

NETGEAR

NETGEAR N300 Wireless Mini USB Adapter WNA3100M

User Manual



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Thank you for choosing NETGEAR. To register your product, get the latest product updates, get support online, or for more information about the topics covered in this manual, visit the Support website at http://support.netgear.com.

Phone (US & Canada only): 1-888-NETGEAR

Phone (Other Countries): Check the list of phone numbers at http://support.netgear.com/app/answers/detail/a id/984.

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Set Up Your Wireless Adapter

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This chapter includes the following sections:

- Package Contents
- Status LED
- NETGEAR Genie Desktop Icon
- NETGEAR Genie Home
- Join a Wireless Network

For help installing your wireless-N USB adapter, see the installation guide that came in the package.

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

Package Contents

Your adapter comes with a *Resource CD*. Depending on the location where you purchased it, either a USB cable or an adapter cradle with a USB cable comes in the package too.

Your package contents looks like this:



Figure 1. Package contents

Status LED

The LED shows the status of the wireless link as explained in the following table.

Wireless-N USB Adapter	LED	Meaning
NETGEAR (Sp.)	Off	 The wireless-N USB adapter is not plugged in to the USB port. The wireless-N USB adapter is in power save mode (default from power-up or reset).
	Blinking	The wireless-N USB adapter is scanning for a network. The wireless-N USB adapter is sending or receiving data.
	Solid	The wireless-N USB adapter is connected to a wireless network, but it is not sending or receiving data.

NETGEAR Genie Desktop Icon

When you install your adapter, the NETGEAR Genie icon appears in the Windows system tray and on the desktop. You can click this icon to open NETGEAR Genie to make changes or connect to a different wireless network. The color of the icon indicates the strength of your wireless connection from 0 (zero) to 5 bars.

Green: 3 to 5 bars

Yellow: 1 or 2 bars

Red: 0 (zero) bars, indicating no connection

If you remove your adapter, NETGEAR Genie is not available, so the icon is not displayed. if you insert the adapter again, the icon returns.

NETGEAR Genie Home

When you launch NETGEAR Genie, the home screen displays.



This screen shows you at a glance if you are connected to a network, and if you have Internet access. The following options are available:

- Select Language. If more than one language is available, you can select a language from this drop-down list. NETGEAR Genie screens will be displayed in the language that you selected.
- **Home button**. The currently selected Home screen. You can click the Home button to return here from a different screen.
- Join a Network button. View a list of wireless networks and join a network.
- Other button. View more information or check for software updates.
- Help. Display the help.

Status Bar

The status bar is located at the bottom of the screen:

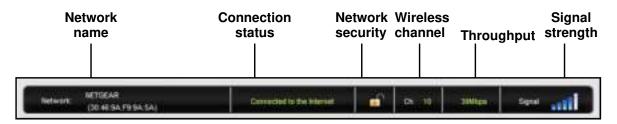


Figure 2. Status bar

Network name. The network name (SSID) of the wireless network that the adapter is currently connected to.

Connection status. This shows the status that is also shown in the diagram in the middle of this screen.

- Connected to the Internet
- Connected to the Router
- No Connection

Network security. The lock symbol shows whether or not the network you are connected to uses wireless security. An open lock indicates an open network without wireless security, such as one that you might use in a coffee shop.

Wireless channel. The wireless channel of the network that the adapter is connected to.

Throughput. The throughput rate for wireless communication.

Signal strength. The strength of the wireless signal. Three-to-five bars indicate a good signal. One or two bars indicate a weak signal.

Join a Wireless Network





Network list. View the wireless networks in the area. Click a network to select it.

Manual Connect. Click this button to join a network without viewing it on the network list, or to connect to a hidden network. A hidden network does not broadcast its wireless network name (SSID).

Refresh. Click this button to scan for available networks in the area.

Network Details

From the Join a Network screen, you can view more details about a specific network.

To view network details:

1. In the Join a Network screen, click the network to select it



2. Click the **Details** button to display a screen similar to the one shown here.



The following information is displayed:

- Network Name (SSID). The name assigned to a wireless network. Note that, as a
 security measure, some wireless access points do not broadcast their SSIDs. In such
 cases, the network is hidden. The name (SSID) field is blank even though the rest of the
 information is displayed.
- Channel. The channel that the wireless network operates on. NETGEAR recommends
 that you choose a network that uses a channel that is different from that of neighboring
 networks.
- Wireless Mode. The wireless technology used for this router such as n, g, or b.
- **WPS Support**. Identifies whether the router or access point for this network supports WPS (Wi-Fi Protected Setup).
- **MAC Address**. The unique hardware address of the wireless device broadcasting this information. Typically, this is a wireless router, gateway, or access point.

