NETGEAR[®]

Wireless Cable Gateway CG3100Dv3 User Manual



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Connecting to the Internet

For help installing the gateway, see the *Wireless Cable Gateway CG3100Dv3 Quick Install Guide*.

This chapter describes how to configure your gateway's Internet connection and includes these sections:

- Gateway Front Panel on page 6.
- Gateway Rear Panel on page 8.
- Logging Into Your Gateway on page 9.
- Viewing the Basic Settings on page 10.

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

Gateway Front Panel



Figure 1. Gateway front view

Note: For optimal performance, place the gateway vertically in the stand. Do not mount this unit to a wall; it is not suitable for wall mounting.

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 gateway.

LED	Description
O Power	 Green: Power is supplied to the cable modem. Blinking: Power on self-test. Off: No power.
Downstream	 Green: One or more downstream channels is locked. Blinking: The unit is scanning for a downstream channel. Off: No downstream channel is locked.
Upstream	 Green: One or more upstream channels is locked. Blinking: The unit is scanning for an upstream channel. Off: No upstream channel is locked.
(CO) Internet	 Solid green: The cable modem is online. Blinking: The cable modem is synchronizing with the cable provider's CMTS. Off: The cable modem is offline.
LAN (Ethernet)	 Green indicates 1,000 Mbps. Amber indicates 100/10 Mbps. Solid: An Ethernet device is connected and powered on. Blinking: Data is being transmitted or received on the Ethernet port. Off: No Ethernet device is detected on the Ethernet port.
Button	Description
(cor) WPS	Pushing this button opens a 2-minute window for the gateway to connect with other WPS-enabled devices. For more information, about using the WPS method to implement security, see the <i>Using Push 'N' Connect (WPS) Wireless Setup</i> on page 15
((•)) Wireless On/Off	Turn the wireless radio in the gateway on and off. The wireless radio is on by default. The LED located below this button indicates if the wireless radio is on or off.

Gateway Rear Panel

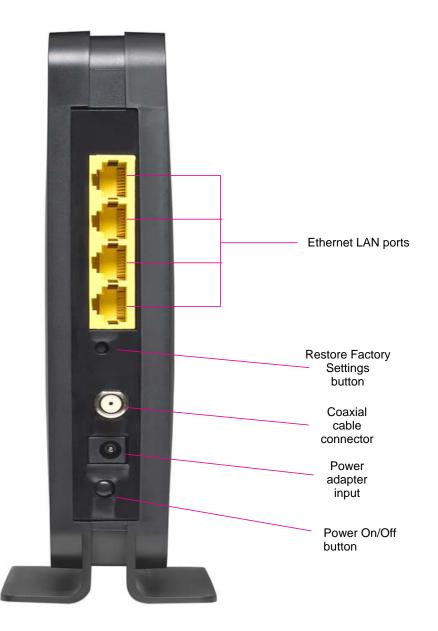


Figure 2. Gateway rear panel

The rear panel includes the following connections, viewed from left to right:

- Four Gigabit-Ethernet LAN ports: Use these ports to connect local computers.
- **Coaxial cable connector**: Attach coaxial cable to the cable service provider's connection.
- **Power**: Power adapter input.

• Power On/Off button.

Note: You can return the gateway to its factory settings. On the back panel of the gateway, press and hold the Restore Factory Settings button of for over 7 seconds. The gateway resets, and returns to its factory settings. See *Factory Default Settings* in Appendix A.

Logging Into Your Gateway

You can log in to the gateway to view or change its settings. Links to Knowledge Base and documentation are also available on the gateway main menu.

Note: To connect to the gateway you must use a computer configured for DHCP (most computers are). For help with configuring DHCP, see the instructions that came with your computer.

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

To log in to the gateway:

1. On the computer that is connected to the gateway with an Ethernet cable, type http://192.168.1.1 in the address field of your Internet browser.

A login window opens.

Password:	User name:
	Password:
Remember my password	

Log in with the user name admin and its default password of password.
 When you connect to the gateway the Gateway Status screen displays.

Información			
Compatible con las Especificacione	s del Estándar	DOCSIS 3.0	
Versión Hardware		1.04A	
Versión Software		V5.5.1mp3R01D	
Dirección MAC del Cable Modern		00:1b:2f:8d:91:db	
Número de Serie del Cable Modern		001b2f8d91db	
Certificado CM		Installed	
Estado			
Tiempo desde el inicio del sistema 0 days 00h:10n		n:03s	
Acceso a Red Allowed			
Dirección IP de Cable Modern	10.10.18.5		

To view the gateway's settings for the Internet connection, see the following section, *Viewing the Basic Settings* on page 10.

Viewing the Basic Settings

The Basic Settings screen shows the Internet settings for the gateway.

