

Chapter 2

Installation and Configuration

This chapter describes how to set up your RangeMax NEXT Wireless Access Point for wireless connectivity to your LAN. This basic configuration will enable computers with 802.11b/g/Next or 802.11b/g wireless adapters to connect to the Internet, or access printers and files on your LAN.



Note: Indoors, computers can connect over 802.11b/g/Next or 802.11b/g wireless networks at ranges of several hundred feet or more. This distance can allow for others outside your area to access your network. It is important to take appropriate steps to secure your network from unauthorized access. The RangeMax NEXT provides highly effective security features which are covered in detail in [“Understanding WN802T Wireless Security Options”](#) on page 3-1. Deploy the security features appropriate to your needs

You need to prepare these three things before you can establish a connection through your wireless access point:

- A location for the WN802T that conforms to the [“Wireless Equipment Placement and Range Guidelines”](#) below.
- The wireless access point connected to your LAN through a device such as a hub, switch, router, or Cable/DSL gateway.
- One or more computers with properly configured 802.11b/g/Next or 802.11b/g wireless adapters.

Wireless Equipment Placement and Range Guidelines

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



Note: Failure to follow these guidelines can result in significant performance degradation or inability to wirelessly connect to the WN802T. For complete performance specifications, see [Appendix A, “Default Settings and Technical Specifications”](#).

For best results, place your wireless access point:

- Near the center of the area in which your PCs will operate.
- In an elevated location such as a high shelf where the wirelessly connected PCs have line-of-sight access (even if through walls).
- Away from sources of interference, such as PCs, microwaves, and 2.4 GHz cordless phones.
- Away from large metal surfaces.

A Wall Mount Kit is provided with your wireless access point. For installation instructions, see [“Installing the Wall Mount Kit \(Optional\)” on page 2-10](#).

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. Some types of security connections can take slightly longer to establish and can consume more battery power on a notebook computer.

System Requirements

Before installing the WN802T, make sure your system meets these requirements:

- A 10/100/1000 Mbps Local Area Network device such as a hub, router, or switch.
- The Category 5 UTP straight through Ethernet cable with RJ-45 connector included in the package, or one like it.
- The 100-240 V, 50-60 HZ AC Switching Power Source that came with your device.
- A Web browser for configuration such as Microsoft Internet Explorer 6.0 or above, Netscape Navigator 4.78 or above or Mozilla Firefox.
- At least one computer with the TCP/IP protocol installed.
- 802.11Next/b/g or 802.11b/g-compliant devices.

Configuring the RangeMax NEXT

Before installing the RangeMax NEXT Wireless Access Point, you should make sure that your Ethernet network is up and working. You will be connecting the access point to the Ethernet network so that computers with 802.11Next/b/g or 802.11b/g wireless adapters will be able to communicate with computers on the Ethernet network. In order for this to work correctly, verify that you have met all of the system requirements, shown on [“System Requirements” on page 1-2](#).

To log into the RangeMax NEXT:

1. Prepare a computer with an Ethernet adapter. If this computer is already part of your network, record its TCP/IP configuration settings.
2. Turn on your computer and configure your computer with a static IP address of 192.168.0.210 and 255.255.255.0 for the Subnet Mask.
3. Connect an Ethernet cable from the WN802T to the computer.
4. Connect the power adapter to the WN802T and verify the following:
 - The PWR power light goes on.
 - The Ethernet port of the wireless access point is lit when connected to a powered on computer.
 - The WLAN LED should be blinking.

Setting Your Basic LAN Settings

The following sections describe how to log in to the wireless access point and to configure your basic LAN settings.

To configure the WN802T for LAN access:

1. Connect to the WN802T by opening a browser window on your PC and entering **http://192.168.0.233** in the address field. The WN802T login screen will appear.
2. Enter **admin** for the user name and **password** for the password, both in lower case letters.



Figure 2-1

3. Click **OK**. The main menu of the WN802T will display as shown in [Figure 2-2](#).
 - When the wireless access point is connected to the Internet, you can select the Documentation link under the Web Support menu to view the documentation for the wireless access point.
 - When connected to the Internet, you can also select KnowledgeBase to access Application Notes relevant to wireless networking.
 - Select Logout to exit the WN802T setup screens. (You will automatically be logged out of the wireless access point after 5 minutes of no activity.)

