

MiFi™ 2352/2372

Intelligent Mobile Hotspot



product user guide



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5,267,261	5,544,196	5,267,262	5,568,483	5,337,338	
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FCC ID: NBZNRM-MIFI2352

NBZNRM-MIFI2372

IC ID: 3229A-MIFI2352

3229A-MIFI2372

PN 90025989 R2 110509

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1

Getting Started

MiFi Overview
Install SIM Card and Battery
Initial Connection and Setup — Overview
WiFi Mode Setup
USB Mode Setup

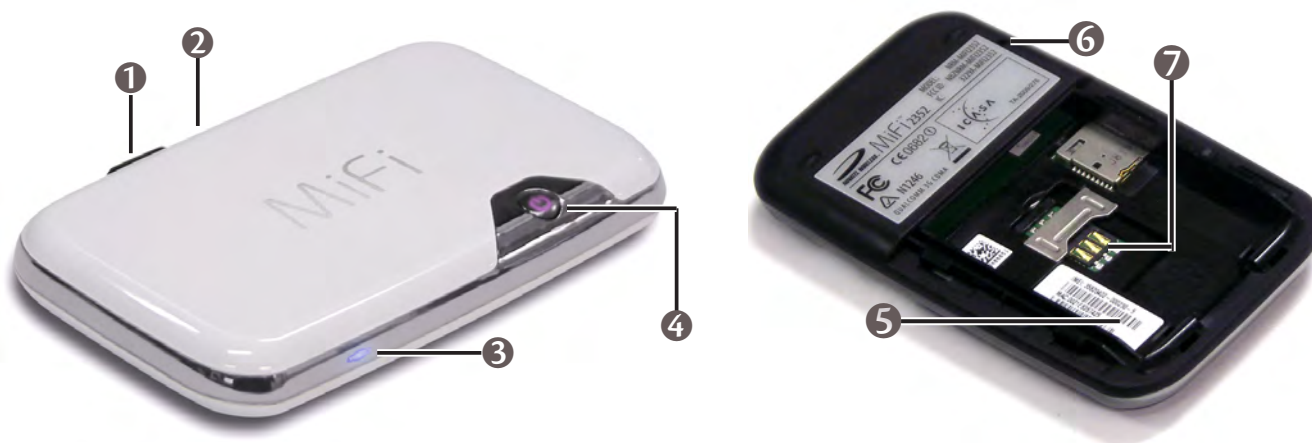
Use the information in this chapter to learn about your product's components and features and to install and set up the device.

MiFi Overview

The Novatel Wireless MiFi Intelligent Mobile Hotspot (models 2352 / 2372) (MiFi) allows you more freedom than ever before. No wires, no cables, just access to your data when you need it. Plus it can simultaneously support up to five WiFi enabled devices, depending on your setup.

You can securely connect virtually any WiFi enabled device to MiFi for a total mobile Internet experience. Surf the Web, download files and music, share photos, manage e-mail, and more.

In addition you can use MiFi in USB modem mode (tethered modem) by plugging it into a USB port on your computer.



- ❶ microUSB Port — The AC charger, USB cable and optional car charger connect here.
- ❷ microSDHC Slot — Removable memory storage slot supports microSDHC cards up to 16 GB (microSDHC card not included).
- ❸ WiFi LED — Indicates WiFi connection status.
- ❹ Power Button / Connection LED — Powers on and off the device. The LED provides connection and battery status.

Tip! Refer to your Quick Start Guide for complete definitions of the LED states.



- 5 Battery / SIM compartment — The battery and SIM card are placed here.
- 6 Master Reset Button — Resets device to factory default settings. [See [Using the Master Reset Button](#) (page 82).]
- 7 SIM Card Slot — The SIM card is inserted here.
- 8 SSID Label — If your network is preconfigured, the SSID and WiFi Key are located on the inside of the battery door.

Power Sources for MiFi

Your device will work from its battery or when plugged into a power source.

- Battery — The battery will last for up to four hours. Charge the battery by plugging in the AC adapter or optional car charger. While the battery is charging the Power/Connection LED will flash amber. When the battery is fully charged, it will be solid amber.
- Wall power or car charger — Use the device by plugging it into either a wall socket or a vehicle using the optional car charger accessory. The MiFi battery will charge while it is plugged in.
- USB power from a computer — Use the device as a USB modem while plugged into the USB port of a computer using the supplied USB cable. The battery will charge while it is plugged in. Charging the battery through the USB port is slower than charging it with AC or vehicle power.

NOTE You cannot use the MiFi wirelessly while it is plugged into a USB port.

Install SIM Card and Battery

Before connecting MiFi to your computer for the first time you must insert the SIM card, and then insert and charge the battery.

IMPORTANT The battery must be fully charged (for a minimum of four hours) before using MiFi the first time. After the initial use and set up, you may use the device with the battery, AC mains charger, car charger, or USB power.

- 1 Slide open the door at the bottom of the device.
- 2 Insert the SIM card into the SIM slot as shown.



- 3 Now, insert the battery, lining up the contact points as shown and replace the door on the device.



- 4 Connect the wall charger to MiFi and charge for a minimum of 4 hours before use. The power button LED will flash amber while the device is charging and glow solid amber once charging is complete.

Battery Tips

WARNING! Use only batteries and chargers with your device that have been approved by your service provider or by Novatel Wireless. The failure to use approved batteries and chargers may increase the risk that your device will overheat, catch fire, or explode, resulting in serious bodily injury, death, or property damage.

- It normally takes at least 4 hours to fully charge the battery.
- When using battery power, the device lasts up to 4 hours (when connected to a single device only).
- The battery will discharge more rapidly as additional devices access MiFi.
- Battery life depends on the network, signal strength, temperature, features, and accessories you use.
- Your device will also work with the approved car charger.
- If MiFi is connected to a computer using a USB data cable, the battery will charge. However, the device will not function in WiFi mode while connected to a computer.
- New batteries or batteries stored for a long time may take more time to charge.
- When charging your battery, keep it near room temperature.
- Some batteries perform best after several full charge and discharge cycles.
- When storing your battery, keep it uncharged in a cool, dark, dry place.
- Never expose batteries to temperatures below -10°C (14°F) or above 45°C (113°F). Leaving the battery in a hot vehicle may degrade long-term performance of Li-Ion batteries.
- It is normal for batteries to gradually wear down and require longer charging times. If you notice a change in your battery life, it is probably time to purchase a new battery.

IMPORTANT Whenever you work with either the battery or the SIM card, ensure that MiFi is not connected to any device or power source with a USB cable or power cord.

Initial Connection and Setup — Overview

IMPORTANT Your MiFi unit is pre-configured with your network operator settings. If MiFi is unable to pre-configure your settings, you will need the Access Point Name (APN) from your service provider plus any username, password, or other information they may have given you. If you do not have this information, contact your service provider before attempting to set up MiFi.

You have two connection options when using MiFi.

WiFi Mode

In WiFi mode you use MiFi as an access point or hotspot. You can connect any 802.11 b/g wireless device to MiFi. You can establish a secure profile so that others cannot use MiFi unless you allow them. You can also establish temporary settings to allow up to five devices to connect with MiFi without you having to give them your security settings. [See [WiFi Mode Setup](#) (page 7).]

USB Modem Mode

In USB Modem mode, you connect MiFi directly to a computer and use it as a modem (also known as a tethered modem). In this mode, WiFi is disabled. To use MiFi as a USB modem, you must install software and drivers. [See [USB Mode Setup](#) (page 14).]

This section contains the following information:

- [WiFi Mode Setup](#)
- [USB Mode Setup](#)

WiFi Mode Setup

To properly set up your device for WiFi mode, you need to do both of the following tasks:

- [Set Up a WiFi Connection](#)
- [Set Up Wireless Security](#)

IMPORTANT Your MiFi unit may be pre-configured with Wi-Fi encryption (WEP 128 bits) to prevent unauthorised access to your mobile broadband service. The unique SSID (network name) and WEP key are printed on the inside of the battery door. You will need this information to continue.

Set Up a WiFi Connection

Setting up the WiFi connection requires two steps:

- Connect to MiFi
- Configure MiFi for your service provider (Not required for most users, MiFi will be pre-configured.)

NOTE – The battery should be fully charged before using MiFi the first time.
– To connect in WiFi Mode, MiFi must be powered with a charged battery or with an AC mains or car charger. When MiFi is connected to your computer with the USB cable, WiFi is disabled.

Connect to MiFi:

- 1 Press the power button.

MiFi powers on and starts up. When the power LED is flashing and the WiFi LED solid blue, the device is ready to connect.

- 2 Use your normal WiFi manager on your computer to locate the MiFi network name (SSID) and select it.

NOTE – If your device was pre-configured, the network name was printed on the inside of the battery door.
– If your device was not pre-configured, select the network name that has MiFi_2352 or MiFi_2372 in the name.

Tip! The steps to connect to a WiFi network vary depending on your operating system and whether you use the native application or third-party software.

3 Click **Connect**.

If your unit was not pre-configured, the WiFi LED will flash to show connected status. Continue with “Configure MiFi for your service provider.”

4 Enter the WEP key when requested.

The WiFi LED will flash to show connected status.

Since your network was pre-configured, you do not need to continue with the following sections. If you want to change the settings of your MiFi (such as security type), follow the instructions for using the browser interface. [See [Interface Basics](#) (page 30).]

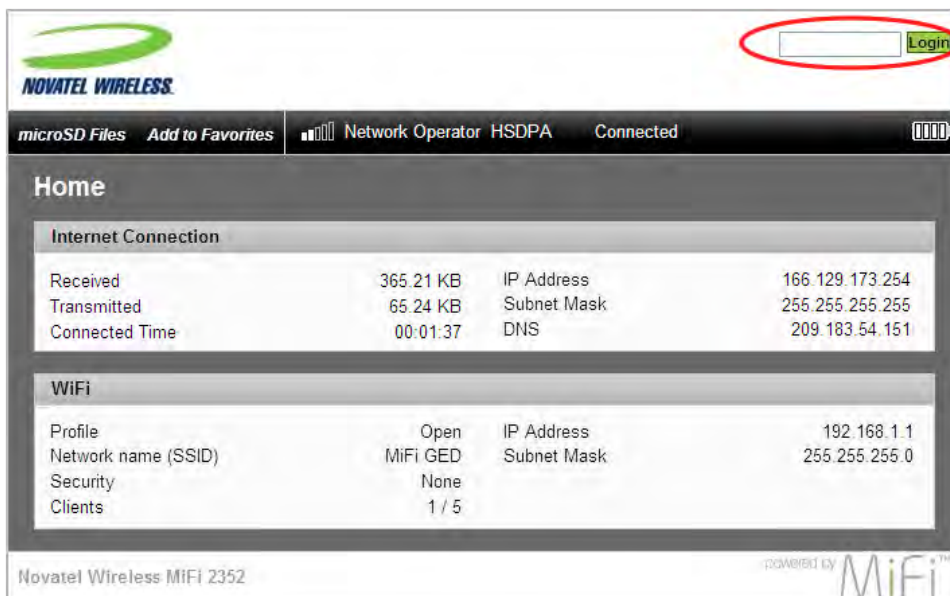
Configure MiFi for your service provider:

IMPORTANT If your network was not pre-configured, follow these steps to configure MiFi for you network operator. Your network service provider should have given you instructions with your APN (and user name and password, if required). Be sure you have and follow those instructions.

1 From your computer’s Web browser, enter **http://www.mifi** (or **http://192.168.1.1**) into the address bar and press the **Enter** or **Return** key.

MiFi’s Home page will open. This is the login page to the browser interface and also provides access to your microSDHC card.

Windows only: You can click **Add to Favorites** to bookmark the page in your browser for easier access.



2 Enter “admin” into the Login window in the upper right corner of the window and click **Login**.

The Home page for the browser interface will open.

NOVATEL WIRELESS. Help | Logout

Home WiFi Internet Router System Network Operator HSDPA Connected

Home

Internet Connection

Received	100.30 KB	IP Address	10.57.57.202
Transmitted	57.00 KB	Subnet Mask	255.255.255.255
Connected Time	00:01:21		

[Disconnect](#)

WiFi

Profile	Open	IP Address	192.168.1.1
Network name (SSID)	MiFi 20FD	Subnet Mask	255.255.255.0
Security	None		
Clients	1 / 5		

Novatel Wireless MIFI 2352 powered by MiFi™

3 Select **Internet > Internet Profiles**.

The Internet Profiles – Set Internet Profiles page will open.

NOVATEL WIRELESS. Help | Logout

Home WiFi Internet Router System Network Operator HSDPA Connected

Internet Profiles

Set Internet Profile

Profile: [Edit Internet Profile](#)

APN:

Username:

Authentication Type:

[Apply](#) [Cancel](#)

4 Select the profile for your provider from the Profile list and click the **Edit Internet Profile** button.

The Internet Profiles – Edit Profile page will open.

The screenshot shows the Novatel Wireless web interface. At the top left is the Novatel Wireless logo. At the top right are links for 'Help' and 'Logout'. Below the logo is a navigation menu with 'Home', 'WiFi', 'Internet', 'Router', and 'System'. To the right of the menu are status indicators for 'Network Operator', 'HSDPA', and 'Connected'. The main content area is titled 'Internet Profiles' and contains a form titled 'Edit Internet Profile'. The form has the following fields: 'Profile Name' (text input with 'World Operator'), 'APN' (text input), 'Username' (text input), 'Password' (text input), and 'Authentication Type' (dropdown menu with 'None' selected). A 'Return to Profile List' link is located to the right of the Profile Name field. At the bottom right of the form are 'Apply' and 'Cancel' buttons.

- 5 If desired, change the Profile Name to something more descriptive, for example My MiFi.
- 6 Enter the APN, Username, Password and other information you were given by your service provider.
- 7 Click **Apply**.
- 8 Click the **Return to Profile List** link.
- 9 Click **Apply** on the Internet Profiles – Set Internet Profile screen.

Tip! You may want to set Autoconnect to have your MiFi connect to the network whenever it is powered on. [See [page 55](#)]

- 10 Set up wireless security for your MiFi network. [See [Set Up Wireless Security](#) (page 11).]

WARNING! It is highly recommended that you set up security for your MiFi at this time. If you do not configure security for your wireless network, data on your network will be easily accessible to others.

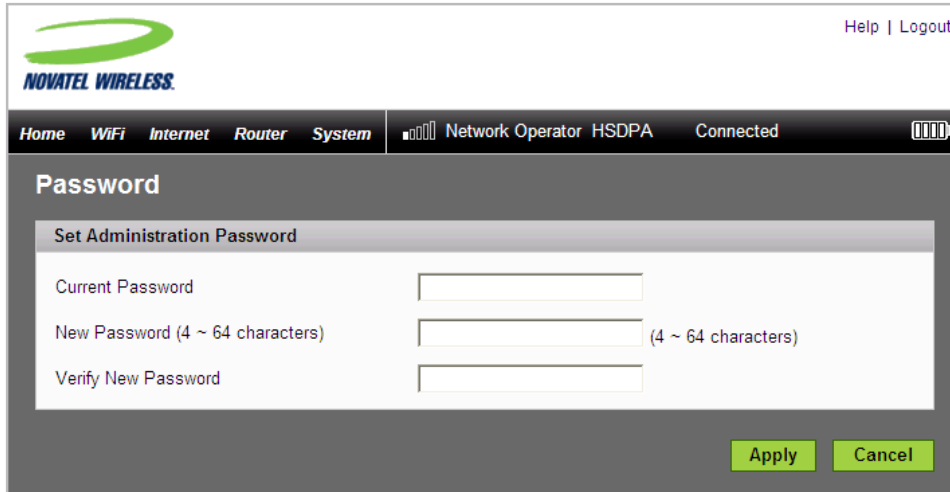
Set Up Wireless Security

Using security with your wireless network is very important. If your network was not pre-configured, Novatel Wireless recommends that you set up security immediately by following these procedures:

- [Change the Administrative Password](#)
- [Establish a Secure Profile](#)

Change the Administrative Password

- 1 Choose **System > Password** from the menu bar.



The screenshot shows the Novatel Wireless administrative interface. At the top left is the Novatel Wireless logo. At the top right are links for 'Help | Logout'. Below the logo is a navigation menu with 'Home', 'WiFi', 'Internet', 'Router', and 'System'. The 'System' menu is expanded, showing 'Network Operator', 'HSDPA', and 'Connected'. The main content area is titled 'Password' and contains a 'Set Administration Password' form. The form has three input fields: 'Current Password', 'New Password (4 ~ 64 characters)', and 'Verify New Password'. The 'New Password' field has a character count '(4 ~ 64 characters)' next to it. At the bottom right of the form are two buttons: 'Apply' and 'Cancel'.

- 2 Type "admin" into the Current Password field.
- 3 Select a new administrative password and enter it into both New Password fields.
- 4 Click **Apply**.

This will be the new administrative password that you use when you login to the browser interface.

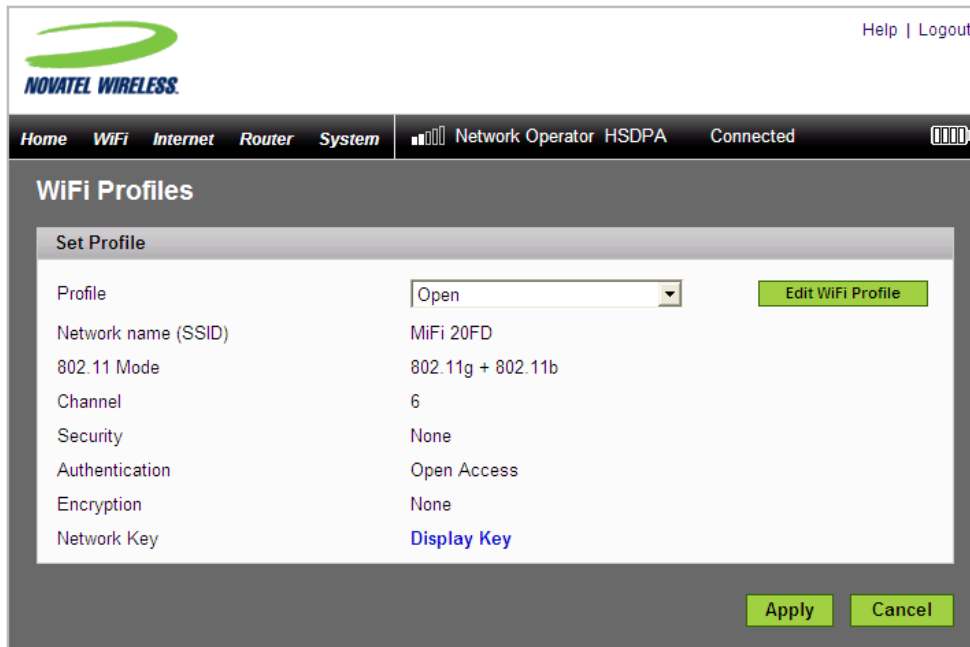
NOTE Be sure to record the new password. You will have to reset the device using the Master Reset button if you lose the administrative password. [See [Using the Master Reset Button](#) (page 82).]

