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4655 Great America Parkway Santa Clara, CA 95054

# Installing and Using the Nortel Networks Wireless LAN Mobile Adapter 2201



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- Reorient 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

FCC Caution: To assure continued compliance, (example - use only shielded interface cables when connecting to computer or peripheral devices). Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

#### IMPORTANT NOTE: FCC Radiation Exposure Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

This device is going to be operated in 5.15 ~ 5.25GHx frequency range, it is restricted in indoor environment only.

In order to maintain compliance with the limits for a Class B digital device, it requires that you use a quality interface cable when connecting to this device. Changes or modifications not expressly approved could void the user's authority to operate this equipment.

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## Preface

### Introduction

Thank you for purchasing the Nortel Network Wireless LAN Mobile Adapter 2201 (Mobile Adapter 2201) that provides the easiest way to wireless networking. This User Manual contains detailed instructions in the operation of this product. Please keep this manual for future reference.

#### Package Checklist

The Mobile Adapter 2201 package includes:

- 1 Nortel Network Wireless LAN Mobile Adapter 2201
- 1 Installation Software CD
- 1 Documentation CD

#### **System Requirements**

Before you install the Mobile Adapter 2201, check your system for the following:

- A laptop PC contains:
  - 32-bit Cardbus slot (or Desktop PC with PC Card-PCI adapter)
  - 32 MB memory or greater
  - 300 MHz processor or higher
- Microsoft Windows 98 Second Edition/Me/2000/XP (Prepare the Windows installation CD-ROM for use during installation)

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#### 10 Preface

### **Status LEDs**

There are two Status LEDs on the Mobile Adapter 2201. You can check your network connectivity status by looking at the LEDs.

Table 1	Status	LEDs
---------	--------	------

Status	Description	
Off	Power is off.	
Slow Blink	A connection is made. There is no activity yet.	
Fast Blink	There are activities in a connected network.	
Alternate Blink between LEDs	Look for a network association.	
One LED Blink	Power Saving Mode is on.	
One LED Steady Light	Awake from Power Saving Mode.	

# Chapter 1 Driver/Utility Installation

**Warning:** The Installation Section in this User Manual describes the first-time installation for Windows. To re-install the driver, please first uninstall the previously installed driver. See "Uninstallation" on page 20.



**Warning: Do Not** insert the Mobile Adapter 2201 into the Cardbus slot before the driver installation,

If you have inserted the Mobile Adapter 2201 into the Cardbus slot before installing the driver, a warning message pops up informing you that the software has not yet been installed. Please click "Cancel" to close the warning message. Remove the Mobile Adapter 2201, and then start to install the driver.

### **Basic Setup**

Follow the steps below to complete the driver/utility installation:

1 Insert the Installation Software CD into the CD-ROM Drive. Click "setup.exe" to launch the InstallShield Wizard.

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Figure 1 InstallShield Wizard



2 The InstallShield Wizard dialog box appears (Figure 2). Click "Next."

Figure 2 InstallShield Wizard setup dialog box



**3** The Choose Destination Location dialog box appears (Figure 3). Click "Next" to continue using the default destination folder or click "Browse" to choose a different destination folder.



Figure 3 Choose Destination Location dialog box

InstallShield Wizard	×
Choose Destination Location Select folder where Setup will install files.	
Setup will install BayStack 2200 - 802.11a+b U	tility in the following folder.
To install to this folder, click Next. To install to a another folder.	a different folder, click Browse and select
- Destination Folder C:\\BayStack 2200 - 802.11a+b Utility	Browse
InstallShield	< Back Next > Cancel

**4** The Select Program Folder dialog box appears (Figure 4). Click "Next" to accept the default program folder name, or enter a custom name in the Program Folders text box and then click "Next" to continue.

Figure 4 Select Program Folder dialog box

InstallShield Wizard	×
Select Program Folder Please select a program folder.	
Setup will add program icons to the Program Folder listed below. You may type a name, or select one from the existing folders list. Click Next to continue.	new folder
Program Folders:	
BayStack 2200 - 802.11a+b Utility	
- Existing Folders: Accessories	
Administrative Tools Adobe	
Audiogalaxy CodeWarring for Windows Learning Edition, v2	
eFax Messenger Plus	
Java 2 Buntime Environment Java 2 SDK Standard Edition v1 3	
Kai's Power Tools 5	•
La stall Chiefe	
Kack Next >	Cancel

**5** The InstallShield Wizard Complete dialog box appears (Figure 5). Click "Finish."

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Figure 5 InstallShield Wizard Complete dialog box

The Mobile Adapter 2201 software is now installed.

**6** Insert the Mobile Adapter 2201 into the Cardbus slot, and the Windows Operating System will find the new hardware and launch the Found New Hardware wizard. (For Windows 98SE or Windows Me, please restart your computer before inserting the Adapter).





The Found New Hardware dialog box (Figure 7) appears.

