of 20 centimeters (8 inches) is required from the user or bystander.

This product conforms with the Australian Standard for Human Exposure to Radiation at a distance of 2.5 cm. Closer contact, such as touching the aerial will result in radiation in excess of safe limits.

SAR, or Specific Absorption Rate, is the measurement for the rate at which electromagnetic energy is absorbed by the human body during exposure. The FCC states the body SAR limit is 1.6 W/kg. The highest reported SAR value for the PMX card is 0.560 W/kg.

**Note:** This equipment has been tested and found to comply with the limits for a Class B digital device, 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:

- Re-orient or relocate the receiving antenna.
- Increase the separation between the equipment and 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.

## Introduction

Congratulations! Your Ripwave MX PC Card (PMX) is a user-friendly, easy-to-install device that helps you connect wirelessly to the Internet using the PCMCIA port on your laptop computer. The PMX can work with today's MC-SCDMA technology and the OFDM-based 802.16e technology that Navini will trial late 2006. The PMX provides complete broadband Internet access to residential and small office/home office (SOHO) users without the necessity of professional hardware installation.

The PMX also provides portable Internet service. A computer with the PMX can be moved from room-to-room, location-to-location, or even city-to-city as long as there is coverage and appropriate reception in the area.

This manual will guide you through the simple process of installing the PMX and its monitoring software.

## PMX Models

Currently, the PMX comes in one model. However, other models will be introduced in the future. The model indicates the frequency the PMX will operate in (for example, 3.4 GHz). The frequency number appears on the PMX's label. The current model is detailed in the table below.

Model	Model Number	Frequency Range MHz	Operating Band
2.3 GHz	2305-2360 PMX	2305-2360	International Only
2.5-2.6 GHz	2.5-2.6 PMX	2500-2686	EBS
3.4 GHz	3410-3525 PMX	3410-3525	WLL
3.5 GHz	3475-3600 PMX	3475 - 3600	WLL

## Minimum Computing Requirements

(See, also, Addendum 1)

The following table lists the minimum requirements your computer should meet before connecting to the PMX.

<b>Operating System<sup>1</sup>:</b>	Windows 2000 or Windows XP. It is assumed the latest Windows service pack is installed on the Operating System.  <i>Note:</i> The PMX is not supported on MacIntosh systems or Linux/Unix systems.
<b>CPU:</b>	Pentium level or higher
<b>RAM:</b>	32 MB or the Operating System minimum, whichever is greater
<b>Hard Drive:</b>	50 MB free disk space for the optional Navini Diagnostics software
<b>Monitor:</b>	256 colors, 800 x 600 resolution



**NOTE:** If you are going to upgrade your Operating System after loading the Navini Diagnostics software, you must first uninstall Navini Diagnostics prior to upgrading the OS. Otherwise, the PMX will continue to operate, but the Navini Diagnostics will not work. See Uninstall instructions in this Guide.

## Physical Characteristics

The PMX fits into a standard Type II PCMCIA slot. A 68-pin connector on the end of the card connects it to the laptop.



Two inverted-F antennas reside inside the PMX. All models also have an external antenna.

Following is a picture of the external antenna in the upright position. To raise the antenna to its upright position, raise the antenna counterclockwise. Do not turn the antenna beyond its upright position.



# Installing Your PMX

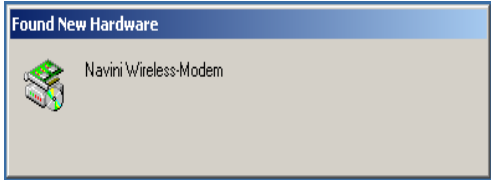
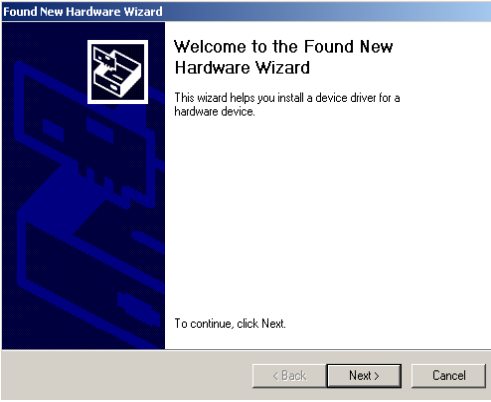
The following instructions explain how to install the PMX and its driver software on your computer. Please read all instructions before attempting the installation.



**NOTE:** The laptop should be used preferably on a desk when the PMX is installed. Using the laptop with the PMX close to the body, such as on the lap, is undesirable.

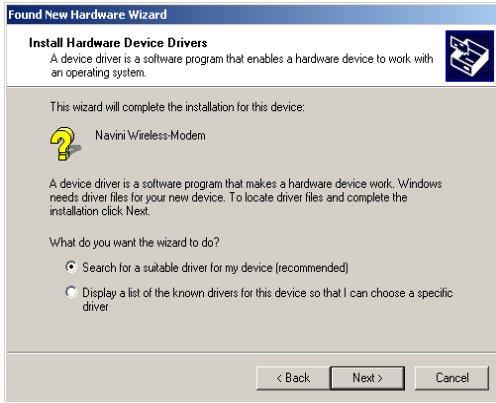
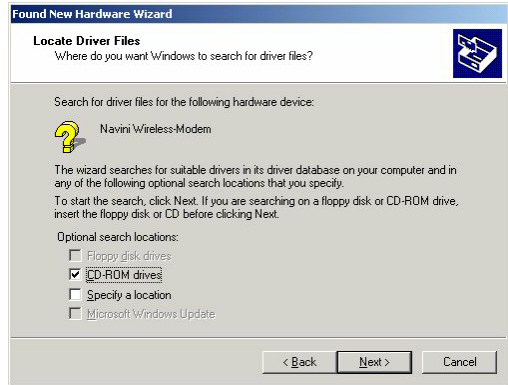
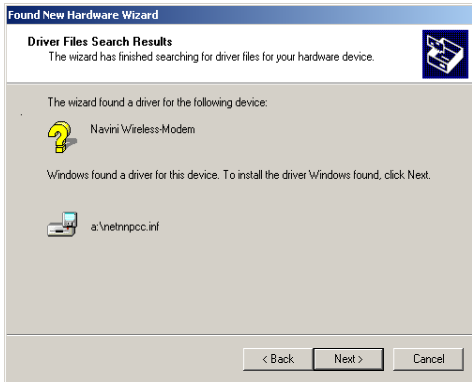


**NOTE:** The screenshots shown in these instructions were taken from a laptop operating with Windows 2000. If you have a Windows XP operating system, the screens you see may vary from the screens shown in the instructions.