Establish a Secure Profile

You can use WEP (64- or 128-bit), WPA-PSK, WPA2-PSK, or WPA/WPA2 mixed mode security.

IMPORTANT Record your network key.

- 1 Choose **WiFi > WiFi Profiles** from the menu bar.



The screenshot shows the Novatel Wireless web interface. At the top left is the Novatel Wireless logo. At the top right are links for 'Help' and 'Logout'. Below the logo is a navigation menu with 'Home', 'WiFi', 'Internet', 'Router', and 'System'. To the right of the menu is a status bar showing 'Network Operator HSDPA' and 'Connected' with a signal strength indicator. The main content area is titled 'WiFi Profiles' and contains a 'Set Profile' form. The form has the following fields:

Profile	Open	Edit WiFi Profile
Network name (SSID)	MiFi 20FD	
802.11 Mode	802.11g + 802.11b	
Channel	6	
Security	None	
Authentication	Open Access	
Encryption	None	
Network Key	Display Key	

At the bottom right of the form are 'Apply' and 'Cancel' buttons.

- 2 From the Profile list, select **Secure** and click the **Edit WiFi Profile** button.
The Edit WiFi Profile page will open.

NOVATEL WIRELESS. Help | Logout

Home WiFi Internet Router System Network Operator HSDPA Connected

WiFi Profiles

Edit WiFi Profile

Profile	Secure	Return to Profile List
Network Name (SSID)	<input type="text" value="MiFi 72DE Secure"/>	
802.11 Mode	<input type="text" value="802.11g + 802.11b"/>	
Channel	<input type="text" value="Auto"/>	
Security	<input type="text" value="WPA Personal/PSK"/>	
Authentication	Open Access	
Encryption	TKIP	
Network Key	<input type="text" value="password82345"/> 8 ~ 63 characters	

- 3 Choose the type of security you want to use from the Security list.
- 4 Type the Network Key you want to use in the box.
- 5 Click **Apply**.
- 6 Click the **Return to Profile List** link.
- 7 Click **Apply** on the WiFi Profiles – Set Profile page to begin using the Secure profile.

IMPORTANT Your wireless connection will be disabled at this point. You must reconnect with the new network key you just established.

USB Mode Setup

To use MiFi in USB mode, you must install the software and drivers that are contained in the MiFi device.

IMPORTANT You will need the Access Point Name (APN) from your service provider plus any username, password, or other information they may have given you.

This section contains the following information:

- [System Requirements](#)
- [Windows Setup and Connection](#)
- [Mac Setup and Connection](#)

System Requirements

- Windows® XP, Vista
- Mac OS® X v10.4.7+
- Linux® (2.4, 2.6) [Visit www.novatelwireless.com for configuration details.]
- 100 MB hard drive space
- 128 MB Ram
- USB 2.0 port

Windows Setup and Connection

A complete user guide for the MobiLink 3 software is available from the Novatel Wireless website at www.novatelwireless.com/support.

This section contains information on installing the software, configuring your new profile, and connecting to the network.

Install the software and configure the profile:

- 1 Turn on your computer and close all open applications.
- 2 Use the microUSB cable to attach MiFi to a USB 2.0 port on your computer. MiFi will turn on automatically.

NOTE Only the connection LED on the power button will light.
WiFi is disabled in USB mode.

- 3 The MobiLink software and MiFi drivers will install.
- 4 Follow any onscreen instructions.

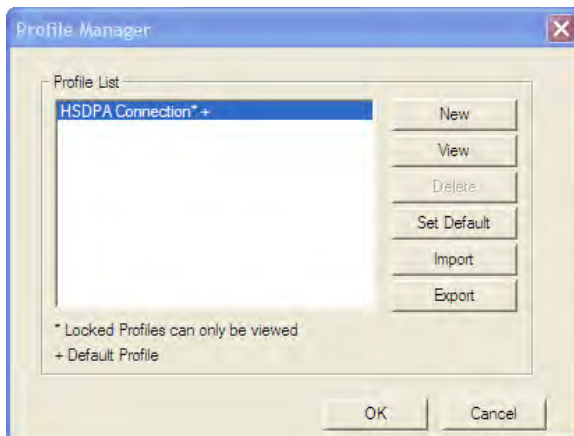
The MobiLink icon will appear in the Windows notification area (also referred to as the system tray).



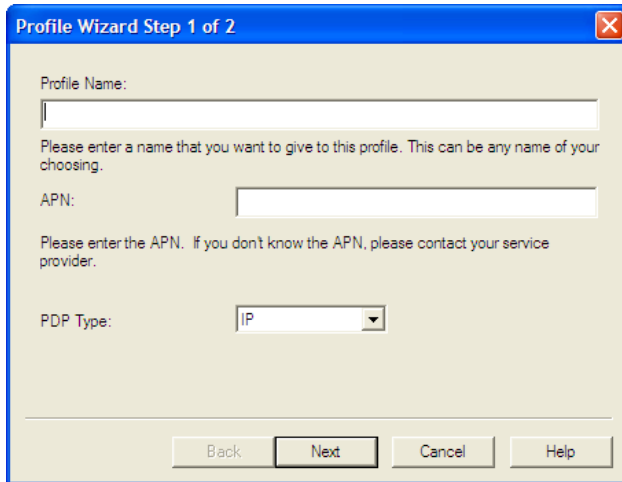
NOTE If the system tray icon is not present, double-click the MobiLink desktop shortcut to launch the software.

- 5 Right-click the icon and select **Settings > Profile Manager**.

The Profile Manager window will open.

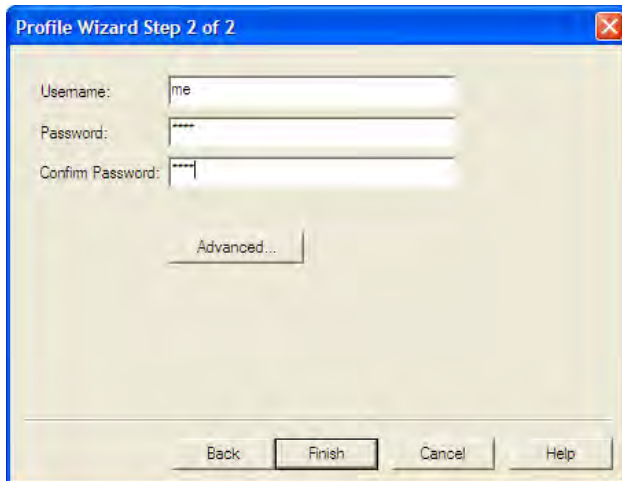


- 6 Click **New** to start the Profile Manager wizard.



The screenshot shows a dialog box titled "Profile Wizard Step 1 of 2". It contains three input fields: "Profile Name:" with a text box, "APN:" with a text box, and "PDP Type:" with a dropdown menu set to "IP". Below the fields are four buttons: "Back", "Next", "Cancel", and "Help".

- 7 Enter a simple name for the new profile (for example, My MiFi Connection).
- 8 Enter the Access Point Name (APN) that you received from your service provider and click **Next**.

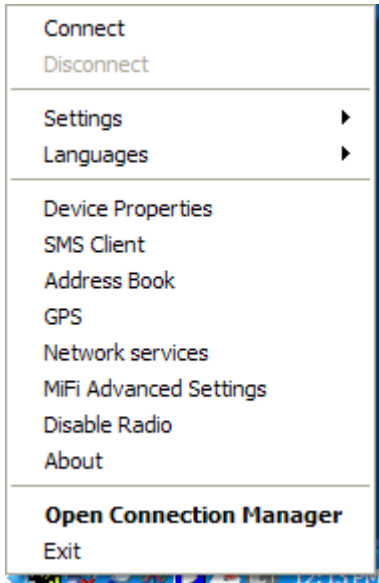


The screenshot shows a dialog box titled "Profile Wizard Step 2 of 2". It contains three input fields: "Username:" with the text "me", "Password:" with masked characters "****", and "Confirm Password:" with masked characters "****". Below the fields is an "Advanced..." button. At the bottom are four buttons: "Back", "Finish", "Cancel", and "Help".

- 9 Enter your Username and Password (received from your service provider), if required, and click **Finish**.

Connect to the network:

- 1 Right-click the system tray icon again and select **Connect**.



– Or –

- 1 To see network and connection status also, right-click the system tray icon and select **Open Connection Manager**.



- 2 Click **Connect**.

When **Ready** changes to **Connected**, you have successfully connected to the network and can browse the Internet, check e-mail, or any other activities you require.

Mac Setup and Connection

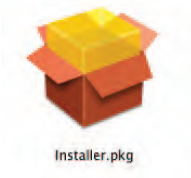
This section contains information on installing the MiFi drivers, configuring your new profile, and connecting to the network.

Install the MiFi Drivers and Configure Your Device

- 1 Turn on your computer and close all open applications.
- 2 Use the microUSB cable to attach MiFi to a USB port on your Mac. MiFi turns on automatically.

NOTE Only the LED on the power button will light.
WiFi is disabled in USB Modem mode.

- 3 A welcome window opens, showing the installer package and a PDF file named "Instructions."



- 4 Follow the instructions outlined in the "Instructions" document for driver installation and device configuration.

Using MiFi and Sharing Files

Using MiFi in WiFi Mode

Using MiFi in USB Mode

Using microSDHC Cards with MiFi — File Sharing

This chapter covers using MiFi wirelessly (including as a temporary hotspot), using MiFi as a USB modem, and using the File Sharing capabilities allowed by the microSDHC card capabilities.

Using MiFi in WiFi Mode

WiFi mode is where you use your MiFi as a wireless hotspot or access point. It can be powered by battery, AC mains charger, or car charger when used in this mode.

NOTE You cannot power MiFi through a USB cable and use it in WiFi mode. Plugging MiFi into a computer disables WiFi mode.

- 1 Press the power button.
 - MiFi comes on and the power/connection LED and the WiFi LED light up.
 - A solid amber power LED and a solid WiFi LED indicate the device is in service and ready to connect.
- 2 Use your normal WiFi manager on your computer to locate the MiFi wireless network.

Tip! – The steps to connect to a WiFi network vary depending on your operating system and whether you use the native application or third-party software.
– Consult your computer help system if you have difficulty locating your network list.

Typical Windows

- » Right-click the wireless icon in Windows notification area (system tray) and select **View Available Wireless Networks**.

Typical Mac

- » Pull down the network list from the Airport icon in the menu bar.

- 3 If multiple wireless networks are found, highlight the one that has **MiFi_2352** or **MiFi_2372** in its name.
- 4 Click **Connect**.

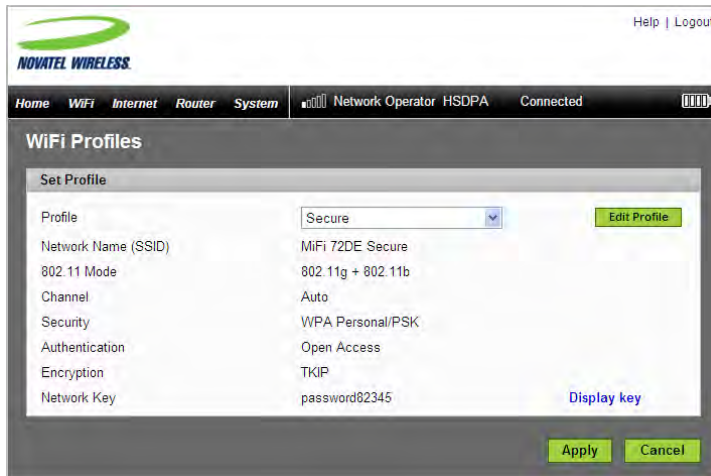
Setting Up a Temporary Hotspot

MiFi allows you to set up a temporary network name and network key so you can allow people to connect to it without having to share your security information. MiFi can have up to 5 devices connected at any one time.

To set up a temporary hotspot:

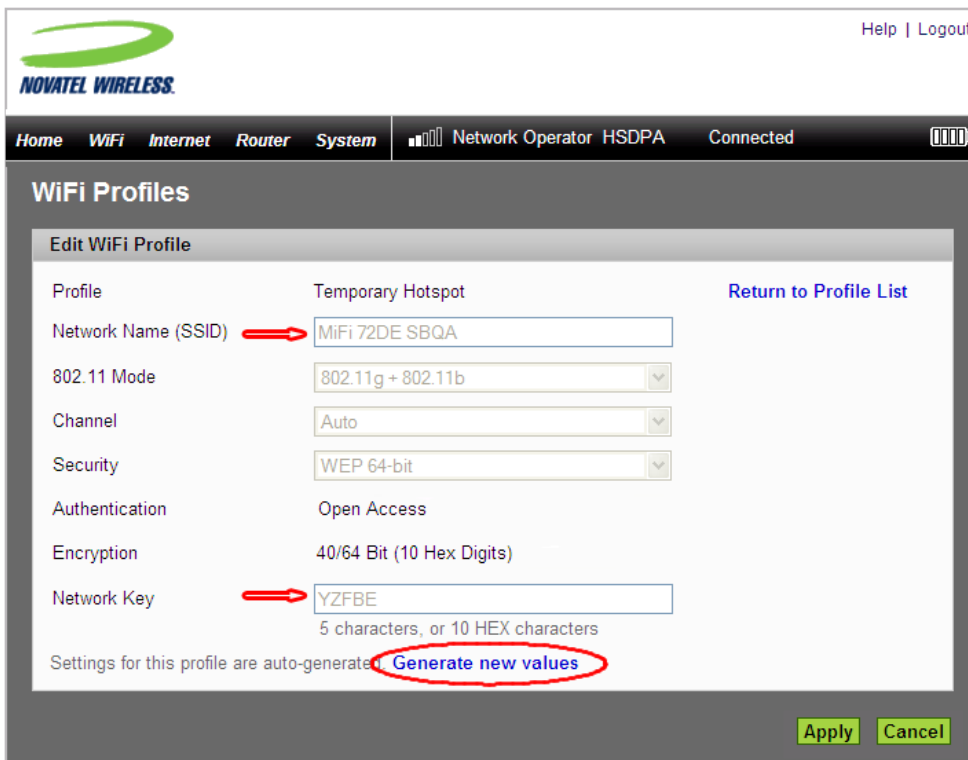
- 1 Login to MiFi.
- 2 Choose **WiFi > WiFi Profiles** from the menu bar.

The WiFi Profiles – Set Profile page will open.



Set Profile	
Profile	Secure Edit Profile
Network Name (SSID)	MiFi 72DE Secure
802.11 Mode	802.11g + 802.11b
Channel	Auto
Security	WPA Personal/PSK
Authentication	Open Access
Encryption	TKIP
Network Key	password82345 Display key

- 2 Choose **Temporary Hotspot** from the Profile list and click **Edit Profile**.
- 3 Click the **Generate new values** link at the bottom.



Edit WiFi Profile	
Profile	Temporary Hotspot Return to Profile List
Network Name (SSID)	MiFi 72DE SBQA
802.11 Mode	802.11g + 802.11b
Channel	Auto
Security	WEP 64-bit
Authentication	Open Access
Encryption	40/64 Bit (10 Hex Digits)
Network Key	YZFBE 5 characters, or 10 HEX characters

Settings for this profile are auto-generated. [Generate new values](#)

The Network Name and Network Key will change to a new temporary network name (SSID) and network key.

- 4 Note the temporary hotspot network name and network key. In the example shown above, they are “MiFi 72DE SBQA” and “YZFBE”.

Tip! You can click the **Generate new values** link again to have a different network name and network key generated.

- 5 Click **Apply**.
- 6 Click the **Return to Profiles List** link.
- 6 Click **Apply** on the WiFi Profiles – Set Profile page.

IMPORTANT Your wireless connection will be disabled at this point. You must reconnect with the new settings you just established.

- 7 Then share the temporary network name and network key that were generated with your workgroup so they can connect to the device.

Tip! Do not forget to change your profile back to Secure when you are through working with your workgroup.

Using MiFi in USB Mode

In USB mode, you connect your MiFi to your computer with the microUSB cable and use it as a USB modem. The microUSB cable will power MiFi (and slowly charge its battery) while it is plugged in.

Windows:

- 1 Use the microUSB cable to plug MiFi into a USB 2.0 port on your computer. MiFi will turn on automatically.

NOTE Only the connection LED on the power button will light.
WiFi is disabled in USB mode.

- 2 Make sure the MobiLink software is running. The system tray icon will appear in the Windows notification area.



NOTE If the system tray icon is not present, double-click the MobiLink 3 desktop shortcut to launch the software.

- 3 Right-click the system tray icon and select **Connect**.

– Or –

- 3 To see network and connection status also, right-click the system tray icon and select **Open Connection Manager**.



- 4 Click **Connect**.

When **Ready** changes to **Connected**, you have successfully connected to the network.

Mac:

- ▶ Connect to the “Novatel Wireless Modem” using your usual Mac application.

Tip! You can use **System Preferences > Network** on OS X v10.4, v10.5, and v10.6.

Using microSDHC Cards with MiFi — File Sharing

MiFi comes with a microSDHC card slot that allows you to move files with you without having to carry an additional flash drive. You can use microSDHC cards with up to 16GB capacity.

Insert the microSDHC Card

- ▶ Insert the microSDHC card into the slot of the MiFi.

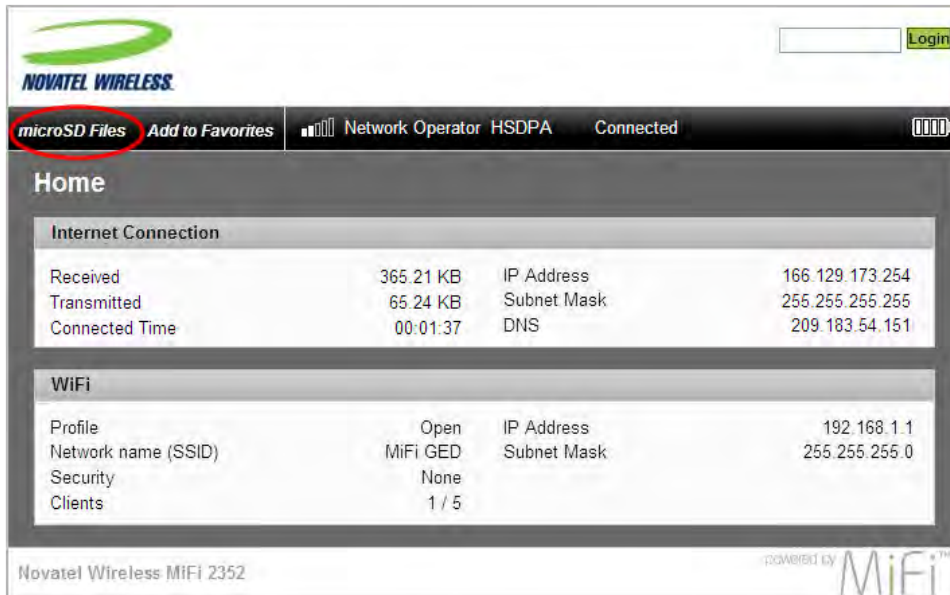


- NOTE**
- Be careful not to touch the contacts.
 - Do not force the card into the slot. Check the orientation if you have difficulties.