Join a Network or Connect to a Different Network

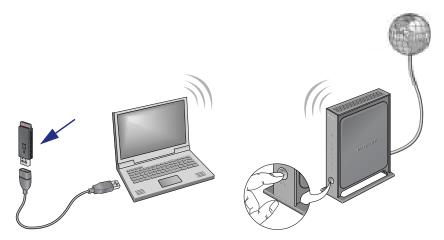
You can use WPS to join a wireless network if your wireless network supports it, or you can join a wireless network from this NETGEAR Genie screen.

- **WPS**. Press and hold the **WPS** button on the side of the adapter for 2 seconds. Then within 2 minutes, press the **WPS** button on your wireless router or gateway.
- **NETGEAR Genie**: Click your wireless network to select it from the list, and then click **Connect**. If the network is secure, enter its password or network key.

After the adapter joins the network, it automatically saves the network connection information to a Windows profile. Windows profiles can be used by Genie and the Windows utility. The next time you launch NETGEAR Genie, it will automatically connect to the network you previously joined if there's no change in the network information.

> To use WPS to join a wireless network:

1. Press and hold the **WPS** button on the side of the adapter for 2 seconds.



2. Then within 2 minutes, press the WPS button on your wireless router or gateway
The adapter joins the network, which can take a few minutes. Your settings are saved in a profile.

To select and join a wireless network:

1. From NETGEAR Genie, click Join a Network.



2. Look for your network in the list on this screen. If you do not see your network, you might need to scroll down to view more networks.

If the network name is not displayed, that indicates a hidden network that does not broadcast its SSID. Use the manual method to connect to a hidden network. See *Join a Hidden Network* on page 12.

3. Click the network that you want to join.



- 4. Click the Connect button.
- 5. If the wireless network is secure, enter the network password.

The adapter joins the wireless network. This could take a few minutes.

Join a Hidden Network

A hidden network does not broadcast its SSID.

- 1. From NETGEAR Genie, click Join a Network.
- 2. Click the Manually Connect to a network (for hidden networks) link.



You can use WPS to connect, or enter the wireless information yourself.

> To manually connect using WPS:

- 1. Click the Start button.
 - A dialog pop-up displays with WPS instructions telling you to press the WPS button both on the adapter and the router.
- As explained in the pop-up screen, press the WPS button on your adapter. Then go to your wireless router, gateway, or access point and press its WPS button.

> To manually connect without WPS:

1. Select the **Enter wireless information myself** radio button.



There are four security types that can be displayed for the network: None, WEP, WPA-PSK, and WPA2-PSK.

- None. There is no password.
- WEP. The password (key) is a 10 or 26 hexidecimal digit.
- **WPA-PSK/WPA2-PSK**. The password (passphrase) is between 8 and 23 characters in length.
- 2. In the fields provided, type the network name (SSID), select the security type, and type the passphrase (password).

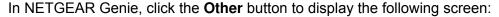
Maintenance

2

This chapter includes the following sections:

- Other Screen
- Remove the Software
- Frequently Asked Questions (FAQs)

Other Screen





Sent/Receive Activity

Sent Packets. Total number of packets sent while communicating with the wireless network.

Received Packets. Total number of packets received from wireless network communications.

Network

IP Address. The IP address assigned to this adapter. This can change if you disconnect from the network and rejoin it later.

Security Type. wireless security used for the adapter to connect to the current wireless network.

Adapter

Adapter MAC Address. The Media Access Control (MAC) address of this adapter. The MAC address is a unique 48-bit hardware address assigned to each wireless device. As a security measure, some wireless networks restrict access based on a list of known MAC addresses. If you try to join such a network, you have to provide your adapter's MAC address (shown here) to the network administrator before you can connect.

Region. This is the region setting for the wireless adapter. Wireless channels in use depend on the country or region. Your wireless adapter automatically scans approved channels for your region when it checks to see which networks are available in your area. Governments regulate the channels used for wireless transmission. Operating the wireless adapter in a different region might violate local laws.

Support

Get Diagnostics Info. Click the **Get Info** button if support has directed you to do so. The Genie displays the system Information screen and starts collecting system information, IP information, client driver and profile information, and site survey information.