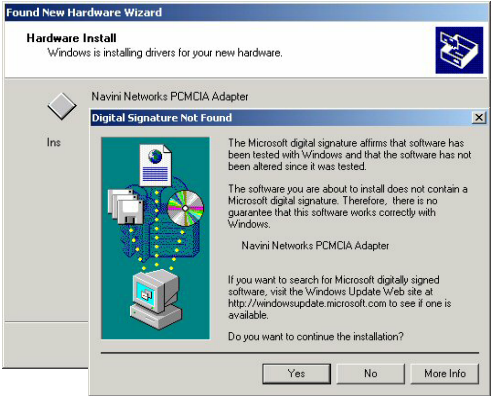

Step	Action	Illustration
1.	Insert the PMX into the Type II card slot on your laptop. Be sure to insert the end that has the 68-pin connector into the card slot.	
2.	Raise the antenna to the upright position.	
3.	The Found New Hardware box appears indicating the PC sees the PMX.	<p style="text-align: center;">Windows 2000 Screen</p> 
4.	The Welcome to the Found New Hardware Wizard dialog box appears. Click <b>Next</b> to continue.	<p style="text-align: center;">Windows 2000 Screen</p> 



Installing Your PMX,  
continued

Step	Action	Illustration
5.	The Install Hardware Device Drivers box appears. Select 'Search for a suitable driver for my device (recommended).' Click <b>Next</b> to continue.	<p style="text-align: center;"><b>Windows 2000 Screen</b></p> 
6.	The Locate Driver Files box appears. Select 'CD ROM.' Insert the Installation CD into the computer's CD-ROM drive. Click <b>Next</b> to continue.	<p style="text-align: center;"><b>Windows 2000 Screen</b></p> 
7.	The Driver Files Search Results box appears. Click <b>Next</b> to install the driver.	<p style="text-align: center;"><b>Windows 2000 Screen</b></p> 

Installing Your PMX,  
continued

Step	Action	Illustration
<p>8.</p> 	<p>The Hardware Install box appears, along with a Digital Signature Not Found box. Click <b>Yes</b> on the Digital Signature Not Found box, and then click <b>Yes</b> on the Hardware Install box. If the sound is turned up on your computer, two beeps are heard.</p> <p><i>Note:</i> Windows XP systems may show a screen stating the PCMCIA Adapter has not passed Windows Logo testing and asking if you want to continue installation. Select the option that continues the installation.</p>	<p>Windows 2000 Screen</p> 
<p>9.</p>	<p>After the files are copied, a Completing the Found New Hardware Wizard box appears indicating the driver installation is complete. Click <b>Finish</b> to close the Wizard.</p>	<p>Windows 2000 Screen</p> 

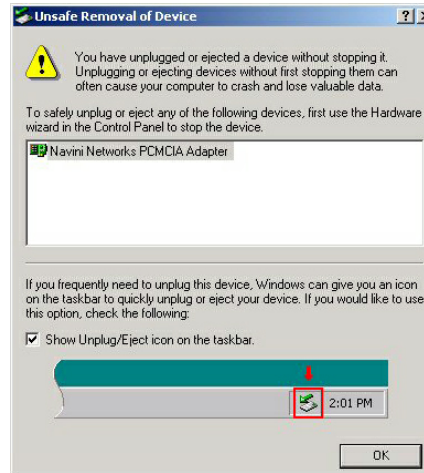
## Accessing the Internet

Now that your PMX is installed and your computer is on, you should be able to access the Internet (that is, assuming you have signed up with a Service Provider). To access the Internet, open the web browser that is installed on your computer, (for example, Netscape, Internet Explorer, etc.).

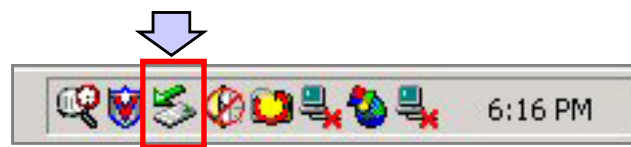
## Removing Your PMX

Before you store your PC in a computer case, you should remove the PMX from the PC. Also, turn the antenna to its original down position. Leaving the PMX in the PC or the antenna in the upright position while storing the PC in a computer case may damage the PMX or the antenna.

To properly remove the PMX from your computer, you must first stop the driver software. If you do not stop the driver software first, the following box will appear:



To safely remove the PMX, click on the PMX icon indicated in the following illustration. Depending on your computer's setup, this icon is probably located in the lower right-hand corner of your computer.



Once you click on the icon, a list with one or more elements will appear. This list is dependent on the devices currently installed on your PC. For example:



Removing Your PMX,  
continued

Select **Stop Navini Networks PCMCIA Adapter**.



Next, the Stop a Hardware Device dialog box appears. Click **OK**.



You can now pull the PMX out of your computer. If the sound on your computer is turned on, you may hear a beep indicating the PMX was unplugged.

## Indicator Light

An indicator light on the top of the PMX's black encasement provides information about the PMX's operation. When the light blinks, the PMX is trying to synchronize with a BTS. When the light is solid, the PMX has acquired synchronization with a Base Station.

Indicator Light



## Troubleshooting

If you experience difficulties with your Internet connection after you have installed the PMX driver software, please review the Minimum Computing Requirements and Addendum 1. Ensure your computer meets those requirements. Also, review the installation procedures and ensure all steps were completed properly. If you are still experiencing difficulties, troubleshoot using the Navini Diagnostics (NavDiag) monitoring software or contact your Service Provider.

### *Installing Navini Diagnostics Tool (NavDiag)*

The NavDiag software assists you in solving connection problems and provides other valuable information. This software is provided on the Installation CD that came in your PMX package. This section explains how to install this software.



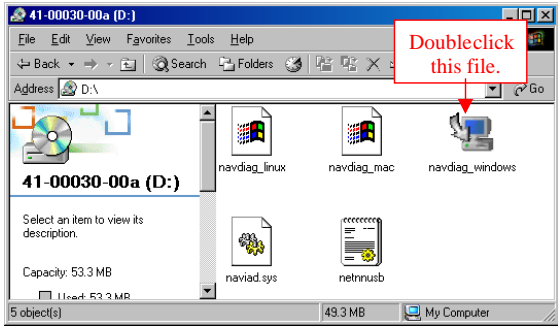
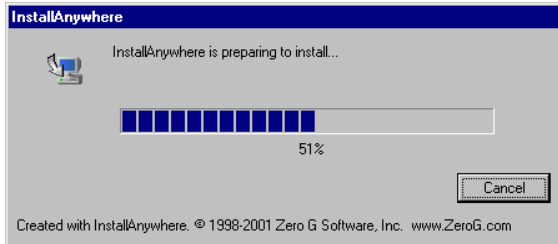


**Note:** To install NavDiag on a Windows 2000, you must have administrative privileges. To check your account privileges, open your Control Panel. Double-click on the Users and Passwords symbol. You should see Administrator under the Users tab.



