NETGEAR

Mobile Broadband 11n Wireless Router MBR1310

User Manual

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San Jose, CA 95134
USA

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Technical Support

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Revision History

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Table of Contents

Chapter 5 Security

Chapter 6 Managing Your Network

Chapter 7 Advanced Settings

Connecting to the Internet

1

This chapter describes how to configure your NETGEAR Mobile Broadband 11n Wireless Router MBR1310 Internet connection. For help with installation, see the *Mobile Broadband 11n Wireless Router MBR1310 Installation Guide.*

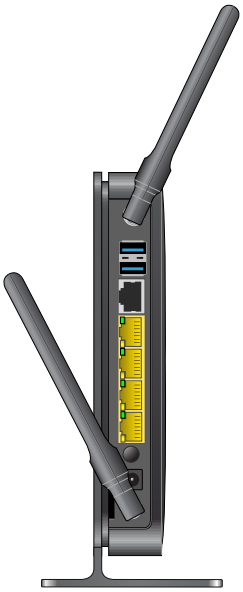
This chapter includes the following sections:

> ***Note:*** For more information about the topics covered in this manual, visit the support website at *http://support.netgear.com*.

Hardware Features

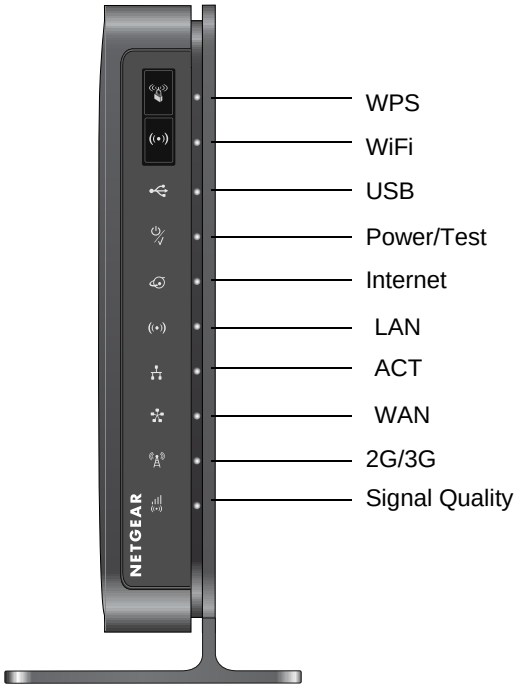
This section acquaints you with the physical aspects of your Mobile Broadband 11n Wireless Router.

Orient the Antennas



Router Front Panel

The router front panel shown in the following figure contains control buttons and status LEDs.



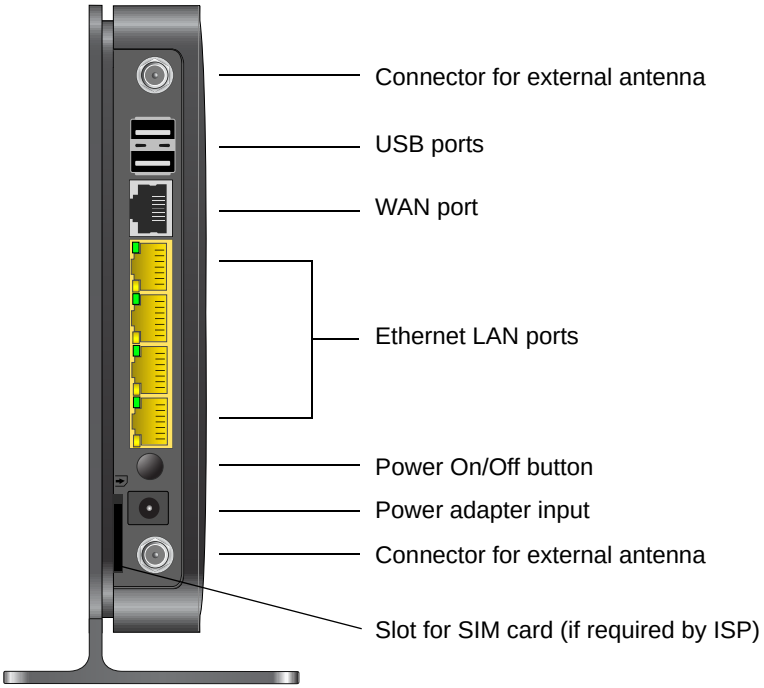
You can use the LEDs to verify status and connections. The following table lists and describes each LED and button on the front panel of the router.

Button/LED	Activity	Description
WPS	Press this button to open a 2-minute window for the router to connect with other WPS-enabled devices. For more information about using the WPS method to implement security, see *Use Push 'N' Connect (WPS) to Configure Your Wireless Network* on page 29.	
WiFi	**T**urn the mobile broadband and WiFi radios in the router on and off. Use the user interface to select whether the mobile broadband radio or the WiFi radio or both radios will be controlled by this button. The default is the WiFi radio only. Both radios are on by default.	
USB	Solid green	A USB port has detected a USB device.
	Blinking green	Data is being transmitted or received.
	Off	No link is detected on these ports.

Button/LED	Activity	Description
Power/Test 	Solid green	The router is powered on and operating normally.
	Solid amber	POST (power-on self-test) in progress.
	Off	Power is not supplied to the router.
	Restore Factory Settings button	Press the Restore Factory Settings button for 6 seconds. The Power LED lights briefly. When the button is released, the LED blinks red three times and then turns green as the router resets to the factory defaults.
Internet 	Solid green	There is an Internet session.
	Solid red	There is no Internet connection.
	Blinking green	Data is being transmitted over the Internet connection.
	Blinking green and red	Traffic meter limit has been reached.
	Off	No Internet connection detected or device in bridge mode.
WiFi 	Solid blue	The WiFi local port is initialized.
	Blinking blue	Data is being transmitted or received over the WiFi link.
	Off	The wireless access point is turned off.
ACT 	Solid green	The local Ethernet ports have detected wired links with computers.
	Blinking	Data is being transmitted or received.
	Off	No link is detected on these ports.
WAN 	Solid green	The Ethernet WAN port has detected an active link.
	Blinking	Data is being transmitted or received.
	Off	No link is detected on this port.
2G/3G 	Solid blue	The router is in 3G+ coverage.
	Solid green	The router is in 2G coverage.
	Off	No mobile broadband coverage is detected.
Signal Quality 	Solid blue	Excellent mobile broadband coverage detected.
	Solid green	Good mobile broadband coverage detected.
	Solid amber	Marginal mobile broadband coverage detected.
	Off	No mobile broadband coverage detected.

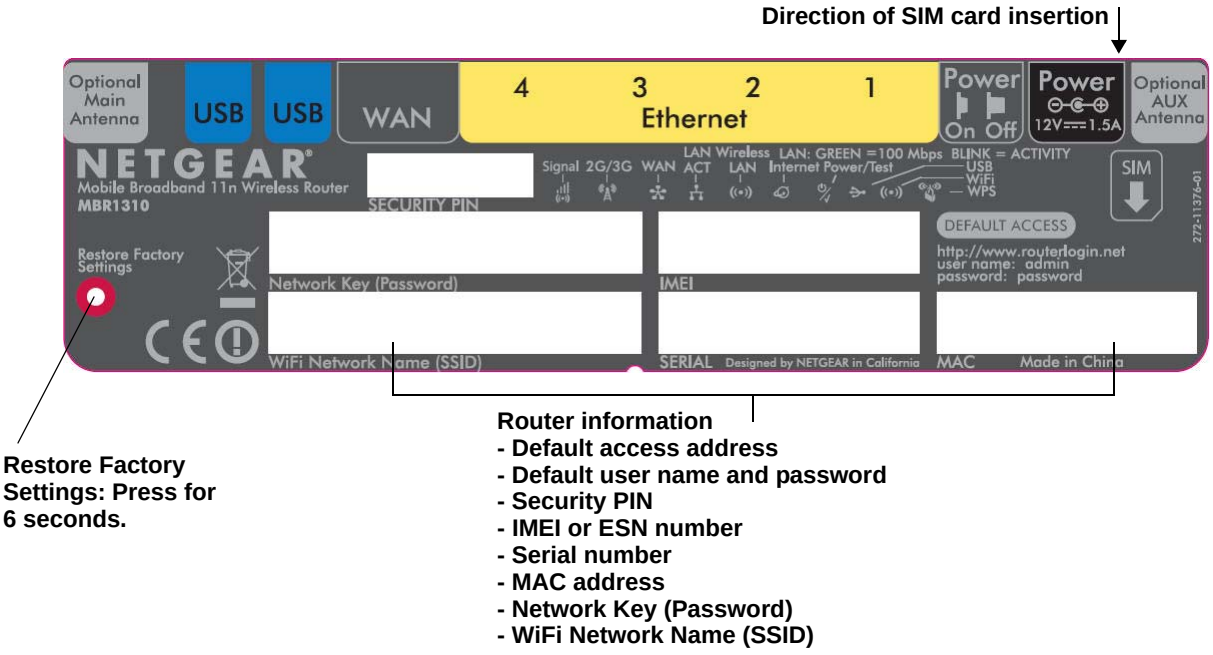
Router Back Panel

The back panel of the router contains port connections.



Router Label

The label on the left side of the router shows the router's MAC address, serial number, security PIN, IMEI or ESN number, and factory default login information.



Log In to Your Router

When you first connect to your router during installation, a Setup Wizard displays. For help using the Setup Wizard to configure your Internet and wireless network, see the *Mobile Broadband 11n Wireless Router MBR1310 Installation Guide*.

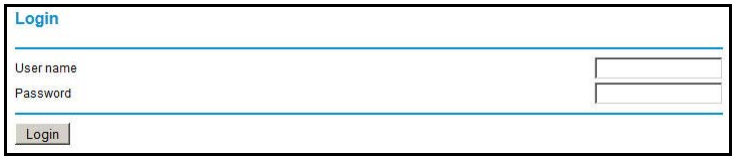
After the initial configuration, you can use your web browser to log in to the router to view or change its settings. Links to Knowledge Base and documentation are also available on the router main menu.

> ***Note:*** Your computer needs to be configured for DHCP. For help with configuring DHCP, check the documentation that came with your computer.

When you have logged in, if you do not click **Logout**, the router waits 5 minutes after no activity before it automatically logs you out.

➢ **To log in to the router:**

1. Type **http://www.routerlogin.net** in the address field of your browser, and then press **Enter**. A login window displays:



2. Enter **admin** for the user name and your password (or the default, **password**). For information about how to change the password, see *Change the Built-In Password* on page 63.

> ***Note:*** If you changed your password and do not remember what it is, you can restore the router to its factory settings. See *Factory Default Settings* on page 95.

3. If the router has not been configured, the Smart Wizard screen displays. After the router has been configured, one of the following screens displays:
   - **Firmware Upgrade Assistant screen**. After initial setup, the Firmware Upgrade Assistant screen displays unless the Check for Updated Firmware Upon Log-in check box is cleared.

Note: You can disable this automatic checking and updating feature during future logins by clearing the **Check for Updated Firmware Upon Log-in** check box, but NETGEAR recommends that you keep this feature enabled to ensure your router is using the latest updated firmware.

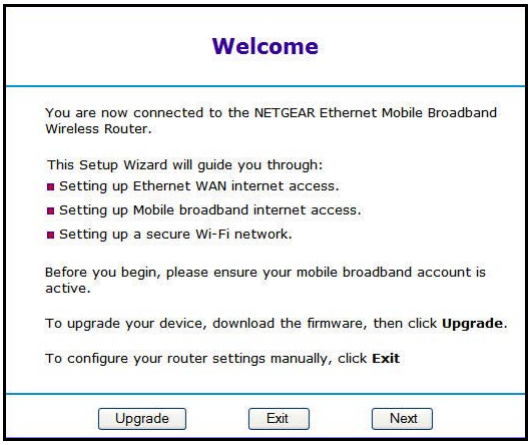
- **Router Status screen**. The Router Status screen displays the current router connection status. See *Router Status* on page 57.

4. You can use different methods to configure your router.
   - Select **Setup Wizard from the router menu to set up your Internet connection and wireless network configuration**. See *Access the Setup Wizard after Installation* on page 14.
   - You can manually configure the router settings. See *Manually Configure Your Internet Settings* on page 15.

Access the Setup Wizard after Installation

➢ **To configure the Setup Wizard:**

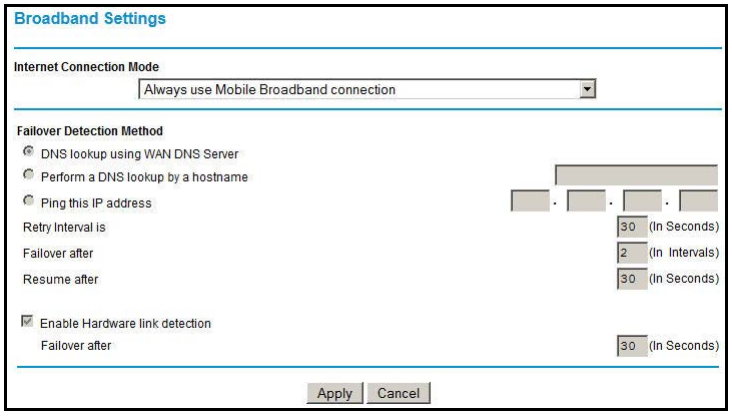
1. Log in to the router as described in *Log In to Your Router* on page 12. The Configuration Assistant opens.



2. Click **Next**.

   The Configuration Assistant prompts you to set up your Internet connection and wireless network as described in the *Mobile Broadband 11n Wireless Router MBR1310 Installation Guide*.

   a. Select your Internet connection mode:
      - Use Ethernet first and if fail use mobile broadband connection
      - Always use mobile broadband connection
      - Always use Ethernet connection



   b. Click **Next**.
   c. Select your country and then your Internet service provider.
   d. Click **Done**.

Manually Configure Your Internet Settings

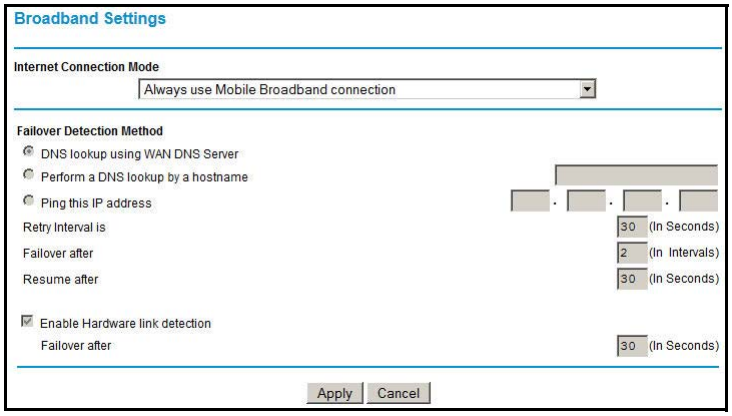
For you to connect to the network, an active broadband service account is required. Contact your ISP for your user name, password, and the network name. You have to also configure some or all of the settings described in the following sections, depending on how you have chosen to connect to the Internet:

- *Broadband Settings* on page 15
- *Mobile Broadband Settings* on page 16 (not required if using Ethernet connection only)
- *Ethernet Broadband Settings* on page 18 (not required if using mobile broadband connection only)

Broadband Settings

➢ **To manually configure your broadband Internet settings:**

1. Log in to the router as described in *Log In to Your Router* on page 12.
2. From the main menu, select **Broadband Settings**.



3. Adjust the settings as needed based on your Internet connection. The fields in this screen are described in the following table.

Fields and Check Boxes	Description
Internet Connection Mode	The choices are: • Use Ethernet first and if fail use mobile broadband connection • Always use mobile broadband connection • Always use Ethernet connection
Failover Detection Method[1]	Select the failover method and enter the related information: • DNS lookup using WAN DNS Server • Perform a DNS lookup by a hostname • Ping this IP address
Retry Interval is[1]	Enter the retry interval.

Fields and Check Boxes	Description
Failover after[1]	Enter how many retry attempts to make before failing over.
Resume after[1]	Enter how long to wait for the primary link to be stable before resuming use of the primary link.
Enable Hardware link detection	Enter when to fail over when the Ethernet link is dropped. This is independent of the DNS / Ping detection methods.

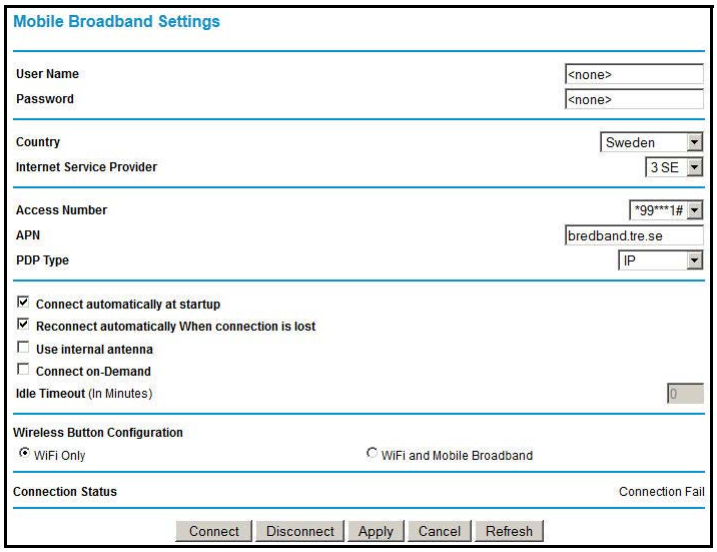
1. This field is available only when the Internet Connection Mode is Use Ethernet first and if fail use 3G mobile connection.

4. The following buttons are available:
   - **Apply**. Apply the changes that you made.
   - **Cancel**. Discard changes.

Mobile Broadband Settings

➢ **To manually configure your mobile broadband Internet settings:**

1. Log in to the router as described in *Log In to Your Router* on page 12.
2. From the main menu, select **Mobile Broadband Settings**.



3. Adjust the settings as needed based on your Internet connection. The fields in this screen are described in the following table.

Fields and Check Boxes	Description
User Name	Internet account login user name.
Password	Internet account password for authentication.
Country	Select your country from the drop-down list.

Fields and Check Boxes	Description
Internet Service Provider	Select your Internet service provider from the drop-down list.
Access Number	The remote site's phone number.
APN	Access point name.
PDP type	Select the type of packet data protocol: • **IP** • **PDP-IP** • **PPP** • **PPP-IP**
Connect automatically at startup	When this check box is selected, the modem automatically connects to the network when powered up. This should be selected after login information is provided.
Reconnect automatically when connection is lost	When this check box is selected, the modem attempts to reconnect to the network when the connection is lost. Under normal situations, this setting should be selected.
Use internal antenna	If this check box is selected, the router uses the internal antenna rather than the external antenna.
Wireless Button Configuration	Select the option to determine the behavior of the WPS button on the front panel when it is pressed. • **WiFi Only**. Pressing the push button toggles the WiFi function. If WiFi is turned on, pressing the push button turns off the WiFi. Pressing it again turns on the WiFi. This function is available only if the WiFi function is enabled. The wireless broadband function is unaffected. • **WiFi and Mobile Broadband**. Pressing the push button toggles both the WiFi function and wireless broadband at the same time. If WiFi is turned on, pressing the button turns off the WiFi. At the same time, the wireless broadband connection is disconnected. If you press the button again, WiFi is turned on and the router attempts to reestablish the wireless broadband connection. Depending on the coverage, wireless broadband coverage might or might not be connected successfully.
Connection status	Current WAN port status.

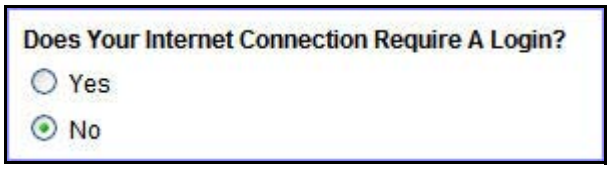
4. The following buttons are available:
   - **Connect**. Manually connect to the network.
   - **Disconnect**. Disconnect from the current network.
   - **Apply**. Apply the changes that you made.
   - **Cancel**. Discard changes.
   - **Refresh**. Update the connection status.

Ethernet Broadband Settings

➢ **To manually configure your Ethernet Broadband Internet settings:**

1. Log in to the router as described in *Log In to Your Router* on page 12.
2. From the main menu, select **Ethernet Broadband Settings**.

   The following question displays at the top of the screen: Does Your Internet Connection Require A Login?