NETGEAR settings
RangeMax™ NEXT Wireless Access Point WN802T

General

Setup

- Basic Settings
- Wireless Settings

Security

- WEP/WPA Settings
- Access Control

Management

- Change Password
- Upgrade Firmware
- Backup/Restore Settings
- Reboot AP

Information

- Available Wireless Station List
- Statistics

Advanced

- Wireless Settings

Web Support

- Knowledge Base
- Documentation

Logout

General

Access Point Information

Access Point Name	netgearDD53EB
MAC Address	00:14:6C:DD:53:EB
Country / Region	United States
Firmware Version	1.0.04NA
Access Point Mode	ON

Current IP Settings

IP Address	192.168.0.233
Subnet Mask	255.255.255.0
Default Gateway	192.168.0.1
DHCP Client	Disable

Current Wireless Settings

Operating Mode	11 b/g/Next (20/40 MHz)
Wireless Network Name (SSID)	NETGEAR
Channel / Frequency	6 / 2.437GHz
WEP / WPA	Disable

General Information Help

The *Access Point General Information* page displays current settings and statistics for your Access Point. As this information is read-only, any changes must be made on other pages.

Access Point Information: General information.

Current IP Settings: These are the current settings for IP address, Subnet Mask, Default Gateway and DHCP settings.

Current Wireless Settings: These are the current settings for the

Figure 2-2

To configure the Basic LAN settings:

1. Select **Basic Settings** under **Setup** on left side of the main menu. The Basic Settings screen will display. The default settings should be suitable for most users and environments.

Basic Settings

Access Point Name: netgearDD53EB

IP Address

DHCP Client: Enable Disable

IP Address: 192 . 168 . 0 . 233

IP Subnet Mask: 255 . 255 . 255 . 0

Default Gateway: 192 . 168 . 0 . 1

Primary DNS Server: 0 . 0 . 0 . 0

Secondary DNS Server: 0 . 0 . 0 . 0

Time Zone: (GMT-08:00) Pacific Time (US Canada) [v]

Automatically Adjust for Daylight Savings Time

Current Time: Thu Jan 1 19:20:28 1970

Apply Cancel

Figure 2-3

2. Enter the **Access Point Name** of the WN802T.

This unique name is the access point NetBIOS name. The Access Point Name is printed on the rear label of the WN802T. The default is **netgearxxxxxx**, where **xxxxxxx** represents the last 6 digits of the WN802T MAC address. You may modify the default name with a unique name up to 15 characters long.

3. Enter the IP Address fields of the WN802T.

- **DHCP Client.** By default, the Dynamic Host Configuration Protocol (DHCP) client is disabled. If you have a DHCP server on your LAN and you enable DHCP, the wireless access point will get its IP address, subnet mask and default gateway settings automatically from the DHCP server on your network when you connect the WN802T to your LAN.
- **IP Address.** Enter the IP Address of your wireless access point. The default IP address is 192.168.0.233. To change it, enter an unused IP address from the address range used on your LAN; or enable DHCP.
- **IP Subnet Mask.** The Access Point will automatically calculate the subnet mask based on the IP address that you assign. Otherwise, you can use 255.255.255.0 (the default) as the subnet mask.

- **Default Gateway.** Enter the IP address of the gateway for your LAN. For more complex networks, enter the address of the router for the network segment to which the wireless access point is connected. The default is 0.0.0.0.
 - **Primary DNS Servers.** The WN802T will use this IP address as the primary Domain Name Server used by stations on your LAN. The default is 0.0.0.0.
 - **Secondary DNS Servers.** The WN802T will use this IP address as the secondary Domain Name Server used by stations on your LAN. The default is 0.0.0.0.
4. From the pull-down menu, select the local **Time Zone** for your wireless access point from a list of all available time zones. The default is GMT.-08:00
 5. Check the **Adjust for Daylight Saving Time** if your location uses daylight savings. The default is no adjustment.



Note: If you do not have an Internet connection to get the current time, the wireless access point will get the current time from the connecting PC.

6. Click **Apply** to save your Basic IP settings.



Note: If you change the default subnet of the LAN IP address, you will be disconnected from the RangeMax NEXT user interface. To reconnect, reconfigure your computer with a static IP address within the new LAN IP subnet.

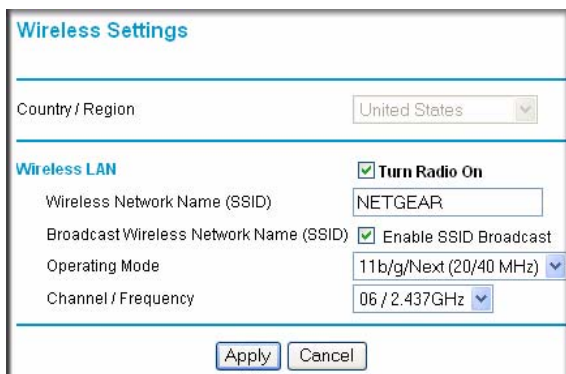
By default, the WN802T is set with the DHCP client disabled. If your network uses dynamic IP addresses, you must change this setting (see [“Logging in to the RangeMax NEXT” on page 2-11](#)),

Configuring Your Wireless Settings

The following sections describe how to configure the wireless settings for both the 802.11b/g/Next and 802.11b/g modes.