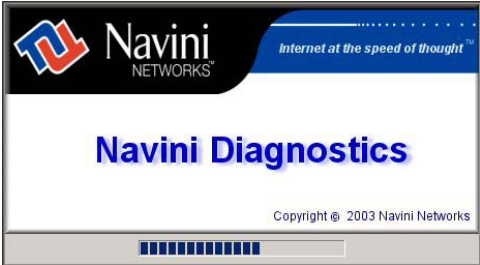
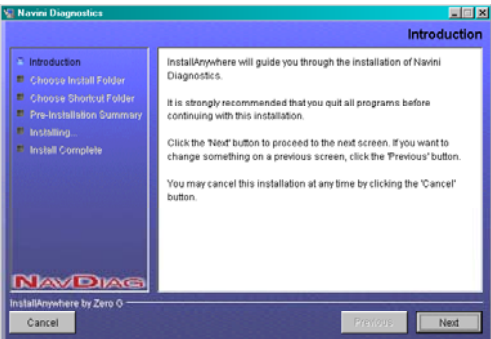
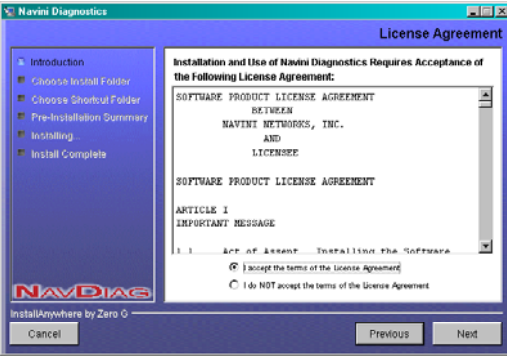
**Note:** The screenshots shown in the instructions were taken from a laptop with Windows 2000. If you have a Windows XP operating system, the screens you see may vary from the screens shown in the instructions.

Step	Action	Illustration
1.	Before installing the NavDiag software, shut down all programs, including anti-virus software programs.	
2.	Insert the Installation CD into the CD-ROM drive.	
3.	Open the CD by clicking on the <b>My Computer</b> icon. Double-click on the folder named Navini_Diagnostics.	

Installing NavDiag,  
continued

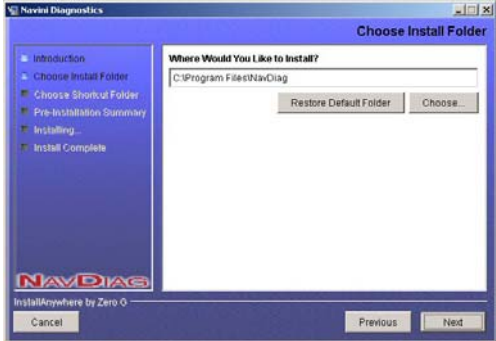

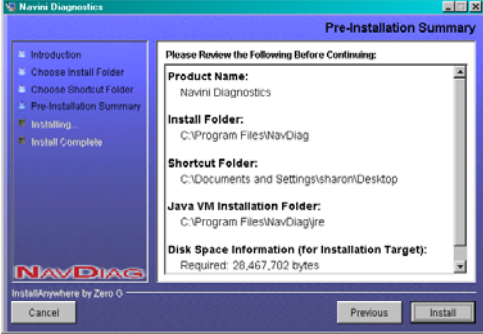
Step	Action	Illustration
4.	<p>Double-click on the icon for the file <b>navdiag_windows.exe*</b>.</p> <p>This will automatically start the installation of NavDiag.</p>	<p>Example</p> 
5.	<p>The InstallAnywhere window appears. The progress bar indicates that InstallAnywhere has initialized.</p>	<p>Windows 2000 Screen</p> 
6.	<p>The Navini Diagnostics Language screen appears* (see Note above). Select a language, and click <b>OK</b> to continue.</p> <p> <i>Note:</i> NavDiag may automatically attempt to match the language set on your PC under Regional Options. The language selection affects how NavDiag displays its screens. If you receive an error message concerning the language, click OK and NavDiag will default to English. At this time, NavDiag supports three languages: 1. English (U.S.), 2.Spanish (Spain), and 3. Dutch (Holland).</p>	<p>Windows 2000 Screen</p> 

Installing NavDiag,  
continued

Step	Action	Illustration
7.	The progress bar indicates the files are being installed.	<p style="text-align: center;">Windows 2000 Screen</p> 
8.	The NavDiag Introduction screen appears. Click <b>Next</b> to continue.	<p style="text-align: center;">Windows 2000 Screen</p> 
9.	<p>The License Agreement screen appears. Read the Licensing Agreement. Select the <b>I Accept</b> option, and click <b>Next</b> to continue.</p> <p>If the License Agreement is not accepted, you cannot install the software.</p>	<p style="text-align: center;">Windows 2000 Screen</p> 





Installing NavDiag,  
continued

Step	Action	Illustration
10.	<p>The Choose Install Folder screen appears. Enter the name of the folder where you wish to install the software. Click <b>Next</b> to continue.</p> <p>The default installation folder provided by the software is shown in the illustration.</p>	<p>Windows 2000 Screen</p> 
11.	<p>The Choose Shortcut Folder screen appears. Accept the default and click <b>Next</b> to continue.</p>	<p>Windows 2000 Screen</p> 
12.	<p>The Pre-Installation Summary screen appears. Review the contents for accuracy. Click <b>Install</b> to continue.</p> <p>For your installation and computer, this screen may have different information than what is shown in the illustration.</p>	<p>Windows 2000 Screen</p> 



Installing NavDiag,  
continued

Step	Action	Illustration
13.	The Installing screen will change as the application files are loaded.	<p style="text-align: center;"><b>Windows 2000 Screen</b></p> 
14.	At the Install Complete screen, click <b>Done</b> to close the window.	<p style="text-align: center;"><b>Windows 2000 Screen</b></p> 

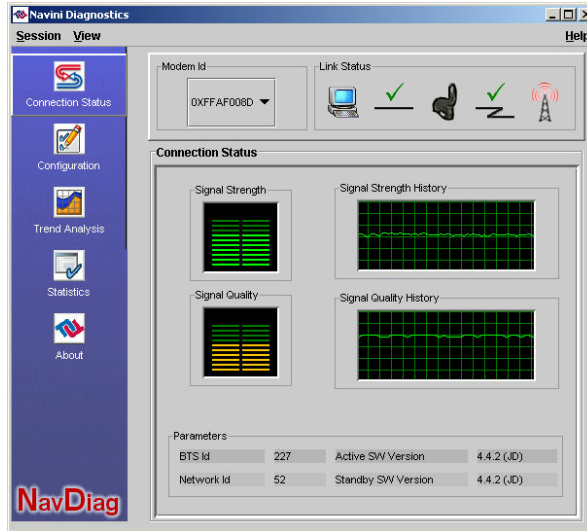
**Troubleshooting  
Using Navini  
Diagnostics**

To open the Navini Diagnostics software application, double-click on the Navini Diagnostics icon on your desktop.