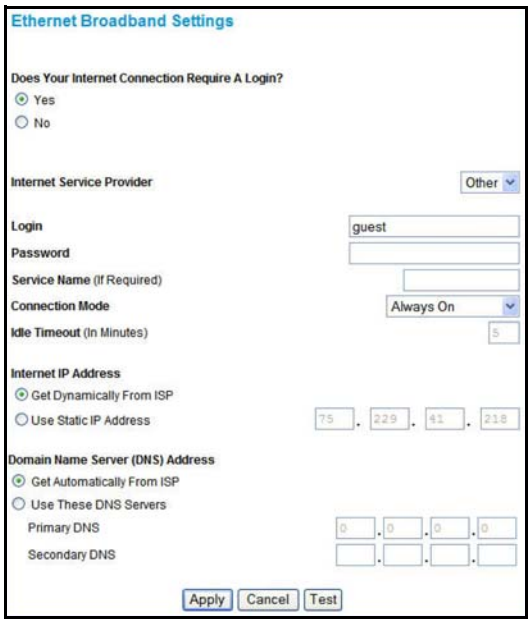
   Select the option based on the type of account you have with your ISP.

   - If you need to enter login information every time you connect to the Internet or you have a PPPoE account with your ISP, select **Yes**.
   - Otherwise, select **No**.

   Then fill out the appropriate screen (see *Login required* on page 19 or *Login not required* on page 21).

Note: If you have installed PPP software such as WinPoET (from Earthlink) or Enternet (from PacBell), then you have PPPoE. Select **Yes**. After selecting Yes and configuring your router, you do not need to run the PPP software on your computer to connect to the Internet.

- Login required



Adjust the settings as needed based on your Internet connection. The fields in this screen are described in *Table 1*.

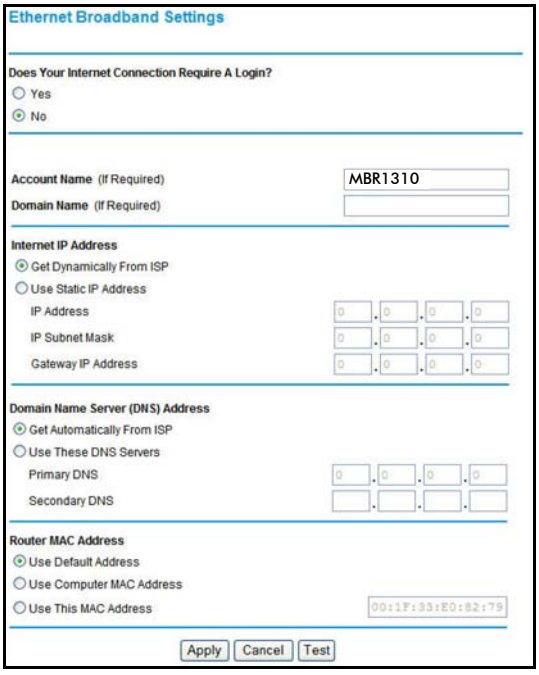
Table 1. Ethernet broadband settings fields when login required

Fields and Check Boxes	Description
Internet Service Provider	Select the service provided by your ISP. • Other (PPPoE) is the most common. • PPTP is used in Austria and other European countries. • Telstra BigPond is for Australia only.
Login	This is usually the name that you use in your email address. For example, if your main mail account is JerAB@ISP.com, then put JerAB in this field. Some ISPs (such as Mindspring, Earthlink, and T-DSL) require that you use your full email address when you log in. If your ISP requires your full email address, then type it in the Login field.
Password	Type the password that you use to log in to your ISP.
Service Name (If Required)	If your ISP provided a service name, enter it here. Otherwise, this can be left blank.

Table 1. Ethernet broadband settings fields when login required (continued)

Fields and Check Boxes	Description
Connection Mode	Set the connection mode to **Dial on Demand**, **Always On**, or **Manually Connect**. • With the default setting, Dial on Demand, a PPPoE connection automatically starts when there is outbound traffic to the Internet, and it is automatically terminated if the connection is idle based on the value in the Idle Timeout field. • When the connection mode is set to Always On, the PPPoE connection automatically starts when the computer boots up, but the connection does not time out. The router keeps trying to bring up the connection if it is disconnected for some reason. • If you select Manually Connect, you need to go to the Router Status screen and click the **Connect** button to connect to the Internet. The manual connection does not time out, and you have to click the **Disconnect** button on the Router Status screen to disconnect it.
Idle Timeout (In Minutes)	An idle Internet connection is terminated after this time period. If this value is zero (0), then the router keeps the connection alive by reconnecting immediately whenever the connection is lost.
Internet IP Address	If you log in to your service or your ISP did not provide you with a fixed IP address, the router finds an IP address for you automatically when you connect. Select **Get Dynamically from ISP**. If you have a fixed (static, permanent) IP address, your ISP has provided you with an IP address. Select **Use Static IP Address** and type in the IP address.
Domain Name Server (DNS) Address	The DNS server is used to look up site addresses based on their names. • If your ISP gave you one or two DNS addresses, select **Use These DNS Servers** and type the primary and secondary addresses. • Otherwise, select **Get Automatically From ISP**. **Note**: If you get “Address not found” errors when you go to a website, it is likely that your DNS servers are not set up correctly. You should contact your ISP to get DNS server addresses.

- Login not required



Adjust the settings as needed based on your Internet connection. The fields in this screen are described in *Table 2*.

Table 2. Ethernet Broadband Settings Fields When Login Not Required

Fields and Check Boxes	Description
Account Name (If Required)	This is also known as the host name or system name. For most users, type your account name or user name in this field. For example, if your main mail account is JerAB@ISP.com, then put JerAB in this field. If your ISP has given you a specific host name, then type it (for example, CCA7324-A).
Domain Name (If Required)	For most users, you can leave this field blank, unless required by your ISP. You can type the domain name of your ISP. For example, if your ISP's mail server is mail.xxx.yyy.zzz, you would type xxx.yyy.zzz as the domain name. If you have a domain name given to you by your ISP, type it in this field. (For example, Earthlink Cable might require a host name of home, and Comcast sometimes supplies a domain name.) If you have a cable modem, this is usually the workgroup name.

Table 2. Ethernet Broadband Settings Fields When Login Not Required (continued)

Fields and Check Boxes	Description
Internet IP Address	If you log in to your service or your ISP did not provide you with a fixed IP address, the router finds an IP address for you automatically when you connect. Select **Get Dynamically From ISP**. If you have a fixed (or static IP) address, your ISP has provided you with the required information. Select **Use Static IP Address** and type the IP address, subnet mask and gateway IP address into the correct fields. For example: • **IP Address**. 24.218.156.183 • **Subnet Mask**. 255.255.255.0 • **Gateway IP Address**. 24.218.156.1
Domain Name Server (DNS) Address	The DNS server is used to look up site addresses based on their names. • If your ISP gave you one or two DNS addresses, select **Use These DNS Servers** and type the primary and secondary addresses. • Otherwise, select **Get Automatically From ISP**. **Note**: If you get "Address not found" errors when you go to a website, it is likely that your DNS servers are not set up correctly. You should contact your ISP to get DNS server addresses.
Router MAC Address	Your computer's local address is its unique address on your network. This is also referred to as the computer's MAC (Media Access Control) address. • Usually, select **Use Default MAC Address**. • If your ISP requires MAC authentication, then select either **Use Computer MAC Address** to disguise the router's MAC address with the computer's own MAC address, or **Use This MAC Address** to manually type the MAC address for a different computer. The format for the MAC address is XX:XX:XX:XX:XX:XX. This value might be changed if **Use Computer MAC Address** is selected once a value has already been set in the **Use This MAC Address** selection.

3. The following buttons are available:

- **Apply**. Apply the changes that you made.
- **Cancel**. Discard changes.
- **Test**. Connect to the NETGEAR website. If you connect successfully, your settings work, and you can click **Logout** to exit these screens.

Wireless Network Configuration

2

For a wireless connection, the SSID, also called the wireless network name, and the wireless security settings have to be the same for the router and wireless computers or wireless adapters. NETGEAR strongly recommends that you use wireless security.

This chapter includes the following sections:

> ***Note:*** Computers can connect wirelessly at a range of several hundred feet. If you do not use wireless security, this can allow others outside your immediate area to access your network.

Plan Your Wireless Network

For compliance and compatibility between similar products in your area, the operating channel and region have to be set correctly.

To configure the wireless network, you can either specify the wireless settings, or you can use Wi-Fi Protected Setup (WPS) to automatically set the SSID and implement WPA/WPA2 security.

- To manually configure the wireless settings, you need to know the following:
  - SSID. The default SSID for the router is NETGEAR-3G.
  - The wireless mode (80.211n, 802.11g, or 802.11b) that each wireless adapter supports.
  - Wireless security option. To successfully implement wireless security, check each wireless adapter to determine which wireless security option it supports.

  See *Manually Configure Your Wireless Settings* on page 26.
- Push 'N' Connect (WPS) implements WPA/WPA2 wireless security on the router and your wireless computer or device at the same time. The wireless computer or device needs to be compatible with WPS.

  See *Use Push 'N' Connect (WPS) to Configure Your Wireless Network* on page 29.

Wireless Placement and Range Guidelines

The range of your wireless connection can vary significantly based on the physical placement of the router. The latency, data throughput performance, and notebook power consumption of wireless adapters also vary depending on your configuration choices.

For best results, place your router according to the following guidelines:

- Near the center of the area in which your computers will operate.
- In an elevated location such as a high shelf where the wirelessly connected computers have line-of-sight access (even if through walls).
- Away from sources of interference, such as computers, microwave ovens, and 2.4 GHz cordless phones (see *Interference Reduction Table* on page 98).
- Away from large metal surfaces.
- Put the antenna in a vertical position to provide the best side-to-side coverage. Put the antenna in a horizontal position to provide the best up-and-down coverage.
- If using multiple access points, it is better if adjacent access points use different radio frequency channels to reduce interference. The recommended channel spacing between adjacent access points is 5 channels (for example, use Channels 1 and 6, or 6 and 11).

The time it takes to establish a wireless connection can vary depending on both your security settings and placement. WEP connections can take slightly longer to establish. Also, WEP encryption can consume more battery power on a notebook computer.

Wireless Security Options

Indoors, computers can connect over 802.11n wireless networks at a maximum range of up to 300 feet. Such distances can allow for others outside your immediate area to access your network.

Unlike wired network data, your wireless data transmissions can extend beyond your walls and can be received by anyone with a compatible adapter. For this reason, use the security features of your wireless equipment. The Mobile Broadband 11n Wireless Router provides highly effective security features, which are covered in detail in this chapter. Deploy the security features appropriate to your needs.

There are several ways you can enhance the security of your wireless network:

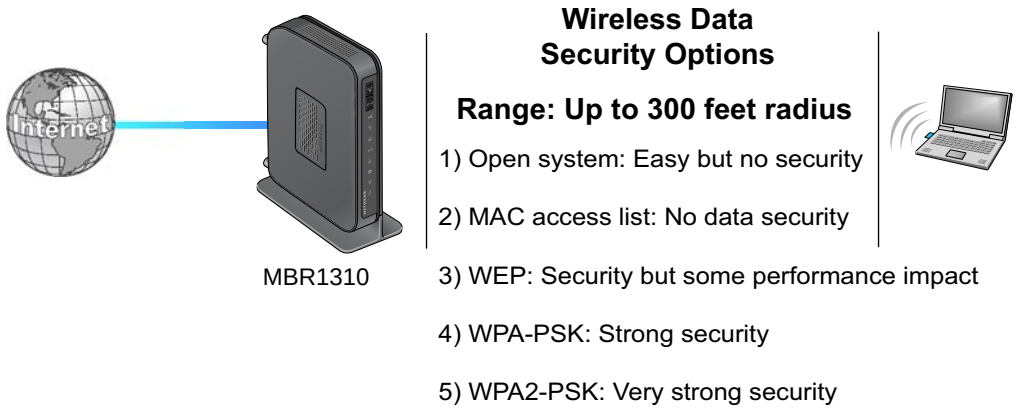


Figure 1. Wireless security

- **Restrict access based on MAC address**. You can allow only trusted computers to connect so that unknown computers cannot wirelessly connect to the router. Restricting access by MAC address adds an obstacle against unwanted access to your network, but the data broadcast over the wireless link is fully exposed.
- **Turn off the broadcast of the wireless network name (SSID)**. If you disable broadcast of the SSID, only devices that have the correct SSID can connect. This nullifies wireless network “discovery” feature of some products, such as Windows XP, but the data is still exposed.
- **WEP**. Wired Equivalent Privacy (WEP) data encryption provides data security. WEP Shared Key authentication and WEP data encryption block all but the most determined eavesdropper. This data encryption mode has been superseded by WPA-PSK and WPA2-PSK.
- **WPA-PSK (TKIP), WPA2-PSK (AES)**. Wi-Fi Protected Access (WPA) using a pre-shared key to perform authentication and generate the initial data encryption keys. The very strong authentication along with dynamic per frame re-keying of WPA makes it virtually impossible to compromise.

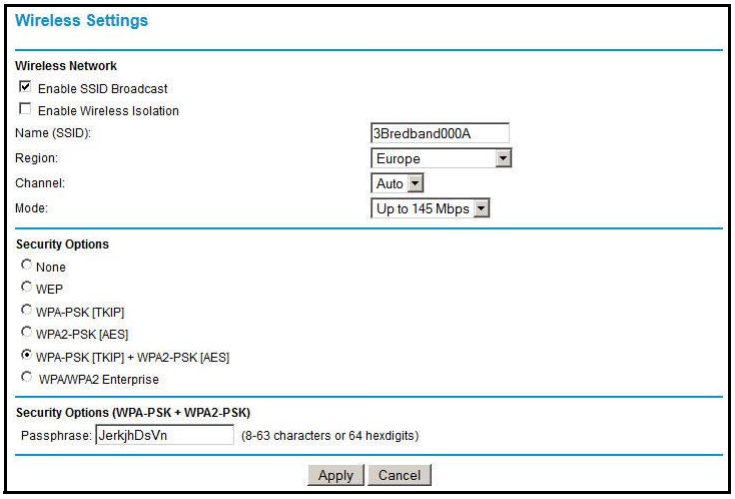
Manually Configure Your Wireless Settings

> ***Note:*** If you use a wireless computer to change the wireless network name (SSID) or wireless security, you will be disconnected when you click **Apply**. To avoid this problem, connect your computer to the router with an Ethernet cable while you are making changes.

➢ **To view or manually configure the wireless settings:**

1. Log in to the router as described in *Log In to Your Router* on page 12.
2. From the main menu, select **Wireless Settings**.

   The settings for this screen are explained in the table following the procedure.
3. Select the region in which the router will operate.
4. For initial configuration and test, leave the other settings unchanged.
5. To save your changes, click **Apply**.
6. Configure and test your computers for wireless connectivity.



Set up your wireless computers with the same SSID and wireless security settings as your router. Check that they have a wireless link and are able to obtain an IP address by DHCP from the router. If there is interference, adjust the channel.

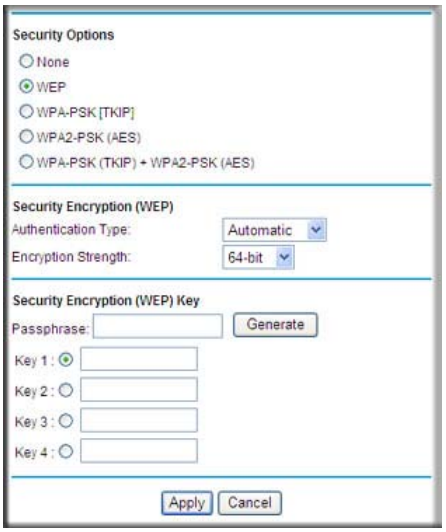
Settings		Description
Wireless Network	Enable SSID Broadcast	This setting allows the wireless modem router to broadcast its SSID so wireless stations can see this wireless name (SSID) in their scanned network lists. This check box is selected by default. To turn off the SSID broadcast, clear the Allow Broadcast of Name (SSID) check box.
	Enable Wireless Isolation	When this check box is selected, wireless clients (computers or wireless devices) that join the network can use the Internet, but cannot access each other or access Ethernet devices on the network.
	Name (SSID)	The SSID is also known as the wireless network name. Enter a 32-character (maximum) name in this field. This field is case-sensitive. When there is more than one wireless network, SSIDs provide a means for separating the traffic. To join a network, a wireless computer or device has to use the SSID.
	Region	The location where the router is used.
	Channel	The wireless channel used by the gateway. The default is **Auto**. Do not change the channel unless you experience interference (shown by lost connections or slow data transfers). If this happens, you might need to try different channels to see which works best.
	Mode	The default is **Up to 145 Mbps**.
Security Options	None	You can use this setting to establish wireless connectivity before implementing wireless security. NETGEAR strongly recommends that you implement wireless security.
	WEP	Use encryption keys and data encryption for data security. You can select 64-bit or 128-bit encryption. See *Configure WEP* on page 28.
	WPA-PSK (TKIP)	Allow only computers configured with WPA to connect to the router. See *Configure WPA, WPA2, or WPA + WPA2* on page 29.
	WPA2-PSK (AES)	Allow only computers configured with WPA2 to connect to the router. See *Configure WPA, WPA2, or WPA + WPA2* on page 29.
	WPA-PSK (TKIP) + WPA2-PSK (AES)	Allow computers configured with either WPA-PSK or WPA2-PSK security to connect to the router. See *Configure WPA, WPA2, or WPA + WPA2* on page 29.
	WPA/WPA2 Enterprise	Allow computers configured with either WPA or WPA2 security to connect to the router. See *Configure WPA, WPA2, or WPA + WPA2* on page 29.

Configure WEP

> ***Note:*** If you use a wireless computer to configure wireless security settings, you will be disconnected when you click Apply. Reconfigure your wireless computer to match the new settings, or access the router from a wired computer to make further changes.

➢ **To configure WEP data encryption:**

1. Log in to the router as described in *Log In to Your Router* on page 12.
2. From the main menu, select **Wireless Settings** to display the Wireless Settings screen.
3. In the Security Options section, select the **WEP** (Wired Equivalent Privacy) radio button:



4. Select the **Authentication Type setting**: **Automatic**, **Open System**, or **Shared Key**. The default is **Open System**.

   > ***Note:*** *The authentication is separate from the data encryption. You can select authentication that requires a shared key, but still leaves data transmissions unencrypted. Security is stronger if you use both the Shared Key and WEP encryption settings.*

5. Select the Encryption Strength setting:
   - **64-bit**. Use 10 hexadecimal digits (any combination of 0–9, a–f, or A–F).
   - **128-bit**. Use 26 hexadecimal digits (any combination of 0–9, a–f, or A–F).
6. Enter the encryption keys. You can manually or automatically program the four data encryption keys. These values have to be identical on all computers and access points in your network:
   - **Passphrase**. To use a passphrase to generate the keys, enter a passphrase, and click **Generate**. This automatically creates the keys. Wireless stations have to use the passphrase or keys to access the router.

   > ***Note:*** Not all wireless adapters support passphrase key generation.

   - **Key 1**–**Key4**. These values are *not* case-sensitive. You can manually enter the four data encryption keys. These values have to be identical on all computers and access points in your network. Enter 10 hexadecimal digits (any combination of 0–9, a–f, or A–F).

7. Select which of the four keys will be the default.

   Data transmissions are always encrypted using the default key. The other keys can be used only to decrypt received data. The four entries are disabled if WPA-PSK or WPA authentication is selected.

8. Click **Apply** to save your settings.

Configure WPA, WPA2, or WPA + WPA2

Both WPA and WPA2 provide strong data security. WPA with TKIP is a software implementation that can be used on Windows systems with Service Pack 2 or later; WPA2 with AES is a hardware implementation; see your device documentation before implementing it. Consult the product documentation for your wireless adapter for instructions for configuring WPA settings.

> ***Note:*** If you use a wireless computer to configure wireless security settings, you will be disconnected when you click Apply. If this happens, reconfigure your wireless computer to match the new settings, or access the router from a wired computer to make further changes.

➢ **To configure WPA or WPA2 in the router:**

1. Log in to the router as described in *Log In to Your Router* on page 12.
2. From the main menu, select **Wireless Settings**.
3. On the Wireless Setting screen, select the radio button for the WPA or WPA2 option of your choice.
4. For WPA-PSK or WPA2-PSK, enter the passphrase.
5. To save your settings, click **Apply**.

