Mifi[™]2352/2372

Intelligent Mobile Hotspot





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5,267,261	5,544,196	5,267,262	5,568,483	5,337,338	
5,600,754	5,414,796	5,657,420	5,416,797	5,659,569	
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Please visit <u>www.novatelwireless.com</u> for the latest information about your device.

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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.



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



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



- **6** 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).]
- 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.

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.



• 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-lon 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 <u>WiFi Mode Setup</u> (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 <u>USB Mode Setup</u> (page 14).]

This section contains the following information:

- <u>WiFi Mode Setup</u>
- 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 preconfigured.)

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:

• 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.



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.



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."



G 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.

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.

croSD Files Add to Favorites	■III Network Operator	HSDPA Connected	.0
Home			
Internet Connection			
Received	365.21 KB	IP Address	166.129.173.254
Transmitted	65.24 KB	Subnet Mask	255.255.255.255
Connected Time	00:01:37	DNS	209.183.54.151
WiFi			
Profile	Open	IP Address	192.168.1.1
Network name (SSID)	MiFi GED	Subnet Mask	255.255.255.0
Security	None		
Clients	1/5		

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.

me WiFi Internet Router	System Netw	ork Operator HSDPA	Connected (
lome			
Internet Connection			
Received Transmitted Connected Time Disconnect	100.30 KB 57.00 KB 00:01:21	IP Address Subnet Mask	10.57.57.202 255.255.255.255
WiFi			
Profile Network name (SSID) Security Clients	Open MiFi 20FD None 1/5	IP Address Subnet Mask	192.168.1.1 255.255.255.0

Select Internet > Internet Profiles.

The Internet Profiles – Set Internet Profiles page will open.

-								Help Logout
<i>NOVATE</i> Home	L WIRE WiFi	LESS. Internet	Router	System	∎□□□] Network Operator	HSDPA	Connected	
Inte	rnet	Profile	S					
Set	Intern	et Profile						
Pro	file			W	orld Operator	•	Edit Internet P	rofile
AP	N							
Use	ername							
Aut	hentica	tion Type		No	ne			
							Apply	Cancel

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.

NOVATEL WIREL	ESS.							Help Logout
Home WiFi	Internet	Router	System	∎0000 Networ	k Operator HS	SDPA	Connected	ΠD
Internet I	Profile	s						
Edit Interne	et Profile							
Profile Nam	e	Worl	d Operator			Return	to Profile List	
APN								
Username								
Password								
Authenticat	ion Type	None)	•				
							Apply	Cancel

- **6** 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.
- Click Apply.
- (3) Click the **Return to Profile List** link.
- O 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 <u>page 5</u>5]

Set up wireless security for your MiFi network. [See <u>Set Up Wireless Security</u> (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

• Choose System > Password from the menu bar.

NOVATEL WIRELESS.						Help Logout
Home WiFi Intern	et Router	System	∎0000 Network Operation	ator HSDPA	Connected	
Password						
Set Administratio	n Password			_		_
Current Password						
New Password (4	~ 64 characters	s)		(4 -	~ 64 characters)	
Verify New Passw	ord					
					Apply	Cancel

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

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



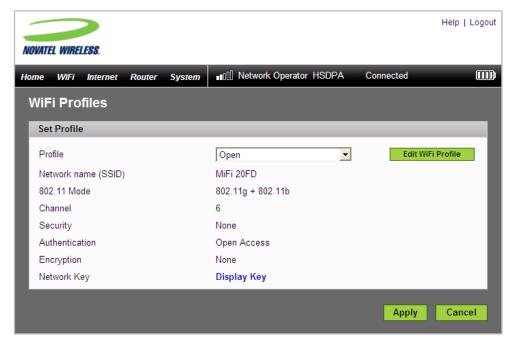
NOTE Be sure to record the new password. You will have to reset the device using the Master Reset button if you lose the administrative password. [See Using the Master Reset Button (page 82).]

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.

• Choose WiFi > WiFi Profiles from the menu bar.



2 From the Profile list, select **Secure** and click the **Edit WiFi Profile** button.

The Edit WiFi Profile page will open.