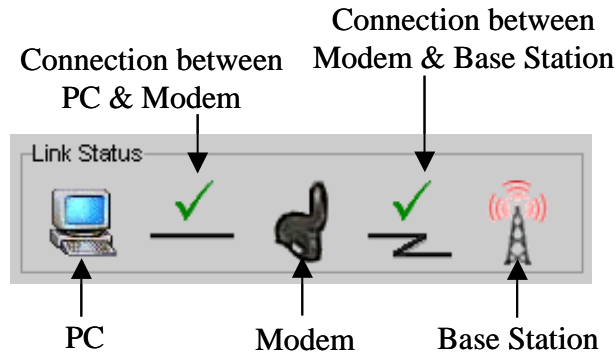


The Connection Status screen will open and display data if the PMX is in use. The screen will refresh live data every second.

## Connection Status



The pictures that appear on the top right side of the screen represent the PC, the connection between the PC and the PMX (Modem), the PMX, the connection between the PMX and the Base Station, and the Base Station to which the PMX is communicating. Check marks over the connections indicate working connections.

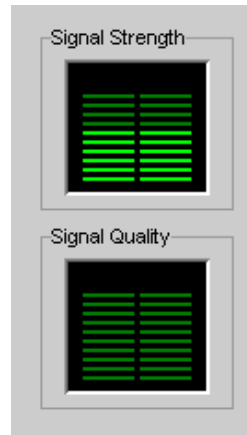


If the connection between the PC and the PMX or between the PMX and the Base Station is interrupted, an “X” is positioned over the corresponding icon.



## Signal Strength & Signal Quality Bars

Signal Strength and Signal Quality are dynamic bar displays that indicate how well your PMX is receiving signals from the Base Station.



In particular, the Signal Strength bars graphically represent the strength of the synchronization signal your Modem is receiving from a Base Station. The higher the pile of bars goes, the stronger the signal is. The color of the bars also gives an indication of the strength of the signal. Green lines indicate an excellent signal; orange lines indicate a good signal; and red lines indicate a weak signal.

The Signal Quality bar area graphically represents the Signal-to-Noise Ratio (SNR) received by your Modem. Again, the quality of the signal is represented by a group of colored bars. The higher the pile of bars goes, the better the SNR of the signal. The color of the bars also gives an indication of the quality of the signal. Green lines indicate an excellent signal or an SNR greater than 21. Orange lines indicate a good signal or an SNR greater than or equal to 13 but less than or equal to 21. Red lines indicate a weak signal or an SNR less than 13.

## How to Increase the Strength and Quality of the Signal

To increase the strength and quality of the signal, change the location of the PC in which the PMX is inserted. Try moving it closer to a window, to a higher location, away from other wireless devices (microwave ovens, cordless phones), and away from metal objects (shelves, file cabinets). As you reposition your PC, watch the Signal Strength and Quality bars on the NavDiag screen. Place your PC in the location where you receive the most green signal strength and quality bars.

## History Graphs

The History graphs plot the change in signal strength and signal quality over time. The graphs cover the last minute and are updated every second. Read the graphs from right to left. The right side of the graph represents the most recent status of your PMX.



## Parameters

At the bottom of the Connection Status screen are four parameters. These parameters are BTS ID, Network ID, Active SW Version, and Standby SW Version.

Parameters			
BTS Id	221	Active SW Version	4.2.3 (EN)
Network Id	52	Standby SW Version	4.2.3 (EN)

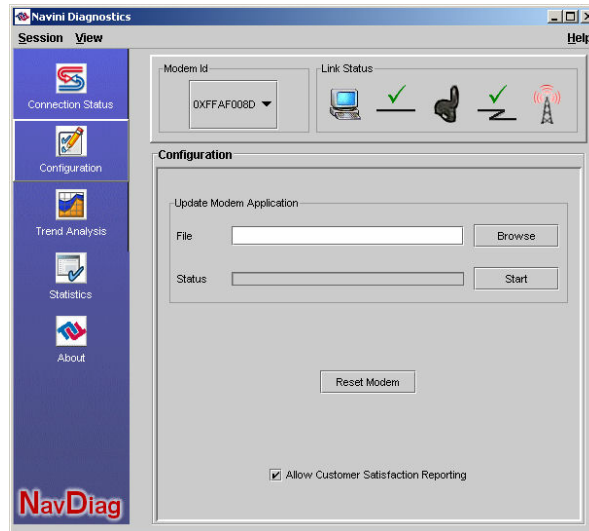
The BTS ID indicates the BTS to which the PMX is currently synchronized. The Network ID indicates the network in which the PMX is operating. Active SW Version and Standby SW Version indicate the version number of the software currently loaded in the “active side” and “standby side” of the PMX’s flash memory. The two letters in parenthesis following the release number indicate the type of software load. JD indicates Joint Detection while EN indicates Enhanced Nulling.

## NavDiag Screen Options

On the left-hand side of the screen, there are five screen option icons: Connection Status, Configuration, Trend Analysis, Statistics, and About. We just saw what the Connection Status screen can tell you. Now, let’s look at the other screen options.

## Configuration

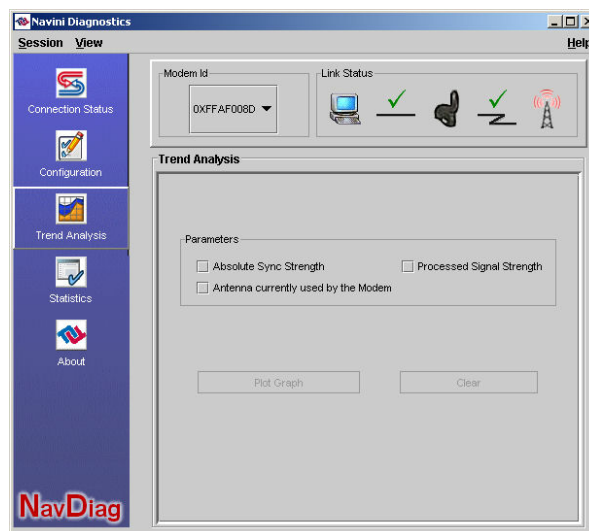
The Configuration screen enables you to update your PMX's software if directed to do so by your Service Provider. If you must update your PMX's software, your Service Provider will provide you with instructions regarding what to do.