Access Your Files from MiFi

- 1 From your computer's Web browser, enter <http://www.mifi> into the address window and press the **Enter** or **Return** key.

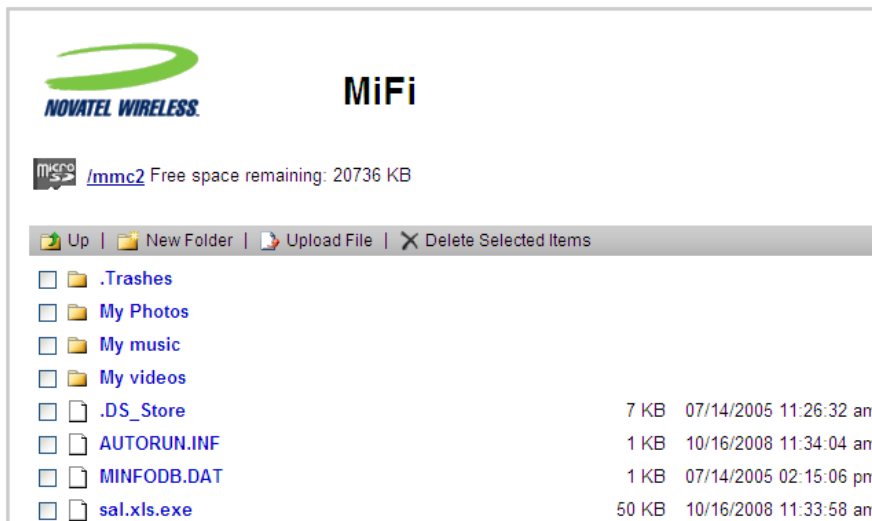
The MiFi Login Home page will open.



- 2 Choose **microSD Files** from the menu bar.

NOTE If "microSD Files" is not in the menu bar, you are logged-in to MiFi. Click **Logout** to reach the MiFi Login Home page.

The directory list will open in a separate window.



From here you can add or remove files and see how much free space you have available on the microSDHC card.

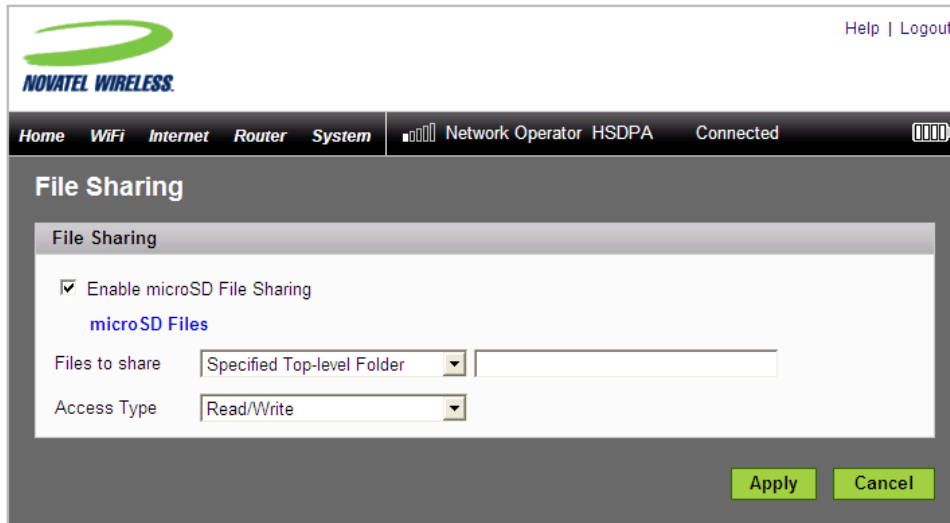
Share Files on Your MiFi

If you establish file sharing on your MiFi, others connected to your MiFi can access the files on your microSDHC card. You can determine whether they can both read and write to the card or just read the files on the card.

To establish file sharing:

- 1 Login to MiFi.
- 2 Choose **System > File Sharing** from the menu bar.

The File Sharing page will open.



- 3 Select the **Enable microSD File Sharing** checkbox to allow file sharing.
- 4 From the "Files to share" list, choose whether to share the Entire SD Card or a Specified Top-level Folder.
- 5 If you choose the Specified Top-level Folder option, enter the folder path in the box.
- 6 From the Access Type list, choose whether others should have Read only or Read and Write access to the files.
- 7 Click **Apply**.

Accessing MiFi's Features

Interface Basics
WiFi Configuration
Internet Configuration
Router Configuration
System Configuration

MiFi uses a browser interface that allows you to configure the device and access its many features. Using your Web browser, you can open the MiFi Home page that gives you access to the many features of the device. For example, you can do the following:

- View the status of the wireless network, your internet connection, the battery, and the MiFi itself.
- Set up wireless security to safeguard your files including using MAC filters.
- Set up a temporary hotspot to allow a maximum of 5 devices to connect to your MiFi without sharing your network name and network key.
- Access files on your microSDHC card and set up file sharing so others connected to your network can access those files also.
- Set up profiles to allow VPN connections to your office.
- Set up additional security to only allow certain applications out of your network (port filtering) or to allow certain applications into your network (port forwarding—required by some online games, for example).

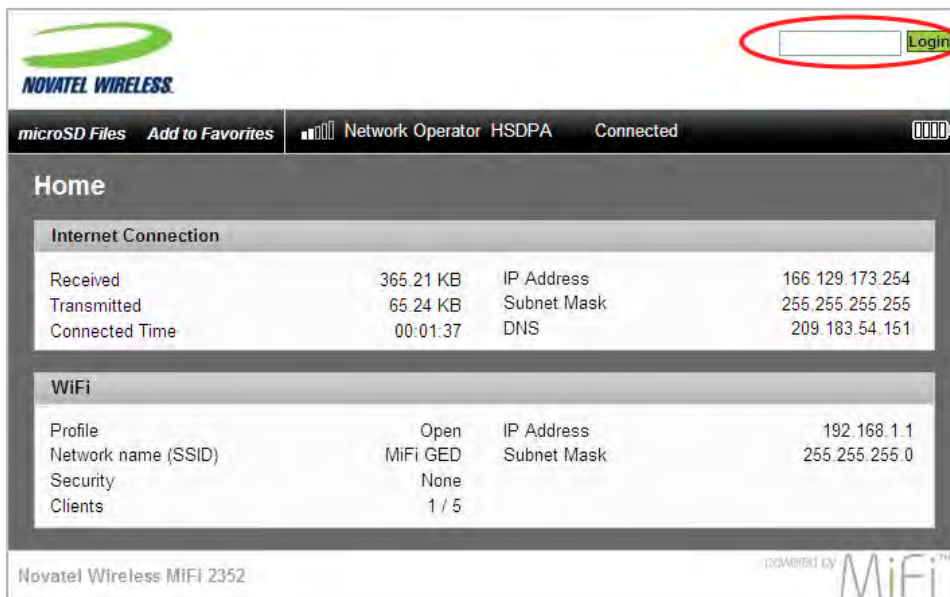
Interface Basics

Open the Browser Interface

- 1 From your computer's Web browser, enter <http://www.mifi> (or <http://192.168.1.1>) into the address window and press the **Enter** or **Return** key.

The MiFi Login Home page will open. From the MiFi Login Home page you can access your microSDHC card or log in to the browser interface to check status and configure MiFi.

Windows only: You can click **Add to Favorites** to bookmark the page in your browser for easier access.

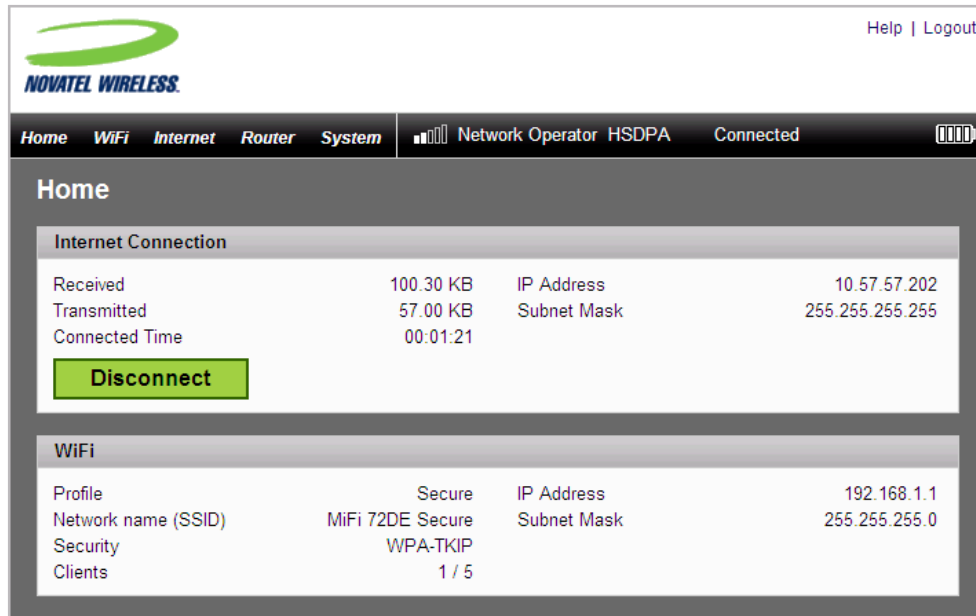


- 2 Enter your administrative password into the Login box in the upper right corner of the page and click **Login**.

The MiFi Home page will open.

The Home Page

The Home page is the first page you see after logging in to the browser interface. It is the main point of entry for all your work with MiFi.



The screenshot shows the Novatel Wireless web interface. At the top left is the Novatel Wireless logo. At the top right are links for 'Help' and 'Logout'. Below the logo is a navigation menu with 'Home', 'WiFi', 'Internet', 'Router', and 'System'. To the right of the menu is a status bar showing 'Network Operator HSDPA' and 'Connected' with a signal strength indicator. The main content area is titled 'Home' and contains two sections: 'Internet Connection' and 'WiFi'.

Internet Connection

Received	100.30 KB	IP Address	10.57.57.202
Transmitted	57.00 KB	Subnet Mask	255.255.255.255
Connected Time	00:01:21		

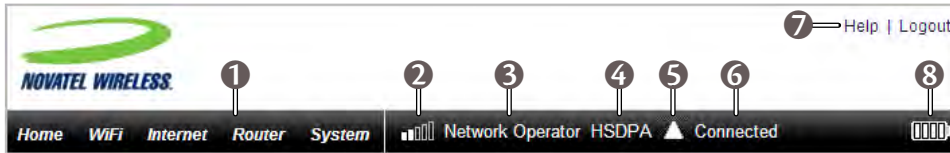
[Disconnect](#)

WiFi

Profile	Secure	IP Address	192.168.1.1
Network name (SSID)	MiFi 72DE Secure	Subnet Mask	255.255.255.0
Security	WPA-TKIP		
Clients	1 / 5		

The Menu Bar

At the top of the Home page (and across all the main pages) in the browser interface is a menu bar. In addition to the menu items, the bar provides status information about the Internet connection and the battery level of the device.



- ① Menu items
- ② Network signal strength
- ③ Network provider name
- ④ Network type
- ⑤ Roaming indicator

NOTE

- Automatic connection to mobile broadband when roaming internationally is disabled by default.
- Enable automatic connection during international roaming from the Internet Settings menu. [See [Internet Settings Page](#) (page 55).]
- Additional charges may apply for international roaming. Please consult your network operator.

- ⑤ Connection status
- ⑥ Link for online help
- ⑦ Battery status

Home Page Sections

The Home page is divided into two sections.

Internet Connection

Internet Connection			
Received	100.30 KB	IP Address	10.57.57.202
Transmitted	57.00 KB	Subnet Mask	255.255.255.255
Connected Time	00:01:21		
Disconnect			

The Internet Connection section of the Home page gives you the following status information:

- The number of bytes received and transmitted
- The duration of the current connection
- The IP address and subnet mask of the device

You can use the button to Connect and Disconnect from the operator network.

WiFi

WiFi			
Profile	Secure	IP Address	192.168.1.1
Network name (SSID)	MiFi 72DE Secure	Subnet Mask	255.255.255.0
Security	WPA-TKIP		
Clients	1 / 5		

The WiFi section of the Home page gives you the following status information:

- the profile currently in use
- the network name (also known as SSID)
- the type of security being used
- the number of devices (clients) currently connected to MiFi
- the IP address and subnet mask of the wireless browser interface

To change WiFi settings, use the WiFi menu. [See [WiFi Menu Options](#) (page 34).]

WiFi Configuration

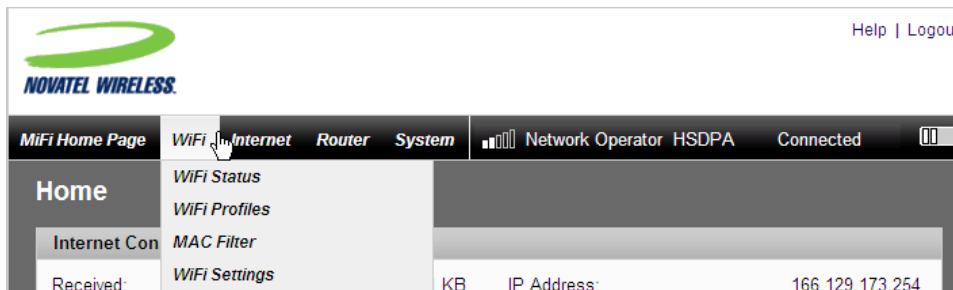
The WiFi menu allows you to work with profiles, set up a temporary hotspot, set MAC filters, view the WiFi log, and view status information for the WiFi network.

This section contains the following information:

- [WiFi Menu Options](#)
 - [WiFi Status](#)
 - [WiFi Profiles](#)
 - [MAC Filter](#)
 - [WiFi Settings](#)

WiFi Menu Options

- 1 Choose **WiFi** from the menu bar at the top of the Home page.



- 2 Select one of the following:
 - WiFi Status — to view profile information, see who is connected to the device, and view the WiFi Log. You can also retrieve your Network Key from this page.
 - WiFi Profiles — to view or change settings for your Secure profile or to set up a Temporary Hotspot.
 - MAC Filter — to allow only certain devices to connect to the MiFi device.
 - WiFi Settings — to enable or disable broadcasting the network name or enable or disable the WiFi log.

WiFi Status

The WiFi Status page provides you with information about your wireless network.

Opening the Page

- 1 Choose **WiFi > WiFi Status** from the menu bar.

The WiFi Status page will open.

Help | Logout

NOVATEL WIRELESS

Home WiFi Internet Router System Network Operator HSDPA Connected

WiFi Status

WiFi Network

Current Profile	Secure	Channel	6
Network name (SSID)	MiFi 72DE Secure	802.11 Mode	802.11g + 802.11b
Clients Allowed	5	Security	WPA Personal/PSK
Clients Connected	1	Encryption	TKIP
		Network Key	Display Key

WiFi Clients

IP Address	IP Type	Hostname	MAC Address	Date/Time
192.168.1.2	DHCP	EU_GDAVIES1	00:19:D2:6B:12:CB	07/10/2009 06:06:56pm

[Refresh](#)

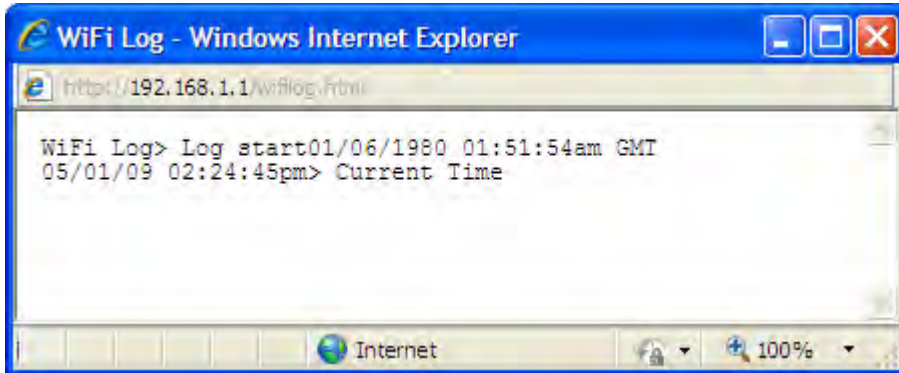
[WiFi Log](#)

WiFi Log

The WiFi Log must be enabled on the WiFi Settings page. [See [WiFi Settings Page](#) (page 45).]

The WiFi log is primarily used for troubleshooting. Unless you are having problems, you should leave it off.

- ▶ Click the WiFi Log button to open a window showing a log of WiFi events.



WiFi Profiles

The WiFi Profiles page allows you to configure your secure profile or set up a temporary hotspot.

Opening the Page

- Choose **WiFi > WiFi Profiles** from the menu bar.

The WiFi Profiles – Set Profile page will open.

The screenshot shows the 'Set Profile' configuration page in the Novatel Wireless interface. The page has a dark header with the Novatel Wireless logo and navigation tabs for Home, WiFi, Internet, Router, and System. The WiFi tab is selected. The main content area is titled 'WiFi Profiles' and contains a 'Set Profile' form. The form fields are as follows:

Profile	Secure	<input type="button" value="Edit Profile"/>
Network Name (SSID)	MiFi 72DE Secure	
802.11 Mode	802.11g + 802.11b	
Channel	Auto	
Security	WPA Personal/PSK	
Authentication	Open Access	
Encryption	TKIP	
Network Key	password82345	<input type="button" value="Display key"/>

At the bottom of the form are two buttons: and .

WiFi Profiles Page

This page provides the following information:

- Profile — The profile currently being used. [See [Choosing a Profile](#) (page 39).]
- Network Name (SSID) — Name of the network you are connected to. You can change the name to something more descriptive if you want; for example, if there are several MiFi's in your area you might put your name in the network name; for example, "Sarahs MiFi".
- 802.11 Mode — The type of wireless networking you are currently using. The available modes are:
 - 802.11g+802.11b
 - 802.11g
 - 802.11b
- Channel — The radio channel that the device is using. This should be usually set to Auto and left unchanged. Available selections are Auto and 1 through 11.

- Security — The type of security the profile is using. This applies to both the Secure and the Temporary Hotspot profiles. [See [Setting Security](#) (page 40).]
- Authentication — Locked to Open Access for all profiles.
- Encryption — Shows the type of encryption used for the security type.
- Network Key — Passcode used to access the network. The required format varies by type of security. If the network key is not visible, click the **Display Key** link on the right.

Choosing a Profile

The browser interface allows you to select or modify a profile to use while browsing. You can choose one of three WiFi profiles.