To view or configure the basic settings:

1. Select Basic Settings from the main menu.

Configu	ración de Red	
Direccia	ón IP Address	192.168.18.5
	Duration	D: 00 H: 23 M: 54 S: 24
	Expires	Fri Apr 30 00:22:22 2010
WAN	Máscara de Subred	255.255.255.128
WAN	Router por defecto	192.168.18.1
WAN	DNS primario	8.8.8.8
WAN	DNS secundario	0.0.0.0
WAN	DNS terciario	0.0.0.0
WAN Configu		0.0.0
	inámica OIP Estáti	
		ca
Nombre	e del dispositivo	

- 2. You can fill in the **Domain Name** and **Device Name** fields.
 - By default, the **Dynamic IP** radio button is selected. This allows the gateway to download network configuration from your ISP.

- Select Static IP only if your ISP has assigned you a permanent, fixed (static) IP address.
- **3.** If you select Static IP, more fields appear on the screen. Fill in these fields so the gateway can connect to the Internet:
 - Static IP Address. The fixed IP address that your ISP has assigned to you.
 - **Static IP Mask**. The network number portion of an IP address. Unless you are implementing subnetting, use 255.255.255.0 as the subnet mask.
 - **Primary DNS**. A DNS server is a host on the Internet that translates Internet names (such as www.netgear.com) to numeric IP addresses. Typically your ISP transfers the IP address of one or two DNS servers to your Gateway during login. If the ISP does not transfer an address, you must obtain it from the ISP and enter it manually here. If you enter an address here, you should reboot your PCs after configuring the Gateway.
 - **Secondary DNS**. If applicable, enter the address of your ISP's secondary DNS server.
- 4. If you made changes, click **Apply** so that the changes take effect.

Wireless Configuration

2

Note: Before changing wireless settings, connect the gateway and set up its Internet connection as described in the *Wireless Cable Gateway CG3100Dv3 Quick Install Guide*.

This chapter includes:

- Setting Up Your Wireless Network .
- Manually Configuring Wireless Settings on page 13.
- Using Push 'N' Connect (WPS) Wireless Setup on page 15.
- Wi-Fi Multimedia on page 18.
- Advanced Wireless Settings on page 19.

Setting Up Your Wireless Network

To set up the wireless network, you can enter wireless settings, (see *Manually Configuring Wireless Settings* on page 13) or you can use Wi-Fi Protected Setup (WPS), described in *Using Push 'N' Connect (WPS) Wireless Setup* on page 15. To wirelessly connect to the gateway, a computer or wireless device must be configured with the same wireless settings as the gateway.

- The default wireless network name (SSID) for the gateway is Wireless. NETGEAR recommends that you change this for better wireless security and to make it easier to recognize your network when you want to connect to it wirelessly.
- By default the gateway works with WPA and WPA 2 wireless security. The default passphrase is shown on the product label.
- To use Push 'N' Connect (WPS), your wireless computers and equipment must support WPS technology. See Using Push 'N' Connect (WPS) Wireless Setup on page 15.

Manually Configuring Wireless Settings

You can manually configure the wireless settings and security for your gateway from the Wireless Settings screen.

To view or configure the wireless settings:

1. If you are located near the gateway, use an Ethernet cable to connect your computer to the gateway while you are changing the wireless settings.

Note: If you connect wirelessly to the gateway and then change its wireless network name (SSID) or wireless security, you will be disconnected after you click **Apply**.

- 2. Log in to the gateway as described in *Logging Into Your Gateway* on page 9.
- **3.** In the main menu, under Setup, select Wireless Settings to display this screen.
- 4. Specify the Wireless Network settings.
 - Name (SSID): The name of the wireless network.
 - **Region**: The location where the gateway will operate.
 - **Channel**: The available channels depend on the region. Some countries have laws specifying which channels should be used.
 - 802.11 Mode: This is set to Up to 145 Mbps by default. You can specify the mode to support faster equipment or legacy equipment.
- 5. For help with Security Options, see the following sections
- 6. If you made changes, click **Apply** so that they take effect.

Red Inalámbrica	6
Name(SSID):	DN09851
Region:	EULE
Channel:	Auto 💌
-	Up to 145 Mbps 🔹
Opciones de Se	guridad
O Disable	
O WEP	
· WPA-PSK	KIP]
O WPA2-PSK	(AES)
· WPA-PSK	KIP] + WPA2-PSKJAES]
O WPAWPA2	Enterprise
MPA-PSK[TKIP]	+ WPA2-PSK[AES]
	33759300 (8-63 caracteres)

WPA or WPA2 Wireless Security

By default the gateway is set up to work with both WPA and WPA2 wireless security. (This security option is already selected.) You can specify the Network Key, which works like a password to access the wireless network.

To set up WPA or WPA2 wireless security:

- In the Security Options section of the Wireless Settings screen, leave the default setting or select one of the WPA settings:
 - **WPA-PSK**. This setting provides the TKIP encryption type and a pre-shared key passphrase.
 - **WPA2-PSK**. This setting provides the AES encryption type and a pre-shared key passphrase.
- 2. Depending on the WPA settings that you select, enter the required information.