		Help Logout
NOVATEL WIRELESS.		
Home WiFi Internet Rol	nter System 1000 Network Operator HSDP	A Connected
WiFi Profiles		
Edit WiFi Profile		
Profile	Secure	Return to Profile List
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	
	8 ~ 63 characters	
		Apply Cancel

- 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.
- **6** Click **Apply**.
- **6** Click the **Return to Profile List** link.
- 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
- <u>Windows Setup and Connection</u>
- Mac Setup and Connection

System Requirements

- Windows® XP, Vista
- Mac OS[®] X v10.4.7+
- Linux[®] (2.4, 2.6) [Visit <u>www.novatelwireless.com</u> 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.



• 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.

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

The Profile Manager window will open.

Profile Manager	×
Profile List	
HSDPA Connection* +	New
	View
	Delete
	Set Default
	Import
	Export
* Locked Profiles can only be viewed + Default Profile	
ок	Cancel

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

, Please enter a nam choosing.	ne that you want to g	jive to this profile	This can be a	ny name of yo
APN:				
Please enter the Al provider.	PN. If you don't kno	w the APN, pleas	e contact you	r service
PDP Type:	IP	•		

- D 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.

Profile Wizard St	ep 2 of 2	×
Usemame:	me	
Password:		
Confirm Password:		
	Advanced	
		_
	Back Finish Cancel Help	

Senter 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**.

Connect	
Disconnect	
Settings •	
Languages •	
Device Properties	
SMS Client	
Address Book	
GPS	
Network services	
MiFi Advanced Settings	
Disable Radio	
About	
Open Connection Manager	
Exit	
	-77

– Or –

• 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.

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



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

2

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.

0 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.



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.
- 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.



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

The WiFi Profiles – Set Profile page will open.

ne WiFi Internet Router S	vstem 1000 Network Operator HSDPA	Connected
ViFi Profiles		
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	ТКІР	
Network Key	password82345	Display key

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

		Help Logout
NOVATEL WIRELESS.		
Home WiFi Internet Router	System Network Operator HSDPA	Connected (111)
WiFi Profiles		
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-	generate. Generate new values	
		Apply Cancel

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

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



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

6 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.

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



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

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.





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

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

– Or –

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





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.

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



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

The MiFi Login Home page will open.

roSD Files Add to Favorites	Network Operator	HSDPA Connected	
lome			
Internet Connection			
Received	365.21 KB	IP Address	166.129.173.254
Transmitted	65.24 KB	Subnet Mask	255.255.255.255
Connected Time	00:01:37	DNS	209.183.54.151
WiFi			
Profile	Open	IP Address	192.168.1.1
Network name (SSID)	MiFi GED	Subnet Mask	255.255.255.0
Security	None		
Clients	1/5		

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.

NOVATEL WIRELESS.	MiFi		
Immc2 Free space remaining:	20736 KB		
🔰 Up 🞬 New Folder 🌛 Uploa	d File 🗙 Delete Selected Items		
🔲 🛅 .Trashes			
🔲 🚞 My Photos			
🔲 🚞 My music			
🔲 🚞 My videos			
DS_Store	7	' KB	07/14/2005 11:26:32 am
🔲 🗋 AUTORUN.INF	1	I KB	10/16/2008 11:34:04 am
MINFODB.DAT	1	I KB	07/14/2005 02:15:06 pm
🔲 🗋 sal.xls.exe	50) KB	10/16/2008 11:33:58 am

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:

Login to MiFi.

• Choose System > File Sharing from the menu bar.

The File Sharing page will open.

									Help Logout
NOVATI	EL WIRE	LESS.							
Home	WiFi	Internet	Router	System	. 000	Network Operator	HSDPA	Connected	
File	Sha	ring							
File	e Shari	ng			_			_	
	Enable	e microSD	File Sharir	ig					_
	micro	SD Files							
File	es to sh	are 💽	Specified To	p-level Fol	der	•			
Ac	cess Ty	pe F	Read/Write			•			
								Apply	Cancel

- **3** Select the **Enable microSD File Sharing** checkbox to allow file sharing.
- From the "Files to share" list, choose whether to share the Entire SD Card or a Specified Toplevel Folder.