At the bottom of the screen is an Allow Customer Satisfaction Reporting box. This box currently is not supported on the PMX.

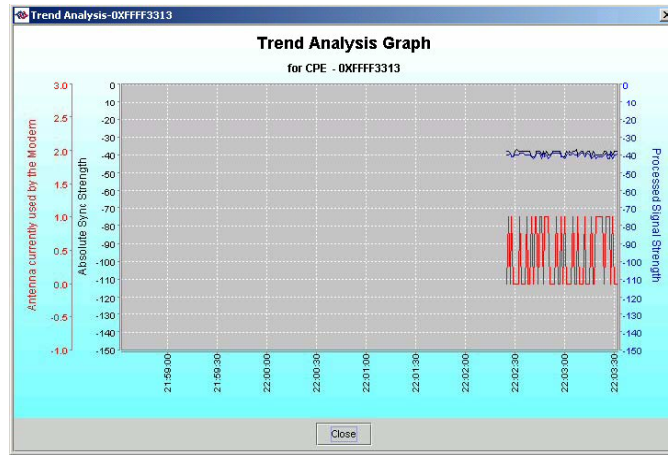
## Trend Analysis

The Trend Analysis lets you view PMX parameters that evolve over time. With this screen, you can select up to three parameters to plot.



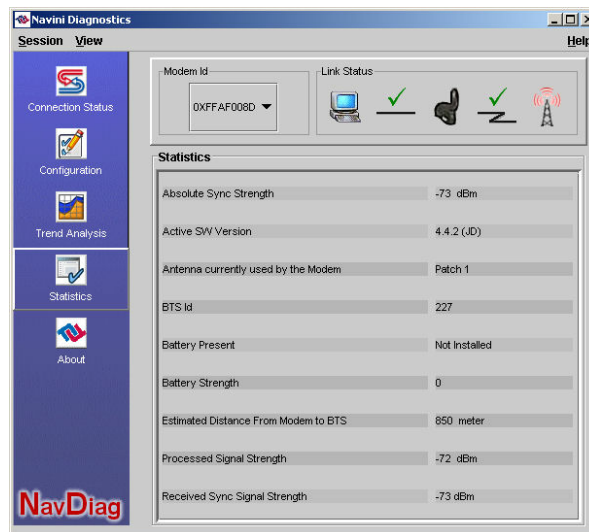
Trend Analysis, continued

By pressing the Plot Graph button, the following screen appears. This screen displays the value of the selected parameters over the last five minutes, and is updated once every second. The graphic scrolls from right to left.



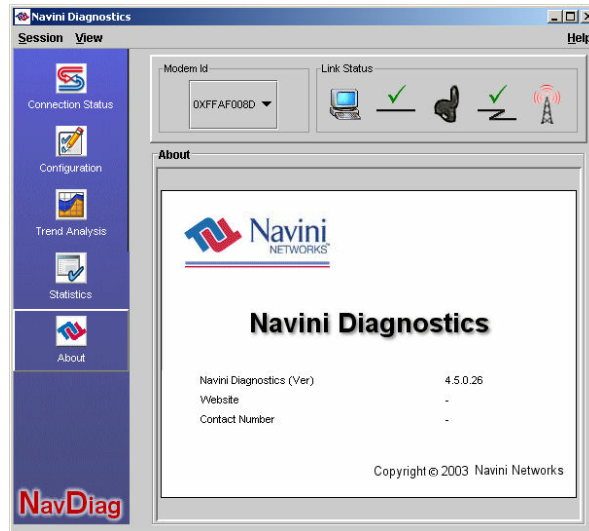
Statistics

The Statistics screen lets you view the current value of selected parameters. These values are updated as they change over time. To view the Statistics screen, press the Statistics button.



## About

The About screen provides vital information such as the version of the Navini Diagnostics software currently installed on your computer. It also provides a website address and telephone number where you can contact your Service Provider. To view the About screen, press the About button.



## Help

A Help button appears on the top right corner of all the NavDiag windows. The Help button gives you two options. The first option, On NavDiag, provides help text on the functionality of the NavDiag program. The second option, About NavDiag, is equivalent to clicking on the About icon.

## Uninstalling NavDiag Software

If for some reason you need to uninstall the NavDiag software, e.g., to upgrade your Operating System software, follow the procedure below.

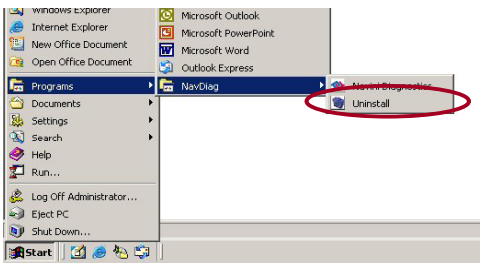





**Note:** If you are going to upgrade your PC Operating System after loading the Navini Diagnostics software, you must first uninstall NavDiag prior to upgrading the OS. Otherwise, NavDiag will not work.



**Note:** The screenshots shown in these instructions were taken from a laptop with Windows 2000. If you have a Windows XP operating system, the screens you see may vary from the screens shown in the instructions.

Uninstalling NavDiag Software, continued

Step	Action	Illustration
1.	On your computer screen lower left corner, click on <b>Start &gt; Programs &gt; NavDiag &gt; Uninstall.</b>	
2.	The Install-Anywhere Uninstaller screen appears. Click <b>Uninstall.</b>	<p style="text-align: center;">Windows 2000 Screen</p> 
3.	The screen indicates the application files are uninstalled.	<p style="text-align: center;">Windows 2000 Screen</p> 
4.	The Uninstall Complete screen appears when finished. Click on <b>Quit</b> to close the Uninstall screen.	<p style="text-align: center;">Windows 2000 Screen</p> 
5.	Restart the PC to complete the uninstall process.	



## Optional Desktop Antenna

An optional desktop antenna is available for the PMX. This antenna connects to the PMX and then sits on a surface next to the laptop. This antenna should be used if optimal reception cannot be obtained through the original PMX antenna.