- Secure — You can set up this profile with the security measures you need to use your device safely.
- Temporary Hotspot — This profile allows you set up a temporary hotspot that allows others in your immediate area (maximum of 5) to go online using your device.
- Open — This is a completely unsecure profile that should be avoided except during initial setup of your device.

➤ Select the profile from the Profile list and click **Apply** or **Edit Profile**.

Setting Security

You can use WEP (64- or 128-bit), WPA, WPA2, or WPA/WPA2 Mixed Mode security.

Tip! Some WiFi clients become confused if the security is changed and the network name is not. If you change security settings and do not get asked for the new network key when you try to reconnect, delete the existing "old" network name from your "Preferred Networks" list. Then you can reconnect.

IMPORTANT Record your network key.

- 1 Choose **WiFi > WiFi Profiles** from the menu bar.
- 2 Select a profile and click **Edit Profile**.

The WiFi Profiles – Edit WiFi Profile page will open.

The screenshot shows the 'Edit WiFi Profile' page for a profile named 'Secure'. The settings are as follows:

Field	Value
Profile	Secure
Network Name (SSID)	MiFi 72DE Secure
802.11 Mode	802.11g + 802.11b
Channel	Auto
Security	WPA Personal/PSK
Authentication	Open Access
Encryption	TKIP
Network Key	password82345

Red arrows point to the 'Security' and 'Network Key' fields. The 'Network Key' field has a note below it: '8 ~ 63 characters'. There are 'Apply' and 'Cancel' buttons at the bottom right.

- 3 Select a security protocol from the Security list.

The encryption type will display and the number and type of characters required for the network key will display under the Network Key box.

- 4 Type the network key you want to use in the Network Key box and then click **Apply**.
- 5 Click the **Return to Profile List** link.
- 6 Click **Apply** on the WiFi Profiles – Set Profile page.

IMPORTANT Your wireless connection will be disabled at this point. You must reconnect with the new settings you just established.

Setting Up a Temporary Hotspot

You can use the device to set up a temporary hotspot to allow a maximum of five connections to your MiFi at one time.

This profile generates a temporary network name and network key that you can use to allow others to connect to your device without you having to share your security settings or change your secure profile.

Tip! The temporary hotspot will have the same security level as your currently connected profile.

To set up the temporary hotspot:

- 1 Choose **WiFi > WiFi Profiles** from the menu bar.
- 2 Choose **Temporary Hotspot** from the Profile list and click **Edit Profile**.

The WiFi Profiles – Edit WiFi Profile page will open.

The screenshot shows the 'Edit WiFi Profile' interface for a 'Temporary Hotspot'. The profile name is 'Temporary Hotspot'. The 'Network Name (SSID)' is 'MiFi 72DE SBQA'. The '802.11 Mode' is '802.11g + 802.11b'. The 'Channel' is 'Auto'. The 'Security' is 'WEP 64-bit'. The 'Authentication' is 'Open Access'. The 'Encryption' is '40/64 Bit (10 Hex Digits)'. The 'Network Key' is 'YZFBE'. A red arrow points to the SSID field, and another red arrow points to the Network Key field. A red circle highlights the 'Generate new values' link. The page includes a navigation bar with 'Home', 'WiFi', 'Internet', 'Router', and 'System' tabs, and a status bar showing 'Network Operator HSDPA Connected'.

- 3 Click the **Generate new values** link.

The Network Name and Network Key will change to a new temporary network name (SSID) and network key.

- 4 Note the temporary hotspot network name and network key. In the example shown above, they are "MiFi 72DE SBQA" and "YZFBE".

Tip! You can click the **Generate new values** link again to have a different network name and network key generated.

- 5 Click **Apply**.
- 6 Click the **Return to Profiles List** link.
- 7 Click **Apply** on the WiFi Profiles – Set Profile page.

IMPORTANT Your wireless connection will be disabled at this point. You must reconnect with the new settings you just established.

- 8 Then share the temporary network name and network key that were generated with your workgroup so they can connect to the device.

Tip! Do not forget to change your profile back to Secure when you are through working with your workgroup.

MAC Filter

MAC Filtering allows you to restrict access to your MiFi to only those devices with a specific MAC address. The MAC address is a unique code specific to a particular piece of hardware such as a network adapter. [See [Finding the MAC Address](#) (page 43).]

Opening the Page

- Choose **WiFi > MAC Filter** from the menu bar.

The MAC Filter page will open.

The screenshot shows the Novatel Wireless MAC Filter configuration page. The page has a dark header with the Novatel Wireless logo and navigation links (Home, WiFi, Internet, Router, System). Below the header, there's a status bar showing 'Network Operator HSDPA' and 'Connected'. The main content area is titled 'MAC Filter' and contains a section 'Enable MAC Filter' with a checkbox and a description: 'If enabled, only Trusted Clients can connect to this Access Point.' Below this is a 'Trusted Client List' section with an empty table and a 'Delete' button. At the bottom, there's an 'Add Trusted Client MAC Address' section with an input field and an 'Add' button. An example MAC address '00-19-D2-4D-B5-CE' is provided. At the very bottom, there are 'Apply' and 'Cancel' buttons.

Finding the MAC Address

The MAC Address is also known as a hardware or physical address for a device, usually a network adapter. It consists of 6 pairs of numbers and letters. The pairs of numbers may be separated by "-" or ":" (for example, 00-21-9B-1C-64-34 or 00:21:9B:1C:64:34).

You can view the MAC address of any device currently connected to the MiFi, in the WiFi Clients section of the WiFi Status page. [See [WiFi Clients](#) (page 36).]

- On a Windows machine, you can find the MAC address by running **ipconfig/all** from a command prompt window (cmd). The MAC address is referred to as the Physical Address.
- On a Mac, open **System Preferences > Network**. In the Show list, click **Airport**. The MAC address is the Airport ID.

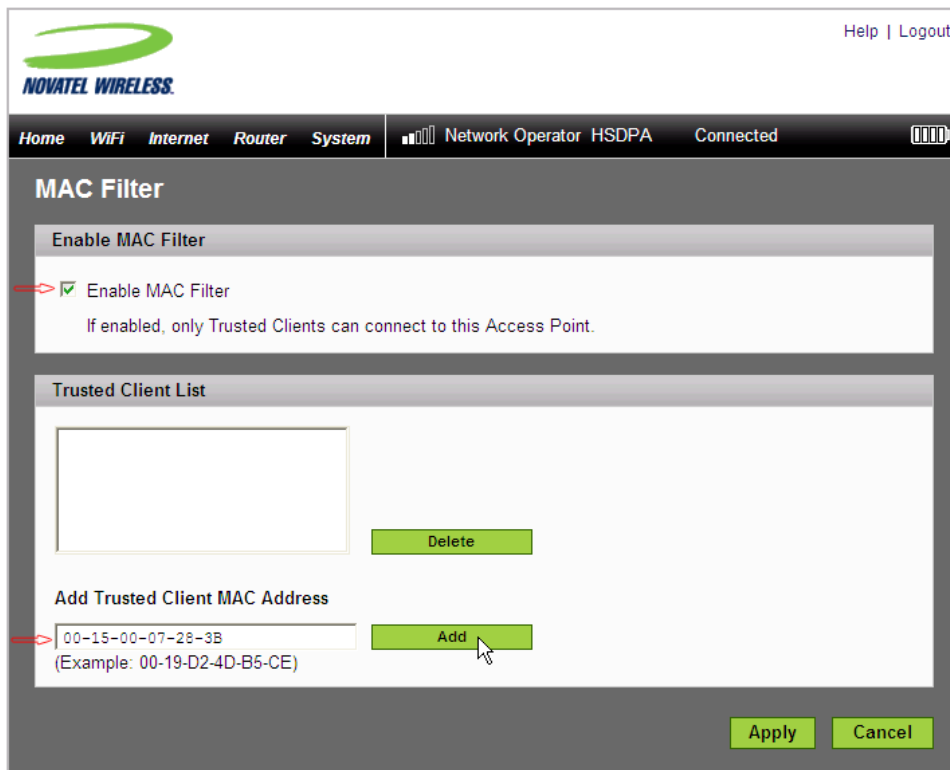
IMPORTANT Make sure you get the MAC address for the wireless network adapter and not the Ethernet adapter.

Using MAC Filter

The MAC Filter page allows you to enable or disable MAC filtering and to add or delete MAC addresses from the trusted client list.

IMPORTANT Do not enable MAC filtering unless you have added your own MAC address to the trusted client list. Otherwise you will be unable to access MiFi until you use the Master Reset button. [See [Using the Master Reset Button](#) (page 82).]

- 1 Choose **WiFi > MAC Filter** from the menu bar.



- 2 Type the MAC address for your computer into the Add Trusted Client MAC Address box and click **Add**.

Tip! You can copy and paste your computer's MAC address from the WiFi Clients section of the WiFi Status page. [See [WiFi Clients](#) (page 36).]

- 3 If desired, type the MAC address for other computers into the Add Trusted Client MAC Address box and click **Add**.
- 4 Select the Enable MAC Filter check box and click **Apply**.

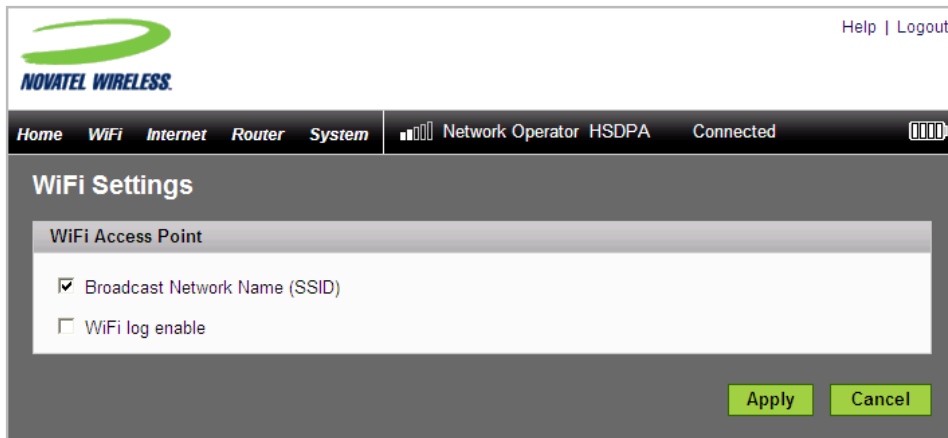
WiFi Settings

The WiFi Settings page allows you to enable or disable broadcasting the network name and the WiFi log.

Opening the Page

- 1 Choose **WiFi > WiFi Settings** from the menu bar.

The WiFi Settings page will open.



WiFi Settings Page

This page contains two items:

Broadcast Network Name (SSID)

Broadcast Network Name (also known as SSID broadcast) causes the device to send the Network Name (SSID) out where it can be picked up by nearby computers. This is what you see when you "View Available Wireless Networks" from your computer.

Disabling Network Name (SSID) broadcasting provides additional security, but you will have to re-enable it if you lose your automatic connection.

- Select or deselect the checkbox to enable or disable Broadcast Network Name and click **Apply**.

WiFi log enable

This checkbox turns on or off the WiFi Log that can be accessed from the WiFi Status page [See [page 35](#)].

The WiFi log is used primarily for troubleshooting and should be left turned off unless you are having problems.

- Select or deselect the checkbox to enable or disable the WiFi Log and click **Apply**.

Internet Configuration

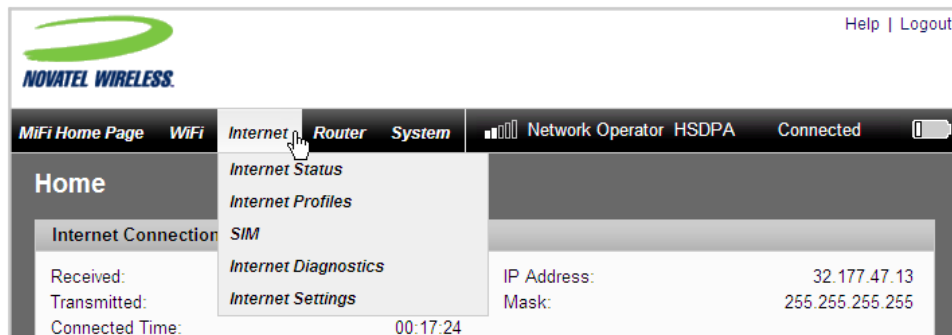
The Internet menu provides status information for your connection to the Internet, allows you to configure your MiFi to work with your service provider, and view information about your MiFi.

The section contains the following information:

- [Internet Menu](#)
 - [Internet Status](#)
 - [Internet Profiles](#)
 - [SIM](#)
 - [Internet Diagnostics](#)
 - [Internet Settings](#)

Internet Menu

- 1 Choose **Internet** from the menu bar.



- 2 Select one of the following:
 - Internet Status — to view information about the Internet connection, traffic counters, and an Internet connection log.
 - Internet Profiles — to configure MiFi for your network service provider.
 - SIM — to lock or unlock the SIM or change the PIN.
 - Internet Diagnostics — to view the network connection status, information about MiFi, and a network connection event log.
 - Internet Settings — to allow MiFi to automatically connect and to enable or disable an event log.

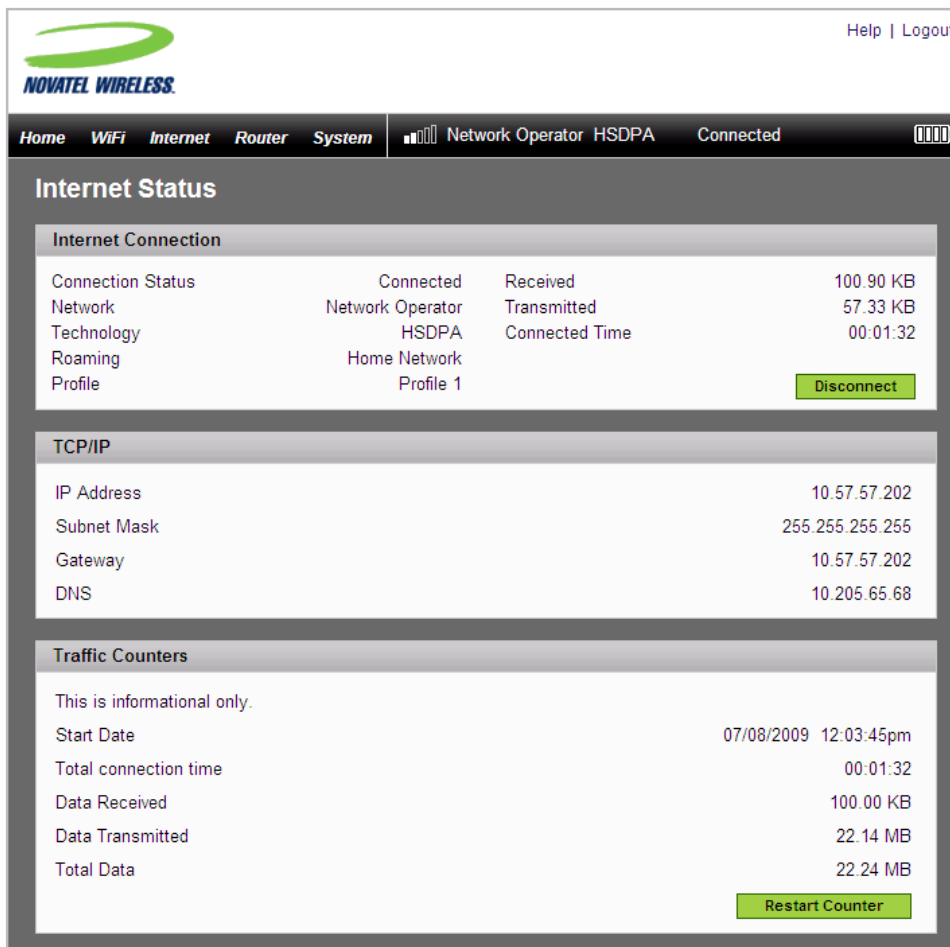
Internet Status

The Internet Status page provides information about the Internet connection.

Opening the Page

- Choose **Internet > Internet Status** from the menu bar.

The Internet Status page will open.



The screenshot displays the 'Internet Status' page from a Novatel Wireless device. At the top, there is a navigation bar with 'Home', 'WiFi', 'Internet', 'Router', and 'System' options. The 'Internet' option is selected. To the right of the navigation bar, there are status indicators for 'Network Operator', 'HSDPA', and 'Connected', along with a signal strength icon. The main content area is titled 'Internet Status' and is divided into three sections: 'Internet Connection', 'TCP/IP', and 'Traffic Counters'. Each section contains a table of data and a 'Disconnect' or 'Restart Counter' button.

Internet Connection

Connection Status	Connected	Received	100.90 KB
Network	Network Operator	Transmitted	57.33 KB
Technology	HSDPA	Connected Time	00:01:32
Roaming	Home Network		
Profile	Profile 1		

TCP/IP

IP Address	10.57.57.202
Subnet Mask	255.255.255.255
Gateway	10.57.57.202
DNS	10.205.65.68

Traffic Counters

This is informational only.

Start Date	07/08/2009 12:03:45pm
Total connection time	00:01:32
Data Received	100.00 KB
Data Transmitted	22.14 MB
Total Data	22.24 MB

Internet Status Page Sections

This page contains three sections.

Internet Connection

Internet Connection			
Connection Status	Connected	Received	100.90 KB
Network	Network Operator	Transmitted	57.33 KB
Technology	HSDPA	Connected Time	00:01:32
Roaming	Home Network		
Profile	Profile 1		

[Disconnect](#)

The Internet Connection section of the Internet Status page gives you the following information:

- Status of the connection
- Network connected to
- Technology of connection
- Whether or not you are roaming
- The current profile
- The number of bytes received and transmitted
- The duration of the current connection

► Click the **Disconnect** (or **Connect**) button to disconnect (or connect) to the Internet.

TCP/IP

TCP/IP	
IP Address	10.57.57.202
Subnet Mask	255.255.255.255
Gateway	10.57.57.202
DNS	10.205.65.68

The TCP/IP section of the Internet Status page gives you the following information about the MiFi device:

- Local IP address
- Subnet Mask
- Gateway IP address
- DNS server IP address

Traffic Counters

Traffic Counters	
This is informational only.	
Start Date	07/08/2009 12:03:45pm
Total connection time	00:01:32
Data Received	100.00 KB
Data Transmitted	22.14 MB
Total Data	22.24 MB
Restart Counter	

The Traffic Counters provide approximate values and are not used for billing purposes.

This information is presented as a resettable counter.

- Date the data collection began
 - Total duration of connection
 - Megabytes received
 - Megabytes transmitted
 - Total megabytes of data
- Click the **Restart Counter** button to reset the counters to zero.