Software Update. You can check for software updates at the NETGEAR website. Click the **Check** button, and the Genie displays the Live Check screen and checks for available software upgrades. If new software is found, the adapter software is automatically updated.

Help. Click the **Help** button to display help.

Remove the Software

You can remove the wireless adapter software in several different ways:

- Uninstall: In Windows, select Start > All Programs > NETGEAR WNA3100M Adapter > Uninstall NETGEAR WNA3100M Software.
- Control Panel: How you do this depends on your Windows operating system:
 - Windows 7: Select Start > Control Panel > Programs and Features, and then select the N300 Wireless Mini USB Adapter WNA3100M. Click Uninstall and follow the screen prompts.
 - Windows Vista: Select Start > Control Panel > Programs and Features, and then select the N300 Wireless Mini USB Adapter WNA3100M. Click Uninstall/Change from the top menu and follow the screen prompts.
 - Windows XP: Select Start > Control Panel > Add or Remove Programs, and then select N300 Wireless Mini USB Adapter WNA3100M.

Frequently Asked Questions (FAQs)

The wireless-N USB adapter LED is not lit.

The wireless-N USB adapter is not inserted securely in the USB port (or USB cable if used) or the WNA3100M software is not installed.

- Remove and reinsert the wireless-N USB adapter.
- Check the Windows device manager to see if the wireless-N USB adapter is recognized and enabled. Reinstall the WNA3100M software, if necessary.
- Insert the wireless-N USB adapter in a different USB port on your computer if one is available.

I do not see the 📒 icon.

Check to make sure that your wireless-N USB adapter is inserted in the USB port. If it is removed, then the icon is not displayed. When you insert the wireless-N USB adapter into the USB port, the icon returns to your desktop and the Windows system tray.

I cannot connect to a wireless network.

- Make sure that your wireless-N USB adapter is inserted securely into the USB port on your computer or the USB cable if you are using it. The wireless-N USB adapter LED should light up or blink (see *Status LED* on page 5 for details).
- Click the icon to open NETGEAR Genie. The home screen shows the following screen if the adapter cannot connect to the network that you selected.



If the network uses wireless security, you need to either know the wireless security
settings or use Push 'N' Connect if the network supports WPS. Some networks also
restrict use to only computers or wireless devices with known MAC addresses. If that is
the case, on the NETGEAR Genie screen, click Other to find the MAC address for your
wireless-N USB adapter and provide it to the network administrator.

When I connect to the network I cannot access the Internet.

Click to open NETGEAR Genie. The home screen shows the following screen if you are connected to a network, but cannot access the Internet:



Make sure that you are connected to the right network. If you are, then check to see if the router's Internet connection is working. If the router's Internet connection is not working, restart the modem, router, and computer.

When I connect to the network I cannot access shared resources such as printers.

- Check to make sure the router or access point is physically connected to the Ethernet network.
- Make sure that the IP addresses and the Windows networking settings are configured correctly.

How can I improve the speed of my wireless connection?

You can use the USB cable and adapter that came in the package to position the wireless-N USB adapter for better wireless communication.

The connection speed can vary depending on the type of USB port on your computer, the capacity of the router or access point for the wireless network, and the type of Internet connection. You can view the throughput in the status bar at the bottom of the Smart Wizard screen.

• If the throughput is 54 Mbps you could be connected to an 802.11g network, or the wireless-N network could be set with WPA (TKIP) security.

Wi-Fi regulations allow the wireless-N USB adapter to connect only at up to 54 Mbps when WPA (TKIP) security mode is set on the router. For a faster connection, set the security for the router as WPA2 or WPA + WPA2 mixed wireless security. Then the wireless adapter can connect in 802.11n mode.

• If you do not have a USB 2.0 port on your computer, the throughput is limited to the 14 Mbps of the older USB 1.1 standard.

How can I view the IP address for the wireless-N USB adapter?

Click the licon to open NETGEAR Genie. Then click the **Other** button to view the IP address.

No IP address is assigned to the wireless-N USB adapter.

This can occur if you upgraded your wireless-N USB adapter software and did not reboot your computer. Either restart your computer, or connect to a different access point.

Supplemental Information



Technical Specifications

The following table provides technical specifications for the wireless-N USB adapter.