Figure 7 Found New Hardware dialog box

Found New Hardware		
\$	Ethernet Controller	

7 The Found New Hardware Wizard will launch (Figure 8). Click "Next" to install the driver.

Figure 8 Found New Hardware Wizard dialog box



**8** The Install Hardware Device Drivers dialog box appears (Figure 9). Select the option to search for a suitable driver and click "Next."

Figure 9 Install Hardware Device Drivers dialog box



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  - **9** The Locate Driver Files dialog box appears (Figure 10). Check the option to Specify a location and click "Next."

Figure 10 Locate Driver Files dialog box

ound New Hardware Wizard
Locate Driver Files Where do you want Windows to search for driver files?
Search for driver files for the following hardware device:
Ethernet Controller
The wizard searches for suitable drivers in its driver database on your computer and in any of the following optional search locations that you specify.
To start the search, click Next. If you are searching on a floppy disk or CD-ROM drive, insert the floppy disk or CD before clicking Next.
Optional search locations:
Floppy disk drives
CD-ROM drives
Specify a location
Microsoft Windows Update
< Back Next > Cancel

**10** Browse to the appropriate location on the CD where the drivers for your particular operating system are located (Figure 11) and click "OK."

Figure 11 Driver location

Found New	w Hardware Wizard	x
2	Insert the manufacturer's installation disk into the drive selected, and then click OK.	OK Cancel
	Copy manufacturer's files from:           D:\\/1.0.1.1\\driver\\win2K_XP	Browse

-

**Note:** On some operating systems, the Digital Signature Not Found dialog box (Figure 12) or the Windows XP compatibility testing dialog box may appear during driver installation. Click "Yes" (Windows 2000) or "Continue Anyway" (Windows XP) to continue the installation.



Figure 12 Digital Signature Not Found dialog box

The driver files are copied to your system (Figure 13).

Figure 13 Copying Files... dialog box



The installation completes (Figure 14). Click "Finish to close the Found New Hardware Wizard. The drivers are now installed.

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Figure 14 Completing the Found New Hardware Wizard dialog box

### **Additional Setup**

During software installation procedure, each operating system may prompt different specific options:

- Windows 98SE: The system will request the original Windows CD during the installation process. When the installation is finished, you will have to restart your computer.
- Windows Me: Please restart your computer when the installation is finished.
- Windows 2000/XP: Select "Install the software automatically" if the window with this option appears, and then click "Next" to continue installation.

### **Verifying the Driver**

### Windows 98SE/Me

1 Right-click "My Computer" icon on the desktop and choose "Properties."

- **2** Select "Device Manager" tab and open "Network adapters." You should see your Mobile Adapter 2201 in the list. Highlight it and click "Properties."
- **3** From the "Device status", you should see the line "This device is working properly." If, instead, you see error messages displayed, please remove this Mobile Adapter 2201 (highlight this Mobile Adapter 2201 and click "Remove"). Restart your PC and go through the installation process again.

### Windows 2000

- 1 Right-click "My Computer" icon on the desktop and choose "Properties."
- 2 Select "Hardware" tab and click "Device Manager." Open "Network adapters." You should see your Mobile Adapter 2201 in the list. Right-click this Mobile Adapter 2201 and choose "Properties."
- **3** From the "Device status", you should see the line "This device is working properly." If, instead, you see error messages displayed, please remove this Mobile Adapter 2201 (right-click this Mobile Adapter 2201 from the "Network adapters" list and choose "Uninstall"). Restart your PC and go through the installation process again.

### Windows XP

- 1 Click Start>Control Panel> System.
- 2 Select "Hardware" tab and click "Device Manager." Open "Network adapters." You should see your Mobile Adapter 2201 in the list. Right-click this Adapter and choose "Properties."
- **3** From the "Device status", you should see the line "This device is working properly." If, instead, you see error messages displayed, please remove this Mobile Adapter 2201 (right-click this Mobile Adapter 2201 from the "Network adapters" list and choose "Uninstall"). Restart your PC and go through the installation process again.

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## Uninstallation

► Note: Before uninstallation, please close all running programs and make sure that the Mobile Adapter 2201 is inserted in the Cardbus slot.

1 Click Start>Nortel Networks>Uninstall Mobile Adapter 2201 (Figure 15).

Figure 15 Uninstall Mobile Adapter 2201



**2** The Confirm File Deletion dialog box appears (Figure 16). Click "OK" to start Uninstall.

Figure 16 Confirm File Deletion dialog box

Confirm File Deletion	x
Do you want to completely remove the selected application and all of its components	?
OK	

**3** The Maintenance Complete dialog box appears (Figure 17). Click "Finish." Uninstall is now complete.



Figure 17 Maintenance Complete dialog box

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# Chapter 2 Utility Configuration

### **Connecting to an Existing Network**

1 Click Start>Nortel Networks>Mobile Adapter 2201 (Figure 18), and the Mobile Adapter 2201 Client Manager window will appear (Figure 19).