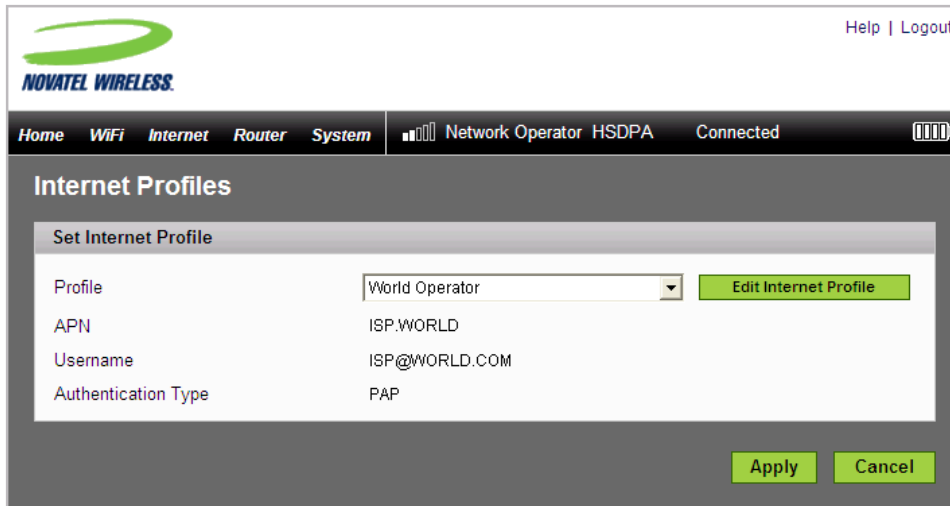
Internet Profiles

The Internet Profiles page allows you to configure your device to work with your service provider by entering the APN, username, and other information that your provider requires and provides to you.

Opening the Page

- Choose **Internet > Internet Profiles** from the menu bar.

The Internet Profiles – Set Internet Profile page will open. The details of the profile currently in use will be displayed.



Internet Profiles Page

This page allows you to select, edit, and create profiles used with your service provider.

To select a different profile:

- Use the drop-down menu to select another profile name and click **Apply**.

To edit an existing profile or to create a new profile:

- 1 Select an existing profile from the Profile list and click **Edit Internet Profile**.

- NOTE**
- The default profile cannot be edited.
 - If the MiFi is connected, the connected profile cannot be edited.

The Internet Profiles – Edit Internet Profile page will open.

The screenshot shows the 'Edit Internet Profile' page in the Novatel Wireless web interface. The page has a dark header with the Novatel Wireless logo and navigation tabs for Home, WiFi, Internet, Router, and System. The status bar shows 'Network Operator HSDPA Connected'. The main content area is titled 'Internet Profiles' and contains a form with the following fields:

- Profile Name: World Operator
- APN: (empty)
- Username: (empty)
- Password: (empty)
- Authentication Type: None

At the bottom right of the form, there are 'Apply' and 'Cancel' buttons. A 'Return to Profile List' link is also visible next to the Profile Name field.

- 2 If you want to create a new profile, simply change the name on this page.
- 3 Enter the information as provided by your network provider. Your provider may or may not require all of these fields.
 - APN (Access Point Name)
 - Username (optional)
 - Password (optional)
 - Authentication Type — will be None, PAP, or CHAP
- 4 Click **Apply**.
- 5 Click the **Return to Profile List** link.
- 6 Click **Apply** on the Internet Profiles – Set Profile page.

SIM

The SIM page allows you to change the password and to unlock your SIM.

Opening the Page

- ▶ Choose **Internet > SIM** from the menu bar.

The SIM page will open.



SIM Page

- 1 Enter the current PIN (password) for the SIM.
- 2 Choose **Lock SIM** and click **Apply**.
– OR –
- 2 Choose **Unlock SIM** and click **Apply**.
– OR –
- 2 Choose **Set new PIN**.

PIN entry boxes will appear on the page.



- 3 Enter a new PIN in both boxes and click **Apply**.

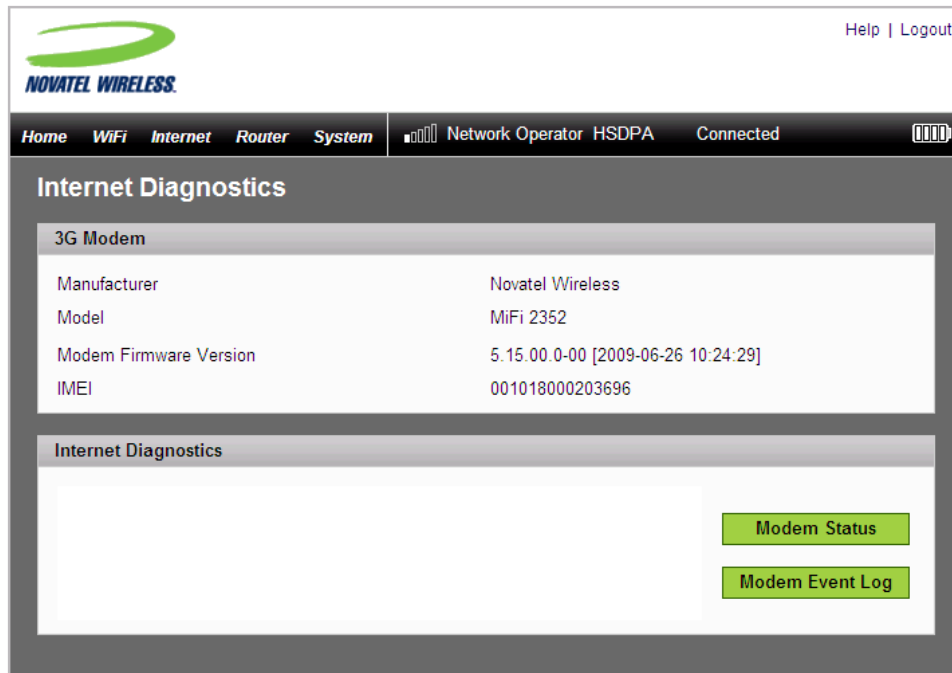
Internet Diagnostics

The Internet Diagnostics page provides status information about your Internet connection and the MiFi device.

Opening the Page

- ▶ Choose **Internet > Internet Diagnostics** from the menu bar.

The Internet Diagnostics page will open.



Internet Diagnostics Page Sections

This page contains two sections.

3G Modem

3G Modem	
Manufacturer	Novatel Wireless
Model	MiFi 2352
Modem Firmware Version	5.15.00.0-00 [2009-06-26 10:24:29]
IMEI	001018000203696

The 3G Modem section of the Internet Diagnostics page gives you the following information about the MiFi device:

- Manufacturer — manufacturer of this device
- Model — model name or number of the device
- Modem Firmware Version — current version of the internal software (firmware)
- IMEI — the International Mobile equipment Identity for this modem. The IMEI is a 15 or 17 digit number used to identify an individual mobile station on a GSM or UMTS network. This number is associated with the device and does not change with the SIM.

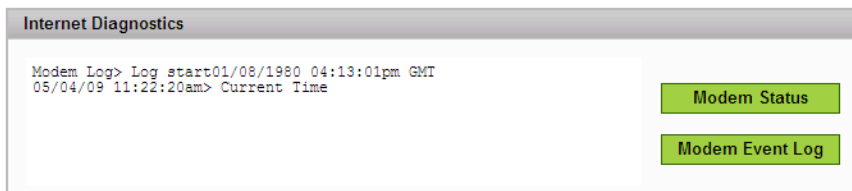
Internet Diagnostics

The Internet Diagnostics display area can give you information useful for troubleshooting network problems. It is not intended for use during normal operations.

- Click **Modem Status** to view information about the status of the modem.



- Click **Modem Event Log** to view the Event Log. The Event Log must be enabled before it is available here. [See [Internet Settings Page](#) (page 55).]



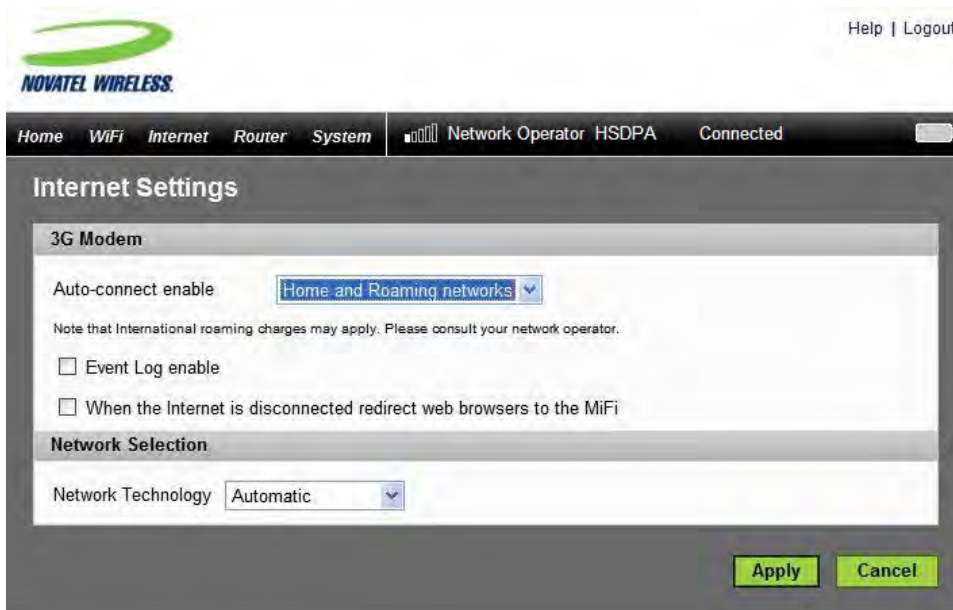
Internet Settings

The Internet settings page allows you to set the MiFi device to auto-connect, to enable the Modem Event log, and establish the network technology that MiFi tries to connect to.

Opening the Page

- ▶ Choose **Internet > Internet Settings** from the menu bar.

The Internet Settings page will open.



Internet Settings Page

This page contains two sections.

3G Modem



The 3G Modem section allows you to set MiFi to automatically connect whenever it is turned on, enable the Event Log, and set MiFi to automatically open to the login page if the Internet connection is unavailable.

Auto-connect enable

Auto-connect allows MiFi to connect to your provider's network automatically whenever it is turned on.

There are three available options for auto-connect:

- Never — You must always manually connect to the network.
- Home Network — The MiFi will only auto-connect to the home network when it is powered on.
- Home and Roaming Network — The MiFi will connect to any available network when it is powered up.

IMPORTANT Additional charges may apply for international roaming. Please consult your network operator.

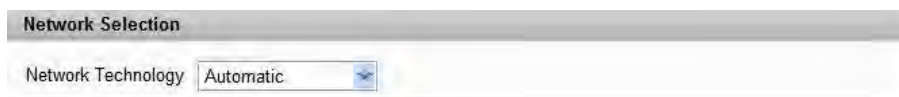
➤ Select the auto-connect mode you want to use and click **Apply**.

Event Log enable

Turns on or off the Event Log that can be viewed from the Internet Diagnostics page.

➤ Select or deselect the checkbox to enable or disable the Event Log and click **Apply**.

Network Technology



The Network Technology setting determines how MiFi accesses the network. There are three options:

- Automatic — It scans for 3G signals and looks for GPRS/EDGE signals if it cannot locate 3G.
 - GPRS/EDGE Only — It only looks for GPRS/EDGE signals.
 - 3G Only — It only looks for 3G signals.
- Select the access method and click **Apply**.

Router Configuration

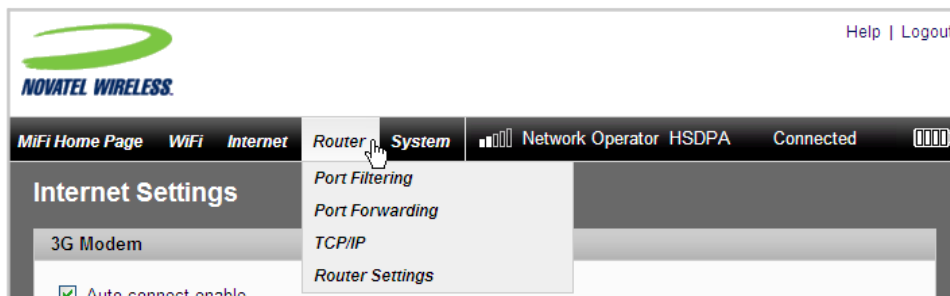
The Router Menu gives you access to options that allow you to configure traffic through your MiFi device.

The section contains the following information:

- [Router Menu](#)
 - [Port Filtering](#)
 - [Port Forwarding](#)
 - [TCP/IP](#)
 - [Router Settings](#)

Router Menu

- 1 Choose **Router** from the menu bar.



- 2 Select one of the following:
 - Port Filtering — to create a list of applications that are allowed to access the Internet.
 - Port Forwarding — to create a list of applications that are allowed to access your computer from the Internet. You might use this if you have an FTP server on your system or play certain online games.
 - TCP/IP — to see the MiFi IP address and MAC address.
 - Router Settings — to enable DHCP and VPN passthrough.

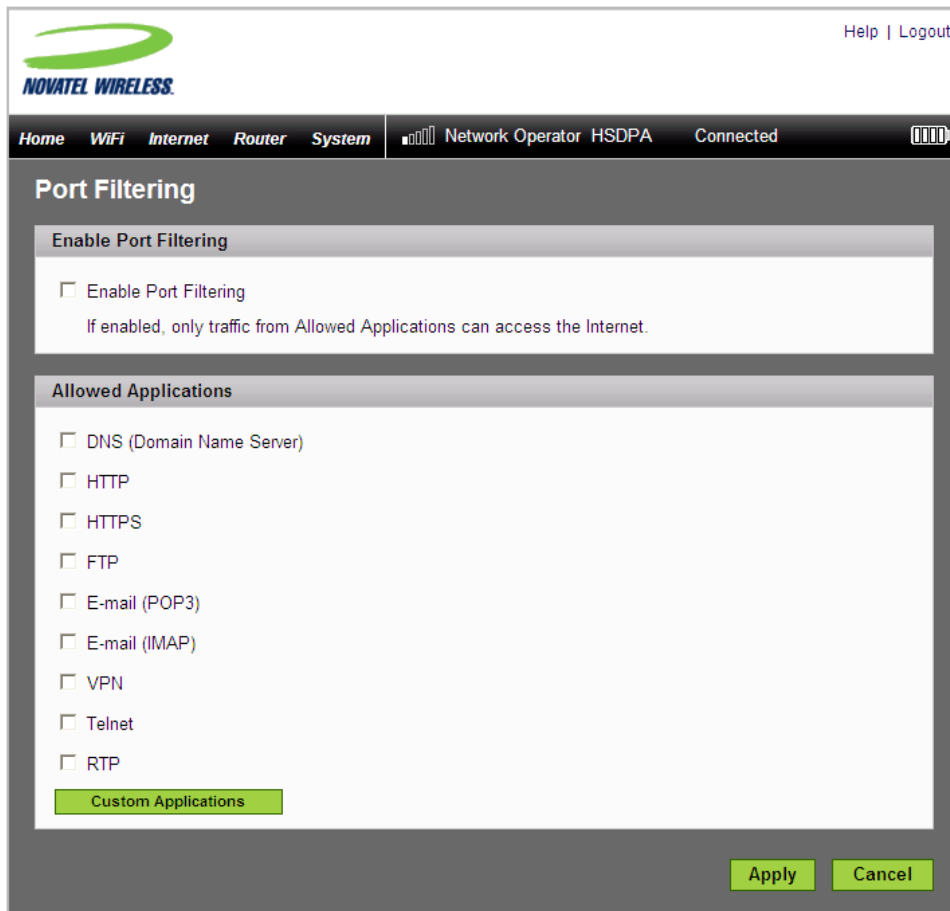
Port Filtering

Port Filtering allows you to enhance the security of your system by only allowing certain applications to reach the Internet.

Opening the Page

- ▶ Choose **Router > Port Filtering** from the menu bar.

The Port Filtering page will open.



The screenshot shows the Novatel Wireless web interface. At the top left is the Novatel Wireless logo. At the top right are links for "Help" and "Logout". Below this is a navigation menu with "Home", "WiFi", "Internet", "Router", and "System". The "Router" menu item is selected. To the right of the menu, it shows "Network Operator HSDPA" and "Connected" with a signal strength indicator. The main content area is titled "Port Filtering". It contains two sections: "Enable Port Filtering" and "Allowed Applications".

Enable Port Filtering

Enable Port Filtering
If enabled, only traffic from Allowed Applications can access the Internet.

Allowed Applications

- DNS (Domain Name Server)
- HTTP
- HTTPS
- FTP
- E-mail (POP3)
- E-mail (IMAP)
- VPN
- Telnet
- RTP

Port Filtering Page

This page allows you to enable Port Filtering, select common applications to allow access to the Internet, and set up custom applications for access to the Internet.

To set port filtering for standard applications:

- 1 Open the page.
- 2 Select the **Enable Port Filtering** checkbox.
- 3 Select the check boxes for the applications you want to allow access to the Internet.
- 4 Click **Apply**.

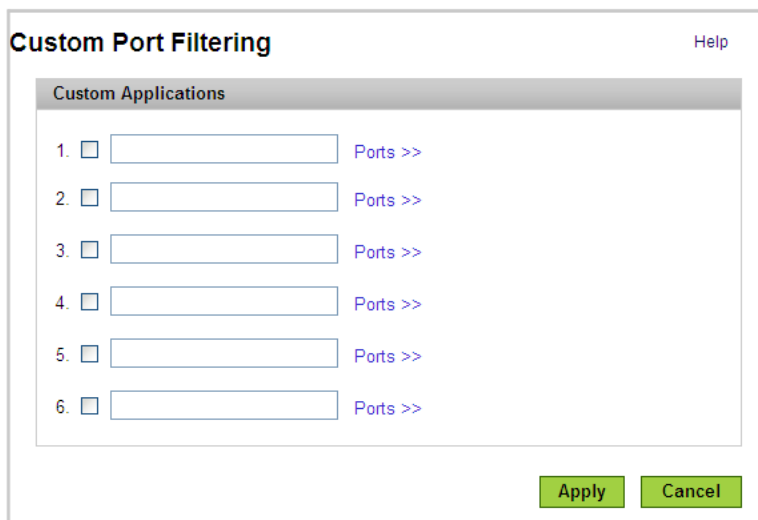
NOTE The device uses standard ports for these applications. If you have applications that do not use the standard ports or that are not listed under Allowed Applications, use Custom Applications.

To set port filtering for custom applications:

In order to set up port filtering for a custom application, you will need to know the port numbers (up to five ports or port ranges) and the protocol (TCP, UDP, or both) used by outgoing traffic.

- 1 Open the page.
- 2 Select the **Enable Port Filtering** checkbox.
- 3 Click **Custom Applications**.

The Custom Applications page will open.



The screenshot shows a web interface titled "Custom Port Filtering" with a "Help" link in the top right. Below the title is a section labeled "Custom Applications" containing a list of six entries. Each entry consists of a checkbox, a text input field, and a "Ports >>" link. At the bottom of the page are two buttons: "Apply" and "Cancel".