6 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.
- 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

• From your computer's Web browser, enter <u>http://www.mifi</u> (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.

croSD Files Add to Favorites	■ []] Network Operator	HSDPA Connected	
lome			
Internet Connection			
Received	365.21 KB	IP Address	166.129.173.254
Transmitted	65.24 KB	Subnet Mask	255.255.255.255
Connected Time	00:01:37	DNS	209.183.54.151
WiFi			
Profile	Open	IP Address	192.168.1.1
Network name (SSID)	MiFi GED	Subnet Mask	255.255.255.0
Security	None		
Clients	1/5		

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.

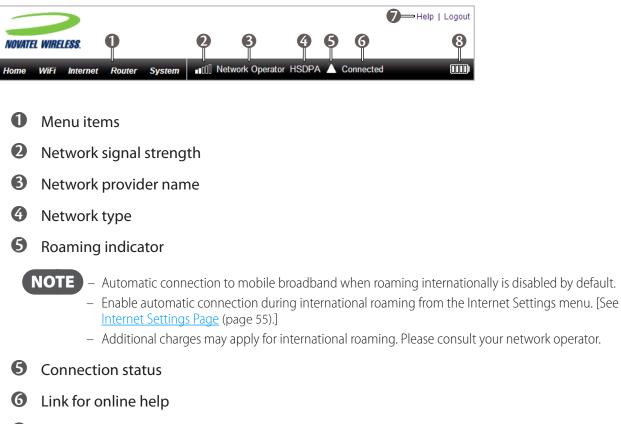
The Home Page

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.

Help Logo							
Home Wil	Fi Internet	Router System	n ∎∎000 Net	work Operator HSDPA	Connected		
Home							
Interne	t Connection					_	
Receive Transmi Connect	tted		100.30 KB 57.00 KB 00:01:21	IP Address Subnet Mask	10.5 255.255.	7.57.202 255.255	
WiFi	-	_	-	_		_	
Profile	name (SSID)	MiFi 7	Secure 2DE Secure WPA-TKIP 1 / 5	IP Address Subnet Mask		.168.1.1 55.255.0	

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.



Battery status

Home Page Sections

The Home page is divided into two sections.

Internet Connection



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.

<u>WiFi</u>

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

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).]

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
 - <u>WiFi Status</u>
 - <u>WiFi Profiles</u>
 - MAC Filter
 - <u>WiFi Settings</u>

WiFi Menu Options

• Choose WiFi from the menu bar at the top of the Home page.

NOVATEL WIRELES	38.				Help Logout
MiFi Home Page	WiFi <mark>du Internet</mark>	Router	System	■1011 Network Operator HSDF	A Connected
Home	WiFi Status				
nome	WiFi Profiles				
Internet Con	MAC Filter				
Received:	WiFi Settings		КВ	IP Address:	166.129.173.254

- 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



• Choose WiFi > WiFi Status from the menu bar.

The WiFi Status page will open.

ome WiFi Inte	rnet Route	r System IIII	Network Operator HSDPA	Connected	
WiFi Status					
WiFi Network					-
Current Profile Network name (Clients Allowed Clients Connect		Secu MiFi 72DE Secu		802.11g + 802. WPA Personal/F T Display I	PSK KIP
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	_
				Refres	h

WiFi Status Page Sections

This page contains three sections.

WiFi Network

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

The WiFi Network section of the WiFi Status page provides the following information:

- Profile that is currently in use.
- Name of the network (SSID) that you are connected to.
- Maximum number of clients that are allowed to connect to the device.
- Number of clients that are currently connected to the device.
- Channel that is being used.
- Current wireless mode.
- Security type and encryption for the current profile.
- Network Key link. (Click to retrieve the network key.)

WiFi Clients

P Address	IP Type	Hostname	MAC Address	Date/Time
92.168.1.2	DHCP	pavillion	00:15:00:07:28:3B	05/01/2009 02:11:24pm

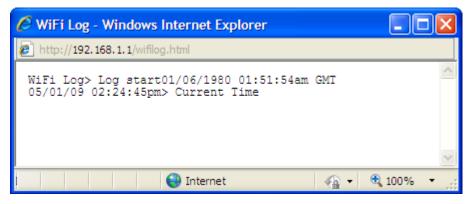
The WiFi Clients section of the WiFi Status page shows the clients that are currently connected to the MiFi. This is another way you can find the MAC address for a particular device when you are setting up MAC filtering.