To configure the RangeMax NEXT wireless settings of your wireless access point:

1. From the main menu under Setup, select **Wireless Settings**. The Wireless Settings screen will display as shown in [Figure 2-4](#) below



Wireless Settings

Country / Region: United States

Wireless LAN

Turn Radio On

Wireless Network Name (SSID): NETGEAR

Broadcast Wireless Network Name (SSID): Enable SSID Broadcast


Operating Mode: 11b/g/Next (20/40 MHz)

Channel / Frequency: 06 / 2.437GHz

Apply Cancel

Figure 2-4

- From the **Country/Region** pull-down menu, select the region where the WN802T can be used (the Country/Region is not Configurable in the United States; but is configurable in the rest of the world).

	Note: If your country or region is not listed, please check with your local government agency.
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- Configure the Wireless LAN settings based on the following field descriptions:
 - Turn Radio On.** On by default, you can also turn off the radio to disable access through this device. This can be helpful for configuration, network tuning, or troubleshooting activities.
 - Wireless Network Name (SSID).** Enter a 32-character (maximum) service set ID in this field; the characters are case sensitive. When the wireless access point is deployed in “infrastructure” mode, the SSID assigned to a wireless device must match the wireless access point SSID in order for the wireless device to communicate with the WN802T. If they do not match, you will not get a wireless connection to the WN802T. The default is NETGEAR.
 - Broadcast Wireless Network Name (SSID).** If Enabled, the Wireless Access Point broadcasts its SSID allowing Wireless Stations which have a “null” (blank) SSID to adopt the correct SSID. If set to disable, the SSID is not broadcast. The default is Enabled.
 - Wireless Mode.** From the pull-down menu, select the desired wireless operating mode:
 - 11b/g – Both 802.11b and 802.11g wireless stations can be used.

- 11b/g/Next – 802.11b, 802.11g and 802.11n wireless stations can be used.

The default is 11b/g/Next

- **Channel/Frequency.** From the pull-down menu, select the channel you wish to use on your wireless LAN. The wireless channels to use in the U.S. and Canada are 1 to 11; for Europe and Australia, 1 to 13. The default is channel 6.

It should not be necessary to change the wireless channel unless you experience interference (shown by lost connections and/or slow data transfers). Should this happen, you may want to experiment with different channels to see which is the best. See the article on “Wireless Channels” available on the NETGEAR website. (A link to this article and other articles of interest can be found in [Appendix B, “Related Documents.”](#))

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

Verifying Basic Wireless Connectivity

Follow the instructions below to set up and test basic wireless connectivity. Once you have established basic wireless connectivity, you can enable security settings appropriate to your needs (see [“Wireless Security Settings”](#)).

1. From a web browser, log in to the WN802T using its default address of **http://192.168.0.233**. Use the default user name of **admin** and default password of **password**—or use a new LAN address and password if you have set them up.
2. From the main menu under Setup, select Basic Settings. Verify that the correct Country/Region in which the wireless interface will operate has been selected.
3. Click **Apply** to save any changes.
4. From the main menu under Setup, verify your Operating Mode—either 11b/g/Next or 11b/g. Verify that the correct (default) channel has been selected for your network.

It should not be necessary to change the wireless channel unless you notice interference problems or are near another wireless access point. Select a channel that is not being used by any other wireless networks within several hundred feet of your wireless access point.

Click **Apply** to save any changes.



Note: If you are unable to connect, see [Chapter 5, “Troubleshooting.”](#)

Deploying the RangeMax NEXT

Now that you have completed the setup steps, you can deploy the WN802T in your network. If needed, you can now reconfigure the computer you used in step 1 in [“Configuring the RangeMax NEXT” on page 2-3](#) back to its original TCP/IP settings.

To deploy the RangeMax NEXT:

1. Disconnect the WN802T and position it where it will be deployed. The best location is elevated, such as wall mounted or on the top of a cubicle, at the center of your wireless coverage area, and within line of sight of all the mobile devices.
2. Connect an Ethernet cable from your RangeMax NEXT to a LAN port on your router, switch, or hub. Connect the power adapter to the wireless access point and plug the power adapter into a power outlet. The PWR, LAN, and Wireless LAN LEDs and should light up



Tip: Before mounting the WN802T in a high location, first set up and test the WN802T to verify wireless network connectivity.

Installing the Wall Mount Kit (Optional)

Before you begin installation, check to make sure that the four screws selected to secure the brackets fit flush within the molding of the bracket. An illustration of the installation steps is shown in [Figure 2-5 on page 2-11](#).