Opc	iones de Seguridad
C	Disable
C	WEP
0	WPA-PSK[TKIP]
C	WPA2-PSK[AES]
0	WPA-PSK[TKIP] + WPA2-PSK[AES]
0	WPAWPA2 Enterprise
	A-PSK[TKIP] + WPA2-PSK[AES] Itraseña: 9733759300 (8-63 caracteres)
-	Aplicar. Cancel

For WPA-PSK or WPA2-PSK, enter the

pre-shared key, which is a passphrase between 8 and 63 characters. The default WPA passphrase is the 13-character serial number of your gateway.

3. Click Apply to save your settings.

Note: If you plan to use WPS, and you want to keep your wireless settings the same, go to the Advance Wireless Settings screen and make sure that the **Keep Existing Settings** checkbox is selected. See *Advanced Wireless Settings* on page 19.

4. Configure your wireless computers with the same WPA2 or WPA settings as your gateway so that you will be able to connect.

WEP Security

Note: By default, the gateway is set up to work with WPA and WPA2 wireless security, both of which are newer than WEP. Typically, the only reason you might need to set up WEP would be to allow access to older wireless computers or devices that cannot support WPA.

To set up WEP wireless security:

- 1. In the Wireless Settings screen, select the **WEP** radio button in the Security Options section.
- 2. Select the Authentication from the drop-down list. The default is **Automatic**.
- Depending on the encryption strength that you want, select one of these WEP Encryption options:
 - 64-bit encryption
 - 128-bit encryption
- 4. Enter a Passphrase (recommended) or WEP Keys:
 - To use a passphrase and generate keys, enter a passphrase and click **Generate**.
 - To enter the keys, fill in the **Key 1** through **Key 4** fields. Write down the keys and keep them in a secure location.
 - For 64-bit WEP, enter 10 hexadecimal digits (any combination of 0–9 or A–F).
 For 128-bit WEP, enter 26 hexadecimal digits.

WEP		
WPA-PS	K[TKIP]	
WPA2-F	SK[AES]	
WPA-PS	K[TKIP] + WPA2-PS	SK[AES]
WPAWF	PA2 Enterprise	
NEP Autentificació	ón: Automatic 👻]
Autentificació C lave de Enc Encriptación Contraseña	riptación (WEP): WEP WEP (64-bit) • Generate
Autentificació Clave de Enc Encriptación Contraseña	riptación (WEP): WEP WEP (64-bit WEP	
Autentificació Clave de Enc Encriptación Contraseña	riptación (WEP): WEP WEP (64-bit WEP 1111111111 111111111	
Autentificació Clave de Enc Encriptación Contraseña	riptación (WEP): WEP WEP (64-bit WEP	

- Select which key will be the default, which will be used to encrypt data transmissions. The other keys can only be used to decrypt received data.
- 5. Click Apply to save your settings.
- 6. Configure your wireless computers with the same WEP settings as your gateway so that you will be able to connect. If you entered the keys, you will need to type them exactly as you did when you set up the gateway.

Using Push 'N' Connect (WPS) Wireless Setup

Push 'N' Connect (WPS) can be a quick way to automatically set up your gateway's wireless network and set up your wireless computer to connect to it at the same time. WPS, also called Wi-Fi Protected Setup, is relatively new technology, so before you decide to use it, check to make sure your wireless computers and devices support WPS. Look for the symbol on all the computers that will connect wirelessly to the gateway.

If you do not see the 💮 symbol on all the computers that will connect to the wireless network, then you should manually set up your network first (see *Manually Configuring Wireless Settings*). After that, you can still use WPS to set up the wireless connection for the computers that support WPS.

Note: All WPS-capable products should be compatible with the gateway. For more detailed information about the WPS standard, see *http://www.wi-fi.org*).

There are two Push 'N' Connect methods, Push Button and PIN (personal identification number).

- **Push Button**. This is the preferred method. See the following section, *Using the WPS Button*.
- **PIN**. See Using a PIN on page 17.

Using the WPS Button

You can use the WPS button to automatically set up wireless settings in your gateway and to set up your wireless computer to connect to it.

Note: The first time you use WPS it will assign a random network name (SSID) and a random passphrase to your wireless network. If you want to keep the network name and passphrase you specified in the Wireless Settings screen, you must select the Keep Wireless
 Settings checkbox in the Advanced Wireless Settings screen. See Advanced Wireless Settings on page 19.

To use the WPS button:

- 1. First, make sure you know how WPS works on your computer or wireless device. If it works with WPS, it has a WPS utility and might also have a WPS button that you can press.
- 2. Log in to the gateway as described in Logging Into Your Gateway on page 9.
- **3.** In the main menu, select WPS Settings, and then click **Next**. The Add WPS Client screen displays:

Eleg	jir método de configuración:
C	Pulsar Botón (recomendado)
	Usted puede pulsar el botón físicamente en el router o pulsar el Botón siguiente (Botón de pulsado por software)
0	PIN (Número de Identificación Personal)/td>

Any computer or wireless device that will wirelessly connect to the gateway is a client. After it is added as a client, it will be able to automatically connect to the gateway. 4. Either click the 🥂 WPS button, or press the 🎬 button on the front of the gateway.