<u>WiFi Log</u>

The WiFi Log must be enabled on the WiFi Settings page. [See <u>WiFi Settings Page</u> (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.

OVATEL WIRELESS. ome WiFi Internet Router Si	ystem 1000 Network Operator HSDPA	Connected
WiFi Profiles		
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	
	TKIP	
Encryption		

WiFi Profiles Page

This page provides the following information:

- Profile The profile currently being used. [See <u>Choosing a Profile</u> (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 <u>Setting Security</u> (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.



2 Select a profile and click **Edit Profile**.

The WiFi Profiles – Edit WiFi Profile page will open.

							Help Logout
NOVATEL WIRELESS.							
Home WiFi Internet R	Router	System	∎o00 Net	work Operator	HSDPA	Connected	
WiFi Profiles							
Edit WiFi Profile		_	_	_	_	_	
Profile		Secure				Return to Pre	ofile List
Network Name (SSID)		MiFi 72DE	Secure				
802.11 Mode		802.11g + 8	802.11b		*		
Channel		Auto			*		
Security		WPA Pers	onal/PSK		*		
Authentication		Open Acce	ess				
Encryption		TKIP					
Network Key		password8	32345				
		8 ~ 63 cha	racters				
						Apply	Cancel

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**.

6 Click the **Return to Profile List** link.



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.



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

To set up the temporary hotspot:

- 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.

ome WiFi Internet	Router	System	Network Operator	HSDPA	Connected	
WiFi Profiles						
Edit WiFi Profile	_	_		_		_
Profile		Temporary	y Hotspot		Return to Prof	ile List
Network Name (SSID)		MiFi 72D	E SBQA			
802.11 Mode		802.11g	+ 802.11b	~		
Channel		Auto		~		
Security		WEP 64-	bit	~		
Authentication		Open Acc	cess			
Encryption		40/64 Bit	(10 Hex Digits)			
Network Key		YZFBE				
		5 charact	ers, or 10 HEX characters	3		

O Click the **Generate new values** link.

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

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



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

6 Click **Apply**.

6 Click the **Return to Profiles List** link.

O 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.



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.

							Help Logout
NOVATEL WIREL	ESS.						
Home WiFi	Internet	Router	System	■[]] Network (Operator HSDPA	Connected	
MAC Filt	er						
Enable MA	C Filter	_	_	_			
Enable	MAC Filte	r					
lf enabl	ed, only Tr	usted Clie	nts can co	nnect to this Acc	ess Point.		
Trusted Cli	ient List	_	_	_	_	_	_
			_				
				Delete			
					-		
Add Truste	ed Client I	MAC Addr	ess	Add			
(Example:	00-19-D2-4	D-B5-CE)			-		
						Apply	Cancel
						Арріу	Cancer

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 <u>WiFi Clients</u> (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 <u>Using the Master Reset Button</u> (page 82).]

NOVATEL WIRELE	nternet Router	System IIII	Network Operator	HSDPA Co	onnected	
MAC Filte		System Hulu				
Enable MAC		_	_	_	_	-
	T Mer					
= 🏹 Enable N	/IAC Filter					
If enable	d, only Trusted Clie	nts can connect t	o this Access Poin	t.		
		_	_	_	_	
Trusted Clie	nt List					_
			-1-4-			
J		U	elete			
		855				
Add Trusted	CHERLINAC AUG					
Add Trusted			Add N			

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



You can copy and paste your computer's MAC address from the WiFi Clients section of the WiFi Status page. [See <u>WiFi Clients</u> (page 36).]

- If desired, type the MAC address for other computers into the Add Trusted Client MAC Address box and click **Add**.
- **G** 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

• Choose WiFi > WiFi Settings from the menu bar.

The WiFi Settings page will open.

NOVATE	EL WIREL	ESS.						Help Logout
Home	WiFi	Internet	Router	System	■ III Network Operator	HSDPA	Connected	
WiF	i Sett	ings						
Wi	Fi Acce	ss Point						
	Broadc	ast Netwo	rk Name (SSID)				- 1
	WiFi Io	g enable						_
							Арріу	Cancel

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 reenable 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 <u>page</u> <u>35</u>].

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**.