Use Push 'N' Connect (WPS) to Configure Your Wireless Network

For you to use Push 'N' Connect, your wireless computers or devices have to support Wi-Fi Protected Setup (WPS). Compatible equipment usually has the  WPS symbol on it. WPS can configure the network name (SSID) and set up WPA/WPA2 wireless security for the router and the wireless computer or device at the same time.

Here are some considerations regarding WPS:

- NETGEAR’s Push 'N' Connect feature is based on the WPS standard. All other Wi-Fi-certified and WPS-capable products should be compatible with NETGEAR products that implement Push 'N' Connect.

- If your wireless network will include a combination of WPS-capable devices and non-WPS-capable devices, NETGEAR suggests that you set up your wireless network and security settings manually first, and use WPS only for adding WPS-capable devices.

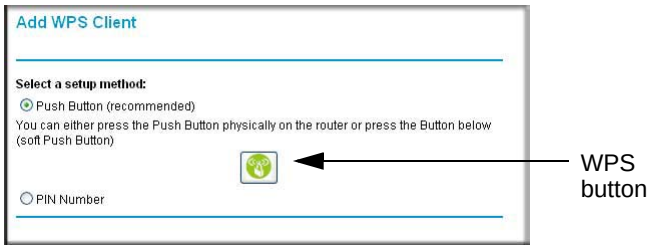
WPS Button

Any wireless computer or wireless adapter that will connect to the router wirelessly is a client. The client has to support a WPS button, and has to have a WPS configuration utility, such as the NETGEAR Smart Wizard or Atheros Jumpstart.

➢ **To use the router WPS button to add a WPS client:**

1. Log in to the router as described in *Log In to Your Router* on page 12.
2. On the router main menu, select **Add WPS Client**, and then click **Next**.

   By default, the **Push Button (recommended)** radio button is selected.

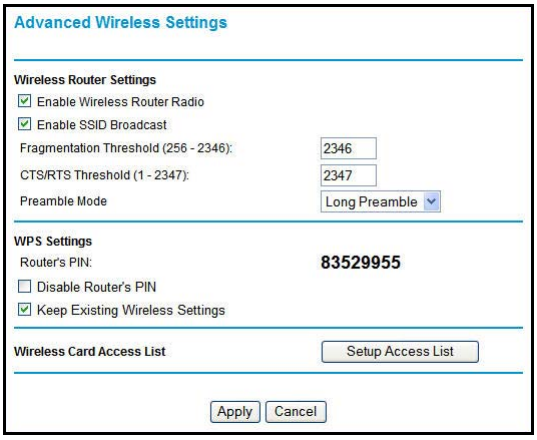


3. Either click the onscreen button or press the **WPS** button on the front of the router.

   The router tries to communicate with the client (the computer that wants to join the network) for 2 minutes.

4. Go to the client wireless computer, and run a WPS configuration utility. Follow the utility's instructions to click a **WPS** button.
5. Go back to the router screen to check for a message.

   The router WPS screen displays a message confirming that the client was added to the wireless network. The router generates an SSID, and implements WPA/WPA2 wireless security. The router will keep these wireless settings unless you change them, or you clear the **Keep Existing Wireless Settings** check box in the Advanced Wireless Settings screen, WPS Settings section.



6. Note the new SSID and WPA/WPA2 password for the wireless network. You can view these settings in the Wireless Settings screen. See *Manually Configure Your Wireless Settings* on page 26.

To access the Internet from any computer connected to your router, launch a browser such as Microsoft Internet Explorer or Mozilla Firefox. You should see the router's Internet LED blink, indicating communication to the ISP.

Note: If no WPS-capable client devices are located during the 2-minute time frame, the SSID does not change, and no security is set up.

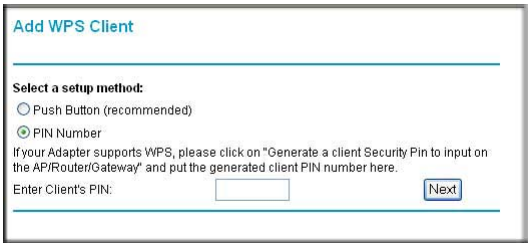
WPS PIN Entry

Any wireless computer or device that will connect to the router wirelessly is a client. The client has to support a WPS PIN, and has to have a WPS configuration utility, such as the NETGEAR Smart Wizard or Atheros Jumpstart.

The first time you add a WPS client, make sure that the **Keep Existing Wireless Settings** check box on the WPS Settings screen is cleared. This is the default setting for the router, and allows it to generate the SSID and WPA/WPA2 security settings when it implements WPS. After WPS is implemented, the router automatically selects this check box so that your SSID and wireless security settings stay the same if other WPS devices are added later.

➢ **To use a PIN to add a WPS client:**

1. Log in to the router as described in *Log In to Your Router* on page 12.
2. On the router main menu, select **Add WPS Client** (computers that will connect wirelessly to the router are clients), and then click **Next**. The Add WPS Client screen displays.



3. Select the **PIN Number** radio button.
4. Go to the client wireless computer. Run a WPS configuration utility. Follow the utility's instructions to generate a PIN. Take note of the client PIN.
5. In the router Add WPS Client screen, enter the client PIN number, and then click **Next**.
   - The router tries to communicate with the client for 4 minutes. If no WPS clients connect during this time, the router wireless settings do not change.
   - The router WPS screen confirms that the client was added to the wireless network. The router generates an SSID and implements WPA/WPA2 wireless security.
6. Note the new SSID and WPA/WPA2 password for the wireless network. You can view these settings in the Wireless Settings screen. See *Manually Configure Your Wireless Settings* on page 26.

To access the Internet from any computer connected to your router, launch an Internet browser such as Mozilla Firefox. You should see the router's Internet LED blink.

Add Wireless Computers That Do Not Support WPS

If you set up your network with WPS, and now you want to add a computer that does not support WPS, you have to manually configure that computer. For information about how to view the wireless settings for the router, see *Manually Configure Your Wireless Settings* on page 26.

Because WPA randomly creates the SSID and WPA/WPA2 keys, they might be difficult to type or remember (that is one reason why the network is so secure). You can change the wireless settings so that they are easier for you to remember. If you do that, then you will need to set up the WPS-compatible computers again.

> ***Note:*** Making these changes will cause all wireless computers to be disconnected from network. You will then have to set them up with the new wireless settings.

➢ **To change wireless settings for the network:**

1. Use an Ethernet cable to connect a computer to the router. That way you will not get disconnected when you change the wireless settings.
2. Log in to the router and select **Wireless Settings** (see *Manually Configure Your Wireless Settings* on page 26).
3. Make the following changes:
   - Change the wireless network name (SSID) to a meaningful name.
   - On the WPA/PSK + WPA2/PSK screen, select a passphrase.
   - Make sure that the **Keep Wireless Settings** check box is selected in the WPS Settings screen so that your new settings will not be erased if you use WPS.
4. Click **Apply** so that your changes take effect. Write down your settings.

   All existing wireless clients are disassociated and disconnected from the router.
5. For the non-WPS devices that you want to connect, open the networking utility and follow the utility's instructions to enter the security settings that you selected in Step 3 (the SSID, WPA/PSK + WPA2/PSK security method, and passphrase).
6. For the WPS devices that you want to connect, follow the procedure in *WPS Button* on page 30 or *WPS PIN Entry* on page 31.

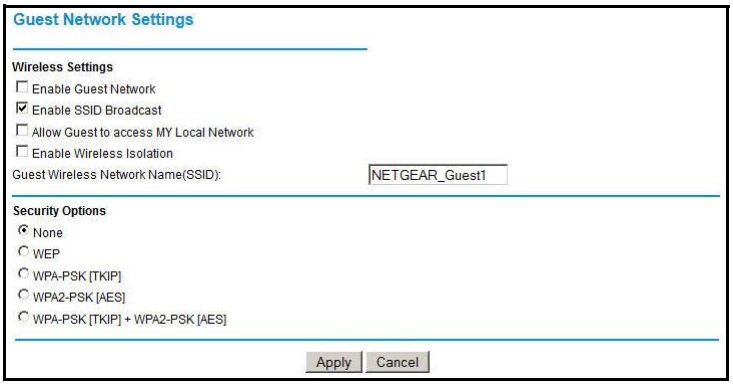
   The settings that you configured in Step 3 are broadcast to the WPS devices so that they can connect to the router.

Wireless Guest Network

A wireless guest network allows you to provide guests access to your wireless network without prior authorization of each individual guest. You can a configure wireless guest network and specify the security options for your guest network.

➢ **To set up a wireless guest network:**

1. Select **Setup > Guest Network**.



2. You can specify whether the SSID broadcast is enabled and whether you want to allow guests to access your local network. You can also change the SSID.
   - NETGEAR strongly recommends that you change the SSID to a different name. Note that the SSID is case-sensitive. For example, GuestNetwork is not the same as Guestnetwork.
   - For guest networks, wireless security is disabled by default. NETGEAR strongly recommends that you implement wireless security for the guest network.
3. Select a security option for the guest network, and specify the password.
4. When you have finished making changes, click **Apply**.

SMS Messages

3

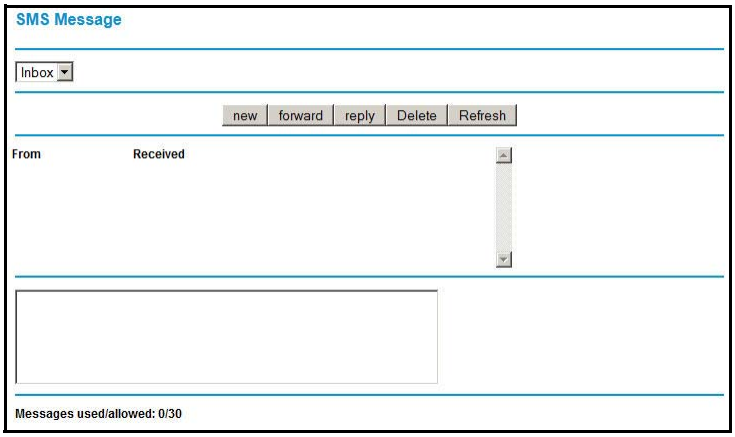
The NETGEAR Mobile Broadband 11n Wireless Router MBR1310 provides menus to configure and use the Short Message Service (SMS). The SMS menus enable you to perform the tasks that are explained in the following sections:

- *Send SMS Messages*
- *View SMS Messages*

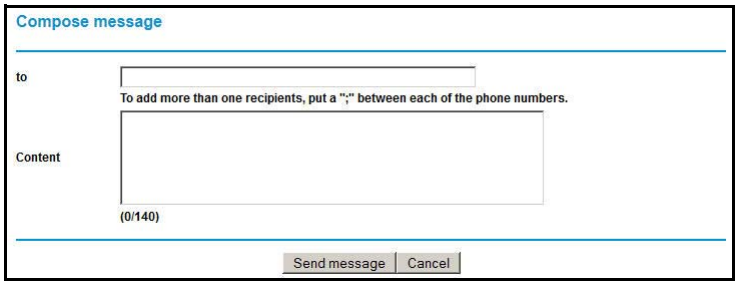
Send SMS Messages

➢ **To send SMS messages:**

1. On the main menu under Advanced, select **SMS**, and then select **Inbox** from the drop-down list to display the following screen:



2. Click **new**, and the following screen displays.

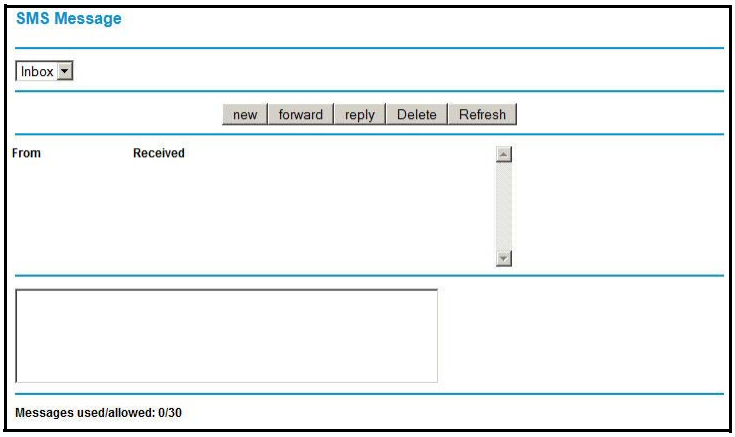


3. Enter the To and Content information.
4. Click **Send message**.

View SMS Messages

➢ **To view new SMS messages:**

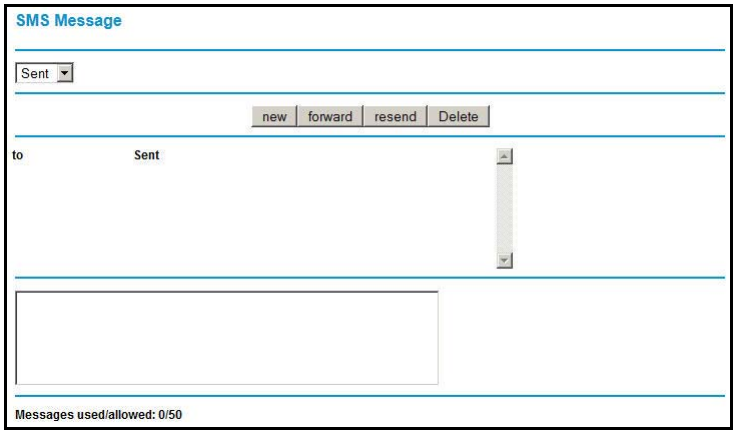
1. On the main menu under Advanced, select **SMS**, and then select **Inbox** from the drop-down list to display the following screen:



2. Select the desired message.

➢ **To view sent SMS messages:**

1. On the main menu under Advanced, select **SMS**, and then select **Sent** from the drop-down list to display the following screen:

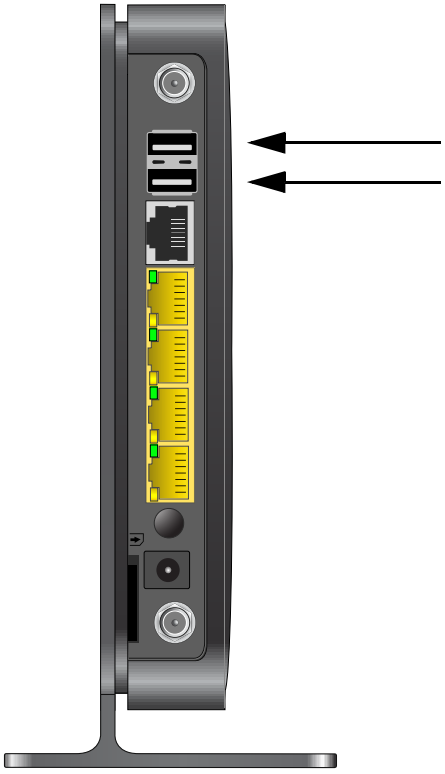


2. Select the desired message.

USB Storage

4

This chapter describes how to access and configure the USB storage drives attached to your router.



Note: The USB ports on the router can be used only to connect USB storage devices like flash drives or hard drives. Do not connect computers, USB modems, printers, CD drives, or DVD drives to the USB ports.

Note: Because the USB port on the router is used for connecting the broadband mobile modem cable, you are not able to use the USB port for both a ReadyShare storage and a broadband mobile Internet connection at the same time even when using a USB hub to fan out the USB port.

This chapter includes the following sections:

USB Drive Requirements

The router works with 1.0 and 1.1 (USB full speed) and 2.0 (USB high speed) standards. The approximate USB bus speeds are shown in the following table.

Bus	Speed/Second
USB 1.1	12 Mbits
USB 2.0	480 Mbits

Actual bus speeds can vary, depending on the CPU speed, memory, speed of the network, and other variables. The router should work with USB 2.0-compliant or 1.1-compliant external flash and hard drives. For the most up-to-date list of USB drives supported by the router, go to *http://kb.netgear.com/app/answers/detail/a_id/12345*.

When selecting a USB device, bear in mind the following:

- The USB port on the router can be used with one USB hard drive at a time. Do not attempt to use a USB hub attached to the USB port.
- According to the USB 2.0 specification, the maximum available power is 5V at 0.5A. Some USB devices might exceed this requirement, in which case the device might not function or might function erratically. Check the documentation for your USB device to be sure.
- The router supports FAT, FAT32, NTFS, and Linux file systems.

File-Sharing Scenarios

You can share files on the USB drive for a wide variety of business and recreational purposes. The files can be any Windows, Mac, or Linux file type including text files, Word, PowerPoint, Excel, MP3, pictures, and multimedia. USB drive applications include:

- Sharing multimedia with friends and family. You can share MP3 files, pictures, and other multimedia with local and remote users.
- Sharing resources on your network. Store files in a central location so that you do not have to power up a computer to perform local sharing. In addition, you can share files between Macintosh, Linux, and Windows computers by using the USB drive as a go-between.
- Sharing files with offsite coworkers. Share files such as Word documents, PowerPoint presentations, and text files with remote users.

A few common uses are described in the following sections.

Share Photos with Friends and Family

You can create your own central storage location for photos and multimedia. This eliminates the need to log in to (and pay for) an external photo-sharing site.

➢ **To share files with your friends and family:**

1. Insert your USB drive into the USB port on the router either directly or with a USB cable.

   Computers on your local area network (LAN) can access this USB drive using a web browser or Microsoft Networking.

2. If you want to specify read-only access, or to allow access from the Internet, see *Configure USB Storage Advanced Settings* on page 42.

Store Files in a Central Location for Printing

This scenario is for a family that has one high-quality color printer directly attached to a computer, but not shared on the local area network (LAN). This family does not have a print server:

- The family's color printer is directly attached to the mother's computer.
- The daughter has some photos on her Macintosh computer that she wants to print.
- Their computers are not visible to each other on the network.

➢ **To print her photos on the color printer:**

1. The daughter types **\\readyshare** in the address field of her web browser.

   This gives her access to the USB drive in the router.

2. She copies the photos from the Mac to the router USB drive.

3. The mother uses a web browser or Microsoft Networking to transfer the files from the USB drive to her computer. Then she prints the files.

Share Large Files with Colleagues

Sending files larger than 5 MB can pose a problem for many email systems. The router allows you to share very large files such as PowerPoint presentations or .zip files with colleagues at another site. Rather than tying up their mail systems with large files, your colleagues can use FTP to easily download shared files from the router.

➢ **To share files with a remote colleague:**

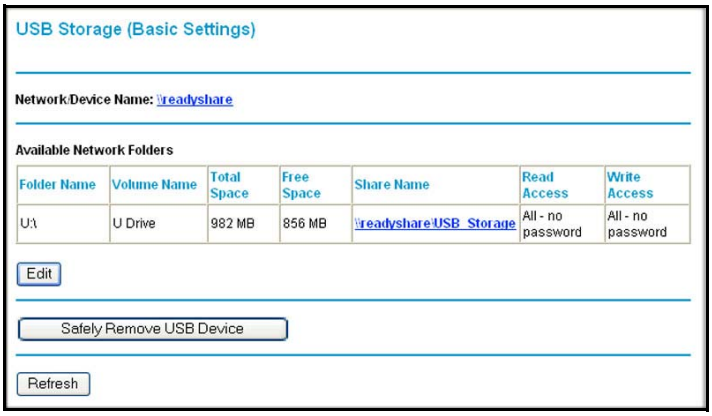
1. To protect your network, set up security. Create a user name and password for the colleague with appropriate access.
2. If you want to limit USB drive access to read-only access, from the router USB Storage (Basic Settings) screen, click **Edit a Network folder**. In the **Write Access** field, select **admin**, and then click **Apply**.

> ***Note:*** The password for admin is the same one that you use to access the router. By default it is **password**.

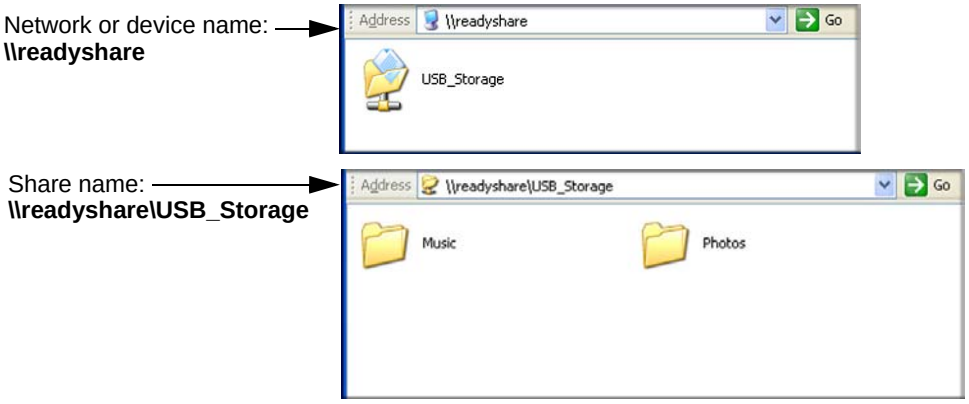
3. Enable **FTP via Internet** in the USB Storage (Advanced Settings) screen. See *Configure USB Storage Advanced Settings* on page 42.