Cone	ctando con el Nuevo Cliente Inalámbrico
Por fav WPC	or haga clic en Bóton Software o pulse el Botón físico en el cliente para iniciar el proceso
CC CC	
	Cancel

- The WPS LED on the front of the gateway begins to blink.
- The gateway tries to communicate with the wireless computer or device for 2 minutes.
- If the Security Option in the Wireless Settings screen was set to Disabled, it is automatically changed to WPA-PSK [TKIP] + WPA2-PSK [AES] including a random wireless security password.
- 5. Go to the wireless computer, and run its WPS configuration utility. Follow the utility's instructions to click a WPS button.

When the computer connects to the wireless network, the gateway sends its SSID and WPA-PSK or WPA2-PSK configuration to that computer.

6. On the computer that just joined the wireless network, make sure you can connect to the Internet. You should see the gateway's Internet LED blink, showing that its Internet connection is in use.

Using a PIN

- 1. First, make sure you know how WPS works on your computer or wireless device. If it works with WPS, it has a WPS utility. Use this utility to determine the PIN for your wireless computer or device.
- 2. Log in to the gateway as described in Logging Into Your Gateway on page 9.
- 3. In the main menu, select WPS Settings. The Add WPS Client screen displays.

Añadir Cliente WPS		
Elegir método de configuración:		
Pulsar Botón (recomendado)		
Usted puede pulsar el botón físi pulsado por software)	camente en el rou	outer o pulsar el Botón siguiente (Botón de
PIN (Número de Identificación P	ersonal)	
Enter Client's PIN:		Next
-		

Any computer or wireless device that will wirelessly connect to the gateway is a client. After it is added as a client, it will be able to automatically connect to the gateway.

- 4. Select the **PIN** radio button.
- 5. Type the PIN that you located in Step 1 in the Enter Client's PIN field, and then click Next.
 - The WPS LED on the front of the gateway begins to blink.

- The gateway tries to communicate with the wireless computer or device for 4 minutes.
- If the Security Option in the Wireless Settings screen was set to Disabled, it is automatically changed to WPA-PSK (including a PSK security password).

When the computer connects to the wireless network, the gateway sends its SSID and WPA-PSK or WPA2-PSK configuration to that computer.

6. On the computer that just joined the wireless network, make sure you can connect to the Internet. You should see the gateway's Internet LED blink, showing that its Internet connection is in use.

Wi-Fi Multimedia

You can use the Multimedia page to set up wireless multimedia Quality of Service (QoS).

To set up Wi-Fi Multimedia:

- 1. Log in to the gateway as described in *Logging Into Your Gateway* on page 9.
- 2. In the main menu, under Setup, select Wi-Fi Multimedia.

Wi-Fi Multimedia(WMM)	
Soporte WMM	On 🔹
No-Acknowledgement	Off P
Soporte Ahorro de energia (Power Save)	On 💌

- 3. In the WMM Support field, select On to enable WMM.
- 4. In the **No-Acknowledgement** field, select **Off** or **On** to specify whether acknowledgement (ACK) messages are used.

Usually, this field is set to **Off**. This might improve the efficiency of packet transmission. If wireless communication quality is poor at your location (this could happen if there is a lot of interference), set this field to **On** so that you are notified when a package is lost.

- 5. To conserve battery power in smaller devices that are connected to the gateway, set the **Power Save Support** field to **On**.
- 6. Click Apply to save your settings.

Advanced Wireless Settings

You can use the Advanced Wireless Settings screen to configure the wireless radio settings, and other advanced settings:

2346
2347
Long 💽
Start Configure
Setup Access List
Cancel

The following table describes the fields in the Advanced Wireless Settings screen.

Advanced Wireless	Settings	Description
Wireless Access Point (Enhanced Feature)	Enable Wireless Access Point	By default this checkbox is selected so that the gateway works as a wireless access point. You can turn off the wireless radio to disable access through this device. This can be helpful for configuration, network tuning, or troubleshooting activities.
Advanced Configuration	 Fragmentation Threshold CTS/RTS Threshold Preamble Mode 	The default settings for these fields usually work fine. Change them only if you have a specific reason for doing so.
WPS Settings	Disable Router's PIN	Selecting this checkbox disables the PIN that WPS clients use to connect to the gateway with the PIN method. Normally this checkbox is cleared, which is the default setting.
	Keep Existing Settings	If a WPS client is added the gateway automatically selects this checkbox. When the Keep Existing Settings checkbox is selected, the SSID and wireless security settings remain the same when additional WPS clients are added.
Wireless Card Access List	Set up Access List	Access control is disabled by default so that any computer that is configured with the correct SSID can connect. For information about access control, see the following section.

Start Configure Button

This button can be used to start WPS configuration.

- Note: The first time you use WPS it will assign a random network name (SSID) and a random passphrase to your wireless network. If you want to keep the network name and passphrase you specified in the Wireless Settings screen, you must select the Keep Wireless Settings checkbox.
- 1. Click the Start Configure button.