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

0 Choose Internet from the menu bar.

NOVATEL WIRELESS.			Help Logout
MiFi Home Page WiFi	Internet Router System	Network Operator HSDPA	Connected
Home	Internet Status		
nome	Internet Profiles		
Internet Connection	SIM		
Received:	Internet Diagnostics	IP Address:	32,177,47,13
Transmitted:	Internet Settings	Mask:	255.255.255.255
Connected Time:	00.17.24		



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. ٠
- 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.

VOVATEL V	WIRELESS					Help Lo <u>c</u>
	ViFi Internet	Router	System	∎000 Netw	ork Operator HSDPA	Connected
Intern	net Status					
Intern	et Connection					
Connee Networ Techno Roamin Profile	ology ng		Network	Connected Coperator HSDPA Network Profile 1	Received Transmitted Connected Time	100.90 KB 57.33 KB 00:01:32 Disconnect
TCP/IF	P				_	
IP Add Subne Gatew DNS	et Mask					10.57.57.202 255.255.255.255 10.57.57.202 10.205.65.68
Traffic	c Counters				_	
Start D Total o Data F	connection time Received Fransmitted					07/08/2009 12:03:45pm 00:01:32 100.00 KB 22.14 MB 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.

NOVATI	EL WIREL	ESS.						Help Logout
Home	WiFi	Internet	Router	System	■∎00 Network Operator	HSDPA	Connected	
Inte	ernet	Profile	S					
Se	t Interne	et Profile						
Pro	ofile			W	orld Operator	•	Edit Internet	Profile
AP	N			IS	P.WORLD			
Us	ername			IS	P@WORLD.COM			
Au	thenticat	tion Type		PA	NΡ			
							Apply	Cancel

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.

-								Help Logout
NOVA	TEL WIRELESS.							
Home	WiFi Internet	Router	System	∎a000 N	etwork Operator	HSDPA	Connected	
Int	ernet Profile	5						
E	dit Internet Profile				_		_	
P	rofile Name	Worl	d Operator			Return	to Profile List	
A	PN							
U	Isername							
P	assword							
A	uthentication Type	None)	•				
							Арріу	Cancel

- 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
- **O** Click **Apply**.
- **6** 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.

IOVATEL	WIRELESS.						
ome	WiFi Internet	t Router	System	∎000 Network C	perator HSDPA	Connected	0
SIM							
SIM		_	_				
The	current PIN mu	st be provide	ed in order t	to modify the SIM.			
Curre	ent PIN						
• I	Lock SIM						
• (Unlock SIM						
•	Set new PIN						
		_	_		_		
						Apply	Cancel

SIM Page



O Choose **Unlock SIM** and click **Apply**.

– OR –

2 Choose **Set new PIN**.

PIN entry boxes will appear on the page.

Set new PIN	
Verify New PIN	

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.

	Help Log	out
NOVATEL WIRELESS.		
Home WiFi Internet Router System	Ind Network Operator HSDPA Connected	
Internet Diagnostics		
3G Modem		2
Manufacturer	Novatel Wireless	
Model	MiFi 2352	P
Modem Firmware Version	5.15.00.0-00 [2009-06-26 10:24:29]	R
IMEI	001018000203696	R
Internet Diagnostics		
		P
	Modem Status	
	Modem Event Log	P
	woden Event Eog	

Internet Diagnostics Page Sections

This page contains two sections.

3G Modem

Manufacturer Novatel Wireless	Modem	
N	nufacturer	Novatel Wireless
Model MiFi 2352	del	MiFi 2352
Modem Firmware Version 5.15.00.0-00 [2009-06-26 10:24:29]	dem Firmware Version	5.15.00.0-00 [2009-06-26 10:24:29]
IMEI 001018000203696	El	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.

Internet Diagnostics	
Battery Level: 4	Modem Status
Battery Charging: 0	Modem Event Log

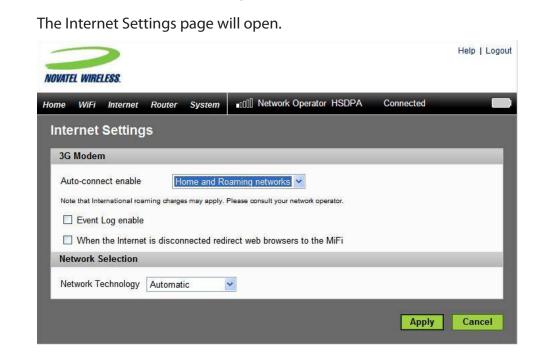
Click Modem Event Log to view the Event Log. The Event Log must be enabled before it is available here. [See Internet Settings Page (page 55).]