Figure 18 Launch Mobile Adapter 2201



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2 Click the Site Survey tab to bring up a list of the available access points and ad hoc networks (Figure 20). An icon next to the Network Name indicates that the Mobile Adapter 2201 is associated with an access point.

Figure 20 Mobile Adapter 2201 Client Manager - Site Survey tab

Stack 2200 802.11a/b Co	ombo Client Manaq	ger				
nk Status 🛛 Station Configura	tion Site Survey 🛛	(bout				
N @ RTEL NETWOR	KS	SSID: AP MAC Address Station Status:	N 0 A	ortel 0-20-D8-03-80- ssociated	18	
Available Access Pr	pints and Ad He	oc Networks Wireless Mode	Channel	Refresh&Roa	m Activate	
Nortel	າ]] 10 dB	5 GHz 54 Mbps	60	5.300 GHz	00-20-D8-03-80-1B	Dis
alphanet	10 25 dB	2.4 GHz 11 Mbps	1	2.412 GHz	00-20-D8-02-4A-5B	Dis
alphanet	<u>الا</u> 21 dB	2.4 GHz 11 Mbps	1	2.412 GHz	00-20-D8-02-4A-F1	Dis
alphanet	<b>11)</b> 37 dB	2.4 GHz 11 Mbps	6	2.437 GHz	00-20-D8-02-4B-3D	Dis
	—				03-80-1B	Dis
•						Þ
					01	<



- **3** To connect to a different access point, select the Network Name (SSID) for that access point and click on "Activate." (For more information on this material, refer to Chapter 3.)
- **4** If you do not already have a configuration profile created for this association, you will be prompted to create one. The Network Configuration Settings dialog box will launch (Figure 21).

Enter the correct SSID and Network Type (refer to Chapter 3) for the network that you are going to join.

Network Configuration Settings				
General Security Advanced				
	Configuration Name:	Office		
	SSID:	alphanet		
	Network Type:	Infrastructure		•
<b>b</b> ,	Power Save Mode:	Normal		•
SIGNAL STRENGTH: EXCELLENT				
			Ok	Cancel

Figure 21 Network Configuration Settings dialog box - General Tab

**5** Click on the Security tab (Figure 22). The Security dialog box appears. Enter the appropriate settings for your network.

Network Configuration Settings General Security Advanced  CREEL  RETWORKS	Encryption Type: Use Dynamic Security (LEAP, 802.1X, etc.) Use Static Keys Disabled
Password:	Define Statis Encryption Keys
	Ok Cancel

Figure 22 Network Configuration Settings - Security Tab

6 If you select Use Dynamic Security and check the box to Enable LEAP, you will be prompted to enter a user name and password (Figure 23).

Figure 23	Network Configuration Settings - Sec	curity Tab, LEAP Enabled
-----------	--------------------------------------	--------------------------

General Security Advanced	
NØRTEL	Encryption Type:
NETWORKS	<ul> <li>Use Dynamic Security (LEAP, 802.1X, etc.)</li> <li>Use Static Keys</li> <li>Disabled</li> </ul>
Frable LEAP User Name: User	
Password:	
	Define Static Encryption Keys

If you select Define Static Encryption Keys, you will be prompted to enter the encryption key(s) (Figure 24).

Network Configuration Settings	
tup_10 General Security Advanced	
NCRTEL NETWORKS	Encryption Type: Use Dynamic Security (LEAP, 802.1X, etc.) Use Static Keys Disabled
Security	<u>? X</u>
NORTEL	Key Entry Method:
NETWORKS	Hexadecimal (0-9, A-F)
	C ASCII Text (all keyboard characters)
Encryption Keys (Select The Default)	
O Unique Key	64 bit (enter 10 digits)
O First	64 bit (enter 10 digits)
O Second	64 bit (enter 10 digits)
O Third	64 bit (enter 10 digits)
O Fourth	64 bit (enter 10 digits)
	OK Cancel

Figure 24 Encryption Key dialog box.

7 Once all of the profile settings have been entered, click OK. The newly created profile will be displayed in the Station Configuration tab (Figure 25).





8 Once you have created the proper profile for the network that you are trying to join, your Mobile Adapter 2201 will associate with the proper access point. When you click on the Site Survey tab, the association icon will appear before the Network Name (SSID) that you selected (Figure 26).