- 4 Enter a name for the application and click the **Ports** link.

The Ports for Application # entry area will overlay the page.

Custom Port Filtering Help

Custom Applications

Application #	Application Name	Ports for Application 1
1.	<input type="text"/>	<input type="text"/> ~ <input type="text"/> TCP/UDP << Hide
2.	<input type="text"/>	<input type="text"/> ~ <input type="text"/> TCP/UDP
3.	<input type="text"/>	<input type="text"/> ~ <input type="text"/> TCP/UDP
4.	<input type="text"/>	<input type="text"/> ~ <input type="text"/> TCP/UDP
5.	<input type="text"/>	<input type="text"/> ~ <input type="text"/> TCP/UDP
6.	<input type="text"/>	<input type="text"/> ~ <input type="text"/> TCP/UDP

Apply **Cancel**

- 5 Enter the port number or port number range. You can enter up to five ports or port ranges for each application.
 - Single port — enter the port number in both fields.
 - Port range — enter the beginning port in the left field and the ending port in the right field.
- 6 For each port row, select the protocol (TCP, UDP, or both) used by that port or port range.
- 7 Click **Hide**.
- 8 Click **Apply** on the Custom Port Filtering page.
- 9 Click **Apply** on the Port Filtering page.

Port Forwarding

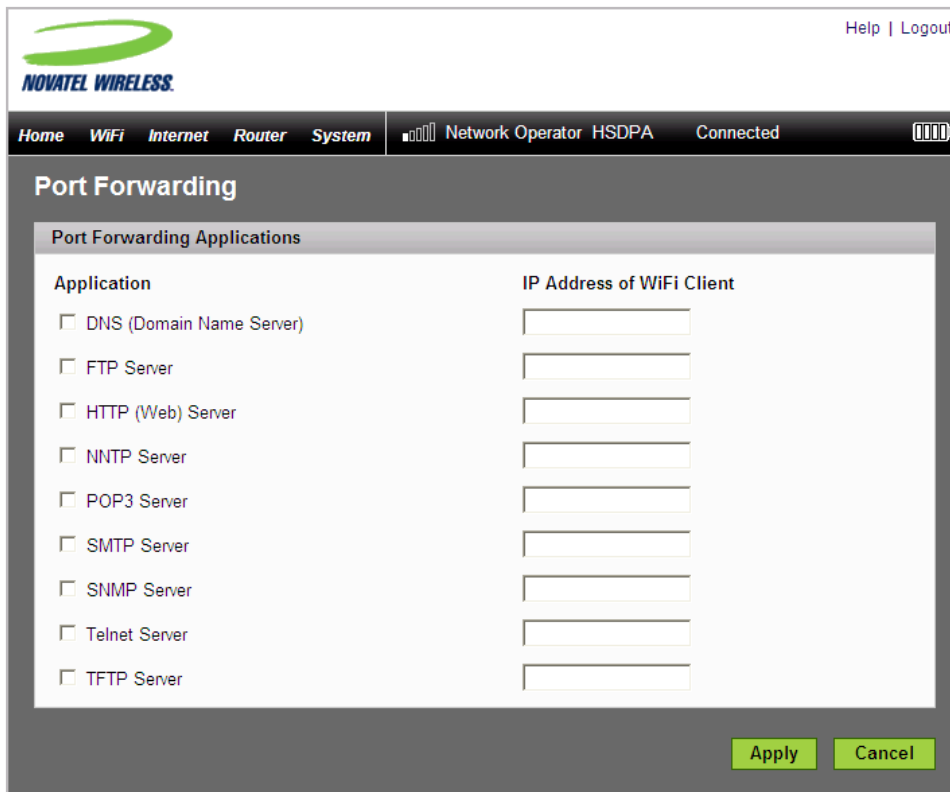
Incoming traffic from the Internet is normally prevented by the firewall from reaching devices on your local wireless network. Use port forwarding to allow Internet users to reach any server you are running on your computer, such as an FTP server. Also some online games require incoming access to work properly.

IMPORTANT You will need to set up static IP addresses on your WLAN for each device that has an application you want to forward to.

Opening the Page

- 1 Choose **Router > Port Forwarding** from the menu bar.

The Port Forwarding page will open.



The screenshot shows the Novatel Wireless web interface. At the top, there is a navigation bar with 'Home', 'WiFi', 'Internet', 'Router', and 'System' menus. The 'Router' menu is selected, and the 'Port Forwarding' page is displayed. The page title is 'Port Forwarding'. Below the title, there is a section for 'Port Forwarding Applications'. This section contains a table with two columns: 'Application' and 'IP Address of WiFi Client'. The applications listed are DNS (Domain Name Server), FTP Server, HTTP (Web) Server, NNTP Server, POP3 Server, SMTP Server, SNMP Server, Telnet Server, and TFTP Server. Each application has a checkbox and an input field for the IP address. At the bottom right of the page, there are 'Apply' and 'Cancel' buttons.

Application	IP Address of WiFi Client
<input type="checkbox"/> DNS (Domain Name Server)	<input type="text"/>
<input type="checkbox"/> FTP Server	<input type="text"/>
<input type="checkbox"/> HTTP (Web) Server	<input type="text"/>
<input type="checkbox"/> NNTP Server	<input type="text"/>
<input type="checkbox"/> POP3 Server	<input type="text"/>
<input type="checkbox"/> SMTP Server	<input type="text"/>
<input type="checkbox"/> SNMP Server	<input type="text"/>
<input type="checkbox"/> Telnet Server	<input type="text"/>
<input type="checkbox"/> TFTP Server	<input type="text"/>

Port Forwarding Page

This page allows you to enter the local static IP address for each application that you want to receive traffic from the Internet.

- ① Select the checkbox for the application you want to enable.
- ② Enter the local static IP address of the device hosting the application in the **IP Address of WiFi Client** field.
- ③ Click **Apply**.

IMPORTANT Port forwarding creates a security risk and should be disabled when not required.

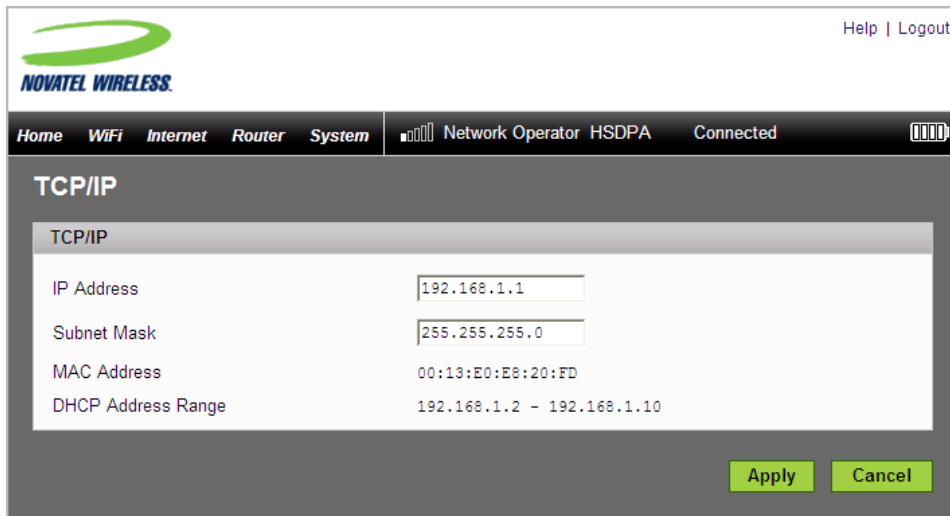
TCP/IP

The TCP/IP page allows you to view the local (WLAN) IP address and the MAC address for the MiFi device.

Opening the Page

- ▶ Choose **Router > TCP/IP** from the menu bar.

The TCP/IP page will open.



TCP/IP Page

This page gives you the following status information about your device:

- Local IP Address
- Subnet Mask
- MAC Address of the MiFi device
- DHCP Address Range used by the MiFi DHCP server

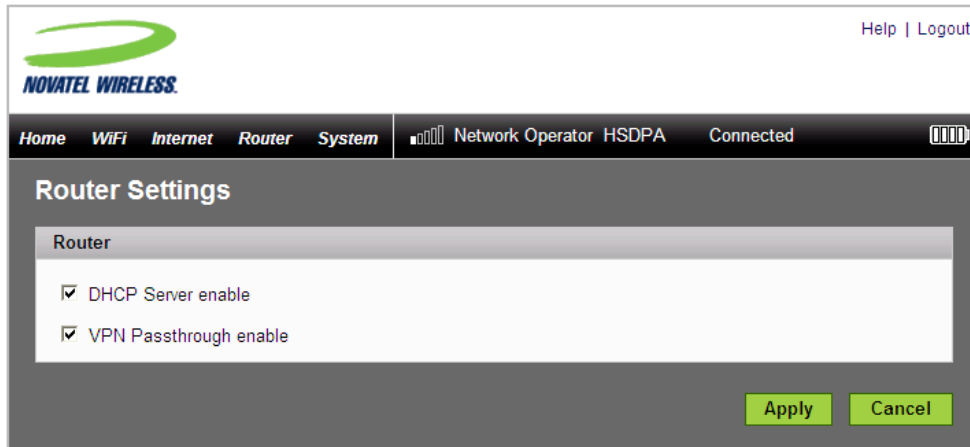
Router Settings

The Router Settings page allows you to enable DHCP and allow VPN passthrough.

Opening the Page

- Choose **Router > Router Settings** from the menu bar.

The Router Settings page will open.



Router Settings Page

This page contains two options:

DHCP Server

DHCP Server allows the device to automatically assign a local IP address to a new device joining your network (such as a wireless printer or additional laptop). Without DHCP Server enabled, you will have to assign static IP addresses to all devices on your network.

- Select or deselect the checkbox to enable or disable the DHCP server and click **Apply**.

VPN Passthrough enable

VPN Passthrough is required if you are going to connect to a VPN (such as to your office).

- Select or deselect the checkbox to enable or disable VPN Passthrough and click **Apply**.

System Configuration

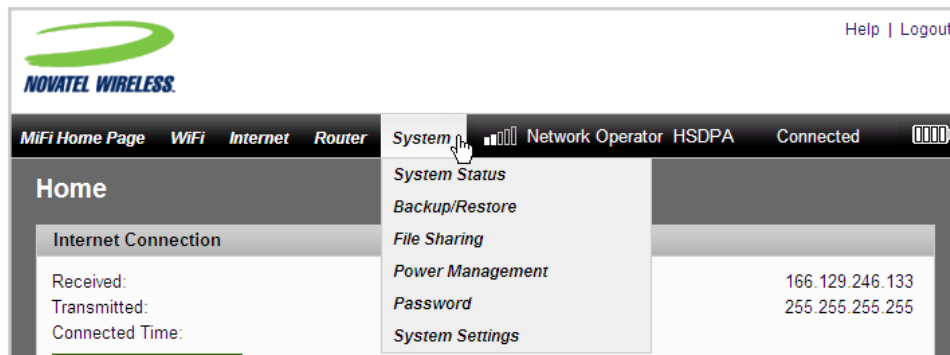
The System Menu gives you access to settings and features that affect MiFi as a whole.

The section contains the following information:

- [System Menu](#)
 - [System Status](#)
 - [Backup/Restore](#)
 - [File Sharing](#)
 - [Power Management](#)
 - [Password](#)
 - [System Settings](#)

System Menu

- 1 Choose **System** from the menu bar.



- 2 Select one of the following:
 - System Status — to view information about your device and a system log.
 - Backup/Restore — to back up or restore a file containing your device settings.
 - File Sharing — to set up file sharing from microSDHC cards.
 - Power Management — to set power saving modes.
 - Password — to set the administrative password.
 - System Settings — to set the interface language and date and time formats.

System Status

The System Status page provides you with information about your MiFi system.

Opening the Page

- ▶ Choose **System > System Status** from the menu bar.

The System Status page will open.

The screenshot displays the Novatel Wireless System Status page. At the top, there is a navigation bar with 'Home', 'WiFi', 'Internet', 'Router', and 'System' (highlighted). To the right of the navigation bar, it shows 'Network Operator HSDPA' and 'Connected'. The main content area is titled 'System Status' and contains two sections: 'System Information' and 'System Log'. The 'System Information' section lists various details about the device, including manufacturer, model, serial number, and firmware versions. The 'System Log' section contains a message stating that the system log must be enabled and provides a 'System Log' button. At the bottom of the page, there are three buttons: 'Restart/Reboot', 'Reset to Factory Defaults', and 'System Log'.

System Information	
Manufacturer	Novatel Wireless
Model	MiFi 2352
Serial No.	SM190109400193
Access Point Firmware Version	11.47.17
Router Firmware Version	012
Modem Firmware Version	5.15.00.0-00 [2009-06-26 10:24:29]
Web UI version	V20.16-nvtl
UA Version:	Mozilla/4.0 (compatible; MSIE 7.0; Windows NT 5.1; Trident/4.0; .NET CLR 2.0.50727; .NET CLR 1.1.4322; .NET CLR 3.0.04506.30; InfoPath.1; .NET CLR 3.0.04506.648)

The System Log must be enabled. This setting is on the System Settings screen.

System Log

Restart/Reboot Reset to Factory Defaults

System Status Page

This page contains four sections.

System Information

System Information	
Manufacturer	Novatel Wireless
Model	MiFi 2352
Serial No.	SM190109400193
Access Point Firmware Version	11.47.17
Router Firmware Version	012
Modem Firmware Version	5.15.00.0-00 [2009-06-26 10:24:29]
Web UI version	V20.16-nvtl
UA Version:	Mozilla/4.0 (compatible; MSIE 7.0; Windows NT 5.1; Trident/4.0; .NET CLR 2.0.50727; .NET CLR 1.1.4322; .NET CLR 3.0.04506.30; InfoPath.1; .NET CLR 3.0.04506.648)

The System Information section provides information about MiFi. This information includes the following:

- Manufacturer – Novatel Wireless
- Model Number
- Serial Number
- Firmware (embedded software) version numbers for MiFi components
 - Access Point
 - Router
 - Modem
 - Web User Interface
 - User Agent

System Log

System Log

The System Log must be enabled. This setting is on the System Settings screen.

```
System Log> nw019 HTML Version, Log start01/08/1980 04:13:01pm GMT
05/04/09 11:34:31am> Current Time
```

[System Log](#)

If required for troubleshooting, you can enable the System Log on the System Settings page. [See [System Settings Page](#) (page 75).]

- Click **System Log** to see the log information in the System Log display area.

Restart/Reboot

You can restart your MiFi from this page.

- ▶ Click **Restart/Reboot** to reset your MiFi (as if you turned the power off then on again).

IMPORTANT Your Internet and WiFi connections will be lost and you will have to reconnect.

Reset to Factory Defaults

- ▶ Click **Reset to Factory Defaults** to set all settings back to factory values.

IMPORTANT

- Your Internet and WiFi connections will be lost and you will have to reconnect.
 - In addition, you will have to reconfigure your profiles.
-

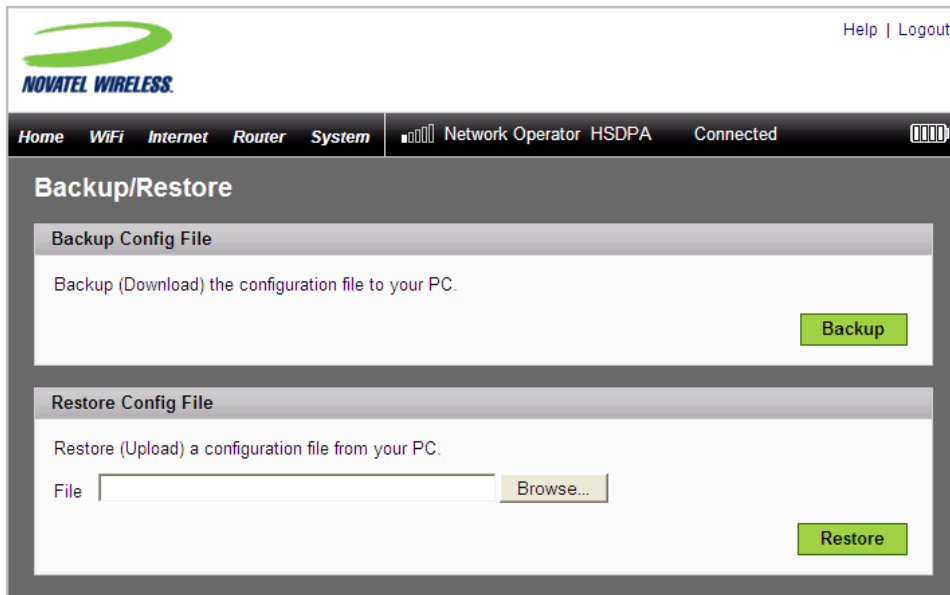
Backup/Restore

The Backup/Restore page allows you to make a backup copy or restore a backup copy of your configuration settings.

Opening the Page

- ▶ Choose **System > Backup/Restore** from the menu bar.

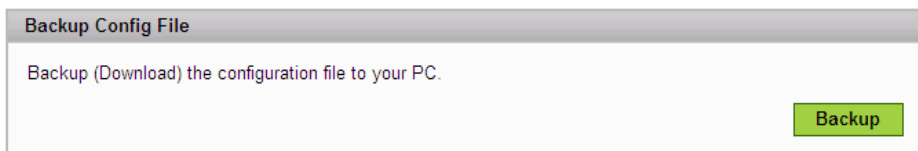
The Backup/Restore page will open.



Backup/Restore Page

This page contains two sections.

Backup Config File



The Backup Config File section allows you to download a backup file of the configuration settings for your MiFi device.

To save the configuration file:

Windows:

- 1 Click **Backup**.

A dialog will open asking whether you want to open or save the file.

- 2 Locate the folder where you want to store the file and click **Save**. You may rename the file to make it easier to locate when you need it.

Tip! Some systems may open the file instead of giving you the option to save. Choose **File > Save** from the menu if that happens.

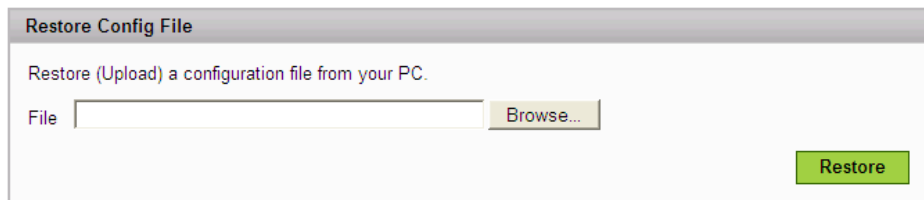
Mac:

- 1 Click **Backup**.

The file, "config.xml.sav", is downloaded to your desktop.

- 2 Copy the file to a safe location. You may rename the file to make it easier to locate when you need it.

Restore Config File



The Restore Config File section allows you to copy a set of saved configuration settings back to MiFi.