USB Storage Basic Settings

You can view or edit basic settings for the USB storage device attached to your router. On the main menu under USB, select **Basic Settings**. The following screen displays:



By default, the USB storage device is available to all computers on your local area network (LAN). To access your USB device from this screen, you can click the **network or device name** or the **share name**.



You can also type **\\readyshare** in the address field of your web browser. If you logged in to the router before you connected your USB device, you might not see your USB device in the router screens until you log out and then log in again.

Table 3. USB Storage (Basic Settings)

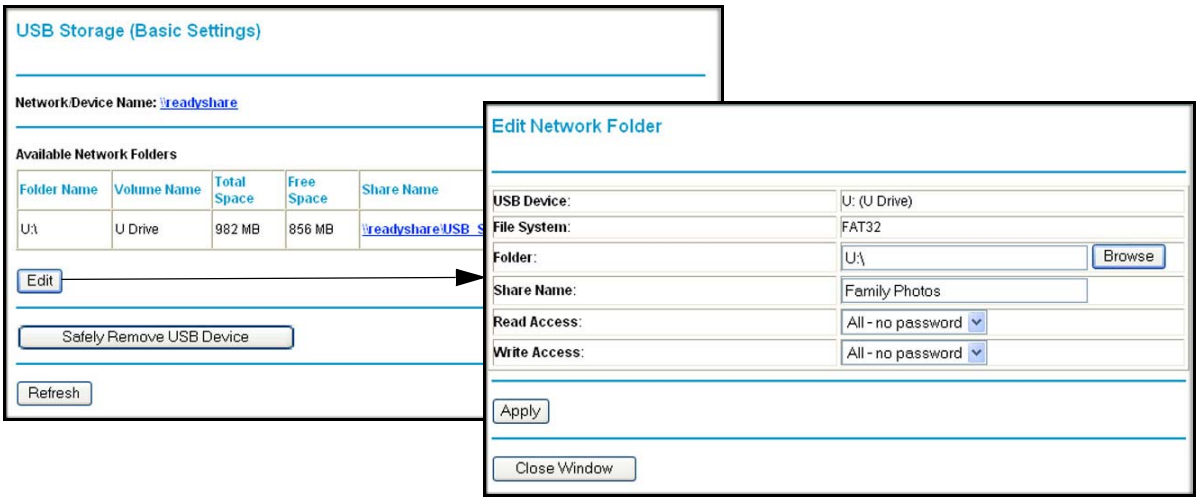
Fields and Buttons	Description
Network Device Name	The default is \\readyshare. This is the name used to access the USB device connected to the router.

Table 3. USB Storage (Basic Settings) (continued)

Fields and Buttons		Description
Available Network Folders	Folder Name	Full path of the used by the network folder.
	Volume name	Volume name from the storage device (either USB drive or HDD).
	Total and Free Space	Shows the current utilization of the storage device.
	Share Name	• You can click the name shown, or you can type it in the address field of your web browser. • If Not Shared is shown, then the default share has been deleted, and no other share for the root folder exists. Click the link to change this setting.
	Read and Write Access	Shows the network folder permissions and access controls. • **All-no password** allows all users to access the network folder. • **admin** uses the same password that you use to log in to the router main menu.
Edit button		You can click the **Edit** button to edit the Available Network Folders settings. See *Edit a Network Folder* on page 41.
Safely Remove USB Device button		Click to safely remove the USB device attached to your router. See *Unmount a USB Drive* on page 44.

Edit a Network Folder

This process is the same from either the USB Storage (Basic Settings) screen or the USB Storage (Advanced Settings) screen. Click the **Edit** button to open the Edit Network Folder screen:

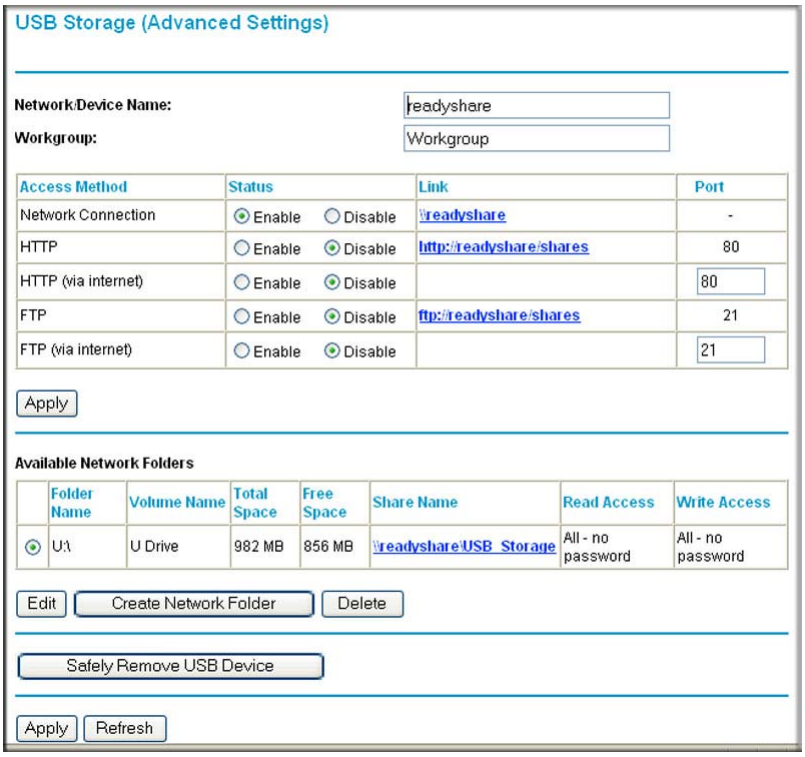


You can use this screen to select a folder, to change the **share name**, or to change **read access** or **write access** from **All-no password** to **admin**. The password for **admin** is the same one that is used to log in to the router main menu. By default it is **password**.

Note: You need to click **Apply** for your changes to take effect.

Configure USB Storage Advanced Settings

To configure advanced USB settings, from the router menu, under USB, select **Advanced Settings**. The USB Storage (Advanced Settings) screen displays:



You can use this screen to specify access to the USB storage device. The following table explains the fields and buttons in the USB Storage (Advanced Settings) screen.

Table 4. USB Storage (Advanced Settings)

Fields	Description
Network Device Name	The default is readyshare. This is the name used to access the USB device connected to the router from your computer.
Workgroup	If you are using a Windows workgroup rather than a domain, the workgroup name is displayed here.

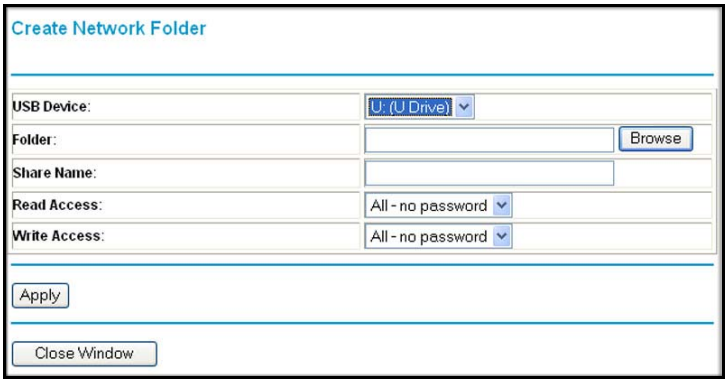
Table 4. USB Storage (Advanced Settings) (continued)

Fields		Description
Access Method	Network Connection	Enabled by default, this allows all users on the LAN to have access to the USB drive.
	HTTP	Disabled by default. If you enable this setting, you can type **http://readyshare** to access the USB drive.
	HTTP (via Internet)	Disabled by default. If you enable this setting, remote users can type **http://readyshare** to access the USB drive over the Internet.
	FTP	Disabled by default.
	FTP (via Internet)	Disabled by default. If you enable this setting, remote users can access the USB drive through FTP over the Internet.
Available Network Folders	Folder Name	Full path of the network folder.
	Volume name	Volume name from the storage device (either USB drive or HDD).
	Total and Free Space	The current utilization of the storage device.
	Share Name	• You can click the name shown, or you can type it into the address field of your web browser. • If Not Shared is shown, then the default share has been deleted, and no other share for the root folder exists. Click the link to change this setting.
	Read and Write Access	Shows the permissions and access controls on the network folder. • **All-no password** allows all users to access the network folder. • **admin** prompts you to enter the same password that you use to log in to the router main menu.

Create a Network Folder

➢ **To create a network folder:**

1. From the USB Storage (Advanced Settings) screen, click the **Create Network Folder** button to open the Create Network Folder screen:



2. Create a folder.
   - You can specify the folder's **share name and change the read access** and **write access** from **All-no password** to **admin**.
   - The password for **admin** is the same one that is used to log in to the router main menu. By default it is **password**.
3. Click **Apply** so that your changes take effect.

Unmount a USB Drive

WARNING:

Unmount the USB drive first before physically unplugging it from the router. If the USB disk is removed or a cable is pulled while data is being written to the disk, it could result in file or disk corruption.

To unmount a USB disk drive so that no users can access it, from the USB Settings screen, click the **Safely Remove USB** button. This takes the drive offline.

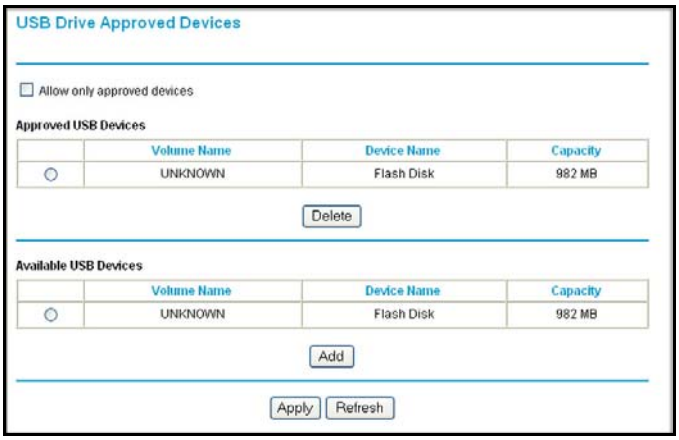
Specify Approved USB Devices

You can specify which USB devices are approved for use when connected to the router.

➢ **To specify approved USB devices:**

1. On the router main menu, under Advanced, select **USB Settings**.

2. Click **Approved Devices**.



3. On the USB Drive Approved Devices screen, select the USB device from the **Available USB Devices** list.
4. Click **Add**.
5. Select the **Allow only approved devices** check box.
6. Click **Apply** so that your change takes effect.

If you want to approve another USB device, you need to first click the **Safely Remove USB Device** button to unmount the currently connected USB device. Connect the other USB device, and then repeat this process.

Connect to the USB Drive from a Remote Computer

To connect to the USB drive from remote computers using a web browser, you need to use the router's Internet port IP address.

Locate the Internet Port IP Address

➢ **To view the Internet port IP address:**

1. Log in to the router.
2. In the main menu under Maintenance, select **Router Status**.
3. Record the IP address that is listed for the Internet port. This is the IP address you can use to connect to the router remotely.

Access the Router's USB Drive Remotely Using FTP

➢ **To connect to the router's USB drive using a web browser:**

1. Connect to the router by typing **ftp://** and the Internet port IP address in the address field of Internet Explorer or Netscape Navigator, for example, **ftp://10.1.65.4**. If you are using Dynamic DNS, you can type the DNS name rather than the IP address.
2. Type the account name and password that provide access rights to the USB drive.

3. The directories of the USB drive that your account has access to display, for example, share/partition1/directory1. You can now read and copy files from the USB directory.

Connect to the USB Drive with Microsoft Network Settings

You can access the USB drive from local computers on your home or office network using Microsoft network settings. You need to be running Microsoft Windows 2000, XP, or older versions of Windows with Microsoft Networking enabled. You can use normal Explorer operations such as dragging and dropping, opening files, or cutting and pasting files from:

- Microsoft Windows Start menu, Run option
- Windows Explorer
- Network Neighborhood or My Network Place

Enable File and Printer Sharing

Each computer's network properties need to be set to enable network communication with the USB drive. File and Printer Sharing for Microsoft Networking needs to be enabled, as described in the following sections.

> ***Note:*** In Windows 2000 and Windows XP, File and Printer Sharing is enabled by default.

Configure Windows 98SE and Windows ME

The easiest way to get to your network properties is to go to your desktop, right-click **Network Neighborhood**, and then select **Properties**. File and Printer Sharing for Microsoft Windows should be listed. If it is not, click **Add**, and follow the installation prompts.

> ***Note:*** If you have any questions about File and Printer Sharing, contact Microsoft for assistance.

Configure Windows 2000 and Windows XP

Right-click the network connection for your local area network. File and Printer Sharing for Microsoft Windows should be listed. If it is not, click **Install**, and follow the installation prompts.

Security

5

This chapter describes how to use the basic firewall features of the router to protect your network.

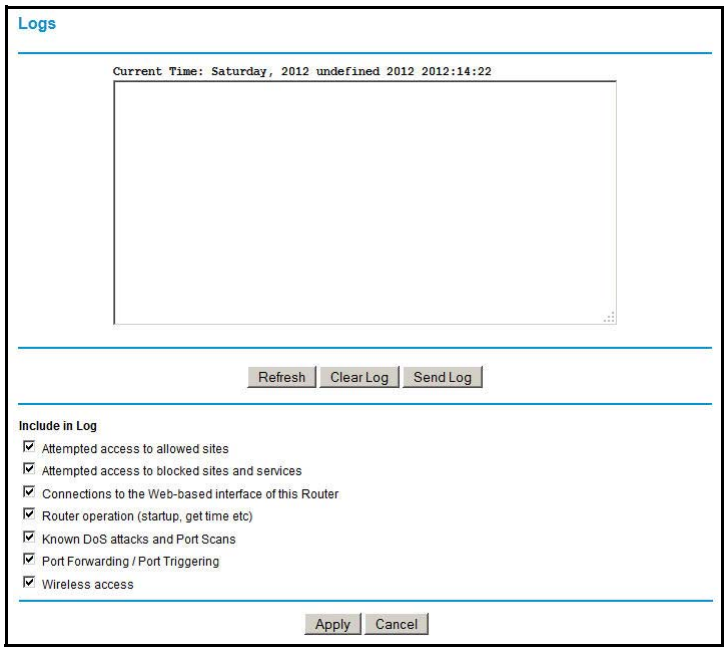
This chapter includes the following sections:

> **Note:** For information about the advanced security features port forwarding and port triggering, see *Port Forwarding and Port Triggering* on page 70.

View, Select, and Save Logged Information

The router logs security-related events such as denied incoming service requests, hacker probes, and administrator logins. If you enabled security in the Block Sites screen, the Logs screen can show you when someone on your network tries to access a blocked site.

On the main menu under Security, select **Logs** to display this screen:



Note: You can enable email notification to receive these logs in an email message. See *Enable Security Event Email Notification* on page 54.

Log entries and action buttons are described in the following table.

Field or Button	Description
Current time	The date and time the log entry was recorded.
Description or action	The type of event and what action was taken, if any.
Source IP	The IP address of the initiating device for this log entry.
Source port and interface	The service port number of the initiating device, and whether it originated from the LAN or WAN.
Destination	The name or IP address of the destination device or website.
Destination port and interface	The service port number of the destination device, and whether it is on the LAN or WAN.
Refresh button	Refresh the log screen.
Clear Log button	Clear the log entries.
Send Log button	Email the log immediately.

Field or Button	Description
Apply button	Apply the current settings.
Cancel button	Clear the current settings.

Select Which Information to Log

Besides the standard information listed previously, you can choose to log additional information. Those optional selections are as follows:

- Attempted access to blocked site
- Connections to the router menu
- Router operation (start up, get time, and so on)
- Known DoS attacks and port scans
- Port Forwarding/Port Triggering
- Wireless access

Examples of Log Messages

Following are examples of log messages. In all cases, the log entry shows the time stamp as Day, Year-Month-Date Hour:Minute:Second.

Activation and Administration

This entry indicates a power-up or reboot with initial time entry.

```
Tue, 2002-05-21 18:48:39 - NETGEAR activated
```

This entry indicates a power-up or reboot with initial time entry.

```
Tue, 2002-05-21 18:55:00 - Administrator login successful - IP:192.168.0.2
Thu, 2002-05-21 18:56:58 - Administrator logout - IP:192.168.0.2
```

This entry shows a time-out of the administrator login.

```
Tue, 2002-05-21 19:00:06 - Login screen timed out - IP:192.168.0.2
```

This entry shows when the log was emailed.

```
Wed, 2002-05-22 22:00:19 - Log emailed
```

Dropped Packets

These entries show an inbound FTP (port 21) packet, User Datagram Protocol (UDP) packet (port 6970), and Internet Control Message Protocol (ICMP) packet (port 0) being dropped as a result of the default inbound rule, which states that all inbound packets are denied.

```
Wed, 2002-05-22 07:15:15 - TCP packet dropped - Source:64.12.47.28,4787,WAN
- Destination:134.177.0.11,21,LAN - [Inbound Default rule match]
```

```
Sun, 2002-05-22 12:50:33 - UDP packet dropped - Source:64.12.47.28,10714,WAN
- Destination:134.177.0.11,6970,LAN - [Inbound Default rule match]
Sun, 2002-05-22 21:02:53 - ICMP packet dropped - Source:64.12.47.28,0,WAN -
Destination:134.177.0.11,0,LAN - [Inbound Default rule match]
```

Block Sites and Keywords

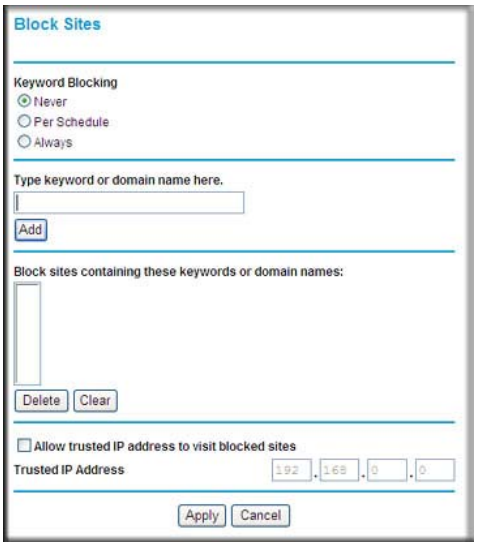
The router provides a variety of options for blocking Internet-based content and communications services. With its security feature, the router prevents objectionable content from reaching your computers. You can control access to Internet content by screening for keywords within web addresses. Security options include:

- Keyword blocking of HTTP traffic.
- Outbound service blocking. Limits access from your LAN to Internet locations or services that you specify as off-limits.
- Denial of service (DoS) protection. Detects and thwarts DoS attacks such as Ping of Death, SYN flood, LAND attack, and IP spoofing.
- Blocking unwanted traffic from the Internet to your LAN.

The router allows you to restrict access to Internet content based on web addresses and web address keywords.

➢ **To block sites and keywords:**

1. Log in to the router as described in *Log In to Your Router* on page 12.
2. On the main menu under Security, select **Block Sites** to display the Block Sites screen:



3. To enable keyword blocking, select one of the following:
   - **Per Schedule**. Turn on keyword blocking according to the settings on the Schedule screen.

- **Always**. Turn on keyword blocking all the time, independent of the setting in the Schedule screen.

4. Enter a keyword or domain in the **keyword** field, click **Add**, and then click **Apply**.

   Some examples of keyword applications are shown in the following table.

Keyword	Result
XXX	Block the URL http://www.badstuf.com/xxx.html.
.com	Only websites with other domain suffixes (such as .edu or .gov) can be viewed.
. (a period)	Block all Internet browsing access.

   Up to 32 entries are supported in the keyword list.

> ***Note:*** If you block sites, you can set up the router to log attempts to access them. See *View, Select, and Save Logged Information* on page 47.

5. To delete a keyword or domain, select it from the list, click **Delete**, and then click **Apply**.
6. To specify a trusted user, enter that computer's IP address in the **Trusted IP Address** field, and then click **Apply**.

   You can specify one trusted user, which is a computer that will be exempt from blocking and logging. Since the trusted user will be identified by an IP address, you should configure that computer with a fixed IP address.