Figure 26 Mobile Adapter 2201 Client Manager - Site Survey tab

nk Status   Station Configura	ombo Client Manag ation Site Survey A	jer Ibout				
	RKS	SSID: AP MAC Address Station Status:	N: 00 A:	ortel )-20-D8-03-80- ssociated	18	
Available Access P	oints and Ad He	oc Networks	Γ	Refresh&Roa	m Activate	
Network Name (SSID)	Signal Strength	Wireless Mode	Channel	Frequency	Address (BSSID)	WE
Network Name (SSID) Nortel	Signal Strength	Wireless Mode 5 GHz 54 Mbps	Channel 60	Frequency 5.300 GHz	Address (BSSID) 00-20-D8-03-80-1B	 Dis
Network Name (SSID) Nortel	Signal Strength 11] 10 dB 11] 25 dB	Wireless Mode 5 GHz 54 Mbps 2.4 GHz 11 Mbps	Channel 60 1	Frequency 5.300 GHz 2.412 GHz	Address (BSSID) 00-20-D8-03-80-1B 00-20-D8-02-44-5B	W Di: Di:
Network Name (SSID) Nortel alphanet alphanet	Signal Strength 11] 10 dB 11] 25 dB 11] 21 dB	Wireless Mode 5 GHz 54 Mbps 2.4 GHz 11 Mbps 2.4 GHz 11 Mbps	Channel 60 1 1	Frequency 5.300 GHz 2.412 GHz 2.412 GHz	Address (BSSID) 00-20-D8-03-80-1B 00-20-D8-02-4A-5B 00-20-D8-02-4A-51	WI Dis Dis Dis
Network Name (SSID) Nortel alphanet alphanet alphanet	Signal Strength 11] 10 dB 11] 25 dB 11] 21 dB 137 dB	Wireless Mode 5 GHz 54 Mbps 2.4 GHz 11 Mbps 2.4 GHz 11 Mbps 2.4 GHz 11 Mbps 2.4 GHz 11 Mbps	Channel 60 1 1 6	Frequency 5.300 GHz 2.412 GHz 2.412 GHz 2.437 GHz	Address (BSSID) 00-20-D8-03-80-1B 00-20-D8-02-4A-5B 00-20-D8-02-4A-51 00-20-D8-02-4B-3D	Dis Dis Dis Dis Dis
Network Name (SSID) Nortel Salphanet alphanet alphanet	Signal Strength 11] 10 dB 11] 25 dB 11] 21 dB 11] 37 dB	Wireless Mode 5 GHz 54 Mbps 2.4 GHz 11 Mbps 2.4 GHz 11 Mbps 2.4 GHz 11 Mbps	Channel 60 1 1 6	Frequency 5.300 GHz 2.412 GHz 2.412 GHz 2.437 GHz	Address (BSSID) 00-20-D8-03-80-1B 00-20-D8-02-4A-5B 00-20-D8-02-4A-F1 00-20-D8-02-4B-3D -03-80-1B	WI Dis Dis Dis Dis Dis
Network Name (SSID) Nortel Alphanet alphanet alphanet	Signal Strength           11]         10 dB           11]         25 dB           11]         21 dB           11]         37 dB	Wireless Mode 5 GHz 54 Mbps 2.4 GHz 11 Mbps 2.4 GHz 11 Mbps 2.4 GHz 11 Mbps	Channel 60 1 1 6	Frequency 5.300 GHz 2.412 GHz 2.412 GHz 2.437 GHz	Address (BSSID) 0-20-D8-03-80-1B 00-20-D8-02-4A-5B 00-20-D8-02-4A-51 00-20-D8-02-4B-3D -03-80-1B	Dia Dia Dia Dia Dia

### Advanced settings for Windows XP

In Windows XP, it is recommended that you use the Mobile Adapter 2201 Client Manager. Before using the Mobile Adapter 2201 Client Manager, please follow the steps below to disable the Windows XP Zero Configuration.

- 1 Click Start>Nortel Networks>Mobile Adapter 2201 to open the Utility.
- **2** From the Windows System Tray, you should see the signal icon. Right-click it and select "Disable Zero-Configuration."

Open Utility Disable Adapter Turn radio on Disable Zero-Configuration Eixt

Figure 27 Windows system tray signal icon

Or

- 1 Go to "Control Panel" and double click "Network Connections."
- **2** Right-click "Wireless Network Connection" of "802.11a/b Plus Cardbus," and select "Properties."

Figure 28 Cardbus context menu



**3** Select "Wireless Networks" tab, and uncheck the check box of "Use Windows to configure my wireless network settings," and then click "OK."

#### Figure 29 Wireless networks tab

Use	Windows to configu	re my wireles	s networ	k settings
Availe	able networks:			
Toco	onnect to an available	e network, cl	ick Conf	igure.
01	4C60		^	Configure
0	NC datacomPM		~	Refresh
Prefe	red networks:			
Prefe Autor belov	red networks: natically connect to a	available netv	works in	the order listed
Prefe Autor belov	rred networks: natically connect to a r.	available netv	works in	the order listed
Prefe	red networks: natically connect to a r.	available: netv	works in	the order listed Move up Move down
Prefe Autor belov	red networks: natically connect to a r.	available netv	works in	the order listed Move up Move down



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### **Create a New Network Profile**

**1** To create a new Network Configuration profile, click the Station Configuration tab (Figure 30).

Figure 30 Mobile Adapter 2201 Client Manager - Station Configuration tab

BayStack 2200 802.11a/b Combo Client Manage	r		
Link Status Station Configuration Site Survey Abo	put		
	Default		New
			Modify
			Remove
	L		Activate
	Network Name (SSID):	<empty></empty>	
H. []	Network Type:	Infrastructure	
	Data Security:	Disabled	
	Default Encryption Key:		
SIGNAL STRENGTH: EXCELLENT	Power Saving:	Normal	
			Ok

**2** Click New. The Network Configuration Settings dialog box will launch (Figure 31).

Enter the correct SSID and Network Type for the network that you are going to join.