To restore the configuration file:

Windows:

- 1 Click **Browse**.
- 2 Locate the file on your hard drive and click **Open**.
- 2 Click **Restore** to copy the settings back to MiFi.

Mac:

- 1 Click **Choose File**.
- 2 Locate the file on your hard drive and click **Choose**.
- 3 Click **Restore** to copy the settings back to MiFi.

IMPORTANT When you upload a configuration file, you change all the settings to match the file. If your WiFi settings change, you will lose the connection and will need to reconnect using the new settings.

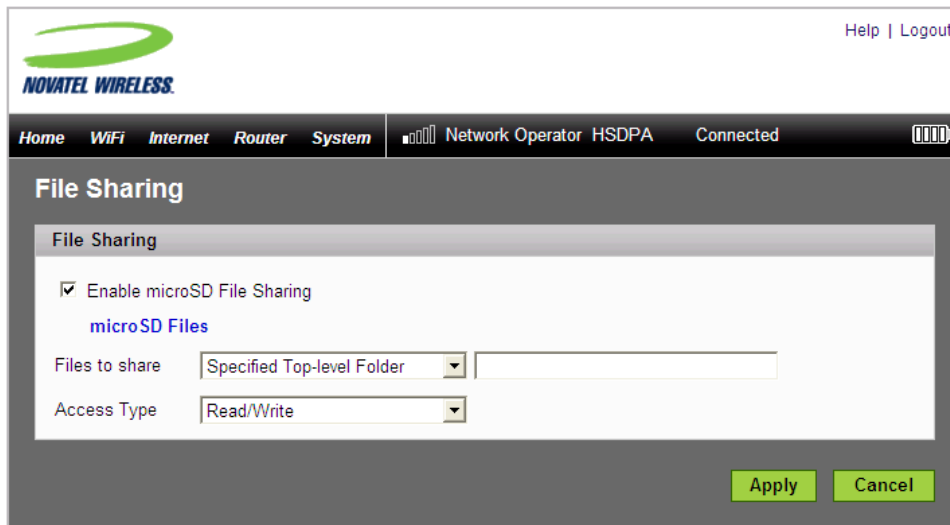
File Sharing

The File Sharing page allows you to provide access to files on your microSDHC card to others on your MiFi network.

Opening the Page

- ▶ Choose **System > File Sharing** from the menu bar.

The File Sharing page will open.



File Sharing Page

This page has two sections.

Enable microSD File Sharing

This section enables you to allow others on your network to access files on your microSDHC cards.

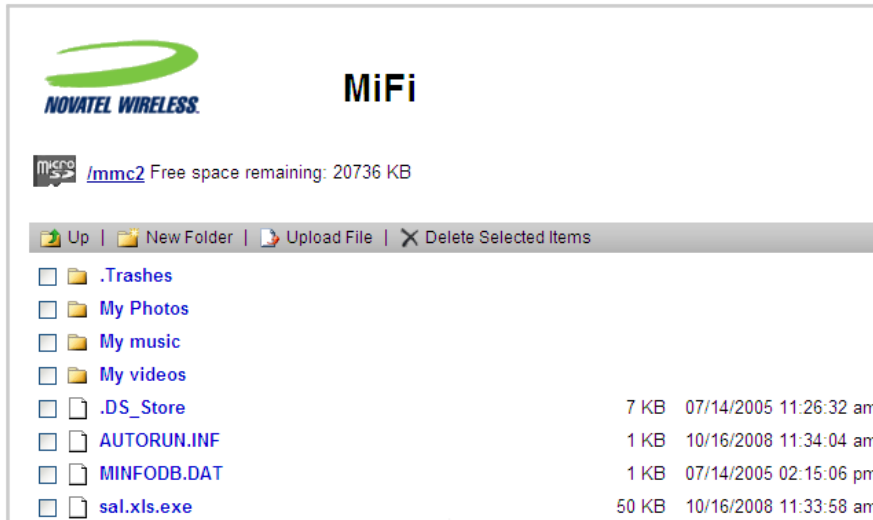
- 1 Select the **Enable microSD File Sharing** checkbox to allow file sharing.
- 2 From the “Files to share” list, choose whether to share the Entire SD Card or a Specified Top-level Folder.
- 3 If you choose the Specified Top-level Folder option, enter the folder path in the box.
- 4 From the Access Type list, choose whether others should have Read only or Read and Write access to the files.
- 5 Click **Apply**.

The microSD Files Link

The microSD Files link allows you to view files currently on the microSDHC card. In addition you can upload files to the card or delete files from it.

- ▶ Click the **microSD Files** link on the File Sharing page.

The directory list will open in a separate window.



NOTE

You can do basic file management from this window. You can delete items or upload new files. However, you can only upload a single file at a time.

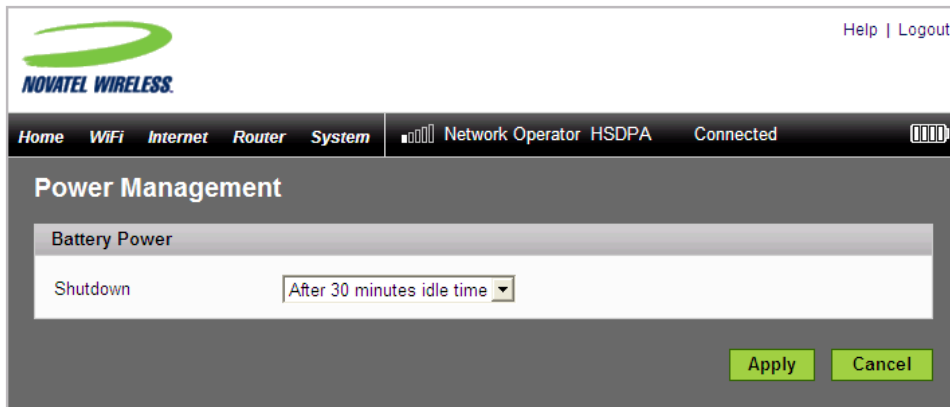
Power Management

The MiFi device can turn itself off when it is idle and running on battery power. The Power Management page allows you to set the timing for when MiFi switches off.

Opening the Page

- Choose **System > Power Management** from the menu bar.

The Power Management page will open.



Power Management Page

The Power Management page allows you to set MiFi to turn itself off when it is idle and running on battery power.

- Select when you want MiFi to turn off when it is idle and running on battery power and click **Apply**.

The options range from Never to 60 minutes.

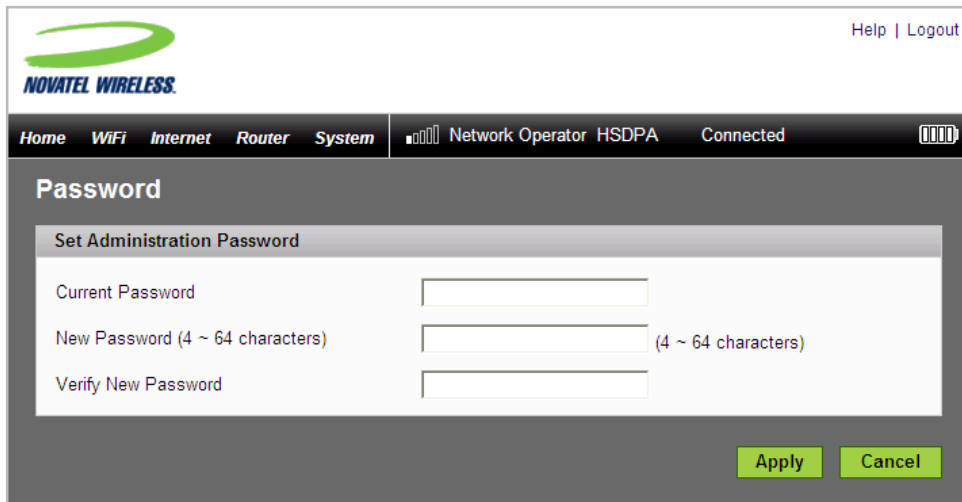
Password

The Password page allows you to change the administrative password that gives access to the browser interface.

Opening the Page

- ▶ Choose **System > Password** from the menu bar.

The Password page will open.



The screenshot shows the Novatel Wireless administrative interface. At the top left is the Novatel Wireless logo. At the top right are links for 'Help' and 'Logout'. Below the logo is a navigation menu with 'Home', 'WiFi', 'Internet', 'Router', and 'System'. To the right of the menu are status indicators for 'Network Operator', 'HSDPA', and 'Connected'. The main content area is titled 'Password' and contains a 'Set Administration Password' form. The form has three input fields: 'Current Password', 'New Password (4 ~ 64 characters)', and 'Verify New Password'. The 'New Password' field has a character count '(4 ~ 64 characters)' to its right. At the bottom right of the form are two buttons: 'Apply' and 'Cancel'.

Password Page

This page allows you to create a new administrative password.

- 1 Type your current password in the Current Password box.
- 2 Enter the new password (must have 4 to 64 characters) in the New Password box and again in the Verify New Password box.
- 3 Click **Apply**.

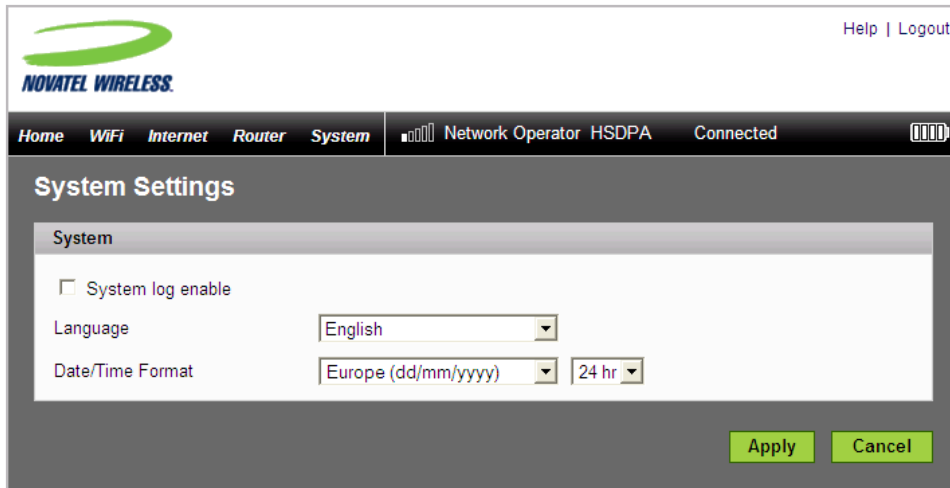
System Settings

The System Settings page allows you to change the interface language and the date and time format used in the browser interface. You can also enable the system log from this page. The system log is used for troubleshooting and should usually be left disabled.

Opening the Page

- Choose **System > System Settings** from the menu bar.

The System Settings page will open.



System Settings Page

This page allows you to set the language, date and time format, and enable the System Log.

- 1 Select the language you want to use from the list.
- 2 Select the Date/Time format you want to use from the list.

You can choose between 24 and 12 hour time display and European (dd/mm/yyyy) and U.S. (mm/dd/yyyy) date formats.

- 3 If desired, select the checkbox to turn on the System log.
- 4 Click **Apply**.

4

Troubleshooting

Overview
Common Problems and Solutions
Using the Master Reset Button

Overview

The following tips will help solve many common problems encountered while using MiFi.

- Make sure you are using MiFi in the correct geographic region.
- Ensure that your network operator's wireless coverage extends to your current location.
- If you are using MiFi in USB Mode, simply unplugging and replugging in the USB cable can resolve many issues.

When properly installed, MiFi is a highly reliable product. Most problems are caused by one of these issues:

- System resources required by MiFi are being used by other devices.
- Network coverage is unavailable due to coverage area or an account or network problem.

The following two items are referenced frequently in the solutions that follow. Make note of their differences.

- ▶ Open the MiFi Login Home page (<http://www.mifi>).
 1. Type **www.mifi** in your browser address bar and press **Enter/Return**.
 2. The "MiFi Login Home page" opens and gives basic status and access to the microSD card.
- ▶ Login to MiFi.
 1. Type **www.mifi** in your browser address bar and press **Enter/Return**.
 2. Type the administrative password into the login window and click **Login**.
 3. The "Home" page opens and gives you access to the menus.

Common Problems and Solutions

Before you read on, all of the steps mentioned here are given in more detailed form elsewhere in the user guide. When a reference is given, click the link to go to the more detailed information.

The following are some common problems and solutions.

No service is available.

- OR -

I get a “Limited or No Connectivity” message.

- ▶ You are outside of the coverage area of your network provider.
- ▶ Check with your network provider. There may be a problem with your account.
- ▶ Reorient MiFi.
- ▶ If you are inside a building or near a structure that may be blocking the signal, change the position or location of the device. For example, try moving MiFi close to a window.

The device has no power.

The LED indicator is off and does not come on when the Power button is pressed.

- ▶ Ensure the battery is properly seated in the device.
- ▶ Ensure the battery is fully charged. Plug in the AC mains charger for at least 4 hours.

I forgot my password.

- ▶ You can reset the device to factory defaults using the master reset button. [See [Using the Master Reset Button](#) (page 82).]

I cannot connect to MiFi.

- ① Make sure the WiFi LED is on (it will be solid cyan).

If the LEDs are not on, check your battery.

- ② Make sure your wireless radio / AirPort is turned on. (Check your computer help if you need assistance.)
- ③ Open your wireless network connection list.
 - Windows: Right-click icon and select **View Available Networks**.
 - Mac: Pull down list from AirPort icon.
- ④ Select the MiFi network name (in Windows, click **Connect**).

When the MiFi is connected to the network, the WiFi LED begins to blink.

My network does not appear in the wireless network list.

- ▶ Verify that the MiFi LEDs are on and are not showing an error condition. Refer to your Quick Start Guide for a table of LED states.
- ▶ Refresh your network list.
 - Windows: Click **Refresh Network List** on the left side of the Wireless Network Connection screen. If that does not work you can try the following:
 1. Open **Network Connections**.
 2. Right-click **Wireless Network Connection** and select **Properties**.
 3. Click the **Wireless Networks** tab.
 4. Delete any unused wireless connections from the Preferred Networks list and click **OK**.
 5. Restart your computer.
 - Mac: Try rebooting your computer.

The LED stays solid red or “SIM not found” displays on the MobiLink Connection Manager

- ▶ The SIM card may be missing or inserted incorrectly. Pull out the battery and reseal the SIM card. Be careful not to touch the contact points when handling the card. [See [Install SIM Card and Battery](#) (page 4).]

The LED is flashing red.

- ▶ The SIM card is locked. Enter your PIN code when prompted. If you enter the wrong PIN code 3 times, you will be prompted to enter your PUK code. If you enter the wrong PUK code 10 times, your SIM card will be locked forever. Contact your network provider to obtain a new SIM card.

I see the network name but cannot connect to MiFi.

- ▶ Check the user name, password, and access point name (APN) in your connection profile. If any of these are wrong, you will not be able to connect to the network. [See [WiFi Mode Setup](#) (page 7).]

I get a message that MobiLink 3 cannot be installed when I try to use MiFi in USB mode.

- ▶ You might not have administrative privileges. Contact your system administrator or log on to your computer as an administrator and try plugging it in again.

Can I use the microSDHC card when MiFi is connected in WiFi mode?

- ▶ Yes. Open the MiFi Login Home page (<http://www.mifi>). Then click the microSD Files tab. [See [Using microSDHC Cards with MiFi — File Sharing](#) (page 25).]

How do I disconnect from the network?

- ▶ WiFi Mode: Login to MiFi and click **Disconnect**.
 1. Open the MiFi Home page (<http://www.mifi>).
 2. Then type your administrative password into the login window and click **Login**.
 3. Click the **Disconnect** button.
- ▶ USB Mode (Windows):
 - » Right-click the system tray icon and select **Disconnect**.
- ▶ USB Mode (Mac):
 - » Use the usual method for your Mac network application.

How can I find out how many users are connected to MiFi?

- ▶ Open the MiFi Home page (<http://www.mifi>). The number of clients (users) currently connected to MiFi is in the WiFi section at the bottom of the screen.

How can I set a new PIN for my SIM card?

- ▶ Set a new PIN using the MiFi browser interface. Go to **Internet > SIM**. [See [SIM](#) (page 52).]

Where can I find information about Internet connectivity and my WiFi setup?

- ▶ Open the MiFi Login Home page (<http://www.mifi>).

Can I use MiFi as a tethered modem with my computer?

- ▶ Yes. After setup, simply plug it in with the microUSB cable and use the MobiLink software. [See [USB Mode Setup](#) (page 14).]

How do I check the model number and firmware versions of MiFi?

- ▶ Login to MiFi and choose **System > Status**. [See [System Status](#) (page 66).]

How can I find out the network technology and provider currently in use?

- ▶ Open the MiFi Login Home page (<http://www.mifi>). The network information is displayed in the menu bar.

How can I check the battery level of MiFi?

- ▶ Open the MiFi Login Home page (<http://www.mifi>). The battery status icon is displayed in the menu bar. For more detailed information, login and choose **Internet > Internet Diagnostics**. Then click **Modem Status**.

Can I backup my configuration settings?

- ▶ Yes. Login to MiFi and choose **System > Backup/Restore**. Click **Backup**. [See [Backup/Restore](#) (page 69).]

Where can I find my IMEI number?

- Login to MiFi. Choose **Internet>Internet Diagnostics**.

How do I check the available space on the microSDHC card?

- Open the MiFi Login Home page (<http://www.mifi>). Click **microSD Files**.

How do I turn off MiFi?

- Press and hold the Power button for 5 seconds until the LEDs turn off.

What is the default administrative/login password?

- "admin"

How do I access information on the WiFi network and WiFi clients?

- Login to MiFi and choose **WiFi>Status**. [See [WiFi Status](#) (page 35).]

I am having trouble connecting to my office VPN.

- Login to MiFi and choose **Router>Router Settings**. Select the VPN Passthrough enable checkbox and click **Apply**.

Using the Master Reset Button

MiFi comes with a master reset button that allows you to return it to its factory default state.

The master reset button is recessed in a hole on the back of the device. You will need a paperclip or similar object to push the button.

- 1 Make sure the MiFi is powered on.
- 2 Locate the master reset button on the back of the device next to the label.



- 3 Insert a paperclip into the hole and hold the button down for 5 seconds until the LED goes off.

Your list of wireless networks will now show the original default network when you first configured your device.

- 4 Connect to MiFi again and reconfigure it. You will have to enter your APN and other information again. [See [WiFi Mode Setup](#) (page 7).]

Product Specifications and Regulatory Information

Product Specifications
Regulatory
Safety Hazards
Proper Battery Use and Disposal
Limited Warranty and Liability

Product Specifications

Interface

microUSB	
microSDHC	Up to 16GB
SIM socket	1.8V and 3.0V standard USIM

Mechanical

Dimensions (W x D x H)	62mm x 98mm x 15.3mm
Weight	81 g
LED	Two: status and WiFi indicators

Regulatory

CE Marking

This device has been tested to and conforms to the essential regulatory requirements of the European Union R&TTE directive 1999/5/EC and has attained CD Marking.