Feature	Description
Antenna	2 PIFA wireless antennas
Standards	802.11n, 802.11g, or 802.11b
Radio data rate	Auto Sensing
Frequency	2.4 GHz to 2.5 GHz CCK and OFDM Modulation
Power	5V Bus powered
Emissions	FCC, CE
Bus interface	USB 2.0
Provided drivers	Microsoft Windows 7, Vista, and Windows XP (32/64-bit)
Operating environment	Operating temperature: 0 to 40° C
Encryption	WPA2-PSK [AES], WPA-PSK [TKIP], and 40-bit (also called 64-bit) and 128-bit WEP data encryption
Warranty	Limited 1-year warranty

Factory Default Settings

The following table lists the default settings of your wireless-N USB adapter.

Default Settings		
Wireless communication	Enabled	
Country/Region	United States (varies by region)	
Operating mode	802.11n, 802.11g, 802.11b	
Data rate	Up to 300 Mbps	

Notification of Compliance

NETGEAR Adapters



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 quide may not be available in your version of the product.

FCC Requirements for Operation in the United States

FCC Information to User

This product does not contain any user serviceable components and is to be used with approved antennas only. Any product changes or modifications will invalidate all applicable regulatory certifications and approvals

FCC RF Radiation Exposure and SAR Statements

SAR Statement

The NETGEAR N300 Wireless Mini USB Adapter WNA3100M has been tested for body-worn Specific Absorption Rate (SAR) compliance. The FCC has established detailed SAR requirements and has established that these requirements have been met while the NETGEAR N300 Wireless Mini USB Adapter WNA3100M was installed in a host notebook computer.

RF Exposure Information

The radio module has been evaluated under FCC Bulletin OET 65C (01-01) and found to be compliant to the requirements as set forth in CFR 47 Sections, 2.1093, and 15.247 (b) (4) addressing RF Exposure from radio frequency devices. This model meets the applicable government requirements for exposure to radio frequency waves. The highest

SAR level measured for this device was 1.180 W/kg.

FCC Declaration of Conformity

We, NETGEAR, Inc., 350 East Plumeria Drive, San Jose, CA 95134, declare under our sole responsibility that the NETGEAR N300 Wireless Mini USB Adapter WNA3100M complies with Part 15 Subpart B of FCC CFR47 Rules.

Operation is subject to the following two conditions:

- · This device may not cause harmful interference, and
- This device must accept any interference received, including interference that may cause undesired operation.

FCC Radio Frequency Interference Warnings & Instructions

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no

guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following methods:

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

Canadian Department of Communications Radio Interference Regulations

This digital apparatus (TBD) does not exceed the Class B limits for radio-noise emissions from digital apparatus as set out in the Radio Interference Regulations of the Canadian Department of Communications.

Industry Canada

This device complies with RSS-210 of the Industry Canada Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

IMPORTANT NOTE: Radiation Exposure Statement:

This equipment complies with IC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

Caution:

Ce dispositif est conforme à la norme CNR-210 d'Industrie Canada applicable aux appareils radio exempts de licence. Son fonctionnement est sujet aux deux conditions suivantes: (1) le dispositif ne doit pas produire de brouillage préjudiciable, et (2) ce dispositif doit accepter tout brouillage reçu, y compris un brouillage susceptible de provoquer un fonctionnement indésirable.

NOTE IMPORTANTE: Déclaration d'exposition aux radiations:

Cet équipement est conforme aux limites d'exposition aux rayonnements IC établies pour un environnement non contrôlé. Cet équipement doit être installé et utilisé avec un minimum de 20 cm de distance entre la source de rayonnement et votre corps.

Europe - EU Declaration of Conformity



Marking by 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 please visit the NETGEAR EU Declarations of Conformity website at: http://support.netgear.com/app/answers/detail/a_id/11621/

Language	Statement
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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Language	Statement
Slovensky [Slovak]	NETGEAR Inc. týmto vyhlasuje, že Radiolan spĺňa základné požiadavky a všetky príslušné ustanovenia Smernice 1999/5/ES.
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Norsk [Norwegian]	NETGEAR Inc. erklærer herved at utstyret Radiolan er i samsvar med de grunnleggende krav og øvrige relevante krav i direktiv 1999/5/EF.

GPL License Agreement

GPL may be included in this product; to view the GPL license agreement go to ftp://downloads.netgear.com/files/GPLnotice.pdf.

For GNU General Public License (GPL) related information, please visit http://support.netgear.com/app/answers/detail/a_id/2649.

Interference Reduction Table

The table below shows the Recommended Minimum Distance between NETGEAR equipment and household appliances to reduce interference (in feet and meters).

Household Appliance	Recommended Minimum Distance (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