Cone	ectando con el Nuevo Cliente Inalámbrico
Por fav WPC	vor haga clic en Bóton Software o pulse el Botón físico en el cliente para iniciar el proceso Cancel

- The WPS LED on the front of the gateway begins to blink.
- The gateway tries to communicate with the wireless computer or device for 2 minutes.
- If the Security Option in the Wireless Settings screen was set to Disabled, it is automatically changed to WPA-PSK [TKIP] + WPA2-PSK [AES] including a random wireless security password.
- 2. Go to the wireless computer, and run its WPS configuration utility. Follow the utility's instructions to click a WPS button.

When the computer connects to the wireless network, the gateway sends its SSID and WPA-PSK or WPA2-PSK configuration to that computer.

On the computer that just joined the wireless network, make sure you can connect to the Internet. You should see the gateway's Internet LED blink, showing that its Internet connection is in use.

Access Control by MAC Address

You can use access control to specify which wireless computers or devices can connect to the gateway based on their MAC addresses. If you do not set up access control, any wireless computer or device that is configured with the correct SSID and wireless security settings will be allowed to access to your wireless network.

To control access based on MAC addresses:

1. Log in to the gateway as described in *Logging Into Your Gateway* on page 9.

- 2. In the main menu, under Advanced, select Wireless Settings.
- 3. Click the Setup Access List button to display the Wireless Card Access List screen.

letw	ork Profiles	
2	SSID	
۲	ONO9B51	
-	ccess List MAC Address	Delete
	C	nnected Wireless Devices
N		
N	ombre del disp	nnected Wireless Devices
	ombre del disp	onnected Wireless Devices
MAG	ombre del disp A Address	onnected Wireless Devices
MAG	ombre del disp A Address	onnected Wireless Devices Iositivo (Dirección IP) (Dirección MAC) (Interfaz dd Access Filter

- **Note:** If you are configuring the gateway from a wireless computer, make sure to add your computer's MAC address to the Access List. Otherwise you will lose your wireless connection when you click Apply. You must then access the gateway from a wired computer, or from a wireless computer that is on the access control list, to make any further changes.
- 4. In the Network Profiles section, select the radio button for a wireless network.
- 5. By default the Allow Any radio button is selected. You can either allow computers to connect to the network based on their MAC addresses, or deny connections based on MAC address. Select either the Allow List or Deny List radio button.
- 6. Add devices to the Access List using either of these methods:
 - If the computer is in the Connected Wireless Devices table, click its radio button to capture its MAC address. Then click **Add**.
 - Enter the MAC address of the device in the **Add Access Filter** fields. The MAC address can usually be found on the bottom of the wireless device. Then click **Add**.
- 7. Click Apply to save these settings.

Content Filtering

3

This chapter describes how to use content filtering s for the gateway. This chapter includes:

- Viewing or Emailing Logs .
- Blocking Keywords, Sites, and Services on page 22.
- Services on page 23.

Viewing or Emailing Logs

Your gateway logs security-related events such as Denial of Service (DoS) attacks, hacker probes, and administrator logins, based on the settings on the Logs screen. If you set up content filtering on the Block Sites screen, you can also log when someone on your network tried to access a blocked site. You can specify which events are logged and you can send the logs to a Syslog server.

To view or email logs:

- 1. In the main menu, under Content Filtering, select Logs.
- 2. To use email, fill in the Contact Email Address and SMTP Server Name fields.
- Select the Enable check box for E-mail Alerts.
- 4. Click **Apply** so your changes take effect.
- 5. To email the log now, click E-mail Log.

Dirección de Cor	reo Electrór	iico de Contacto		
Nombre Servido	SMTP			
Alertas por E-ma	il		ctivar	
		Aplicar		
Descripción	Contador	Oltima Ocurrencia	Objetivo	Fuente
LAN-side SYN	30	Thu Jan 01 00:05:31 1970	192.168.1.1:80	169.254.84.128:56740

To delete all log entries. click **Clear Log**. To see the most recent entries, click **Refresh**.

Blocking Keywords, Sites, and Services

With its content filtering feature, the gateway prevents objectionable content from reaching your computers. The gateway allows you to control access to Internet content by screening

for keywords within Web addresses. It can also block access to all sites except those that are explicitly allowed. For example, you can set up the gateway to do the following:

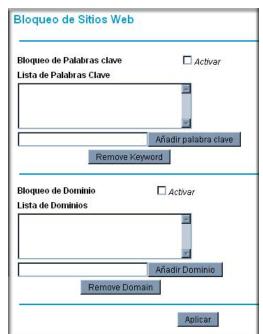
- Block access from to Internet locations that contain keywords that you specify.
- Block access to websites that you specify as off-limits.
- Allow access to only websites that you specify as allowed.

Blocking Keywords and Domains

The gateway allows you to restrict access to Internet content based on functions such as Web address keywords and Web domains. A domain name is the name of a particular website. For example, for the address www.NETGEAR.com, the domain name is NETGEAR.com.