Internet Diagnostics	
Modem Log> Log start01/08/1980 04:13:01pm GMT	Modem Status
05/04/09 11:22:20am> Current Time	Modem Event Log

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.

Internet Settings Page

This page contains two sections.

<u>3G Modem</u>

3G Modem	
Auto-connect enable	Home and Roaming networks
Note that International roamin	g charges may apply. Please consult your network operator.
Event Log enable	
When the Internet is	disconnected redirect web browsers to the MiFi

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

Network Selection	_			
Network Technology	Automatic	~		

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**.

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
 - <u>TCP/IP</u>
 - Router Settings

Router Menu

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

NOVATEL WIRELESS.					Help) Logout
MiFi Home Page WiFi Internet	Router System	∎000 Netwo	rk Operator	HSDPA	Connected	
Internet Settings	Port Filtering Port Forwarding					
3G Modem	TCP/IP					
Auto-connect enable	Router Settings					

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.

			Help Logout
NOVATEL WIRELESS.			
Home WiFi Internet Router System	n Network Operator HSDPA	Connected	
Port Filtering			
Enable Port Filtering			
Enable Port Filtering			
If enabled, only traffic from Allowed	Applications can access the Internet.		
Allowed Applications		_	
DNS (Domain Name Server)			
FTP			
E-mail (POP3)			
E-mail (IMAP)			
VPN			
Telnet			
□ RTP			
Custom Applications			
		Apply	Cancel

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:

- Open the page.
- **2** Select the **Enable Port Filtering** checkbox.
- **6** Select the check boxes for the applications you want to allow access to the Internet.
- **G** 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.
- **O** Click **Custom Applications**.

The Custom Applications page will open.

Custom Port Filtering		Help
Custom Applications		
1.	Ports >>	
2.	Ports >>	
3.	Ports >>	
4.	Ports >>	
5.	Ports >>	
6.	Ports >>	
	Apply	Cancel



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

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

USTOM Port Filtering Custom Applications	
1.	Ports for Application 1
2.	TCP/UDP 💌 << Hide
3.	~ TCP/UDP V
4.	~ TCP/UDP V
5.	~ TCP/UDP V
6.	
	Apply Cancel

S 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.
- Click Hide.
- 8 Click **Apply** on the Custom Port Filtering page.
- 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.

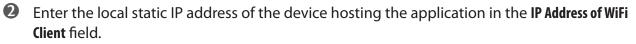
	Help Logout
NOVATEL WIRELESS.	
Home WiFi Internet Router System	Image:
Port Forwarding	
Port Forwarding Applications	
Application	IP Address of WiFi Client
DNS (Domain Name Server)	
FTP Server	
HTTP (Web) Server	
NNTP Server	
POP3 Server	
SMTP Server	
SNMP Server	
☐ Telnet Server	
TFTP Server	
	Apply Cancel

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.



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.

-		>						Help Logout
Home	el Wire Wifi	LESS. Internet	Router	System	Network Operator	HSDPA	Connected	
	P/IP			oyotom				
TC	P/IP						_	
IP	Address	3			192.168.1.1			
Su	bnet Ma	isk			255.255.255.0			
MA	AC Addr	ess			00:13:E0:E8:20:FD			
DH	ICP Add	lress Rang	е		192.168.1.2 - 192.3	168.1.10		_
							Apply	Cancel

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.

			Help Logout
NOVATEL WIRELESS.	∎0000 Network Operator HSDPA	Connected	(1111)
Home WiFi Internet Router System Router Settings		Connected	
Router			
DHCP Server enable			
VPN Passthrough enable			_
		Apply	Cancel

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**.

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

The section contains the following information:

- System Menu
 - <u>System Status</u>
 - <u>Backup/Restore</u>
 - File Sharing
 - Power Management
 - <u>Password</u>
 - <u>System Settings</u>

System Menu

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

NOVATEL WIRELESS.			Help Logout
MiFi Home Page WiFi Internet Router	System I. III Network Operato	or HSDPA	Connected
Home	System Status		
nome	Backup/Restore		
Internet Connection	File Sharing		
Received:	Power Management		166,129,246,133
Transmitted:	Password		255.255.255.255
Connected Time:	System Settings		



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.