Network Configuration Settings			
General Security Advanced			
	Configuration Name:	Office	
	SSID:	alphanet	
	Network Type:	Infrastructure	•
<b>b</b> ,	Power Save Mode:	Normal	<b>_</b>
SIGNAL STRENGTH: EXCELLENT			
		Ok	Cancel

Figure 31 Network Configuration Settings dialog box - General Tab

**3** Click on the Security tab (Figure 32). The Security dialog box appears. Enter the appropriate settings for your network.

Figure 32	Network Configuration	Settings - Security	′ Tab
-----------	-----------------------	---------------------	-------

Network Configuration Settings	
General Security Advanced	
N CRTEL NETWORKS	Encryption Type: C Use Dynamic Security (LEAP, 802.1X, etc.) C Use Static Keys C Disabled
Enable LEAP	
User Name:	
Password:	
	Define Static Encryption Keys
	Ok Cancel

**4** If you select Use Dynamic Security and check the box to Enable LEAP, you will be prompted to enter a user name and password (Figure 33).

Network Configuration Settings	
General Security Advanced	
NØRTEL	Encryption Type:
NETWORKS	Use Dynamic Security (LEAP, 802.1X, etc.)
	Use Static Keys
	O Disabled
Enable LEAP	
User Name: User	
Password:	
	Define Static Encryption Keys
	Ok Cancel

Figure 33 Network Configuration Settings - Security Tab, LEAP Enabled

If you select Define Static Encryption Keys, you will be prompted to enter the encryption key(s) (Figure 34).

Figure 34 Encryption Key dialog t	box.
-----------------------------------	------

Network Configuration Settings	
stup_10 General Security Advanced	
age B	Encryption Type: Use Dynamic Security (LEAP, 802.1X, etc.) Use Static Keys Disabled
Security	<u>?</u> ×
	C       Hexadecimal (0-9, A-F)         C       ASCII Text (all keyboard characters)
Encryption Keys (Select The Default	)
O Unique Key	64 bit (enter 10 digits)
O First	64 bit (enter 10 digits)
O Second	64 bit (enter 10 digits)
O Third	64 bit (enter 10 digits)
O Fourth	64 bit (enter 10 digits)
	OK Cancel

**5** Once all of the profile settings have been entered, click OK. The newly created profile will be displayed in the Station Configuration tab (Figure 35).

Figure 35	Mobile Adapter 2201	Client Manager - 3	Station Configuration tab
-----------	---------------------	--------------------	---------------------------

Link Status Station Configuration Site Survey	About		
	Default		New
	once		Modify
			Remove
			Activate
	Network Name (SSID):	alphanet	
	Network Type:	Infrastructure	
	Data Security:	Disabled	
	Default Encryption Key:		
SIGNAL STRENGTH: EXCELLENT	Power Saving:	Normal	
			]

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# Chapter 3 Network Configuration

### **Device Configuration**

You can set the Wireless Network Adapter to work in either "infrastructure" mode or "ad hoc" mode.

### **Infrastructure Mode**

In infrastructure mode, devices communicate with each other by first going through an Access Point (AP). Wireless devices can communicate with each other or can communicate with a wired network. When one AP is connected to wired network and a set of wireless stations, it is referred to as a BSS (Basic Service Set).





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#### Ad Hoc Mode

Ad-hoc mode is also called "peer-to-peer mode" or "Independent Basic Service Set (IBSS)." In ad hoc mode, devices communicate directly with each other without using an Access Point (AP).





### **Non-Default Settings Configuration**

1 To create a configuration profile with non-default settings, Click Start>Nortel Networks>Mobile Adapter 2201 (Figure 38), and the Mobile Adapter 2201 Client Manager window will appear (Figure 39).

Figure 38 Launch Mobile Adapter 2201



BayStack 2200 802.11a/b Combo Client	Manager	
Link Status Station Configuration Site Sur	vey About	
NØRTEL		
NETWORKS	Wireless Mode:	2.4 GHz 11 Mbps
	Configuration Name:	Default
	SSID:	Wireless
	WLAN Link Status:	Connected
	Transmit Rate:	11 Mbps
	Receive Rate:	11 Mbps
	Network Type:	Infrastructure
	Security Mode:	Off
	IP Address:	192.168.168.6
SIGNAL STRENGTH: EXCELLENT	Up Time:	0:05:55
		Ok

Figure 39 Mobile Adapter 2201 Client Manager

**1** Click the Station Configuration tab (Figure 40).

BayStack 2200 802.11a/b Combo Client Manage	r		
Link Status Station Configuration Site Survey Abo	put		
	Default		New
			Modify
			Remove
			Activate
	Network Name (SSID):	<emptv></emptv>	
齿, 口	Network Type:	Infrastructure	
	Data Security:	Disabled	
	Default Encryption Key:		
SIGNAL STRENGTH: EXCELLENT	Power Saving:	Normal	
			Ok

**2** Click New. The Network Configuration Settings dialog box will launch (Figure 41).

Enter the correct SSID and Network Type for the network profile that you are creating. Table 2 shows the items on the Network Configuration Settings - General tab.