To install the wireless access point mounting brackets:

1. Place the bottom bracket on the wall where you want to install the WN802T. Securely screw the bottom bracket into the wall, making sure the screws are flush with the bracket (Step 1).
2. Snap the WN802T into place on the bottom bracket (Step 2). The tabs on the bottom of the bracket will snap into the slots on the bottom of the WN802T.
3. Firmly secure the top bracket onto the WN802T and attach the bracket with two additional screws (Step 3). Ensure that the bracket flange engages with the top lip of the WN802T before screwing in the bracket.

Should you need to remove the WN802T, unscrew the top bracket, and then unsnap the WN802T from the bottom bracket. Never try to remove your wireless access point before removing the top bracket.

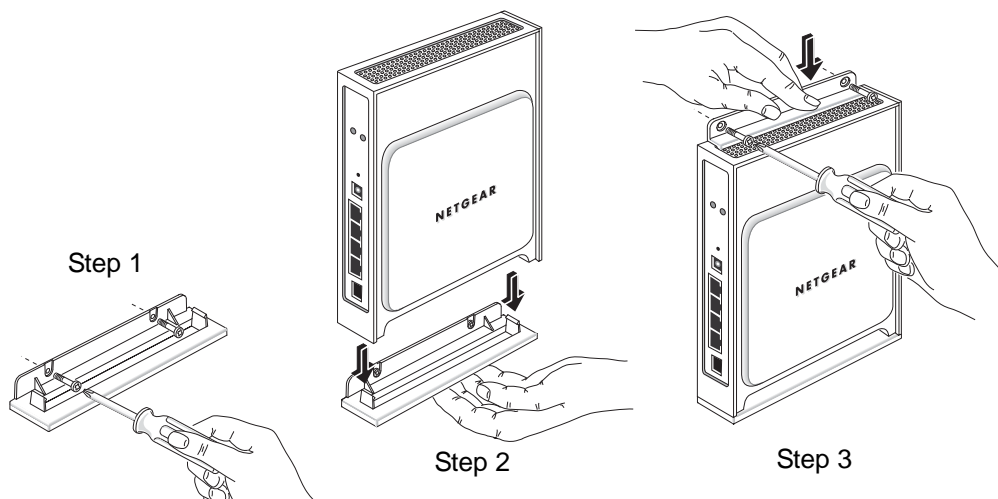


Figure 2-5

Configuring and Testing Your PCs for Wireless Connectivity

Program the wireless adapter of your PCs to have the same SSID and channel that you configured in **Wireless Settings** for the WN802T. Check that they have a wireless link and are able to obtain an IP address by DHCP from the WN802T.



Note: If you are configuring the WN802T from a wireless computer and you change the SSID, channel, or Security Profile settings, you will lose your wireless connection when you click Apply. You must then change the wireless settings of your computer to match the new settings.

Once your PCs have basic wireless connectivity to the WN802T, you can deploy the WN802T and configure the advanced wireless security functions.

Logging in to the RangeMax NEXT

The WN802T is set, by default with the IP address of 192.168.0.233 with DHCP disabled.



Note: If logging in using the default IP address, the computer you are using to connect to the WN802T should be configured with an IP address that starts with 192.168.0.x and a Subnet Mask of 255.255.255.0.

If DHCP is enabled, there are two methods you can use to connect to the WN802T after the DHCP server on your network assigns it a new IP address.

- If your wireless access point is to be deployed on a local network, you can enter the NetBIOS¹ name into your Web browser. The default wireless access point name is **netgearxxxxxx**, where **xxxxxx** represents the last 6 bytes of the MAC address. The MAC address is printed on the rear label of the WN802T. (Using the NetBIOS naming convention to access your router across several network segments is known to be unreliable.)
- Reserve an IP address (based on the WN802T's MAC address) on the DHCP server. That way, if your router is deployed across several segments, you can configure the wireless access point with a static IP address which you can always use to log in to make future configuration changes.

To log in using the default IP Address:

1. Open a Web browser such as Mozilla Firefox, Internet Explorer or Netscape Navigator.
2. Connect to the WN802T by entering the default address of **http://192.168.0.233** into your browser.

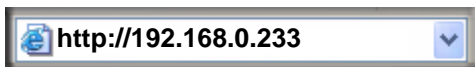


Figure 2-6

3. The login screen will display. Enter **admin** for the user name and **password** for the password, both in lower case letters.



Figure 2-7

1. NetBIOS name login is not supported in the initial release of the firmware. Check the Release Notes of your firmware version for NetBIOS support at <http://kbserver.netgear.com/products/WN802T.asp>.

4. Click **OK.**

Your Web browser should automatically find the RangeMax NEXT and display the home screen, as shown in [Figure 2-6](#) above.