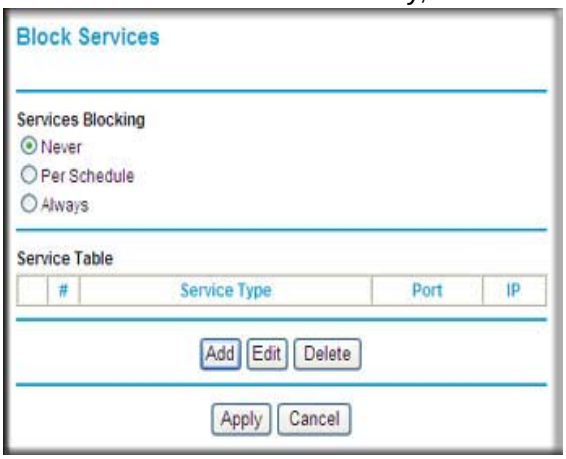
7. Click **Apply** to save your settings.

Block Services

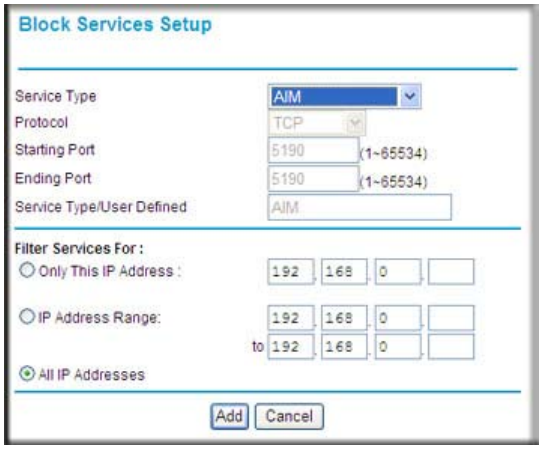
➢ **To block services:**

1. Log in to the router as described in *Log In to Your Router* on page 12.

2. In the main menu under Security, select **Block Services** to display this screen:



3. Select one of the following:
   - **Per Schedule**. Turn on keyword blocking according to the settings in the Schedule screen.
   - **Always**. Turn on keyword blocking all the time, independent of the Schedule screen.
4. Click **Add**, and the following screen displays:



5. Either select a service from the Service Type drop-down list, or use the **Service/Type User Defined** field to create a custom service.
6. Click **Add** to create the service, and it will be listed in the Service Table on the Block Services screen.
7. Click **Apply** to save your settings.

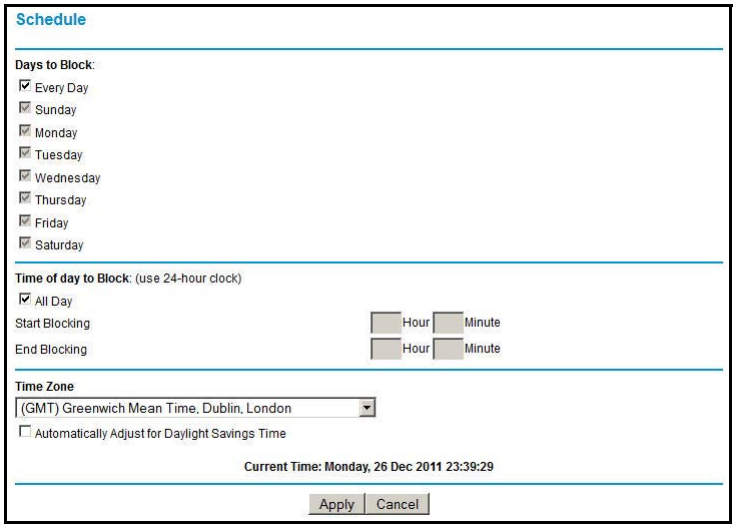
Scheduling

The router uses Network Time Protocol (NTP) to obtain the current time and date from one of several network time servers on the Internet.

Set Your Time Zone

➢ **To specify your time zone:**

1. Log in to the router as described in *Log In to Your Router* on page 12.
2. On the main menu under Security, select **Schedule**:



3. Select your time zone. This setting will be used for the blocking schedule according to your local time zone and for time-stamping log entries.

   If your time zone is currently in daylight savings time, select the **Automatically Adjust for Daylight Savings Time** check box.

4. Click **Apply** to save your settings.

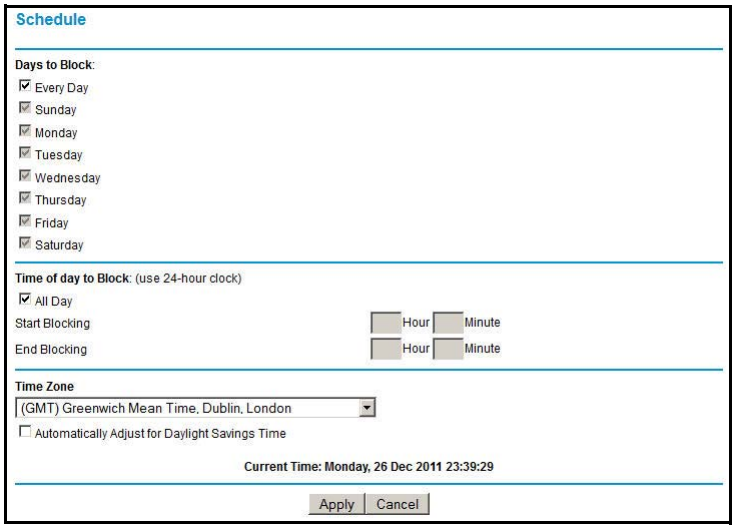
Schedule Firewall Services

If you enabled service blocking in the Block Services screen or port forwarding in the Ports screen, you can set up a schedule for when blocking occurs or when access is not restricted.

➢ **To schedule firewall services:**

1. Log in to the router as described in *Log In to Your Router* on page 12.

2. On the main menu, select **Schedule**. The Schedule screen appears.



3. To block Internet services based on a schedule, select **Every Day**, or select one or more days. If you want to limit access completely for the selected days, select **All Day**. Otherwise, to limit access during certain times for the selected days, fill in the **Start Blocking** and **End Blocking** fields.
4. Enter the values in 24-hour time format. For example, 10:30 a.m. would be 10 hours and 30 minutes, and 10:30 p.m. would be 22 hours and 30 minutes. If you set the start time after the end time, the schedule will be effective through midnight the next day.
5. Click **Apply** to save your changes.

Enable Security Event Email Notification

To set up the router so that you can receive logs and alerts by email, select **Email** from the router menu to display the following screen:

➢ **To receive alerts and logs by email:**

1. Select the **Turn Email Notification On** check box.
2. Fill in the fields to send alerts and logs through email.
   - **Your Outgoing Mail Server**. Enter the name or IP address of the outgoing SMTP mail server of your ISP (such as mail.myISP.com).
   - **Send to This Email Address.** Enter the e-mail address where you want to send the alerts and logs. Use a full email address, such as ChrisXY@myISP.com.
   - **My mail server requires authentication**. Select this check box if you need to log in to your SMTP server to send email. If you select this feature, you have to enter the user name and password for the mail server.

   Tip: If you cannot remember this information, check the settings in your email program.

3. Specify when you want the alerts and logs to be sent:
   - **Send alert immediately**. Select this check box if you would like immediate notification of a significant security event, such as a known attack, port scan, or attempted access to a blocked site.
   - **Send logs according to this schedule**. Specify how often to send the logs: **Hourly**, **Daily**, **Weekly**, or **When Full**.
     - **Day**. Specify which day of the week to send the log. Relevant when the log is sent weekly.
     - **Time**. Specify the time of day to send the log. Relevant when the log is sent daily or weekly.

   If the **Weekly**, **Daily**, or **Hourly** option is selected and the log fills up before the specified period, the log is automatically emailed to the specified email address. After the log is sent, it is cleared from the router's memory. If the router cannot email the log file, the log buffer might fill up. In this case, the router overwrites the log and discards its contents.
4. Click **Apply** so that your changes take effect.

Managing Your Network

6

This chapter describes how to perform network management tasks with your Mobile Broadband 11n Wireless Router.

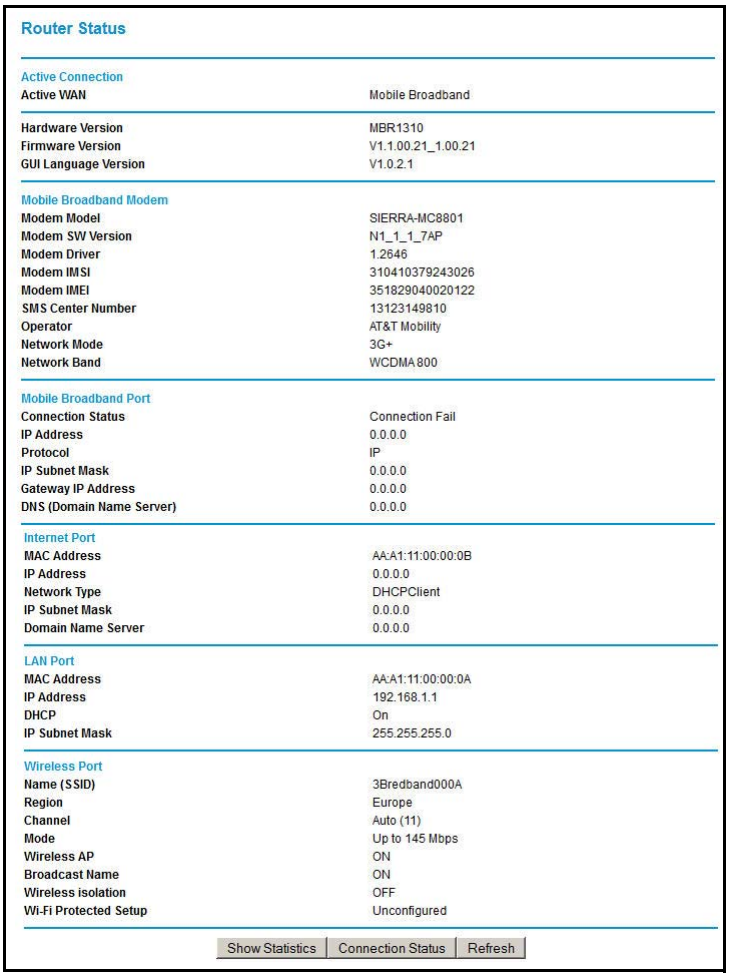
This chapter includes the following sections:

Router Status

From the main menu under Maintenance, select **Router Status** to view this screen.

You can use this screen to view the status of the router, to show statistics, or to view the connection status.

- For information about the fields on this screen, see the table on the following page.
- See *Show Statistics* on page 59 for information about statistics.
- For information about the Internet connection, see *Connection Status* on page 60.



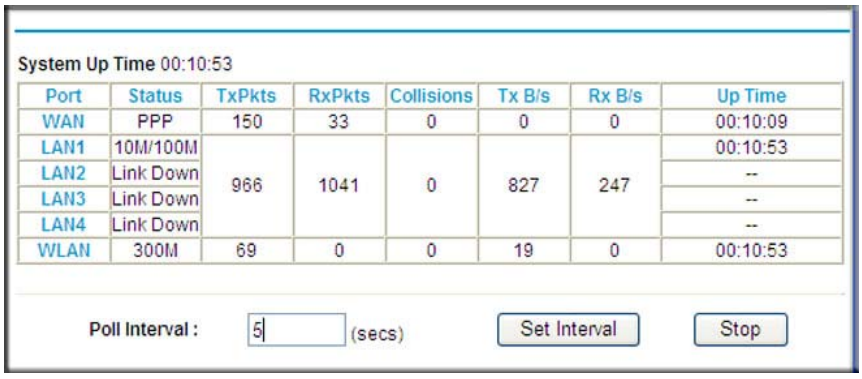
Field	Description
Hardware Version	This field displays the model number of this router.
Firmware Version	This field displays the router firmware version.
GUI Language Version	This field displays the language version of the graphical user interface.

Field		Description
Mobile Broadband Modem	Modem Model	Shows the modem in use.
	Modem Software Version	The software version of the modem.
	Modem Driver	The driver version of the modem.
	Modem IMSI	International Mobile Subscriber Identity. SIM card identity.
	Modem IMEI	International Mobile Equipment Identity. Unique identity of the modem.
	SMS Center Number	The phone number that acts as a gateway for transferring SMS messages between cellular devices.
	Operator	The ISP for the broadband wireless network.
	Network Mode	The mode of the current network the modem is connected to. This is dependent on coverage and distance from the cell site.
	Network Band	The band of the current network the modem is connected to.
Mobile Broadband Port	Connection Status	The status of the Internet connection.
	IP Address	The IP address used by the modem. If no address is shown, the router cannot connect to the Internet.
	Protocol	The protocol for the Internet connection, which is PPP (Point-to-Point).
	IP Subnet Mask	The IP subnet mask used by the router's USB port.
	Gateway IP Address	The IP address used by the router.
	Domain Name Server	The DNS server IP addresses used by the router. These addresses are usually obtained dynamically from the ISP.
LAN Port	MAC Address	The Ethernet MAC address used by the router's LAN port.
	IP Address	The LAN port IP address. The default is 192.168.0.1.
	DHCP	• **Off.** The router does not assign IP addresses to computers on the LAN. • **On.** The router assigns IP addresses to computers on the LAN.
	IP Subnet Mask	The LAN port IP subnet mask. The default is 255.255.255.0.

Field		Description
Wireless Port (See *Manually Configure Your Wireless Settings* on page 26.	Name (SSID)	The service set ID, also known as the wireless network name.
	Region	The country where the unit is set up for use.
	Channel	The current channel, which determines the operating frequency.
	Mode	The current mode, which determines the maximum data speed.
	Wireless AP	Indicates if the access point feature is disabled or not. If not enabled, the Wireless LED on the front panel is off.
	Broadcast Name	Indicates if the router is configured to broadcast its SSID.
	Wireless Isolation	Indicates whether wireless isolation is enabled or disabled.
	Wi-Fi Protected Setup	Indicates status of the Wi-Fi Protected Setup.

Show Statistics

Click the **Show Statistics** button on the Router Status screen to display router usage statistics:

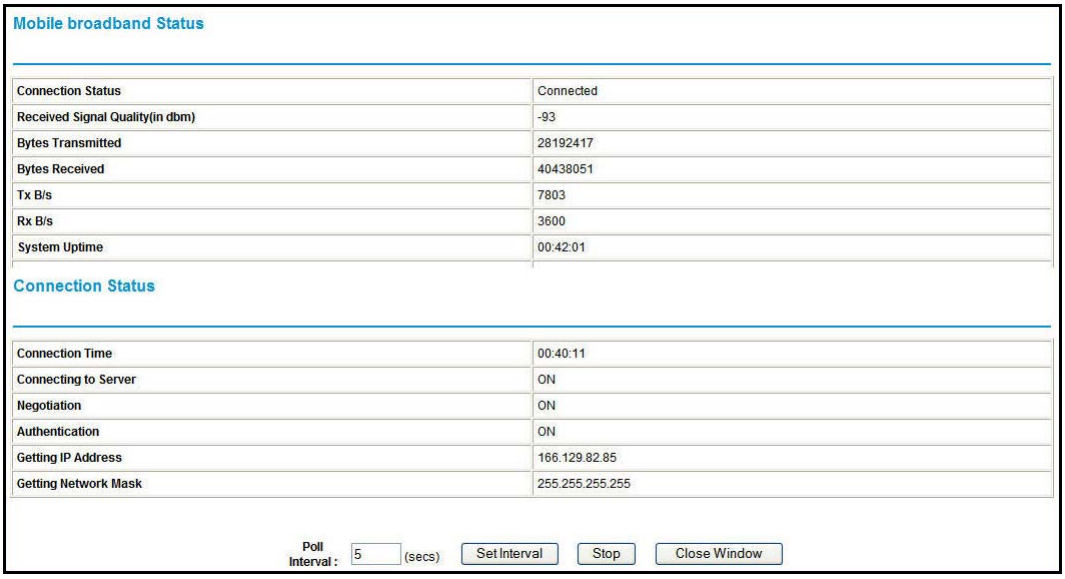


The following table explains the statistic fields.

Field	Description
Status	The link status. Note that LAN2, LAN3, and LAN4 are guest networks.
TxPkts	The number of packets transmitted on this port since reset or manual clear.
RxPkts	The number of packets received on this port since reset or manual clear.
Collisions	The number of collisions on this port since reset or manual clear.
Tx B/s	The average egress line utilization for this port.
Rx B/s	The average ingress line utilization for this port.
Up Time	The time elapsed since the last power cycle or reset.

Connection Status

Click the **Connection Status** button on the Router Status screen:



This screen shows the following statistics:

Field		Description
Mobile Broadband Service	Connection Status	The status of the Internet connection. • **Scanning**. The modem is scanning for broadband wireless networks in your area. • **Connected**. The router is connected to the Internet. • **No USB Device Attached**. The router does not detect a USB modem connected to its USB port. Either the modem is disconnected, or it is not correctly seated. To correct the problem, remove the modem and reinsert it into the port.
	Received Signal Quality (in dBm)	Modem radio reception. A small, negative number indicates good signal quality.
	Bytes Transmitted	The number of bytes transmitted in the most recent connection session.
	Bytes Received	The number of bytes received in the most recent connection session.
	Tx B/s	The transmission rate.
	Rx B/s	The receiving rate.
	System Uptime	Time elapsed since the last reboot.

Field		Description
Connection Status	Connection Time	The time elapsed since the last connection to the Internet through the broadband port.
	Connecting to Server	The connection status.
	Negotiation	Success or Failed.
	Authentication	Success or Failed.
	Getting IP Address	The IP address assigned to the WAN port by the ADSL Internet service provider.
	Getting Network Mask	The network mask assigned to the WAN port by the ADSL Internet service provider.

View Attached Devices

The Attached Devices screen shows all IP devices that the router discovered on the local network. From the main menu under Maintenance, select **Attached Devices**:

For each device, the table shows the IP address, device name if available, and the Ethernet MAC address. If the router is rebooted, this data is lost until the router rediscovers the devices. To force the router to look for attached devices, click the **Refresh** button.

Back Up, Restore, or Erase Your Settings

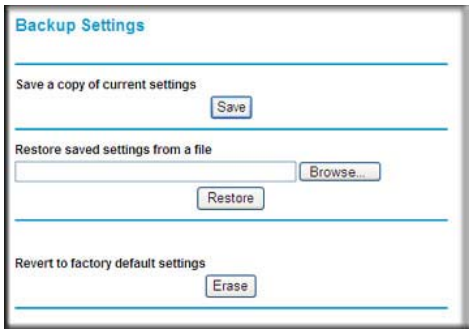
The configuration settings of the router are stored in a configuration file in the router. This file can be backed up to your computer, restored, or reverted to factory default settings. The procedures in the following sections explain how to do these tasks.

Back Up the Configuration to a File

➢ **To back up the configuration to a file:**

1. Log in to the router. Type **http://www.routerlogin.net** in the address field of your Internet browser. Enter **admin** for the user name and your password (or the default, **password**).

2. On the main menu under Maintenance, select **Backup Settings** to display the Backup Settings screen.



3. Click **Save** to save a copy of the current settings.
4. Store the .cfg file on a computer on your network.

Restore the Configuration from a File

➢ **To restore the configuration:**

1. Log in to the router. Type **http://www.routerlogin.net** in the address field of your Internet browser. Enter **admin** for the user name and your password (or the default, **password**).
2. On the main menu under Maintenance, select **Backup Settings**.
3. Enter the full path to the file on your network, or click **Browse** to locate the file.
4. When you have located the .cfg file, click **Restore** to upload the file to the router.

   The router reboots.

> ***Note:*** To restore the factory default settings when you do not know the login password or IP address, press the **Restore Factory Settings** button on the bottom of the router for 6 seconds.

Erase the Configuration

You can use the Erase feature to erase its configuration settings and restore the router to the factory default settings.

➢ **To erase the configuration:**

1. On the main menu under Maintenance, select **Backup Settings**.
2. Click **Erase**.

   The router reboots.

   After an erase, the router password is **password**, the LAN IP address is **192.168.0.1**, and the router DHCP client is enabled.

Protect Access to Your Router

For security reasons, the router has its own user name and password. Also, after a period of inactivity, the login automatically disconnects. The user name and password are not the same as a user name or password you might use to log in to your Internet connection.

NETGEAR recommends that you change this password to a more secure password. The ideal password should contain no dictionary words from any language, and should be a mixture of both uppercase and lowercase letters, numbers, and symbols. Your password can be up to 30 characters.