To block keywords or domains:

- 1. Log in to the gateway as described in *Logging Into Your Gateway* on page 9.
- 2. In the main menu, under Content Filtering, select Block Sites.
- 3. To block keywords, select the **Keyword Blocking** Enable checkbox. Type the keyword and then click Add Keyword.
 - If the keyword **XXX** is specified, the URL www.zzzyyqq.com/xxx.html is blocked.
 - If the keyword **.com** is specified, only websites with other domain suffixes (such as .edu, .org, or .gov) can be viewed.
 - Enter the keyword "." to block all Internet browsing access.
 - To remove a keyword from the Keyword List, select it, and click **Remove Keyword**.
- 4. To block domains, select the **Domain Blocking Enable** checkbox. Enter a domain and click **Add Domain**.
 - If the domain www.zzzyyqq.com is specified, the URL <http://www.zzzyyqq.com/xxx.html> is blocked, along with all other URLs in the www.zzzyyqq.com site.



- To remove a domain from the Domain List, select the domain, and then click **Remove Domain**.
- 5. Click **Apply** to save your settings.

Services

You can use the Services screen to disable certain gateway features.

To add a service:

- 1. Log in to the gateway as described in *Logging Into Your Gateway* on page 9.
- 2. In the main menu, under Content Filtering, select Services.
- 3. To disable a feature, clear its check box.
- 4. In order for you changes to take effect you must click **Apply**.

The following Services are available in this screen:

- Firewall Features. The gateway performs Stateful Packet Inspection (SPI) and protect against Denial of Service (DoS) attacks.
- **IPSec Pass-Through**. IPSec traffic is forwarded. If you clear this check box then this traffic will be blocked.
- **PPTP Pass-Through**. PPTP traffic is forwarded. If you clear this checkbox then this traffic will be blocked.

Características del Firewall	🗹 Activar
lpsec PassThrough	🗹 Activar
PPTP PassThrough	🗹 Activar
Multicast	Activar
Detección de Escaneo de Puertos	🗖 Activar
Detección IP Flood	🗹 Activar
Filtro Proxy Filtro Cookies Filtro Applets Java Filtro ActiveX Filtro Ventanas emergentes	□ Activar □ Activar □ Activar □ Activar □ Activar
Bloquear Paquetes IP Fragmentad	

- **Multicast**. The gateway can pass multicasting streams through the firewall.
- **Port Scan Detection**. When enabled, the gateway can respond to Internet-based port scans.
- **IP Flood Detection**. Allows the is gateway to block malicious devices that are attempting to flood devices.
- You can use the Web Features to set certain Web-oriented cookies, java scripts, and pop-up windows to be blocked by the firewall.

Managing Your Network

This chapter describes how to perform network management tasks with your gateway. When you log in to the gateway (see *Logging Into Your Gateway* on page 9), these tasks are grouped under Maintenance.

This chapter includes:

- Viewing the Gateway Status.
- Viewing the Connection Status on page 27.
- Changing Passwords on page 27.
- Backing Up and Restoring Your Settings on page 28.
- Viewing the Event Log on page 29.
- Running the Diagnostic Ping Utility on page 29.

Viewing the Gateway Status

Use the Modem Status screen to see hardware and firmware details about the gateway and basic status information. In the main menu, under Maintenance, select Gateway Status.

Información				
Compatible con las Especificacione	es del Estándar	DOCSIS	3.0	
Versión Hardware	1.04A			
Versión Software			V5.5.1mp3R01D	
Dirección MAC del Cable Modern	00:1b:2f.8d:91:d			
Número de Serie del Cable Modern		001b2f8d91db		
Certificado CM		Installed	1	
Estado				
Tiempo desde el inicio del sistema	0 days 00h:10r	n:03s		
Acceso a Red	Allowed			
Dirección IP de Cable Modern	10.10.18.5			

Modem Status Field	Description
Standard Specification Compliant	DOCSIS 3.0
Hardware Version	The hardware version of the gateway.
Software Version	The version of firmware currently running on the gateway.
Cable MAC Address	The MAC address used by the cable modem port of the gateway. This MAC address may need to be registered with your cable service provider.
Cable Modem Serial number	The serial number of the gateway hardware.
CM Certificate	If the cable modem certificate is Installed, it is possible for the service provider to upgrade your Data Over Cable service securely.
System Up Time	Time since the last boot up.
Network Access	Shows whether traffic can be forwarded from the LAN to the network.
Cable Modem IP Address	The current Internet IP address. If assigned dynamically and not connected to the Internet, this will be blank.

The following table describes the fields displayed in this screen

Viewing the Connection Status

To view this screen, from Gateway Status screen, click the Connection Status button.