Network Configuration Settings			
General Security Advanced			
NØRTEL NETWORKS	Configuration Name:	Office	
	SSID:	alphanet	
	Network Type:	Infrastructure	
Ь, <u>_</u>	Power Save Mode:	Normal	
SIGNAL STRENGTH: EXCELLENT			
		Ok Cancel	

Figure 41 Network Configuration Settings dialog box - General Tab

Table 2	Network	Configuration	Settings -	General	tab

Item	Description
Configuration Name	This name identifies the configuration. This name should be unique.
SSID	The name of the wireless network. This name cannot be longer than 32 characters. If the field is set to be "ANY" or is left blank, your computer will connect to an AP with the best signal strength.
Network Type	Specifies the mode of the network. Two options are "Infrastructure" and "Ad Hoc."
Power Save Mode	Three power management options are "Off," "Normal" and "Maximum." In Ad Hoc mode, Power Savings function cannot be enabled.

**3** Click on the Security tab. Depending on the Encryption Type selected, you will be presented with different security settings to enter (Figure 42). Enter the appropriate settings for your network. Table 3 shows the items on the Network Configuration Settings - Security tab.

Network Configuration Setting	5
General Security Advanced	
NØRTEL	Encryption Type:
NETWORK	C Use Dynamic Security (LEAP, 802.1X, etc.)
	C Use Static Keys
	(• Disabled
Enable LEAP	
User Name:	
Password:	
	Define Static Encryption Keys
	Ok Cance
Network Configuration Setting General Security Advanced	IS Encruption Type:
Network Configuration Setting General Security Advanced NORTEL NETWORK	S Encryption Type: Use Dynamic Security (LEAP, 802 1X, etc.) C Use Static Keys Disabled
Network Configuration Setting General Security Advanced NORTEL NETWORK	S Encuption Type: C Use Dynamic Security (LEAP, 802.1X, etc.) C Use Static Keys Disabled 2   X
Network Configuration Setting General Security Advanced NORTEL NETWORK	S Encuption Type: C Use Dynamic Security (LEAP, 802.1%, etc.) C Use Static Keys Disabled 2.X Key Entry Method:
Network Configuration Setting General Security Advanced NORTEL NETWORK	S Encuption Type: Use Dynamic Security (LEAP, 802 1X, etc.) Use Static Keys Disabled  Key Entry Method: Hexadecimal (0.9, A-F)
Network Configuration Setting General Security Advanced NORTEL NETWORK	s  Encuption Type:  Use Dynamic Security (LEAP, 802 1%, etc.)  Use Static Keys  Disabled  Support Key Entry Method:  Hexadecimal (0-9, A-F)  ASCII Text
Retwork Configuration Secting General Security Advanced NORTEL NETWORK	s Encuption Type:  Use Dynamic Security (LEAP, 802.1X, etc.)  Use Static Keys  Disabled  S.X  Key Entry Method:  ASCII Text (all keyboard characters)
Retwork Configuration Section General Security Advanced RETEL NETWORK RETWORKS Advanced RY RETWORKS	s Encuption Type:  Use Dynamic Security (LEAP, 802.1%, etc.)  Use Static Keys  Disabled  SX Key Entry Method:  Hexadecimal (0.9, A.F)  ASQLI Text (all keyboard characters)
Network Configuration Setting General Security Advanced NORTEL NETWORK	s Encuption Type:  Use Dynamic Security (LEAP, 802.1%, etc.)  Use Static Keys  Disabled  Key Entry Method:  Key Entry Method:  ACOLI Text (al keyboard characters)  E Oefault)  64 bit (enter 10 digits)
Network Configuration Setting General Security Advanced NORTEL NETWORK	s Encuption Type:  Use Dynamic Security (LEAP, 802.1%, etc.)  Use Static Keys  Disabled  Key Entry Method:  Key Entry Method:  Hexadecimal (0-3, A-F)  ACUI Text (al keyboard characters)  E Default)  64 bit (enter 10 digits)  Cance
Network Configuration Setting General Security Advanced NORTEL NETWORK NORTEL NETWORKS	s Encuption Type: C Use Dynamic Security (LEAP, 802.1X, etc.) C Use Static Keys Disabled Key Entry Method: C Hexadecimal (0-3, AF) C ASCUIText (al Keyboard characters) E Default) 64 bit (enter 10 digits) 64 bit (enter 10 digits) 64 bit (enter 10 digits) 64 bit (enter 10 digits) Cance
Network Configuration Setting General Security Advanced NCRTEL NETWORK NCRTEL NETWORKS	s CS Encuption Type: C Use Dynamic Security (LEAP, 802.1X, etc.) C Use Static Keys Disabled C A Security Method: C Hexadecimal (0-3, AF) C ASCUIText (al Keyboard characters) E Default) 64 bit (enter 10 digits) 64 bit (enter 10 digits) C Ance
Network Configuration Setting General Security Advanced NCRTEL NETWORKS	s  Encuption Type:  Use Dynamic Security (LEAP, 802.1X, etc.)  Use Static Keys  Disabled  Key Entry Method:  Key Entry Method:  Action of the state control (0.9, A-F)  Action of the state control (0.9, A-F)