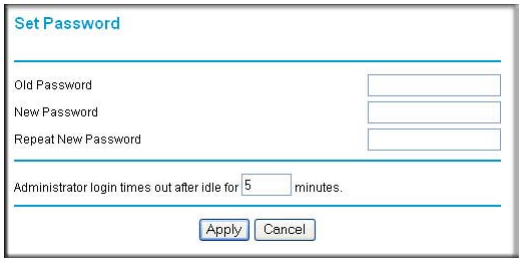
Change the Built-In Password

➢ **To change the built-in password:**

1. To log in to the router, type **http://www.routerlogin.net** in the address field of your Internet browser. Enter **admin** for the user name and your password (or the default, **password**).

> ***Note:*** If you changed the password and do not remember what it is, you can reset the router to its factory default settings. See *Restore the Default Configuration and Password* on page 93.

2. From the main menu, under Maintenance, select **Set Password**.



3. To change the password, first enter the old password, and then enter the new password twice.
4. Click **Apply** to save your changes.

> ***Note:*** After changing the password, you have to log in again to continue the configuration. If you have backed up the router settings previously, you should do a new backup so that the saved settings file includes the new password.

Change the Administrator Login Time-Out

For security, the administrator login to the router configuration times out after a period of inactivity.

- **To change the login time-out period:**

1. In the Set Password screen, type a number in the **Administrator login times out** field. The suggested default value is 5 minutes.
2. Click **Apply** to save your changes, or click **Cancel** to keep the current period.

Upgrade the Router Firmware

The router firmware is stored in flash memory, and can be upgraded as new firmware is released by NETGEAR. Upgrade files can be downloaded from the NETGEAR web site. If the upgrade file is compressed (a .zip file), you first need to extract the binary (.bin or .img) file before uploading it to the router.

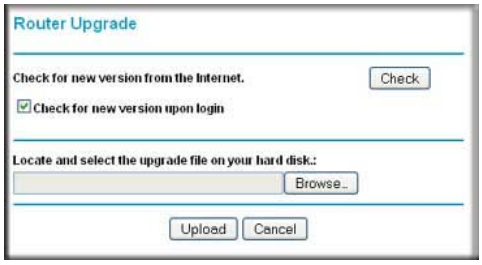
NETGEAR recommends that you back up your configuration before doing a firmware upgrade.

- **To restore your configuration settings after upgrade:**

1. Download and unzip the new firmware file from NETGEAR.

   The web browser used to upload new firmware into the router has to support HTTP uploads. NETGEAR recommends using Microsoft Internet Explorer 5.0 or later, or Mozilla Firefox 2.0 or later.

2. Log in to the router. Type **http://www.routerlogin.net** in the address field of your Internet browser. Enter **admin** for the user name and your password (or the default, **password**).
3. From the main menu, under Maintenance, select **Router Upgrade** to display this screen.



4. Click **Browse** to locate the binary (.bin or .img) upgrade file.
5. Click **Upload**.

WARNING:

When uploading firmware to the router, do not interrupt the web browser by closing the window, clicking a link, or loading a new page. If the browser is interrupted, it might corrupt the firmware, causing router to be unworkable and inaccessible. When the upload is complete, your router automatically restarts. The upgrade process typically takes about 1 minute. In some cases, you might need to clear the configuration and reconfigure the router after upgrading.

Advanced Settings

7

This chapter describes how to configure the advanced features of your Mobile Broadband 11n Wireless Router.

This chapter includes the following sections:

Advanced Wireless Settings

From the main menu under Advanced, select **Advanced Wireless Settings** to display the following screen:

Field	Description
Enable Wireless Router Radio	Selected by default, this setting enables the wireless radio, which allows the router to work as a wireless access point. Turning off the wireless radio can be helpful for configuration, network tuning, or troubleshooting.
Fragmentation Length, CTS/RTS Threshold, and Preamble Mode	These should be left at their default settings.
Router PIN	The PIN number used for Push 'N' Connect.
Disable Router PIN	By default, this check box is cleared. This allows the WPS clients to discover the router's PIN.
Keep Existing Wireless Settings	By default, this check box is cleared. This allows the router to automatically generate the SSID and WPA/WPA2 security settings when it implements WPS. After WPS is implemented, the router automatically selects the **Keep Existing Wireless Settings** check box so that your SSID and wireless security settings remain the same if other WPS-enabled devices are added later.

Wireless Station Access Control

By default, any wireless computer that is configured with the correct SSID and wireless security settings is allowed access to your wireless network. You can use wireless access point settings in the Wireless Settings and Advanced Wirelless Settings screens to further restrict wireless access to your network:

- **Turning off wireless connectivity completely**.
  You can completely turn off the wireless portion of the router. For example, if you use your notebook computer to wirelessly connect to your router, and you take a business trip, you can turn off the wireless portion of the router while you are traveling. Other members of your household who use computers connected to the router through Ethernet cables can still use the router. To do this, clear the **Enable Wireless Router Radio** check box on the Advanced Wireless Settings screen, and then click **Apply**.
- **Hiding your wireless network name (SSID)**.
  By default, the router is set to broadcast its wireless network name (SSID). You can restrict wireless access to your network by not broadcasting the wireless network name (SSID). To do this, clear the **Enable SSID Broadcast** check box on the Wireless Settings screen, and then click **Apply**. Wireless devices will not "see" your router. You have to configure your wireless devices to match the wireless network name (SSID) of the router.

Note: The SSID of any wireless access adapters has to match the SSID you configure in the router. If they do not match, you will not get a wireless connection to the router.

Restrict Access by MAC Address

For increased security, you can restrict access to the wireless network to allow only specific computers based on their MAC addresses. You can restrict access to only trusted computers so that unknown computers cannot wirelessly connect to the Mobile Broadband 11n Wireless Router. MAC address filtering adds an obstacle against unwanted access to your network, but the data broadcast over the wireless link is fully exposed.

Note: If you configure the router from a wireless computer, add your computer's MAC address to the access list. Otherwise you will lose your wireless connection when you click **Apply**. You have to then access the router from a wired computer, or from a wireless computer that is on the access control list, to make any further changes.

➢ **To restrict access based on MAC addresses:**

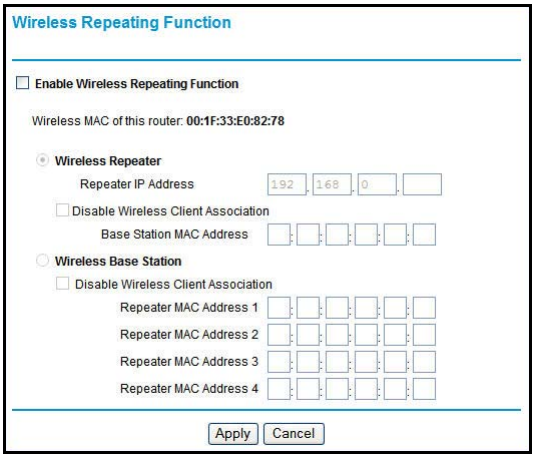
1. From the main menu under Advanced, select Wireless Settings. Click **Set Up Access List** to display the Wireless Card Access List screen.

2. Adjust the list as needed for your network. You can add devices to the Trusted Wireless Cards list. Click **Add** to display the following screen:

3. You can add devices to the list using either of the following methods:
   - If the computer is in the Available Wireless Cards table, select its radio button to capture its MAC address.
   - Use the Wireless Card Entry fields to enter the MAC address of the device to be added. The MAC address can usually be found on the bottom of the wireless device.
   - If no device name displays when you enter the MAC address, you can type a descriptive name for the computer that you are adding.
4. Click **Apply** to save these settings. Now, only devices on this list will be allowed to wirelessly connect to the router.

Wireless Repeating Function

From the main menu, select **Wireless Repeating Function** to display the following screen:



Field	Description
Enable Wireless Repeating Function	Enable this if you wish to use either bridge mode or repeater mode, and then select the mode you want for your environment. • **Wireless Repeater**. In this mode, the MBR1310 will communicate *only* with another base station mode wireless station. You have to enter the MAC address (physical address) of the other base station mode wireless station in the field provided. WEP / WPA-PSK [TKIP] can (and should) be used to protect this communication. • **Wireless Base Station**. Select this only if this MBR1310 is the master for a group of Repeater mode wireless stations. The other repeater mode wireless stations have to be set to wireless repeater mode, using this MBR1310's MAC address. They then send all traffic to this master, rather than communicating directly with each other. WEP / WPA-PSK [TKIP] can (and should) be used to protect this traffic. If this option is selected, you have to enter the MAC addresses of the other access points in the fields provided.

Port Forwarding and Port Triggering

Port forwarding and port triggering are advanced features that affect the behavior of the firewall in your router. In the Port Forwarding / Port Triggering screen, you can make local computers or servers available to the Internet for different services (for example, FTP or HTTP), to play Internet games (like Quake III), or to use Internet applications (like CU-SeeMe).

- Port forwarding is designed for FTP, web server, or other server-based services. Once port forwarding is set up, requests from the Internet are forwarded to the correct server.

- Port triggering monitors outbound traffic. When the router detects traffic on the specified outbound port, it remembers the IP address of the computer that sent the data and triggers the incoming port. Incoming traffic on the triggered port is then forwarded to the triggering computer. Port triggering allows requests from the Internet only after a designated port is triggered. Port triggering applies to chat and Internet games.

Port Forwarding

➢ **To set up port forwarding:**

1. From the main menu, under Advanced, select **Port Forwarding/Port Triggering**. The following screen displays:

   By default, the **Port Forwarding** radio button is selected.

2. You can select a service or create a custom service.
   - Select a service from the Service Name drop-down list, and specify the computer's IP address.
   - If you want to add a service that is not in the list, click the **Add Custom Service** button. Fill in the fields in the Add Custom Service screen.

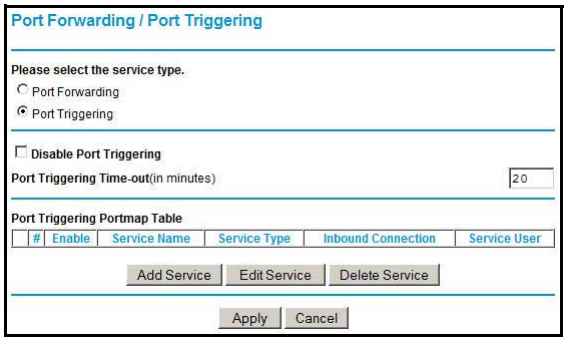
   The service displays in the list.

Port Triggering

➢ **To set up port triggering:**

1. From the main menu, under Advanced, select **Port Forwarding/Port Triggering**.

2. Select the **Port Triggering** radio button to display the following screen:



3. Click **Add Service** and fill in the fields in the Add Service screen.

   The service displays in the list. For more detailed information, see the Port Forwarding/Port Triggering help.

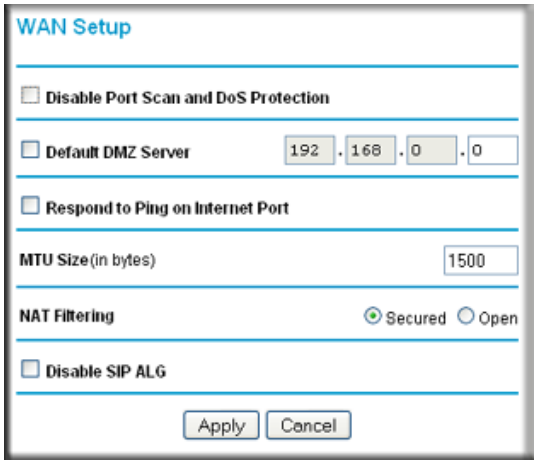
WAN Setup

To change broadband Internet connection settings, use the Broadband Settings screen, as described in *Manually Configure Your Internet Settings* on page 15.

➢ **To view or change the WAN setup:**

1. From the main menu, select **WAN Setup** to display the WAN Setup screen.
2. Make the changes that you want, and then click **Apply** to save the settings.

The WAN Setup fields are described in the following table.



Setting	Description
Disable Port Scan and DoS Protection	This check box is usually cleared so that the firewall protects your LAN against port scans and denial of service attacks. This check box should be selected only in special circumstances.
Default DMZ Server	This feature is sometimes helpful when you are using some online games and videoconferencing. Be careful when using this feature because it makes the firewall security less effective. See *Set Up a Default DMZ Server* on page 73.

Setting	Description
Respond to Ping on Internet	If you want the router to respond to a ping from the Internet, select this check box. This should be used only as a diagnostic tool, since it allows your router to be discovered. Do not select this check box unless you have a specific reason to do so.
MTU Size	Maximum transmit unit (MTU) value. For most Ethernet networks this is 1500 bytes, or 1492 bytes for PPPoE connections, or 1436 bytes for PPTP connections.
NAT Filtering	This is set to **Secured** to provide a secure firewall to protect computers on the LAN from attacks from the Internet. The Open setting is less secure.
Disable SIP ALG	Some VoIP applications do not work well with SIP ALG. Selecting this check box might help your VoIP devices create or accept a call through the router.

Set Up a Default DMZ Server

WARNING:

For security reasons, you should avoid using the default DMZ server feature. When a computer is designated as the default DMZ server, it loses much of the protection of the firewall, and is exposed to many exploits from the Internet. If compromised, the computer can be used to attack your network.

The default DMZ server feature is helpful when you are using some online games and videoconferencing applications that are incompatible with NAT. The router is programmed to recognize some of these applications and to work correctly with them, but there are other applications that might not function well. In some cases, one local computer can run the application correctly if that computer's IP address is entered as the default DMZ server.

Incoming traffic from the Internet is normally discarded by the router unless the traffic is a response to one of your local computers or a service that you have configured in the Port Forwarding / Port Triggering screen. Instead of discarding this traffic, you can have it forwarded to one computer on your network. This computer is called the default DMZ server.

➢ **To assign a computer or server to be a default DMZ server:**

1. Go to the WAN Setup screen as described in the previous section.
2. Select the **Default DMZ Server** check box.
3. Type the IP address for that server.
4. Click **Apply** to save your changes.

LAN Setup

The LAN Setup screen allows configuration of LAN IP services such as DHCP and RIP. These features can be accessed under Advanced in the router main menu.

The router is shipped preconfigured to use private IP addresses on the LAN side, and to act as a DHCP server. The router default LAN IP configuration is:

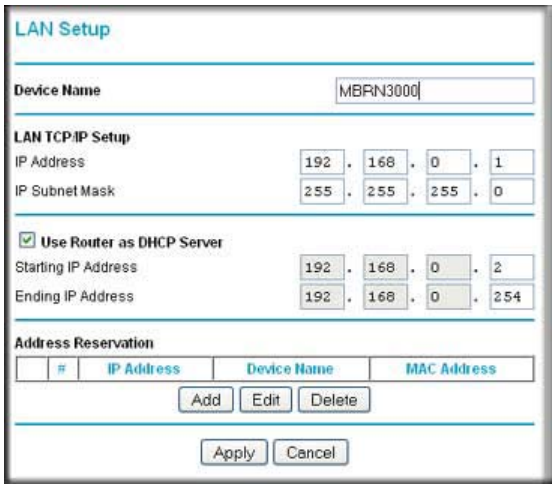
- LAN IP address. 192.168.0.1
- Subnet mask. 255.255.255.0

These addresses are part of the Internet Engineering Task Force (IETF)–designated private address range for use in private networks, and should be suitable in most applications. If your network has a requirement to use a different IP addressing scheme, you can make those changes in this screen.

> ***Tip:*** If you change the LAN IP address of the router while connected through the browser, you will be disconnected, and so will others connected to the router. To connect to the router, you have to open a new connection to the new IP address and log in again. Others using the router have to restart their computers to connect to the router again.

➢ **To view or change the LAN setup:**

1. Select **LAN IP** to display the LAN Setup screen.
2. Change the settings. For more information, see the table on the following page, *DHCP Settings* on page 75, or *Reserved IP Addresses* on page 76.
3. Click **Apply** to save the changes.



The LAN TCP/IP Setup parameters are explained in the following table.

Settings		Description
Device Name		The device name of the router.
LAN TCP/IP Setup	IP Address	The LAN IP address of the router.
	IP Subnet Mask	The LAN subnet mask of the router. Combined with the IP address, the IP subnet mask allows a device to know which other addresses are local to it, and which has to be reached through a gateway or router.

Settings		Description
DHCP Server For more information, see *DHCP Settings* on page 75.	Use Router as a DHCP Server	This check box is usually selected so that the router functions as a Dynamic Host Configuration Protocol (DHCP) server.
	Starting IP Address	Specify the start of the range for the pool of IP addresses in the same subnet as the router.
	Ending IP Address	Specify the end of the range for the pool of IP addresses in the same subnet as the router.
Address Reservation For more information, see *DHCP Settings* on page 75.		When you specify a reserved IP address for a computer on the LAN, that computer receives the same IP address each time it accesses the router's DHCP server. Assign reserved IP addresses to servers that require permanent IP settings.

DHCP Settings

By default, the router functions as a Dynamic Host Configuration Protocol (DHCP) server, allowing it to assign IP, DNS server, and default gateway addresses to all computers connected to the router's LAN. The assigned default gateway address is the LAN address of the router. IP addresses is assigned to the attached computers from a pool of addresses specified in this screen. Each pool address is tested before it is assigned to avoid duplicate addresses on the LAN.

For most applications, the default DHCP and TCP/IP settings of the router are satisfactory.

Use Router as DHCP Server

If another device on your network will be the DHCP server, or if you will manually configure the network settings of all your computers, clear the **Use Router as DHCP Server** check box on the LAN IP Setup screen. Otherwise, leave it selected.

Specify the pool of IP addresses to be assigned by filling in the Starting IP Address and Ending IP Address fields. These addresses should be part of the same IP address subnet as the router's LAN IP address. Using the default addressing scheme, you should define a range between 192.168.0.2 and 192.168.0.254, although you might want to save part of the range for devices with fixed addresses.

The router delivers the following parameters to any LAN device that requests DHCP:

- An IP address from the range you have defined.
- Subnet mask.
- Gateway IP address is the router's LAN IP address.
- Primary DNS server, if you entered a primary DNS address in the Basic Settings screen; otherwise, the router's LAN IP address.
- Secondary DNS server, if you entered a secondary DNS address in the Basic Settings screen.
- WINS server (Windows Internet Naming Service Server) determines the IP address associated with a particular Windows computer. A WINS server records and reports a list

of names and IP address of Windows computers on its local network. If you connect to a remote network that contains a WINS server, enter the server's IP address here. This allows your computers to browse the network using the Network Neighborhood feature of Windows.

Reserved IP Addresses

When you specify a reserved IP address for a computer on the LAN, that computer always receives the same IP address each time it access the router's DHCP server. Reserved IP addresses should be assigned to servers that require permanent IP settings.

- **To reserve an IP address:**

1. Select **LAN IP** to display the LAN Setup screen, and then click the **Add** button.
2. In the IP Address field, type the IP address to assign to the computer or server. Choose an IP address from the router's LAN subnet, such as 192.168.0.x.
3. Type the MAC address of the computer or server.

   Tip: If the computer is on your network, it is listed on the same screen for your convenience. Selecting the radio button for each entry in the attached device list fills in the fields automatically with the computer's MAC address and name.

4. Click **Apply** to enter the reserved address into the table.

Note: The reserved address will not be assigned until the next time the computer contacts the router's DHCP server. Reboot the computer or access its IP configuration and force a DHCP release and renew.

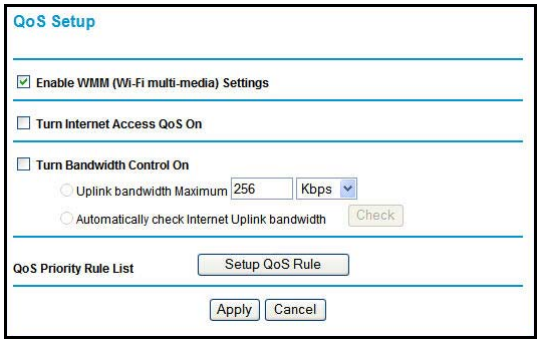
- **To edit or delete a reserved address entry:**

1. Select the radio button next to the reserved address you want to edit or delete.
2. Click **Edit** or **Delete**.

QoS Setup

QoS is an advanced feature that can be used to prioritize some Internet applications and online gaming, and to minimize the impact when the bandwidth is busy.