Procedi	miento (te Inic	io									
Procedii	miento			Estado	5	Comenta	rio					
Canal D	ownstre	am A	dquirido	380000	000 Hz	Locked						
Estado o	le Cone	ctivida	ad	0K		Operatio	nal					
Estado o	ie Arran	que		0K		Operatio	nal					
Fichero	de Conf	igurad	ión	0K								
Segurida	ad			Enable	đ	BPI+						
Canales	Downs	tream	Bonde	d								-
Estado de lock	Modula	ación	ID de Canal	Velocida de símb		ecuencia	Poter	icia	SNR		ocsis/EuroDo cked	sis
Locked	QAM25	56	20	536053 sym/sec			16.2 dBmV		43.3 dBmV	EuroDocsis		
Locked	QAM25	56	21	536053 sym/sec			16.3 dBm\	/	44.1 dBmV	E	uroDocsis	
Locked	QAM25	56	22	536053 sym/sec		6000000	16.2 dBm\	,	44.0 dBmV	E	uroDocsis	
Locked	QAM25	56	23	536053 sym/sec		4000000	16.0 dBm\	,	43.9 dBmV	E	uroDocsis	
Locked	QAM2	56	24	536053 sym/sec		2000000	15.8 dBmV		44.7 dBmV	E	uroDocsis	
Locked	QAM25	56	25	536053 sym/sec		0000000	15.8 dBm\	,	44.6 dBmV	E	uroDocsis	
Locked	QAM25	56	26	536053 sym/sec		8000000	15.9 dBm\	,	44.8 dBmV	E	uroDocsis	
Locked	QAM25	56	27	536053 sym/sec			15.8 dBm\	,	44.3 dBmV	E	uroDocsis	
Canales	Upstre	am Bo	onded									
Estado d	le lock	Modu	lación	ID Canal	Veloci	dad de sir	nbolo	Fre	cuencia		Potencia	
Locked		ATDM	A	22	5120 k	(sym/sec		308	00000 H	łz	41.7 dBmV	
Locked		ATDM	_	21		(sym/sec		-		inter a	41.7 dBmV	
Locked		ATDM		20		(sym/sec					41.7 dBmV	
Locked		ATDM	IA.	23	5120 k	(sym/sec		372	00000 H	٠IZ	41.7 dBmV	

Use the Connection screen to track the gateway's initialization procedure, and to get details about the downstream and upstream cable channel. The time is displayed after the gateway is initialized.

The gateway automatically goes through the following steps in the provisioning process:

- Scan and lock the downstream frequency, and then link back in upstream direction.
- Obtain an IP address for the gateway itself. Then the gateway assigns an IP address for the connected PC.
- Connect to the Internet.

Changing Passwords

For security reasons, the gateway has its own user names and passwords. NETGEAR recommends that you change the default passwords to more secure passwords. The ideal passwords should contain no dictionary words from any language, and should be a mixture of

both upper and lower case letters, numbers, and symbols. Your passwords can be up to 30 characters.

To change the password:

1. In the main menu, under Maintenance, select Set Password.

Contraseña	•••••
Vuelva a escribir la contraseña	

- 2. To change the password, enter the new password twice.
- 3. Click Apply to save your changes.

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

Backing Up and Restoring Your Settings

The configuration settings of the gateway are stored in a configuration file in the gateway.

To save or restore the backup settings:

1. In the main menu, under Maintenance, select Backup Settings.

Copia de	Seguridad de la configuración
Salvar una i	copia de la configuración actual
	Back Up
Restaurar u	na copia de seguridad guardada en el disco
	Browse_
	Restore

- 2. You can save the current configuration settings or restore saved settings:
 - To save the current configuration settings, click **Back Up**.

• To restore the saved configuration settings from a backup file, click **Browse**, locate and select the previously saved backup file. Then click **Restore**.

A message notifies you when the gateway has been restored to previous settings. Then, the gateway restarts, which takes about one minute.

Note: When restoring configuration settings, do not interrupt the process by going online, turning off the gateway, or shutting down the computer.

Viewing the Event Log

The gateway logs security-related events such as denied incoming service requests and hacker probes.

To see the event log:

1. In the main menu, under Maintenance, select Event Log.

Hora	Prioridad	Descripción
Thu Apr 29 00:32:25 2010	Critical (3)	Started Unicast Maintenance Ranging - No Response received - T3 time-out_CM-MAC=00:1b:2f.8d:91:db; CMTS-MAC=00:17:10:00:69:ad;CM-QOS=1.1;CM-VER=3.0;
Thu Apr 29 00:27:44 2010	Error (4)	Configuration File CVC Validation Failure
Thu Apr 29 00:27:43 2010	Critical (3)	No Ranging Response received - T3 time-out,CM- MAC=00:1b:2f.8d:91:db;CMTS-MAC=00:17:10:00:69:ad; CM-QOS=1.1;CM-VER=3.0;
Thu Apr 29 00:27:38 2010	Error (4)	Primary address failed, secondary active;CM- MAC=00:1b:2f:8d:91:db;CMTS-MAC=00:17:10:00:69:ad; CM-QOS=1.1;CM-VER=3.0;
Time Not Established	Critical (3)	DHCP failed - RS sent, no RA received;CM- MAC=00:1b:2f.8d:91:db;CMTS-MAC=00:17:10:00:69:ad; CM-QOS=1.0;CM-VER=3.0;
Time Not Established	Critical (3)	SYNC Timing Synchronization failure - Failed to acquire FEC framing;CM-MAC=00:1b:2f8d:91:db; CMTS-MAC=00:00:00:00:00;CM-QOS=1.0;CM-VER=3.0;

2. To clear the log, click **Clear Log**; to refresh the log, click **Refresh**.

Running the Diagnostic Ping Utility

From the Diagnostics screen you can use Ping.