Federal Communications Commission Notice (FCC United States)

This equipment has been tested to, and found to be within the acceptable limits for a Class B digital device, pursuant to part 15 of the FCC Rules and Industry Canada ICES-003. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a residential environment.

This equipment generates radio frequency energy and is designed for use in accordance with the manufacturer's user manual. However, there is no guarantee that interference will not occur in any particular installation.

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

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

This device complies with Part 15 of the Federal Communications Commission (FCC) Rules and Industry Canada ICES-003 for EMI compliance.

Operation is subject to the following two conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.

WARNING: DO NOT ATTEMPT TO SERVICE THE WIRELESS COMMUNICATION DEVICE YOURSELF. SUCH ACTION MAY VOID THE WARRANTY. THE MiFi DEVICE IS FACTORY TUNED. NO CUSTOMER CALIBRATION OR TUNING IS REQUIRED. CONTACT TECHNICAL SUPPORT FOR INFORMATION ABOUT SERVICING YOUR WIRELESS COMMUNICATION DEVICE.

Notice to Consumers: Any changes or modification not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

NOTE: The Radio Frequency (RF) emitter installed in your device must not be located or operated in conjunction with any other antenna or transmitter, unless specifically authorized by Novatel Wireless Technologies.

MODIFICATIONS: The FCC requires that you be notified that any changes or modifications made to this device that are not expressly approved by your service provider may void your authority to operate the equipment.

FCC Equipment Authorization ID:

NBZNRM-MIFI2352

NBZNRM-MIFI2372

This device is only authorized for use in Mobile applications. At least 20 cm (8 in.) of separation between the antenna and the user's body must be maintained at all times.

Limitation of Liability

The information in this manual is subject to change without notice and does not represent a commitment on the part of Novatel Wireless. NOVATEL WIRELESS AND ITS AFFILIATES SPECIFICALLY DISCLAIM LIABILITY FOR ANY AND ALL DIRECT, INDIRECT, SPECIAL, GENERAL, INCIDENTAL, CONSEQUENTIAL, PUNITIVE OR EXEMPLARY DAMAGES INCLUDING, BUT NOT LIMITED TO, LOSS OF PROFITS OR REVENUE OR ANTICIPATED PROFITS OR REVENUE ARISING OUT OF THE USE OR INABILITY TO USE ANY NOVATEL WIRELESS PRODUCT, EVEN IF NOVATEL WIRELESS AND/OR ITS AFFILIATES HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES OR THEY ARE FORESEEABLE OR FOR CLAIMS BY ANY THIRD PARTY.

Notwithstanding the foregoing, in no event shall Novatel Wireless and/or its affiliates aggregate liability arising under or in connection with the Novatel Wireless product, regardless of the number of events, occurrences, or claims giving rise to liability, be in excess of the price paid by the purchaser for the Novatel Wireless product.

Safety Hazards

Do not operate MiFi in an environment that may be susceptible to radio interference resulting in danger specifically;

Areas where prohibited by the law

- Follow any special rules and regulations and obey all signs and notices. Always turn off MiFi (or the host device and remove the modem from the USB port) when instructed to do so, or when you suspect that it may cause interference or danger.

Where explosive atmospheres may be present

- Do not operate your modem in any area where a potentially explosive atmosphere may exist. Sparks in such areas could cause an explosion or fire resulting in bodily injury or even death. Be aware and comply with all signs and instructions.
- Users are advised not to operate the modem while at a refueling point or service station. Users are reminded to observe restrictions on the use of radio equipment in fuel depots (fuel storage and distribution areas), chemical plants or where blasting operations are in progress.
- Areas with a potentially explosive atmosphere are often but not always clearly marked. Potential locations can include gas stations, below deck on boats, chemical transfer or storage facilities, vehicles using liquefied petroleum gas (such as propane or butane), areas where the air contains chemicals or particles, such as grain, dust or metal powders, and any other area where you would normally be advised to turn off your vehicle engine.

Near Medical and life support equipment

- Do not operate your device in any area where medical equipment, life support equipment, or near any equipment that may be susceptible to any form of radio interference. In such areas, the host communications device must be turned off. The device may transmit signals that could interfere with this equipment.

On an aircraft, either on the ground or airborne

- In addition to FAA requirements, many airline regulations state that you must suspend wireless operations before boarding an airplane. Please ensure that MiFi (or the host device is turned off) and (if in USB Mode, your modem is removed from the USB port) prior to boarding aircraft in order to comply with these regulations. The modem can transmit signals that could interfere with various onboard systems and controls.

While operating a vehicle

- The driver or operator of any vehicle should not operate a wireless data device while in control of a vehicle. Doing so will detract from the driver or operator's control and operation of that vehicle. In some countries, operating such communications devices while in control of a vehicle is an offense.

Proper Battery Use and Disposal

CAUTION! Never dispose of batteries in a fire because they might explode.

WARNING!

In the event of a battery leak:

- Do not allow the liquid to come in contact with the skin or the eyes. If contact has been made, wash the affected area with large amounts of water and seek medical advice.
 - Seek medical advice immediately if a battery has been swallowed.
-

Contact your local recycling center for proper battery disposal.

Guidelines for Safe and Responsible Battery Use

- Do not disassemble or open, crush, bend or deform, puncture, or shred.
- Do not modify or remanufacture, attempt to insert foreign object into the battery, immerse or expose to water or other liquids, or expose to fire, explosion, or other hazard.
- Only use the battery for the system for which it was specified.
- Only use the battery with a charging system that has been qualified with the system per this standard. Use of an unqualified battery or charger may present a risk of fire, explosion, leakage, or other hazard.
- Do not short circuit a battery or allow metallic or conductive object to contact the battery terminals.
- Replace the battery only with another battery that has been qualified with the system per this standard. Use of an unqualified battery may present a risk of fire, explosion, leakage, or other hazard.
- Promptly dispose of used batteries in accordance with local regulations.
- Battery usage by children should be supervised.
- Avoid dropping the device or battery. If the device or the battery is dropped, especially on a hard surface, and the user suspects damage, take it to a service centre for inspection.
- Improper battery use may result in a fire, explosion, or other hazard.

Limited Warranty and Liability

Novatel Wireless, Inc. warrants for the 12 month period immediately following receipt of the Product by Purchaser that the Product will be free from defects in material and workmanship under normal use. THESE WARRANTIES ARE EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, WITHOUT LIMITATION, ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

The exclusive remedy for a claim under this warranty shall be limited to the repair or replacement, at Novatel Wireless' option, of defective or non-conforming materials, parts or components. The foregoing warranties do not extend to (I) non conformities, defects or errors in the Products due to accident, abuse, misuse or negligent use of the Products or use in other than a normal and customary manner, environmental conditions not conforming to Novatel Wireless' specification, of failure to follow prescribed installation, operating and maintenance procedures, (II) defects, errors or nonconformity's in the Product due to modifications, alterations, additions or changes not made in accordance with Novatel Wireless' specifications or authorized by Novatel Wireless, (III) normal wear and tear, (IV) damage caused by force of nature or act of any third person, (V) shipping damage, (VI) service or repair of Product by the purchaser without prior written consent from Novatel Wireless, (VII) products designated by Novatel Wireless as beta site test samples, experimental, developmental, reproduction, sample, incomplete or out of specification Products, or (VIII) returned products if the original identification marks have been removed or altered.

Glossary

Glossary

- **3G** — Third Generation. 3G refers to the third generation of mobile telephony technology. The evolution of 3G technology is as follows:

GSM technologies

- » GPRS offered speeds up to 114 Kbps (began in 2000).
- » EDGE reached up to 384 Kbps (2003).
- » WCDMA offered downlink speeds up to 1.02 Mbps.
- » HSDPA boosted downlink to 14 Mbps (in 75 countries 2007)
- » LTE Evolved UMTS Terrestrial Radio Access is aiming for 100 Mbps (specifications completed 2008).

CDMA technologies

- » 1xRTT offered speeds up to 144 Kbps (2002).
- » EV-DO increased downlink speeds up to 2.4 Mbps (2004).
- » EV-DO Rev A boosted downlink speeds to 3.1 Mbps (2006).
- » EV-DO Rev B can use 2 to 15 channels with each downlink peaking at 4.9 Mbps.
- » Ultra Mobile Broadband was slated to reach 288 Mbps but operators may switch to LTE instead.

- **802.11 (b, g, n)** — A set of WLAN communication standards in the 2.4, 3.6 and 5 GHz frequency bands.
- **Access Point** — A device that allows wireless communication devices to connect to a wireless network using a standard such as WiFi.
- **APN** — Access Point Name. The APN is an alphanumeric string that identifies the particular network service that is being accessed. These are used by GPRS and UMTS networks.
- **bps** — Bits Per Second. The rate of data flow.
- **Broadband** — High-capacity high-speed, transmission channel with a wider bandwidth than conventional modem lines. Broadband channels can carry video, voice, and data simultaneously.
- **CDMA** — Code Division Multiple Access. It is the underlying channel access method used by some mobile phone standards.
- **DHCP** — Dynamic Host Configuration Protocol. Software found in servers and routers that automatically assigns temporary IP addresses to clients logging into an IP network.
- **DHCP Server** — A server or service with a server that assigns IP addresses.
- **DNS** — Domain Name System. A system for converting host names and domain names into IP addresses on the Internet or on local networks that use the TCP/IP protocol.
- **EDGE** — Enhanced Data for GSM Environment or Enhanced Data rates for Global Evolution. A faster version of GSM wireless service, it allows data to be delivered at rates of 384 Kbps and enable the deliver of multimedia and other broadband applications. EDGE became available in 2001.

- **ESN** — Electronic Serial Number. A unique 32-bit number embedded in the microchip of a wireless device that identifies the device.
- **Firewall** — A hardware or software boundary that protects a network or single computer from unwanted outside traffic.
- **Firmware** — A computer program embedded in an electronic device. Firmware usually contains operating code for the device.
- **FTP** — File Transfer Protocol. A network protocol for exchanging files over a TCP network.
- **Gateway** — A network point that acts as an entrance to another network that uses a different protocol.
- **GPRS** — General Packet Radio Services. A system used by GSM mobile phones for transmitting IP packets. It also provides support for WCDMA based 3G networks.
- **GSM** — Global System for Mobile communication. A digital mobile telephony system widely used in Europe and other parts of the world. GSM was first launched in 1991 and is the most widely used of the three digital wireless telephony technologies (TDMA, GSM, and CDMA). GSM uses a variation of TDMA.
- **Host Name** — The unique name by which a network-attached device is known on a network.
- **Hotspot** — A WiFi (802.11) access point or the area covered by an access point.
- **Hot-Swappable** — The ability to remove and replace the microSD Card from a device while it is still connected to the computer and online without damaging the device.
- **HSDPA** — High Speed Downlink Packet Access. HSDPA is an enhanced version of WCDMA that supports broadband connections with download speeds up to 7.2 Mbps. This enhanced 3G technology enables the download of high-bandwidth multimedia files, high resolution graphics, and other complex files, and viewing email attachments at broadband-like speeds.
- **HSPA** — High Speed Packet Access. A family of 3G services that is available to GSM carriers. It is a major enhancement from WCDMA.
- **HSUPA** — High Speed Uplink Packet Access. A 3G mobile telephony protocol with up-link speeds up to 5.76 Mbps.
- **HTTP** — Hypertext Transfer Protocol. An application-level protocol for accessing the World Wide Web over the Internet.
- **IMAP** — Internet Message Access Protocol. An Internet standard protocol for email retrieval.
- **IMSI** — International Mobile Subscriber Identity. Used in GSM networks to identify the subscriber. Usually embedded in the SIM.
- **IP** — Internet Protocol. The mechanism by which packets are routed between computers on a network.
- **IP Type** — The type of service provided over a network.
- **IP address** — Internet Protocol address. The address of a device attached to an IP network (TCP/IP network).
- **ISP** — Internet Service Provider. Also referred to as the service carrier, an ISP provides Internet connection service.

- **Kbps** — Kilobits per second. The rate of data flow.
- **LAN** — Local Area Network. A type of network that lets a group of computers, all in close proximity (such as inside an office building), communicate with one another. It does not use common carrier circuits though it may have gateways or bridges to other public or private networks.
- **LTE** — Long Term Evolution. A set of enhancements to UMTS (moving toward 4G) that will provide high throughput, low latency, plug and play and seamless connection to existing networks such as GSM, cdmaOne, etc.
- **MAC Address** — Media Access Control. A number that uniquely identifies each network hardware device. MAC addresses are 12-digit hexadecimal numbers.
- **MEID** — Mobile Equipment Identifier. A globally unique number for a physical piece of mobile station equipment.
- **Mbps** — Megabits per second.
- **microSD / microSDHC** — A small, removable flash memory card available in various storage sizes. Some products have a slot that allows them to utilize this external memory.
- **MSID** — Mobile Station Identifier. A number for a mobile phone that identifies that phone to the network. These numbers are carrier specific.
- **MSL** — Master Subsidy Lock. A numeric code for accessing certain phone settings.
- **NAI** — Network Access Identifier. A standard way of identifying users who request access to a network.
- **Network Mask** — A number that allows IP networks to be subdivided for security and performance.
- **Network Provider** — The vendor who provides your wireless access. Known by different names in different regions, some examples are: wireless provider, network operator, and service provider.
- **Network Technology** — The technology on which a particular network provider's system is built; such as, GSM, HSPA, CDMA, EDGE, and EVDO.
- **NNTP** — Network News Transfer Protocol. An Internet application protocol for reading and posting Usenet (newsgroup) articles.
- **PDA** — Personal Digital Assistant. A handheld device used for organization, notes, address books, etc.
- **POP** — Post Office Protocol. An Internet protocol for retrieving email from a remote server over a TCP/IP connection.
- **Port** — A virtual data connection used by programs to exchange data. It is the endpoint in a logical connection. The port is specified by the port number.
- **Port Forwarding** — A process that allows remote devices to connect to a specific computer within a private LAN.
- **Port Number** — A 16-bit number used by the TCP and UDP protocols to direct traffic on a TCP/IP host. Certain port numbers are standard for common applications.
- **Protocol** — A standard that enables connection, communication, and data transfer between computing endpoints.
- **PPP** — Point to Point Protocol. A method of connecting a computer to the Internet.

- **PPTP** — Point-to-point Tunneling Protocol. A method for implementing virtual private networks that does not provide confidentiality or encryption but relies on the tunneling process for security.
- **PRL** — Preferred Roaming List. A list that your wireless phone or device uses to determine which networks to connect with when you are roaming. (Network operator specific)
- **Protocol** — A standard that enables connection, communication, and data transfer between computing endpoints.
- **Proxy** — A firewall mechanism that replaces the IP address of a host on the internal (protected) network with its own IP address for all traffic passing through it.
- **Rev A** — CDMA EV-DO Rev. A is a leading-edge wireless technology with higher data rates and higher system capacity. It is a fully backward compatible standard and remains interoperable with deployed EV-DO networks and devices around the world. The increased data rates on Rev. A's physical layer enable richer applications and services. For more information, visit www.cdg.org.
- **RFB** — Remote Frame Buffer. A protocol for remote access to graphical user interfaces.
- **Router** — A device that directs traffic from one network to another.
- **RTP** — Real-time Transport Protocol. A packet format for streaming multimedia over the Internet.
- **SIM** — Subscriber Identification Module. Found in GSM network technology, the SIM is a card containing identification information for the subscriber and their account. The SIM card can be moved to different devices.
- **SMS** — Short Message Service. A service for sending short messages of up to 160 (224 in 5-bit mode) characters to mobile devices. SMS is also known as text messaging.
- **SMTP** — Simple Mail Transfer Protocol. An Internet standard for email transmission across IP networks.
- **SSID** — Service Set Identifier. The name assigned to a WiFi network.
- **TCP** — Transmission Control Protocol. A core protocol for transmitting and receiving information over the Internet.
- **TCP/IP** — Transmission Control Protocol/Internet Protocol. A communications protocol developed under contract from the U.S. Department of Defense to interconnect dissimilar systems.
- **Telnet** — Telecommunication Network. A network protocol used on the Internet or on local area networks.
- **TFTP** — Trivial File Transfer Protocol. A file transfer protocol with a subset of FTP functionality.
- **UA** — User Agent. Any device or software used to access a web page. A user agent might be a web browser, a smart phone, or a screen reader.
- **UDP** — User Datagram Protocol. A simple transport protocol used to transfer information on the Internet.
- **UI** — User Interface. The part of a software application or hardware device that a user sees and interacts with.
- **UMTS** — Universal Mobile Telecommunications Service. A GSM-based, third-generation broadband, packet-based transmission of text, digitized voice, video and multimedia at data rates up to 2 Mbps. UMTS offers a consistent set of services to mobile users all over the world. Until UMTS is fully implemented, users can use multi-mode devices that switch to currently available technology.

- **USB** — Universal Serial Bus. A connection type for computing device peripherals such as a printer, mobile modem, etc.
- **USB Port Types** — The USB ports on computers and hubs have a rectangular Type A socket, and peripheral devices have a cable with a Type A plug. Peripherals that do not have an attached cable have a square Type B socket on the device and a separate cable with a Type A and Type B plug.
- **VNC** — Virtual Network Computing. A graphical desktop sharing system that uses the RFB protocol to remotely control another computer.
- **VPN** — Virtual Private Network. A secure private network that runs over the public Internet. Commonly used to connect to an office network from elsewhere.
- **VPN Passthrough** — A feature that allows a client to connect to a VPN server.
- **WAN** — Wide Area Network. A public network that extends beyond architectural, geographical, or political boundaries (unlike a LAN, which is usually a private network located within a room, building, or other limited area).
- **WCDMA** — Wideband Code-Division Multiple Access. A 3G mobile wireless technology that promises much higher data speeds to mobile and portable wireless devices. Another name for UMTS.
- **WEP** — Wired Equivalent Privacy. An IEEE standard security protocol for 802.11 networks. Superseded by WPA and WPA2.
- **Wi-Fi** — Wireless Fidelity. Any system that uses the 802.11 standard developed and released in 1997 by the IEEE (Institute of Electrical and Electronics Engineers).
- **WiFi Client** — A wireless device that connects to the Internet via WiFi.
- **WLAN** — WiFi LAN. A typically low-power network that transmits a wireless signal over a span of a few hundred feet and usually only to stationary devices.
- **WPA/WPA2** — WiFi Protected Access. A security protocol for wireless 802.11 networks from the WiFi Alliance.
- **WWAN** — Wireless Wide Area Network. Wireless network technologies deployed over a large geographical area to a large number of users (see WLAN). This service is usually provided through cellular providers. WWAN connectivity allows a user with a laptop and a WWAN device to surf the Internet, check email, or connect to a virtual private network (VPN) from anywhere within the regional boundaries of the cellular service.