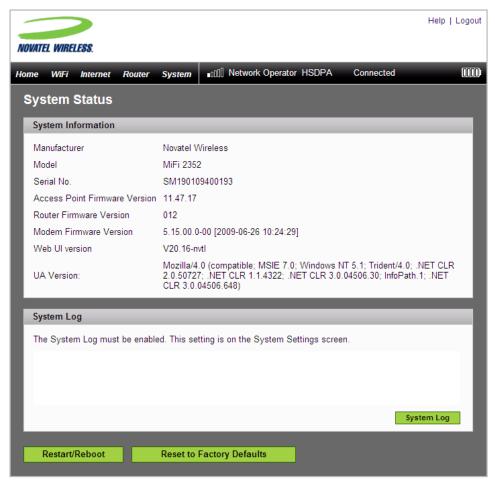
System Status

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.



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)

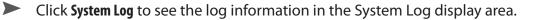
The System Information section provides information about MiFi. This information includes the following:

- 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



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



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.

NOVATEL WIRELESS.		Help Logout
Home WiFi Internet Router System	∎0000 Network Operator HSDPA	Connected (111)
Backup/Restore		
Backup Config File		
Backup (Download) the configuration file to	o your PC.	
		Backup
Restore Config File		
Restore (Upload) a configuration file from y	your PC.	
File	Browse	
		Restore

Backup/Restore Page

This page contains two sections.

Backup Config File

Backup Config File	
Backup (Download) the configuration file to your PC.	
	Backup

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:



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

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.



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.

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

Restore Config File

Restore Config File	
Restore (Upload) a configuration file from your PC.	Browse
	Restore

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

To restore the configuration file:

Windows:

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

Mac:

- Click Choose File.
- **2** Locate the file on your hard drive and click **Choose**.
- **6** 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.

									Help Logout
NOVAT	EL WIRE	LESS.							
Home	WiFi	Internet	Router	System	. 0000	Network Operator	HSDPA	Connected	
File	e Sha	ring							
Fil	e Shari	ng	_	_			_		
	Enable	e microSD	File Sharir	ıg					
	micro	SD Files							
Fi	es to sh	are S	pecified To	p-level Fol	der	•			
Ad	cess Ty	rpe R	ead/Write			•			
								Apply	Cancel

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.



- Prom the "Files to share" list, choose whether to share the Entire SD Card or a Specified Toplevel Folder.
- If you choose the Specified Top-level Folder option, enter the folder path in the box.
- G From the Access Type list, choose whether others should have Read only or Read and Write access to the files.
- **6** 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.

NOVATEL WIRELESS.	MiFi		
/mmc2 Free space remain	ning: 20736 KB		
🔁 Up 🎽 New Folder 🌛 U	Jpload File 🗙 Delete Selected Ite	ms	
🔲 🚞 .Trashes			
🔲 🚞 My Photos			
🔲 🚞 My music			
🔲 🚞 My videos			
DS_Store		7 KB	07/14/2005 11:26:32 am
🔲 🗋 AUTORUN.INF		1 KB	10/16/2008 11:34:04 am
MINFODB.DAT		1 KB	07/14/2005 02:15:06 pm
🔲 🗋 sal.xls.exe		50 KB	10/16/2008 11:33:58 am

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.

NOVAT	TEL WIREL	ESS.							Help Logout
Home	WiFi	Internet	Router	System	. 0000	Network Operato	r HSDPA	Connected	
Po	wer M	lanage	ment						
Ba	attery Po	wer							
SI	hutdown		A	After 30 min	utes id	lle time 💌			
								Арріу	Cancel

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.

NOVAT	TEL WIRE	LESS.					Help Logout
Home	WiFi	Internet	Router	System	∎000 Network Operator HSD	PA Connected	
Pa	sswo	rd					
Se	et Admir	nistration F	Password				
Ci	urrent Pa	issword					
N	ew Pass	word (4 ~ 6	4 characte	ers)		(4 ~ 64 characters)	
V	erify New	Password					
						Apply	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.