Figure 42 Network Configuration Settings - Security tab

Network Configuration Settings			
General Security Advanced			
NØRTEL NETWORKS	Encryption Type: Use Dynamic Security (LEAP, 802.1%, etc.) Use Static Keys Disabled		
User Name: User			
Password:			
Define Static Encryption Keys			
	Ok Cancel		

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Item	Description
Encryption Type	Three options are "Use Dynamic Security (LEAP, 802.1X, etc.", "Use Static Keys" and "Disabled."
Enable LEAP	If 'Use Dynamic Security" is selected and this box is checked, you may enter the User Name and Password information used for Lightweight Extensible Authentication Protocol (LEAP) authentication.
Key Entry Method	If 'Use Static Keys" is selected, you may specify Hexadecimal or ASCII Text as the method of key entry.
Encryption Keys	Enter the encryption keys using the key entry method specified (Hexadecimal or ASCII).
	<b>Unique Key:</b> Defines the unique encryption key for security for the current network configuration. Not used in Ad-Hoc mode. To use Unique Key for security, this field should be populated.
	<b>First, Second, Third, Fourth:</b> Defines four shared encryption keys. To use Shared Keys for security, at least one Shared Key should be populated.
	<b>Key Length:</b> Defines the length of each encryption key. When the length is changed to be a smaller number after a key is entered, the key is automatically truncated to fit. If the length is increased again, the key will not be automatically updated to the previous value.

Table 3 Network Configuration Settings - Security tab

Click on the Advanced tab to set advanced security settings (Figure 43).
 Table 4 shows the items on the Network Configuration Settings - Advanced tab.

Network Configuration Settings		
General Security Advanced		
	Scan Mode:	C Passive   Auto
	802.11b Preamble:	Short & Long C Long Only
	QoS:	Disabled
	Transmit Power Level:	100%
Wireless Mode Allowed	Wireless Mode	When Starting Ad Hoc Network
🔽 5 GHz 54 Mbps	🔿 5 GHz 54 Mbps	
🔽 5 GHz 108 Mbps	C 5 GHz 108 Mbps	
Z.4 GHz 11 Mbps		2.4 GHz 11 Mbps
		Ok Cancel

Figure 43 Network Configuration Settings - Advanced tab

Table 4 Ne	etwork Configuration	Settings -	Advanced	tab
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Item	Description
Scan Mode	Two options are "Auto" and "Passive."
802.11b Preamble	Two options are "Short & Long" and "Long Only."
QoS	Stands for Quality of Service. Disables or enables the Adapter to cooperate in a network using QoS.
Transmit Power Level	Options are "100%," "50%," "25%" and "12% Power."
Wireless Mode Allowed	Three options are "5 GHz 54 Mbps," "5 GHz 108 Mbps" and "2.4 GHz 11 Mbps."
Wireless Mode When Starting Ad Hoc Network	Three options are "5 GHz 54 Mbps," "5 GHz 108 Mbps" and "2.4 GHz 11 Mbps."

**5** Once all of the profile settings have been entered, click OK. The newly created profile will be displayed in the Station Configuration tab (Figure 44).



Figure 44 Mobile Adapter 2201 Client Manager - Station Configuration tab

## **Default Settings Windows XP Zero-Configuration**

You may also choose the default parameters and directly proceed to Windows XP zero-configuration through the steps below:

- 1 Go to "Control Panel" and open "Network Connections."
- **2** Right-click the Wireless Network Connection of "802.11a/b Plus Cardbus," and make sure this connection is Enabled.
- **3** Right-click the Wireless Network Connection of "802.11a/b Plus Cardbus," and then click "Properties."
- **4** Select "Wireless Networks" tab and select "Use Windows to configure my wireless network settings" check box.

-

**Note:** Clear the check box of "Use Windows to configure my wireless network settings" will disable automatic wireless network configuration.

# Chapter 4 Troubleshooting

Check the following troubleshooting items before contacting Technical Support.