To connect the desktop antenna to the PMX, you must first remove the original antenna attached to the PMX. To remove the antenna, turn the antenna down so that it is lying parallel with the PMX. Grasp the base of the antenna near its connection point and firmly pull the antenna away from the card. Do not grasp the top or middle of the antenna as it may break when you try to pull on the antenna.



Once the original antenna is removed, connect the desktop antenna by inserting its connector into the port on the PMX card.



Insert the other end of the antenna cable into the base unit.



**Note:** Avoid frequently connecting and disconnecting the desktop antenna from the PMX, as this may cause the connector on the desktop antenna to break.

## Care and Maintenance

The PMX is designed to give you years of trouble-free service. To ensure operation, read the following care and maintenance instructions.

- Keep the PMX free of dust and moisture. If the PMX gets wet, use a towel to dry it immediately.
- Handle the PMX gently. Dropping it or mishandling it can cause damage to the metal/plastic shell or the electronic circuitry.
- Keep the PMX away from high temperatures. Heat can cause damage to the metal/plastic shell or the electronic circuitry.
- To clean the external areas of the PMX, use only an electrical contact cleaner that is non-conductible and a soft, damp, lint-free cloth. Do not use any chemicals or abrasives to clean the PMX. Also use caution around the connection pins.
- If there is a problem with the PMX, do not attempt to repair it yourself. Report the problem to your Service Provider.
- Do not apply adhesive labels to the PMX. This may cause the PMX to become jammed inside the card slot.
- The PMX should fit easily into the PC slot. Do not force the PMX into the PC slot. Forcing the PMX into the slot may cause damage to the connector pins.
- If you are going to upgrade your computer Operating System after loading the NavDiag software, you must first uninstall NavDiag prior to upgrading the OS. Otherwise, NavDiag will not work. See the Uninstall instructions in this Guide.

## Upgrading the PMX Software

There are two different ways to upgrade the software that makes the PMX work.

- Your Service Provider may perform an over-the-air (OTA) upgrade, where the up-to-date software files are transferred wirelessly from a Base Station to your PMX. This method will normally be transparent to you; in other words, you should not experience any noticeable service interruption.
- Your Service Provider may provide a downloadable web file or CD-ROM with software that is installed on your PC and used to upgrade the PMX software. This method is used only if the PMX was not inserted and “on” during the OTA upgrade process. If you must upgrade your software using this method, your Service Provider will give you instructions on what to do. This method takes a minimal amount of time to complete.



**Note:** If you must upgrade the PMX Driver to the latest driver, Windows will tell you that the current driver is the latest driver. Ignore this message, and force Windows to update the driver.

## ADDENDUM 1: PMX - PC Troubleshooting

- For Use With the Ripwave MX PC Card (PMX) & Navini Diagnostics Software -

### PC Operating Systems

Prior to installing the Navini Diagnostics (NavDiag) software, please check to ensure that the PC Operating System meets the criteria given in the table below. If these criteria are not met, unpredictable problems may occur as a result of installation. It is recommended that the user have the latest Windows<sup>c</sup> updates installed prior to installing the NavDiag software.

Operating System	PMX Interface	Notes
Win 2000	Supported	1, 3
Win XP	Supported	2, 3

Note 1: Internet Explorer 3.0 or higher is required

Note 2: Requires Service Pack 1

Note 3: To load the NavDiag software, the user MUST have Administrative privileges.

### Results of Correct NavDiag Installation

Experienced PC users can check the results of the Navini Diagnostics installation by looking at the log file that is created during the installation process. The log file is named "Ripwave\_Diagnostics\_InstallLog.log." It is located under **c:\Program Files\Navini Diagnostics**.

-----

Install Begin: Tue Jul 20 12:15:22 CDT 2004

Install End: Tue Jul 20 12:15:30 CDT 2004

Created with Zero G's InstallAnywhere 4.5.3 Enterprise Build 1394

Summary

-----

Installation: Successful with warnings.

2 SUCCESSES

1 WARNINGS

0 NONFATAL ERRORS

0 FATAL ERRORS

Action Notes:

None.

Install Log Detail:

Check Disk Space: C:\Program Files\NavDiag  
Status: SUCCESSFUL  
Additional Notes: NOTE - Required Disk Space: 29,363,315; Free Disk Space: 30,806,179,840

Install Directory: C:\Program Files\NavDiag\  
Status: SUCCESSFUL

Get Registry Entry: Key: HKEY\_LOCAL\_MACHINE\SOFTWARE\Navini Networks\NavDiag, ValueName:  
InstallDirectory  
Status: WARNING  
Additional Notes: WARNING - Win32Exception

Make Registry Entry: Key: HKEY\_LOCAL\_MACHINE\SOFTWARE\Navini Networks, Value Name: , Value  
Data:  
Status: SUCCESSFUL

Make Registry Entry: Key: HKEY\_LOCAL\_MACHINE\SOFTWARE\Navini Networks\NavDiag, Value Name:  
, Value Data:  
Status: SUCCESSFUL

Make Registry Entry: Key: HKEY\_LOCAL\_MACHINE\SOFTWARE\Navini Networks\NavDiag, Value Name:  
InstallDirectory, Value Data: C:\Program Files\NavDiag  
Status: SUCCESSFUL

Install Directory: C:\Program Files\NavDiag\Uninstall\  
Status: SUCCESSFUL

Install Uninstaller: Navini Diagnostics (Install All Uninstaller Components)  
Status: SUCCESSFUL

Install Directory: C:\Program Files\NavDiag\jre  
Status: SUCCESSFUL

Install File: C:\Program Files\NavDiag\Uninstall\Uninstall NavDiag.exe  
Status: SUCCESSFUL

Install File: C:\Program Files\NavDiag\Uninstall\Uninstall NavDiag.lax  
Status: SUCCESSFUL

Install Directory: C:\Program Files\NavDiag\Uninstall\resource\  
Status: SUCCESSFUL

Install File: C:\Program Files\NavDiag\Uninstall\resource\iawin32.dll  
Status: SUCCESSFUL

Install File: C:\Program Files\NavDiag\Uninstall\resource\remove.exe  
Status: SUCCESSFUL

Make Registry Entry: Key:  
HKEY\_LOCAL\_MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\Uninstall\Navini Diagnostics,  
Value Name: DisplayName, Value Data: Navini Diagnostics  
Status: SUCCESSFUL

Make Registry Entry: Key:  
HKEY\_LOCAL\_MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\Uninstall\Navini Diagnostics,  
Value Name: UninstallString, Value Data: "C:\Program Files\NavDiag\Uninstall\Uninstall NavDiag.exe"  
Status: SUCCESSFUL

Install Uninstaller: Navini Diagnostics (Install All Uninstaller Components)  
Status: SUCCESSFUL