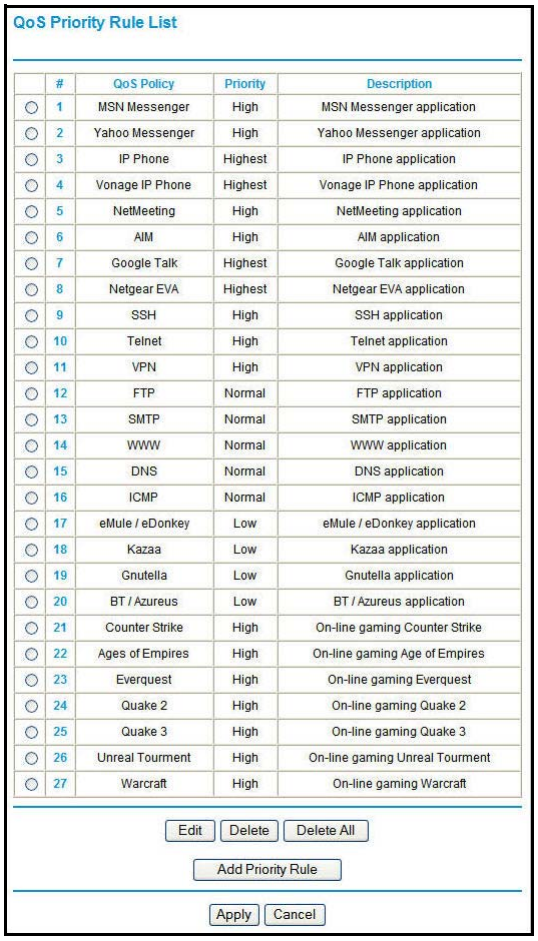
From the main menu, select **QoS Setup** to display the following screen:



Field	Description
Wi-Fi Multi-media (WMM) Settings	WMM (Wireless Multimedia) is a subset of the 802.11e standard. WMM allows wireless traffic to have a range of priorities depending on the kind of data. Time-dependent information, such as video or audio, has a higher priority than normal traffic. For WMM to function correctly, wireless clients also need to support WMM.
Turn Internet Access QoS On	If you enable QoS, the QoS function works to prioritize Internet access traffic. For the applications that already exist in the drop-down list (for example, On-line Gaming, Ethernet LAN Port, or a specified MAC address), you can modify the priority level by clicking the **Edit** button, or clicking the **Delete** button to erase the priority rule. Otherwise, you can also define the priority policy for online gaming, an application, a LAN port, or the computer's MAC address by clicking the **Add Priority Rule** button in the QoS Priority Rule List screen (see *QoS Priority Rule List* on page 78).
Turn Bandwidth Control On	To set up the total maximum uplink bandwidth, click the **Check** button to detect current uplink bandwidth that will help you to determinate the maximum bandwidth setting.

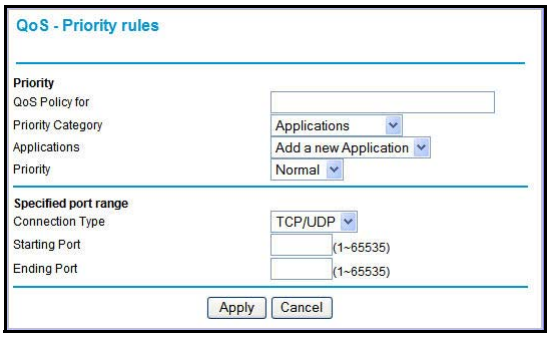
QoS Priority Rule List

From the QoS Setup screen, click **Setup QoS Rule** to display the following screen:



QoS Priority Rules

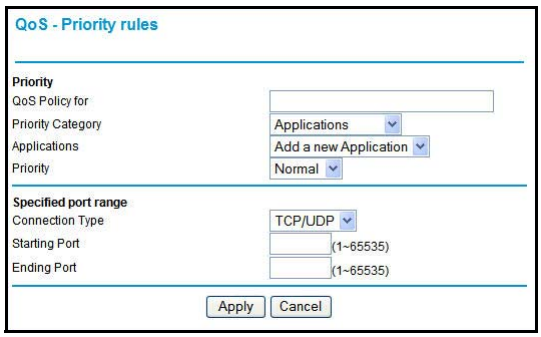
From the QoS Priority Rule List, click **Add Priority Rule** to display the following screen:

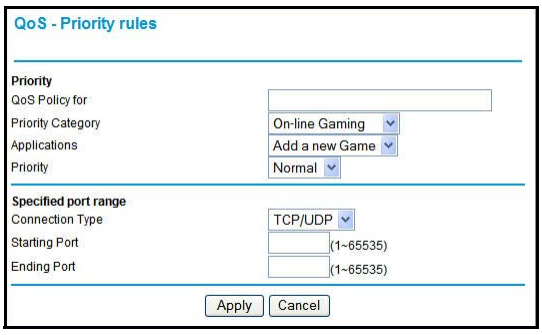


For Applications or Online Gaming

➢ **To set up the priority for an application or online gaming:**

1. From the Priority Category list, select **Applications** or **On-line Gaming**.



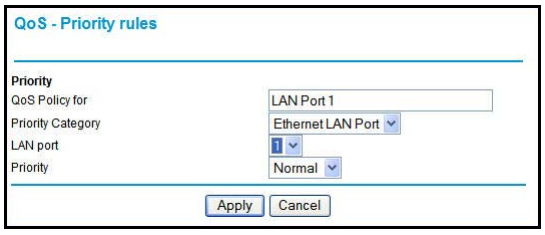


2. From the relevant list, select the Internet application or game for which you want to set the priority.
3. Select the priority level: **Highest**, **High**, **Normal**, or **Low**.
4. You can also type the name in the QoS Policy field for this rule if you like.
5. Click **Apply**.

For Ethernet LAN Ports

➢ **To set up the priority for LAN port:**

1. From the Priority Category list, select **Ethernet LAN Port**.

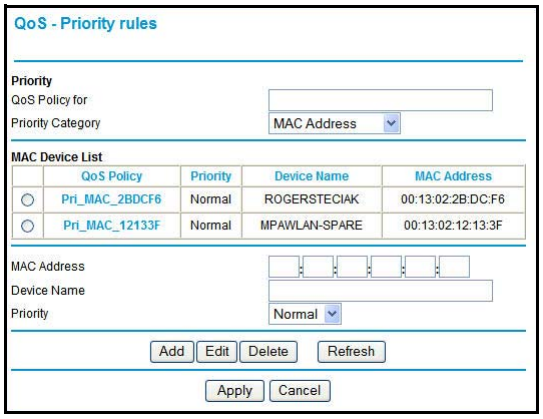


2. For the priority level for those computers connecting on this LAN port, select the LAN port number you plan to specify.
3. Select the priority level: **Highest**, **High**, **Normal**, or **Low**.
4. You can also type the name in the QoS Policy field for this rule if you like.
5. Click **Apply**.

For MAC Addresses

- **To set up the priority for specified computer through its MAC address:**

1. From the Priority Category list, select **MAC Address**.



2. Click the **Refresh** button to update the list of computers already connected to the router.
3. Select the radio button for the entry you want to change.
4. Modify the information in the MAC Address and Device Name fields.
5. Select the priority level: **Highest**, **High**, **Normal**, or **Low**.
6. You can also type the name in the QoS Policy field for this rule if you like.
7. Click the **Add** button, and then click **Apply**.

- **To add the priority for specified computer through its MAC address:**

1. From the Priority Category list, choose **MAC Address**.
2. Enter the MAC address for the computer for which you are specifying the priority. You can also type a name that is easy to remember in the Device Name fields.
3. Select the priority level: **Highest**, **High**, **Normal**, or **Low**.
4. You can also type a name in the QoS Policy field for this rule if you prefer.
5. Click the **Add** button, and then click **Apply**.

- **To delete a priority rule entry:**

1. Select the radio button for the entry you want to delete.
2. Click the **Delete** button, and then click **Apply**.

Dynamic DNS

If your network has a permanently assigned IP address, you can register a domain name and have that name linked with your IP address by public Domain Name Servers (DNS). However, if your Internet account uses a dynamically assigned IP address, you will not know in advance what your IP address will be, and the address can change frequently. In this case,

you can use a commercial Dynamic DNS service to register your domain to their IP address, and forward traffic directed at your domain to your frequently changing IP address.

The router contains a client that can connect to a Dynamic DNS service provider. To use this feature, you have to select a service provider and obtain an account with them. After you have configured your account information in the router, whenever your ISP-assigned IP address changes, your router will automatically contact your Dynamic DNS service provider, log in to your account, and register your new IP address.

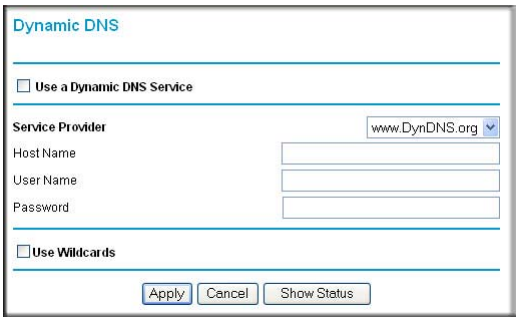
Configuring Dynamic DNS

WARNING:

If your ISP assigns a private WAN IP address such as 192.168.x.x or 10.x.x.x, the Dynamic DNS service will not work because private addresses are not routed on the Internet.

➢ **To configure Dynamic DNS:**

1. From the main menu, select **Dynamic DNS** to display the Dynamic DNS screen:



2. Access the website of one of the Dynamic DNS service providers whose names appear in the Service Provider drop-down list, and register for an account.

   For example, for dyndns.org, go to www.dyndns.org.

3. Select the **Use a Dynamic DNS Service** check box.
4. Select the name of your Dynamic DNS service provider.
5. Fill in the Host Name, User Name, and Password fields.

   The Dynamic DNS service provider might call the host name a domain name. If your URL is myName.dyndns.org, then your host name is myName. The password can be a key for your Dynamic DNS account.

6. If your Dynamic DNS provider allows the use of wildcards in resolving your URL, you can select the **Use Wildcards** check box to activate this feature.

   For example, the wildcard feature causes *.yourhost.dyndns.org to be aliased to the same IP address as yourhost.dyndns.org.

7. Click **Apply** to save your configuration.

Use Static Routes

Static routes provide additional routing information to your router. Under normal circumstances, the router has adequate routing information after it has been configured for Internet access, and you do not need to configure additional static routes. You have to configure static routes only for unusual cases such as multiple routers or multiple IP subnets located on your network.

Static Route Example

As an example of when a static route is needed, consider the following case:

- Your primary Internet access is through a cable modem to an ISP.
- You have an ISDN router on your home network for connecting to the company where you are employed. This router's address on your LAN is 192.168.0.100.
- Your company's network is 134.177.0.0.

When you first configured your router, two implicit static routes were created. A default route was created with your ISP as the router, and a second static route was created to your local network for all 192.168.0.x addresses. With this configuration, if you attempt to access a device on the 134.177.0.0 network, your router forwards your request to the ISP. The ISP forwards your request to the company where you are employed, and the request is likely to be denied by the company's firewall.

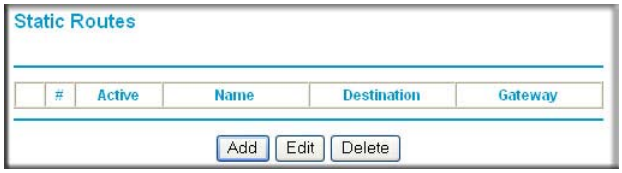
In this case you have to define a static route, telling your router that 134.177.0.0 should be accessed through the ISDN router at 192.168.0.100.

In this example:

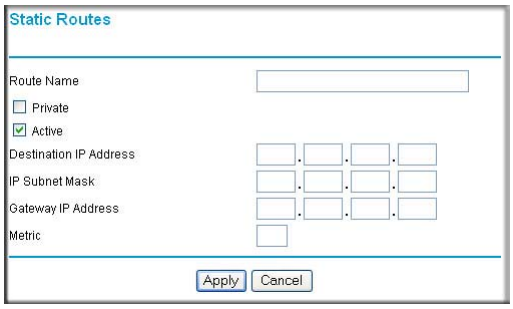
- The Destination IP Address and IP Subnet Mask fields specify that this static route applies to all 134.177.x.x addresses.
- The Gateway IP Address fields specify that all traffic for these addresses should be forwarded to the ISDN router at 192.168.0.100.
- In the Metric field, a value of 1 will work since the ISDN router is on the LAN. This represents the number of routers between your network and the destination. This is a direct connection, so it is set to 2.
- Private is selected only as a precautionary security measure in case RIP is activated.

➢ **To configure static routes:**

1. From the main menu, under Advanced, select **Static Routes** to view the Static Routes screen.



2. Select the radio button of the static route you want to configure.
3. Click **Add** or **Edit** to display the following screen:



4. Fill in or change the fields:
   - **Route Name**. The route name is for identification purposes only.
   - **Private**. Select this check box if you want to limit access to the LAN only. The static route will not be reported in RIP.
   - **Active**. Select this check box to make this route effective.
   - **Destination IP Address**, and **IP Subnet Mask**. If the destination is a single host, type a subnet value of **255.255.255.255**.
   - **Gateway IP Address**. This has to be a router on the same LAN segment as the router.
   - **Metric**. Type a number between 2 and 15. This represents the number of routers between your network and the destination. Usually, a setting of 2 or 3 works, but if this is a direct connection, set it to 1.
5. Click **Apply** to save your changes. If you added a static route, it is added to the Static Routes screen.

Enable Remote Management

Using the Remote Management screen, you can allow a user or users on the Internet to configure, upgrade, and check the status of your router.

> ***Tip:*** Be sure to change the router default password to a very secure password. The ideal password should contain no dictionary words from any language, and should be a mixture of letters (both upper case and lower case), numbers, and symbols. Your password can be up to 30 characters.

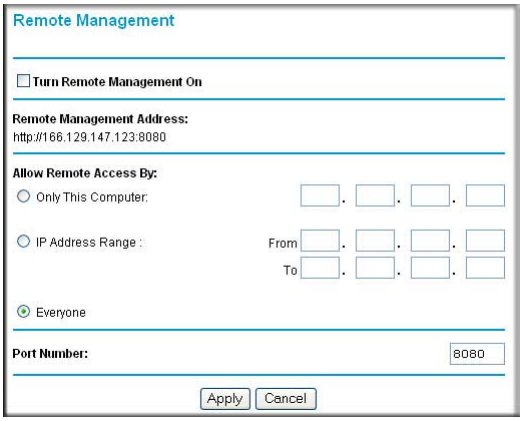
Configure Remote Management

➢ **To configure remote management:**

1. Log in to the router. Type **http://www.routerlogin.net** in the address field of your Internet browser. Enter **admin** for the user name and your password (or the default, **password**).
2. Under Advanced, select **Remote Management**:
3. Select the **Turn Remote Management On** check box.
4. Specify which external addresses will be allowed to access the router's remote management.

   For security, restrict access to as few external IP addresses as practical:

   - To allow access from a single IP address on the Internet, select **Only This Computer**. Enter the IP address that will be allowed access.
   - To allow access from a range of IP addresses on the Internet, select **IP Address Range**. Enter a beginning and ending IP address to define the allowed range.
   - To allow access from any IP address on the Internet, select **Everyone**.



5. Specify the number of the port that will be used for accessing the router's internal menus.

   Access normally uses the standard HTTP service port 80. For greater security, you can enter a different port number. Choose a number between 1024 and 65535, but do not use the number of any common service port. The default is 8080, which is a common alternate for HTTP.

6. Click **Apply** to have your changes take effect.

   When accessing your router from the Internet, type your router WAN IP address in your Internet browser address or location field, followed by a colon (:) and the custom port number. For example, if your external address is 134.177.0.123 and you use port number 8080, enter:

   http://134.177.0.123:8080

> ***Note:*** In this case, you have to include http:// in the address.

Universal Plug and Play

Universal Plug and Play (UPnP) helps devices such as Internet appliances and computers access the network and connect to other devices as needed. UPnP devices can automatically discover the services from other registered UPnP devices on the network.

➢ **To configure Universal Plug and Play:**

1. On the main menu, select **UPnP** to display the UPnP screen:

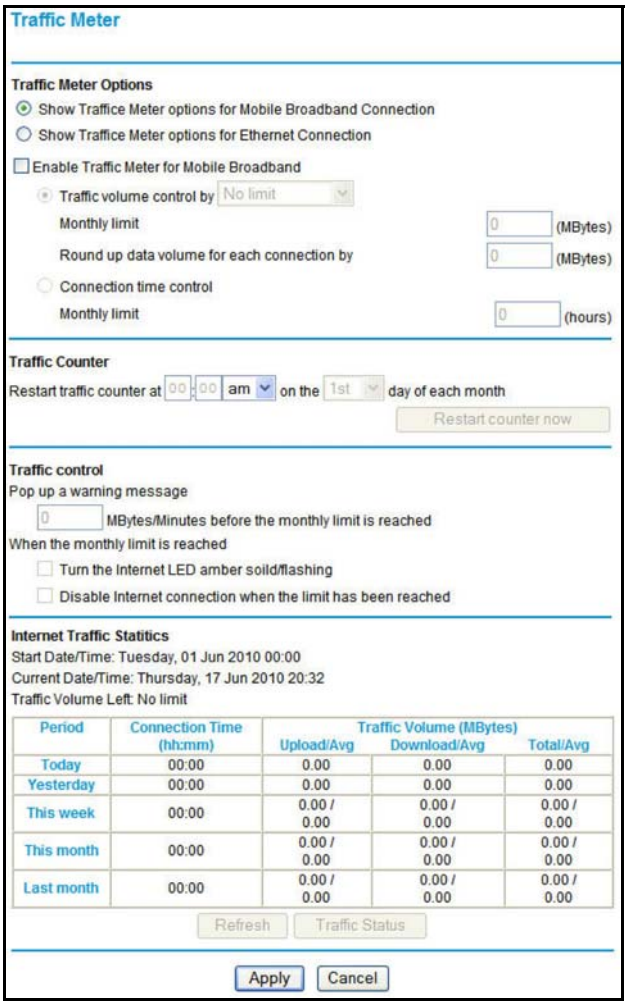
2. Fill in the settings on the UPnP screen:
   - **Turn UPnP On**. UPnP can be enabled or disabled for automatic device configuration. The default setting for UPnP is enabled. If this feature is disabled, the router will not allow any device to automatically control the resources, such as port forwarding (mapping), of the router.
   - **Advertisement Period**. The advertisement period is how often the router advertises (broadcasts) its UPnP information. This value can range from 1 to 1440 minutes. The default period is 30 minutes. Shorter durations ensure that control points have current device status at the expense of additional network traffic. Longer durations might compromise the freshness of the device status but can significantly reduce network traffic.
   - **Advertisement Time To Live**. The time to live for the advertisement is measured in hops for each UPnP packet sent. Hops are the number of steps allowed to propagate for each UPnP advertisement before it disappears. The number of hops can range from 1 to 255. The default value for the advertisement time to live is 4 hops, which should be fine for most home networks. If you notice that some devices are not being updated or reached correctly, then it might be necessary to increase this value a little.
   - **UPnP Portmap Table**. The UPnP Portmap Table displays the IP address of each UPnP device that is currently accessing the router and which ports (internal and external) that device has opened.
3. To save or cancel your changes or refresh the table:
   - Click **Apply** to save the new settings to the router.
   - Click **Cancel** to disregard any unsaved changes.
   - Click **Refresh** to update the portmap table and to show the active ports that are currently opened by UPnP devices.

Traffic Meter

Traffic metering allows you to monitor the volume of Internet traffic passing through your router's Internet port. With the traffic meter utility, you can set limits for traffic volume, set a monthly limit, and get a live update of traffic usage. You enable separate traffic meters for the mobile broadband connection and the Ethernet connection.

➢ **To monitor traffic on your router:**

1. Under Advanced on the router menu, select **Traffic Meter**.
2. Click the appropriate **Show Traffic Meter options for** radio button for the type of Internet connection (for example, mobile broadband or Ethernet) you are setting up.
3. To enable the traffic meter, select the **Enable Traffic Meter** check box.
4. If you would like to record and restrict the volume of Internet traffic, select the **Traffic volume control by** radio button. You can select one of the following options for controlling the traffic volume:
   - **No Limit**. No restriction is applied when the traffic limit is reached.
   - **Download only**. The restriction is applied to incoming traffic only.
   - **Both Directions**. The restriction is applied to both incoming and outgoing traffic.
5. You can limit the amount of data traffic allowed per month:
   - By specifying how many Mbytes per month are allowed.
   - By specifying how many hours of traffic are allowed.