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.

NOVAT	el Wire	LESS.									Help Logout
Home	WiFi	Internet	Router	System	∎o000 M	Vetwork (Operato	HSDPA	Conr	ected	
Sys	stem	Setting	s								
Sy	stem										_
	Syster	n log enabl	e								
La	nguage			English			•				
Da	ite/Time	Format		Europe	(dd/mm	/уууу)	•	24 hr 💌			
									[Apply	Cancel

System Settings Page

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

- 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.

- If desired, select the checkbox to turn on the System log.
- **O** 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 (<u>http://www.mifi</u>).
 - 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.

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 <u>Using the</u> <u>Master Reset Button</u> (page 82).]

l cannot connect to MiFi.

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

If the LEDs are not on, check your battery.

- 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.
- **G** 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 reseat 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 <u>WiFi Mode Setup</u> (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 (<u>http://www.mifi</u>). 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 (<u>http://www.mifi</u>).
 - 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 (<u>http://www.mifi</u>). 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 <u>SIM</u> (page 52).]

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

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

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 <u>System Status</u> (page 66).]

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

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

How can I check the battery level of MiFi?

Open the MiFi Login Home page (<u>http://www.mifi</u>). 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 <u>Backup/Restore</u> (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 (<u>http://www.mifi</u>). 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 <u>WiFi Status</u> (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.

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

Locate the master reset button on the back of the device next to the label.

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.



Make sure the MiFi is powered on.



Make sure the Millin's powered on.



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.

Connect to MiFi again and reconfigure it. You will have to enter your APN and other information again. [See <u>WiFi Mode Setup</u> (page 7).]

5

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

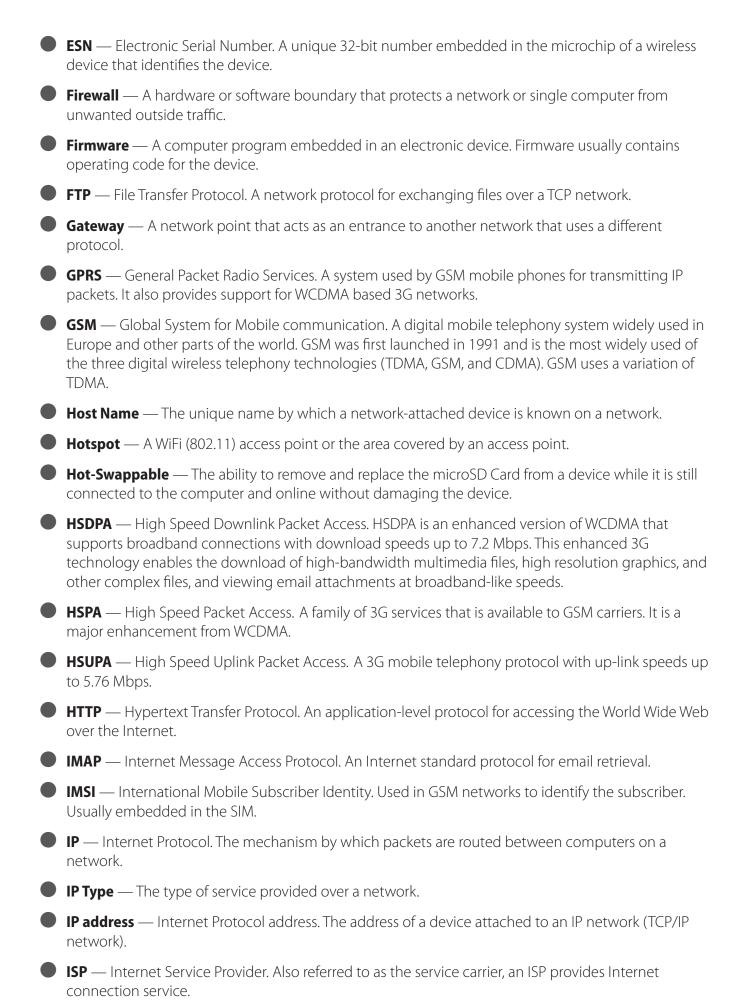
3G — Third Generation. 3G refers to the third generation of mobile telephony technology. The evolution of 3G technology is as follows:

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.



- **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 internetwork 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.