Create LaunchAnywhere: Navini Diagnostics.exe (Install All LaunchAnywhere Java Executable Components)  
Status: SUCCESSFUL

Install File: C:\Program Files\NavDiag\Navini Diagnostics.exe  
Status: SUCCESSFUL

Install File: C:\Program Files\NavDiag\Navini Diagnostics.lax  
Status: SUCCESSFUL

Create LaunchAnywhere: Navini Diagnostics.exe (Install All LaunchAnywhere Java Executable Components)  
Status: SUCCESSFUL

Install Directory: C:\Program Files\NavDiag\data\  
Status: SUCCESSFUL

Install Directory: C:\Program Files\NavDiag\data\images\  
Status: SUCCESSFUL

Install File: C:\Program Files\NavDiag\data\images\billboard.gif  
Status: SUCCESSFUL

Install File: C:\Program Files\NavDiag\data\images\splash.gif  
Status: SUCCESSFUL

Install File: C:\Program Files\NavDiag\data\images\buttonbar.gif  
Status: SUCCESSFUL

Install File: C:\Program Files\NavDiag\data\images\about2.gif  
Status: SUCCESSFUL

Install File: C:\Program Files\NavDiag\data\images\about1.gif  
Status: SUCCESSFUL

Install File: C:\Program Files\NavDiag\data\images\about.gif  
Status: SUCCESSFUL

Install File: C:\Program Files\NavDiag\data\images\uninstall.gif  
Status: SUCCESSFUL

Install Directory: C:\Program Files\NavDiag\data\log\  
Status: SUCCESSFUL

Install Directory: C:\Program Files\NavDiag\data\lib\  
Status: SUCCESSFUL

Install File: C:\Program Files\NavDiag\data\lib\ctl.jar

Status: SUCCESSFUL

Install File: C:\Program Files\NavDiag\data\lib\navDiag.jar  
Status: SUCCESSFUL

Install File: C:\Program Files\NavDiag\data\lib\jfreechart-0.9.13.jar  
Status: SUCCESSFUL

Install File: C:\Program Files\NavDiag\data\lib\jcommon-0.8.8.jar  
Status: SUCCESSFUL

Install File: C:\Program Files\NavDiag\data\lib\log4j.jar  
Status: SUCCESSFUL

Install Directory: C:\Program Files\NavDiag\data\doc\  
Status: SUCCESSFUL

Install Directory: C:\Program Files\NavDiag\config\  
Status: SUCCESSFUL

Install File: C:\Program Files\NavDiag\config\NavDiag.lcf  
Status: SUCCESSFUL

Install Directory: C:\Documents and Settings\luis\Start Menu\Programs\NavDiag\  
Status: SUCCESSFUL

Create Shortcut: C:\Documents and Settings\luis\Start Menu\Programs\NavDiag\Navini Diagnostics.lnk  
Status: SUCCESSFUL

Create Shortcut: C:\Documents and Settings\luis\Start Menu\Programs\NavDiag\Uninstall.lnk  
Status: SUCCESSFUL

Install Directory: C:\Documents and Settings\luis\Desktop\  
Status: SUCCESSFUL  
Additional Notes: NOTE - Directory already existed

Create Shortcut: C:\Documents and Settings\luis\Desktop\Navini Diagnostics.lnk  
Status: SUCCESSFUL

## **ADDENDUM 2: End User Software License Agreement**

**between  
Navini Networks, Inc.  
and  
Buyer**

### **ARTICLE 1 IMPORTANT MESSAGE**

- 1.1 Act of Assent. Installing the Software indicates that you have read, understand and accept this License Agreement.

### **ARTICLE 2 LICENSES**

- 2.1 Grant of License. The Software and related Documentation, are the intellectual property of Navini Networks, Inc. and are protected by law. Navini Networks, Inc. grants to Buyer a personal, nonexclusive, nontransferable worldwide license, for revocable use (as permitted herein) of the Software based on the terms and conditions of this License Agreement and the Master Supply Agreement to which it is attached. Buyer is permitted to install and use the Software on its server, but only in conjunction with the Navini Hardware. Buyer is not permitted to rent, sell or otherwise transfer the Software to any third parties.
- 2.2 Ownership Rights. Under this Agreement, Buyer does not acquire any rights of ownership in the Software and related Documentation and subsequent releases and versions licensed by Navini Networks, Inc. to Buyer pursuant to this License Agreement, whether in printed or machine-readable format. Buyer acquires only the right to use the Software and related Documentation subject to the terms and conditions of this Agreement. Buyer promises to keep the Software in confidence for the benefit of Navini Networks, Inc. and agrees to destroy or return the Software and all copies at such time as Buyer chooses to cease using the Software or upon termination or cancellation of this License Agreement for any reason.
- 2.3 Backup Copies. Buyer may copy the Software for safekeeping (archival) or backup purposes, provided that all such copies of the Software are subject to the provisions of this License Agreement, and also provided that each copy shall include in readable format any and all confidential, proprietary, and copyright notices or markings contained in the original.
- 2.4 Assignment. The rights granted in this License Agreement are restricted for use solely by Buyer and may not be assigned, transferred, or sublicensed, however Buyer may grant access to its server to End-Users. Each Buyer shall be authorized to make use of the Software in the form in which it is provided to Buyer solely for Buyer's own computer server location. Buyer represents that it will not use the Software for any purpose that is not expressly delineated in this Agreement. Further Buyer represents that it will comply with all export, re-export, and other laws in its use of the Software.



- 2.5 Suitability.
- a. Buyer alone is responsible for determining which software best suits Buyer's needs, for installing and operating the Software, and for the results obtained. Accordingly, each Buyer should determine its needs, and evaluate the Software's capabilities before making a final decision about licensing the software.
  - b. Navini Networks, Inc. makes no representation that the Software conforms to or satisfies any federal, state, or local laws. Buyer is encouraged to engage professional assistance from attorneys and engineers to evaluate the suitability of the Software for Buyer's use.
  - c. Navini Networks, Inc. makes no claims that the Software is suitable for Buyer's intended purposes.
- 2.6 Remote Digital Access. Navini Networks, Inc. reserves the right, but is not obligated to digitally access the Software for the purposes of upgrading and maintaining the Software.
- 2.7 U.S. GOVERNMENT RESTRICTED RIGHTS. All Software provided to the U.S. Government pursuant to solicitations issued on or after December 1, 1995 is provided with the commercial license rights and restrictions described elsewhere herein. All Software provided to the U.S. Government pursuant to solicitations issued prior to December 1, 1995 is provided with "Restricted Rights" as provided for in FAR, 48 CFR 52.227-14 (June 1987) or DFAR, 48 CFR 252.227-7013 (Oct 1988), as applicable