6. Set the traffic counter to begin at a specific time and date.
7. Set up traffic control to issue a warning message before the monthly limit of Mbytes or hours is reached. You can select one of the following to occur when the limit is attained:
   - The Internet LED flashes green or amber.
   - The Internet connection is disconnected and disabled.
8. Set up Internet traffic statistics to monitor the data traffic.
9. Click the **Traffic Status** button if you want a live update on Internet traffic status on your router.
10. Click **Apply** to save your settings.

Troubleshooting

8

This chapter gives information about troubleshooting your Mobile Broadband 11n Wireless Router. After each problem description, instructions are provided to help you diagnose and solve the problem. For the common problems listed, go to the section indicated.

- Is the router on?
- Have I connected the router correctly?

  Go to *Basic Functioning* on page 88.
- I cannot access the router's configuration with my browser.

  Go to *Troubleshoot Access to the Router Main Menu* on page 90.
- I have configured the router but I cannot access the Internet.

  Go to *Troubleshoot the ISP Connection* on page 91.
- I want to troubleshoot a network using the ping utility.

  Go to *Troubleshoot a TCP/IP Network Using the Ping Utility* on page 92.
- I want to clear the configuration and start over again.

  Go to *Restore the Default Configuration and Password* on page 93.
- I am having problems with setting the date or time.

  Go to *Problems with Date and Time* on page 94.

This chapter includes the following sections:

Basic Functioning

After you turn on power to the router, the following sequence of events should occur:

1. When power is first applied, verify that the Power/Test  LED is on.
2. After approximately 10 seconds, verify that:
   a. The Power/Test LED is still solid green. A red light indicates that the unit has failed its power-on self-test (POST).
   b. The Internet LED is lit.
   c. The WiFi LED is lit. The WiFi radio is on by default.
   d. The ACT LED is lit when any local ports are connected.

      If a LAN port's LED on the rear of the unit is lit, a link has been established to the connected device. If a LAN port is connected to a 100 Mbps device, verify that the port's LED is green. If the port is 10 Mbps, the LED is amber.

   e. The WAN port LED is lit when the router is connected to a wired modem.
   f. The Signal Quality LED is lit when the router has detected a mobile broadband signal.
      - A blue LED indicates excellent coverage.
      - A green LED indicates good coverage.
      - An amber LED indicates marginal coverage.

If any of these conditions does not occur, refer to the following table.

LED		Action
Power/Test 	Power/Test LED is off.	• Make sure that the power cord is correctly connected to your router and that the power supply adapter is correctly connected to a functioning power outlet. • Check that you are using the power adapter supplied by NETGEAR for this product. • If the error persists, you have a hardware problem and should contact technical support.
	Power/Test LED is red.	There is a fault within the router. Try to clear the fault as follows: • Cycle the power to see if the router recovers. • Clear the router's configuration to factory defaults. This sets the router's IP address to 192.168.0.1. This procedure is explained in *Restore the Default Configuration and Password* on page 93. If the error persists, you might have a hardware problem and should contact technical support.

LED		Action
Internet Port 	Internet LED is red.	The router cannot connect to the Internet. Check the Internet connection option being used. • For the mobile broadband connection option, check the Signal LED. • For the Ethernet connection option, check the WAN LED.
	Internet LED is blinking red and green.	The traffic meter feature is enabled, and the limit set has been reached.
WiFi 	WiFi LED is off.	The WiFi radio has been turned off. If you want a WiFi connection with the router, press the **WiFi** button to turn the WiFi radio back on.
	WiFi LED is not blinking.	If this LED does not blink when you are attempting to send data over the WiFi link, log in to the router's web management interface using the Ethernet LAN connection and check your router's wireless (WiFi) configuration.
ACT 	LAN LED is off.	If this LED does not light when an Ethernet connection is made, check the following: • Make sure that the Ethernet cable connections are secure at the router and at the hub or workstation. • Make sure that power is turned on to the connected hub or workstation.
WAN 	WAN LED is off.	If this LED does not light when an Ethernet connection is made using the Ethernet connection option, check the following: • Make sure that the Ethernet cable connections are secure at the router and at the modem. • Make sure that power is turned on to the modem.
2G/3G 	2G/3G LED is off.	The router cannot tell if the mobile broadband connection uses 2G or 3G signals.
Signal 	Signal LED of off.	If this LED does not light when the mobile broadband connection option is used, check the following: • Check with your ISP to ensure that there is good coverage in the area. • Ensure that your mobile broadband account is active. • Ensure that the SIM card is inserted correctly into the router. • Locate the router near the window or other area of the building. Make sure that the Signal LED is lit, indicating that there is mobile broadband coverage with the router. • Log in to the router's web management interface and check your router's Internet configuration. Check that the user name, password, and APN with ISP are set correctly. If you use a PIN to connect to the Internet, make sure that it is entered correctly.

Troubleshoot Access to the Router Main Menu

If you are unable to access the router main menu from a computer on your local network, check the following:

- If you are using an Ethernet-connected computer, check the Ethernet connection between the computer and the router as described in the previous section.
- Make sure your computer's IP address is on the same subnet as the router. If you are using the recommended addressing scheme, your computer's address should be in the range of 192.168.0.2 to 192.168.0.254.

> ***Note:*** If your computer's IP address is shown as 169.254.x.x: Recent versions of Windows and MacOS generate and assign an IP address if the computer cannot reach a DHCP server. These auto-generated addresses are in the range of 169.254.x.x. If your IP address is in this range, check the connection from the computer to the router, and reboot your computer.

- If your router's IP address was changed and you do not know the current IP address, clear the router's configuration to factory defaults. This sets the router's IP address to 192.168.0.1. This procedure is explained in *Restore the Default Configuration and Password* on page 93.
- Make sure that your browser has Java, JavaScript, or ActiveX enabled. If you are using Internet Explorer, click **Refresh** to be sure that the Java applet is loaded.
- Try quitting the browser and launching it again.
- Make sure that you are using the correct login information. The factory default login name is **admin**, and the password is **password**. Make sure that Caps Lock is off when entering this information.

If the router does not save changes you have made in the web management interface, check the following:

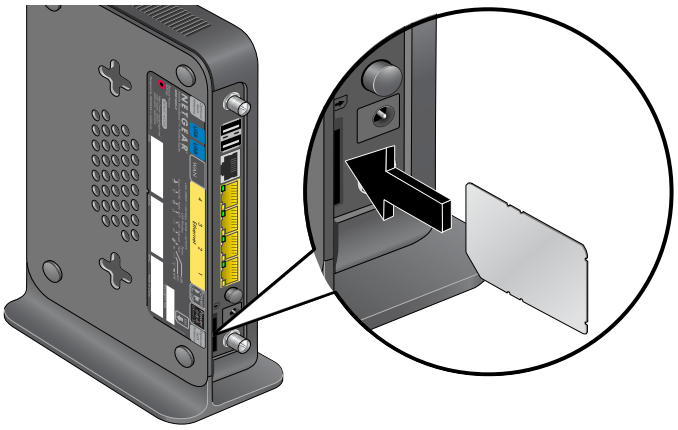
- When entering configuration settings, be sure to click the **Apply** button before moving to another screen or tab, or your changes are lost.
- Click the **Refresh** or **Reload** button in the web browser. The changes might have occurred, but the web browser might be caching the old configuration.

Troubleshoot the ISP Connection

Check these possible sources of trouble if you are having difficulty connecting to or browsing the Internet.

Connect to the Internet

➢ **If unable to connect to Internet, check the following:**



1. The Internet account is active.

   If your ISP has provided you with a SIM card and you have not inserted it into the SIM card slot on the back of the router yet, do so now.

2. Wireless broadband coverage is available where the unit is located.
3. Access the router main menu to verify that the broadband settings are correct. Check with your ISP if you are unsure.
4. Check the location of the router.
   a. Move the router closer to a window for better access to the Internet signal.
      - A blue Signal LED indicates excellent coverage.
      - A green Signal LED indicates good coverage.
      - An amber Signal LED indicates marginal coverage.
      - An unlighted Signal LED indicates no coverage.

   b. Maintain recommended minimum distances between NETGEAR equipment and household appliances to reduce interference (see *Regulatory Compliance Information* on page 98).

Troubleshoot Internet Browsing

If your router can obtain an IP address but your computer is unable to load any web pages from the Internet:

- The traffic meter is enabled, and the limit might have been reached.

  By configuring the traffic meter not to block, you can resume Internet access. If you have a usage limit, your ISP might charge you for the overage.

- Your computer might not recognize any DNS server addresses.

  A DNS server is a host on the Internet that translates Internet names (such as www addresses) to numeric IP addresses. Typically your ISP provides the addresses of one or two DNS servers for your use. If you entered a DNS address during the router's

configuration, reboot your computer and verify the DNS addresses. Alternatively, you can configure your computer manually with DNS addresses, as explained in your operating system documentation.

- Your computer might not have the router configured as its TCP/IP router.

  If your computer obtains its information from the router by DHCP, reboot the computer, and verify the router address.

Troubleshoot a TCP/IP Network Using the Ping Utility

Most TCP/IP terminal devices and routers contain a ping utility that sends an echo request packet to the designated device. The device then responds with an echo reply. You can easily troubleshoot a TCP/IP network by using the ping utility in your computer.

Test the LAN Path to Your Router

You can ping the router from your computer to verify that the LAN path to your router is set up correctly.

➢ **To ping the router from a computer running Windows 95 or later:**

1. From the Windows toolbar, click the **Start** button, and select **Run**.
2. In the field provided, type **ping** followed by the IP address of the router, as in this example:

   ping 192.168.0.1
3. Click **OK**.

   You should see a message like this one:

   ```
   Pinging <IP address> with 32 bytes of data
   ```

   If the path is working, you see this message:

   ```
   Reply from < IP address >: bytes=32 time=NN ms TTL=xxx
   ```

   If the path is not working, you see this message:

   ```
   Request timed out
   ```

   If the path is not working correctly, you could have one of the following problems:

   - Wrong physical connections
     - Make sure that the ACT LED is on. If the LED is off, follow the instructions in *Basic Functioning* on page 88.
     - Check that the corresponding link LEDs are on for your network interface card and for the hub ports (if any) that are connected to your workstation and router.
   - Wrong network configuration
     - Verify that the Ethernet card driver software and TCP/IP software are both installed and configured on your computer or workstation.

- Verify that the IP address for your router and your workstation are correct and that the addresses are on the same subnet.

Test the Path from Your Computer to a Remote Device

After verifying that the LAN path works correctly, test the path from your computer to a remote device.

➢ **To test the path:**

1. From the Windows toolbar, click the **Start** button, and select **Run**.
2. In the Windows Run window, type:

   `ping -n 10` *IP address*

   where *IP address* is the IP address of a remote device such as your ISP's DNS server.

If the path is functioning correctly, replies as in the previous section are displayed. If you do not receive replies:

- Check that your computer has the IP address of your router listed as the default router. If the IP configuration of your computer is assigned by DHCP, this information is not visible in your computer's Network Control Panel. Verify that the IP address of the router is listed as the default router.
- Make sure that the network address of your computer (the portion of the IP address specified by the netmask) is different from the network address of the remote device.
- Check that your cable or DSL modem is connected and functioning.
- If your ISP assigned a host name to your computer, enter that host name as the account name in the Basic Settings screen.
- Your ISP could be rejecting the Ethernet MAC addresses of all but one of your computers. Many broadband ISPs restrict access by allowing only traffic from the MAC address of your broadband modem, but some ISPs additionally restrict access to the MAC address of a single computer connected to that modem. If this is the case, you have to configure your router to clone or spoof the MAC address from the authorized computer. See the *Mobile Broadband 11n Wireless Router MBR1310 Installation Guide*.

Restore the Default Configuration and Password

This section explains how to restore the factory default configuration settings, changing the router's admin password to **password** and sthe IP address to **192.168.0.1**. You can erase the current configuration and restore factory defaults in two ways:

- Use the Erase feature (see *Erase the Configuration* on page 62).
- Press the Restore Factory Settings button on the bottom of the router for 6 seconds. Use this method for cases when the administration password or IP address is not known.

The factory default settings are shown in *Factory Default Settings* on page 95.

Problems with Date and Time

The email screen displays the current date and time of day. The Mobile Broadband 11n Wireless Router uses the Network Time Protocol (NTP) to obtain the current time from one of several network time servers on the Internet. Each entry in the log is stamped with the date and time of day. Problems with the date and time function can include the following:

- Date shown is January 1, 2000.
  Cause: The router has not yet successfully reached a network time server. Check that your Internet access settings are configured correctly. If you have just completed configuring the router, wait at least 5 minutes, and check the date and time again.
- Time is off by one hour.
  Cause: The router does not automatically sense daylight savings time. On the E-mail screen, select or clear the **Automatically Adjust for Daylight Savings Time** check box.

Factory Default Settings and Technical Specifications

A

Factory Default Settings

You can use the Restore Factory Settings button located on the bottom of your router to reset all settings to their factory defaults. This is called a hard reset. To perform a hard reset, press and hold the **Restore Factory Settings** button for 6 seconds. Your router will return to the factory configuration settings that are shown in the following table.

Feature		Default Behavior
Router login	User login URL	http://www.routerlogin.net *or* http://www.routerlogin.com
	User name (case-sensitive)	admin
	Login password (case-sensitive)	password
Internet connection	WAN MAC address	Use default address
	WAN MTU size	1500
	Port speed	AutoSense
Local network (LAN)	LAN IP	192.168.0.1
	Subnet mask	255.255.255.0
	RIP direction	None
	RIP version	Disabled
	RIP authentication	None
	DHCP server	Enabled
	DHCP starting IP address	192.168.0.2
	DHCP ending IP address	192.168.0.254
	DMZ	Disabled
	Time zone	GMT
	Daylight saving time adjustment	Disabled

Feature		Default Behavior (continued)
Firewall	Inbound communication from the Internet	Disabled (except traffic on port 80, the HTTP port)
	Outbound communication to the Internet)	Enabled (all)
	Source MAC filtering	Disabled
Wireless	Wireless communication	Enabled
	SSID name	3Bredband000A
	Security	Enabled
	Broadcast SSID	Enabled
	Transmission speed	Auto (maximum wireless signal rate derived from IEEE Standard 802.11 specifications. Actual throughput will vary. Network conditions and environmental factors, including volume of network traffic, building materials and construction, and network overhead, lower actual data throughput rate.)
	Country/Region	United States (in North America; otherwise, varies by region)
	RF channel	Auto
	Operating mode	Up to 145 Mbps
	Data rate	Best
	Output power	Full
	Access point	Enabled
	Authentication type	Open system
	Wireless Card Access List	All wireless stations allowed

Technical Specifications

Technical Specifications	
Network Protocol and Standards Compatibility	TCP/IP, DHCP
Power adapter	• Europe: 230V AC, 50 Hz, input • All regions (output): 12V DC @ 1.0A output
Physical specifications	• Dimensions: 6.8 in. x 5.03 in. x 1.28 in. (173 mm x 128 mm x 33 mm) • Weight: 0.65 lbs without the stand (0.29 kg)

Technical Specifications	
Environmental specifications	• Operating temperature: 0° to 40°C (32º to 104ºF) • Operating humidity: 90% maximum relative humidity, noncondensing
Electromagnetic emissions	VCCI Class B; EN 55 022 (CISPR 22), Class B
Interface specifications	• LAN: 10BASE-T or 100BASE-Tx, RJ-45 • WAN: USB

Notification of Compliance

B

NETGEAR Wireless Routers, Gateways, APs

Regulatory Compliance Information

This section includes user requirements for operating this product in accordance with National laws for usage of radio spectrum and operation of radio devices. Failure of the end-user to comply with the applicable requirements may result in unlawful operation and adverse action against the end-user by the applicable National regulatory authority.

Note: This product's firmware limits operation to only the channels allowed in a particular Region or Country. Therefore, all options described in this user's guide may not be available in your version of the product.

Interference Reduction Table

Household Appliance	Recommended Minimum Distance between NETGEAR equipment and household appliance to reduce interference (in feet and meters)
Microwave ovens	30 feet / 9 meters
Baby Monitor - Analog	20 feet / 6 meters
Baby Monitor - Digital	40 feet / 12 meters
Cordless phone - Analog	20 feet / 6 meters
Cordless phone - Digital	30 feet / 9 meters
Bluetooth devices	20 feet / 6 meters
ZigBee	20 feet / 6 meters

Europe – EU Declaration of Conformity

CE

Marking with the above symbol indicates compliance with the Essential Requirements of the R&TTE Directive of the European Union (1999/5/EC).

This equipment meets the following conformance standards:

- EN300 328 (2.4Ghz), EN301 489-17, EN301 893 (5Ghz), EN60950-1
- This device is a 2.4 GHz wideband transmission system (transceiver), intended for use in all EU member states and EFTA countries, except in France and Italy where restrictive use applies.
- In Italy, the end-user should apply for a license at the national spectrum authorities in order to obtain authorization to use the device for setting up outdoor radio links and/or for supplying public access to telecommunications and/or network services.
- This device may not be used for setting up outdoor radio links in France and in some areas the RF output power may be limited to 10 mW EIRP in the frequency range of 2454 – 2483.5 MHz. For detailed information the end-user should contact the national spectrum authority in France.
- For complete DoC, visit the NETGEAR EU Declarations of Conformity website at: *http://kb.netgear.com/app/answers/detail/a_id/11621/*

EDOC in Languages of the European Community

Cesky [Czech]	*NETGEAR* Inc. tímto prohlašuje, že tento Radiolan je ve shode se základními požadavky a dalšími príslušnými ustanoveními smernice 1999/5/ES.
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Deutsch [German]	Hiermit erklärt *NETGEAR Inc.*, dass sich das Gerät Radiolan in Übereinstimmung mit den grundlegenden Anforderungen und den übrigen einschlägigen Bestimmungen der Richtlinie 1999/5/EG befindet.
Eesti [Estonian]	Käesolevaga kinnitab *NETGEAR Inc.* seadme Radiolan vastavust direktiivi 1999/5/EÜ põhinõuetele ja nimetatud direktiivist tulenevatele teistele asjakohastele sätetele.
English	Hereby, *NETGEAR Inc.*, declares that this Radiolan is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.
Español [Spanish]	Por medio de la presente *NETGEAR Inc.* declara que el Radiolan cumple con los requisitos esenciales y cualesquiera otras disposiciones aplicables o exigibles de la Directiva 1999/5/CE.
Ελληνική [Greek]	ΜΕ ΤΗΝ ΠΑΡΟΥΣΑ *NETGEAR Inc.* ΔΗΛΩΝΕΙ ΟΤΙ Radiolan ΣΥΜΜΟΡΦΩΝΕΤΑΙ ΠΡΟΣ ΤΙΣ ΟΥΣΙΩΔΕΙΣ ΑΠΑΙΤΗΣΕΙΣ ΚΑΙ ΤΙΣ ΛΟΙΠΕΣ ΣΧΕΤΙΚΕΣ ΔΙΑΤΑΞΕΙΣ ΤΗΣ ΟΔΗΓΙΑΣ 1999/5/ΕΚ.
Français [French]	Par la présente *NETGEAR Inc.* déclare que l'appareil Radiolan est conforme aux exigences essentielles et aux autres dispositions pertinentes de la directive 1999/5/CE.
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Malti [Maltese]	Hawnhekk, *NETGEAR Inc.*, jiddikjara li dan Radiolan jikkonforma mal-htigijiet essenzjali u ma provvedimenti ohrajn relevanti li hemm fid-Dirrettiva 1999/5/EC.
Magyar [Hungarian]	Alulírott, *NETGEAR Inc.* nyilatkozom, hogy a Radiolan megfelel a vonatkozó alapvetõ követelményeknek és az 1999/5/EC irányelv egyéb elõírásainak.
Polski [Polish]	Niniejszym NETGEAR Inc. oświadcza, że Radiolan jest zgodny z zasadniczymi wymogami oraz pozostałymi stosownymi postanowieniami Dyrektywy 1999/5/EC.

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Slovensky [Slovak]	*NETGEAR Inc.* týmto vyhlasuje, že Radiolan spĺňa základné požiadavky a všetky príslušné ustanovenia Smernice 1999/5/ES.
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Svenska [Swedish]	Härmed intygar *NETGEAR Inc.* att denna Radiolan står I överensstämmelse med de väsentliga egenskapskrav och övriga relevanta bestämmelser som framgår av direktiv 1999/5/EG.
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Index

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