Tabl	e 5	Troubleshooting	

Problems	Possible Solutions	
My computer cannot find the Adapter	<ul> <li>Make sure the Adapter has no physical damage.</li> <li>Make sure the Adapter is properly inserted in the Cardbus slot.</li> <li>Try the Adapter in other Cardbus slots.</li> <li>Try another Adapter in that particular Cardbus slot.</li> </ul>	
	<ul> <li>Check whether there are conflicts caused by other network cards in the computer. Remove all other cards then try this Adapter separately.</li> </ul>	
Cannot access any network resources from the computer.	<ul> <li>Make sure the correct software is installed.</li> <li>Uninstall and reinstall the driver/utility (see Chapter 2 for the procedures).</li> <li>Make sure all network devices are receiving power and working well.</li> <li>Check whether the SSID is set properly.</li> <li>Check with the network administrator to see whether the Access Point is configured properly to accept your signal.</li> </ul>	
	<ul> <li>If you have trouble accessing the Internet, make sure to check with the network administrator for further instructions.</li> </ul>	

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44 Troubleshooting

# Appendix A Specifications

This appendix provides technical specifications for the Nortel Network Wireless LAN Mobile Adapter 2201.

### **Frequency Range**

U-NII: 2.412 ~ 2.484 GHz, 5.15 ~ 5.35 GHz, 5.725 ~ 5.825 GHz Europe: 2.412 ~2.484 GHz, 5.15 ~ 5.35 GHz, 5.47 ~ 5.725 GHz Japan: 2.471 ~ 2.497 GHz, 5.15 ~ 5.25 GHz China: 2.412 ~ 2.484 GHz, 5.725 ~ 5.85 GHz

### **Modulation Technique**

DSSS (CCK, BPSK, QPSK) for 2.4 GHz OFDM (BPSK, QPSK, 16-QAM, 64-QAM) for 5 GHz

### **Host Interface**

Card Bus interface and form factor

## **Channels Support**

US / Canada: 11 (1 ~ 11)
China / Major European country: 13 (1 ~ 13)
France: 4 (10 ~ 13)
Japan: 14 (1 ~ 13 or 14th)
US/Canada: 12 non-overlapping channels

 $5.15 \sim 5.35$  GHz,  $5.725 \sim 5.825$  GHz Europe: 19 non-overlapping channel  $5.15 \sim 5.35$  GHz,  $5.47 \sim 5.725$  GHz Japan: 4 non-overlapping channels  $5.15 \sim 5.25$  GHz China:  $5.725 \sim 5.85$  GHz

## **Operation Voltage**

3.3V +/- 5%

## **Power Consumption**

Transmission mode	1155 mW (estimated)
Receive mode	1221 mW (estimated)
Standby mode	297 mW (estimated)
Power saving mode	39.6 mW (estimated)

## **Output Power**

Worldwide	2.4 GHz: 17 dBm (50 mW) peak power
US	5 GHz
	<b>a.</b> 5.150 ~ 5.250: peak power to 50mW (17dBm)
	<b>b.</b> 5.250 ~ 5.350:peak power to 125mW (21 dBm)
	<b>c.</b> 5.470-5.725:not allowed
	<b>d.</b> 5.725 ~ 5.825:peak power to 80mW (19 dBm)
Europe	5 GHz
	<b>a.</b> 5.150 ~ 5.250 and 5.250-5.350: European regulations limit power in these bands to 200 mW EIRP (23 dBm)
	<b>b.</b> 5.470 ~ 5.725: 1W EIRP (30 dBm) allowed
	c. 5.725 ~ 5.825: calibrated to provide 20 dBm peak power
Japan	5 GHz

a. 5.150 ~ 5.250: 200 mW EIRP (23 dBm)
b. 5.250 ~ 5.350: not allowed
c. 5.470 ~ 5.725: not allowed
d. 5.725 ~ 5.825: not allowed
5 GHz: 10 mW

### **Operation Distance**

802.11a	Up to 1320 feet
802.11b	Up to 1650 feet

### **Operation System**

Windows 98SE, Me, 2000, XP

### Dimension

China

23mm (L) x 54mm (W) x 10.4 (H)

### Security

64-bit WEP, 128-bit WEP, 152-bit WEP Encryption 802.1x Authentication H/W AES encryption

## **Operation Mode**

Infrastructure & Ad-hoc mode

### **Transfer Data Rate**

2.4 GHz

11, 5.5, 2, 1Mbps, auto-fallback

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5 GHz 54, 48, 36, 24, 18, 12, 9, 6Mbps, auto-fallback 108,96,72,48,36,24,18,12 Mbps by using turbo mode

### **Operation Temperature**

0 ~ 70 °C

### **Storage Temperature**

20 ~ 80 °C

### Wi-Fi & Wi-Fi5

WECA Compliant

### WHQL

Microsoft 2000, XP Complaint

### FAA

S/W audio On/Off support

### **EMC Certificate**

FCC part 15 (USA) IC RSS210 (Canada)

### **Media Access Protocol**

CSMA/CA with ACK architecture 32-bit MAC