### **ARTICLE 3**

#### **TRADE SECRETS**

- 3.1 Trade Secret. Navini Networks, Inc. considers the licensed Software covered by this License Agreement to be a trade secret. Navini Networks, Inc. does not disclose any information to Navini Networks, Inc. competitors or potential competitors. Buyer shall not disclose any design, code, or technological know-how gained by access to the Software to Licensor's competitors. Buyer shall not use design, code, or documentation gained by access to the Software to develop a similar technology or a competing software product. To attempt to or to do so, the Parties acknowledge, understand and agree, constitute a material breach of this License Agreement.
- 3.2 Third Party Intellectual Property. Buyer acknowledges, understands and agrees that the licensed Software covered by this License Agreement may contain Intellectual Property owned by Third Parties and duly licensed to Navini Networks, Inc. Copyright, Patent and other laws protect Third Party Intellectual Property manufactured with, marketed with, or otherwise bundled with the licensed Software. Buyer promises to keep such Third Party Intellectual Property in confidence to the benefit of the Third Party, agrees not to reverse engineer or otherwise decompile Third Party Intellectual Property, and agrees to stop using, destroy and/or return such Third Party owned Intellectual Property under the same terms and conditions as the licensed Software as set forth in this License Agreement.

## ARTICLE 4 INDEMNIFICATIONS AND WARRANTY

- 4.1 Intellectual Property Indemnification; Entire Liability. ARTICLE 15 OF THE SUPPLY AGREEMENT TO WHICH THIS AGREEMENT IS ATTACHED STATES THE ENTIRE LIABILITY OF NAVINI NETWORKS, INC. WITH RESPECT TO INFRINGEMENT OF COPYRIGHTS, TRADE SECRETS, TRADEMARKS, PATENTS, AND OTHER INTELLECTUAL PROPERTY RIGHTS BY THE LICENSED SOFTWARE, DOCUMENTATION, OR ANY PARTS THEREOF, AND NAVINI NETWORKS, INC. SHALL HAVE NO ADDITIONAL LIABILITY WITH RESPECT TO ANY ALLEGED OR PROVEN INFRINGEMENT.
- 4.2 Warranty. EXCEPT AS GRANTED IN THE BODY OF THE SUPPLY AGREEMENT TO WHICH THIS LICENSE AGREEMENT IS ATTACHED, THE LICENSED SOFTWARE IS PROVIDED BY NAVINI NETWORKS, INC. "AS IS" AND WITHOUT WARRANTY OF ANY KIND OR NATURE, WRITTEN OR ORAL, EXPRESS OR IMPLIED, INCLUDING (WITHOUT LIMITATION) THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THIS LIMITATION OF WARRANTIES WAS A MATERIAL FACTOR IN THE ESTABLISHMENT OF THE LICENSE FEE CHARGED FOR EACH SPECIFIC ITEM OF SOFTWARE LICENSED.

## ARTICLE 5 LIMITATION OF LIABILITY

- 5.1 Consequential Damages. TO THE MAXIMUM EXTENT PERMITTED BY THE APPLICABLE LAW, IN NO EVENT SHALL NAVINI NETWORKS, INC. OR ANY THIRD PARTY INVOLVED IN THE CREATION, PRODUCTION, DELIVERY, OR LICENSING OF THE SOFTWARE BE LIABLE FOR ANY LOST REVENUES, PROFITS OR DATA OR OTHER SPECIAL, INDIRECT, INCIDENTAL, CONSEQUENTIAL, OR PUNITIVE DAMAGES, HOWEVER CAUSED AND REGARDLESS OF THEORY OF LIABILITY, EVEN IF NAVINI NETWORKS, INC. HAS, OR SHOULD HAVE HAD ANY KNOWLEDGE, ACTUAL OR CONSTRUCTIVE, OF THE POSSIBILITY OF SUCH DAMAGES.
- 5.2 License-Fee Limitation. Except for the indemnification provisions of Article 15, Navini Networks, Inc.'s maximum liability for damages is limited to the license fees paid by Buyer under this Agreement for the particular licensed Software that caused the damages.
- 5.3 Loss of Data. Software error can cause a significant loss of data. Navini Networks, Inc. shall not be responsible for any loss of data. Navini Networks, Inc.'s responsibility is to correct the Software error as provided in this License Agreement or the Supply Agreement to which it is attached. It is Licensee's responsibility to have adequate backup procedures to protect Buyer from significant loss of valid data.

**ARTICLE 6**  
**OBJECT CODE ONLY-NO MODIFICATIONS**

- 6.1 Modifications. In order to maintain the “trade secret” status of the information contained in the Licensed Software, Navini Networks, Inc. provides the Software in object-code form only. Buyer shall not modify, enhance, adapt, disassemble, translate, decompile or otherwise decode any portion of the object code of the Software module. Buyer shall not use the Software without a license to the Software object code. The object code contains the license number, date of license, and other license information. This information is placed in the object-code portions to prevent unauthorized and unlicensed distributions of the Software. Buyer shall not subvert or change any of this information. Further Buyer shall not make, full or partial, copies of any documentation whether printed or machine-readable media supplied with the Licensed Software unless expressly granted prior written permission by Navini Networks, Inc.
- 6.2 Responsibility for Damages. Buyer is subject to the provisions of the Supply Agreement with respect to the Software (including Section 16). Buyer is fully liable and responsible for any damages, indirect or direct, and costs that Navini Networks, Inc. may incur if Buyer appoints a subcontractor who accesses the Software without Navini’s prior written consent. Buyer shall defend, indemnify, and hold Navini Networks, Inc., its directors, officers, employees, agents, Authorized Partners, and other representatives harmless accordingly for all costs and direct and indirect damages sustained by Navini Networks, Inc. However, if the subcontractor is pre-approved by Navini in writing for access to the Software, then this Section shall not apply.
- 6.3 Copyright Notices. Buyer shall not remove any copyright or proprietary rights notice or identification that indicates Navini Networks, Inc. ownership from any part of the licensed Software, it being expressly understood and agreed that the existence of such copyright notice should not be construed as an admission or presumption that publication of the licensed Software has occurred.

END OF AGREEMENT

Copyright © 2004-2006 Navini Networks, Inc.

All rights reserved. Printed in the USA.

Navini Networks is a registered trademark. Zero-Install, Ripwave, and Unwired by Navini are trademarks of Navini Networks, Inc. Other product and company names mentioned herein may be trademarks and/or service marks of their respective owners. Rev. 052302