To use diagnostics:

- 1. Log in to the gateway as described in *Logging Into Your Gateway* on page 9.
- 2. In the main menu, under Maintenance, select Diagnostics.

Utilidad Ping		30		
Destino		Parámetros del Test de 0	Ping .0 .0 .0	
Tamaño del p	ing	10	64	bytes
No. de Pings			3	
ntervalo de P	ing		1000	ms
Start Test	Abort Test	Clear Results		
		Results		
Waiting for i	nput		2	

3. To start a ping test, enter the IP address in the Diagnostics screen, and click the **Ping** button. The Ping Results are displayed:

Ping Resul	15
PING 192.168.0.2 (192.168.0.2): 56	
64 bytes from 192.168.0.2: icmp_se	
64 bytes from 192.168.0.2: icmp_se	
64 bytes from 192.168.0.2: icmp_se	
64 bytes from 192.168.0.2: icmp_se 192.168.0.2 ping statistics 4 packets transmitted, 4 packets r round-trip min/avg/max = 0.0/0.0/0	- eceived, 0% packet loss
81	2

4. To return to the Diagnostics screen and stop the test, click **Back** and then click **Abort Test**.

Advanced Settings

5

This chapter describes how to customize your network through the advanced settings on your gateway. When you log in to the gateway (see *Logging Into Your Gateway* on page 9), these tasks are grouped under Advanced.

This chapter includes:

- MAC Filtering on page 31.
- Port Blocking on page 32.
- Port Forwarding on page 33.
- Port Triggering on page 35.
- DMZ Host on page 36.
- LAN IP Setup on page 37.
- Remote Management on page 39.
- Configuring Universal Plug and Play (UPnP) on page 41.

Note: For information about advanced wireless settings, see *Advanced Wireless Settings* on page 19.

MAC Filtering

By default, the gateway allows any connected PC to access the Internet through. The MAC Filtering screen lets you block specific computers, based on their MAC address, from access to the Internet on selected days and times.

To use MAC filtering to block Internet access for a specific computer:

1. In the main menu, under Advanced, select MAC Filtering.

The Trusted Devices table shows computers that have access to the Internet through the gateway. Click **Refresh** to update the Trusted Devices table.

- 2. In the Add MAC Filter table, you can use either of these methods to specify computers to block:
 - If the computer is in the Trusted Devices table, click its radio button. The MAC address will be added into the Add MAC Filter table.
 - Fill in the **Device Name** and **MAC** address fields.
- 3. Click Add.

The MAC Filter List **Enable** checkbox is automatically selected for that computer.

1		ispositivos de	confianza	
<u></u>	Nombre del dispositivo		Dirección MAC	Interfaz
0			00:13:d3:4e:bd:30	
_	test1		00:1b:2f:2e:db:15	
		Añadir filtro M	AC	
			AC	
Nor	nbre del Dispositivo Dire	cción MAC		
		: []:	:	
No		Add	Cancel	
No	filters entered. 💽 🗖	Add Activar Dele	Cancel	
No Dias	filters entered. 💽 🗖 a Bloquear Fodos 🗖 Domingo I	Add Activar Dele	Cancel te	
No Dias	filters entered. 💽 🗖	Add Activar Dele	Cancel te	
No Dias	filters entered. 💽 🗖 a Bloquear Fodos 🗖 Domingo I	Add Activar Dele	Cancel te	
No Dias	filters entered.	Add Activar Dele	Cancel te	
No Dias	filters entered. filters entered. filters entered. fodos fodos fodos filtercoles filterco	Add Activar Dele	Cancel te fartes Sabado	

- 4. Select the days and times to block the computer:
 - **Day(s) to Block**. Select the days to block the computer selected in the **MAC Filter** List. The default is Everyday.
 - **Time of Day to Block**. You can specify the time of day to block the computer. The default is All Day. Be sure that you clear the **All Day** checkbox if you want to enter specific times. The selected period applies to each day that you selected.
- 5. Click Apply to save your settings.
- 6. Repeat these steps for all computers that you want to block.

To stop blocking a computer:

- To stop blocking a computer, select it from the **MAC Filter List** field, and then clear its **Enable** check box. This leaves the computer in the list but ensures that it is not blocked.
- To remove a computer from the list, select it from the **MAC Filter List** field, and then click **Delete**.

Port Blocking

You can use port blocking to block outbound traffic on specific ports. Outbound traffic rules control access to outside resources from local users. The default rule is to allow all access from the LAN side to the outside. You can use port blocking to add predefined or custom rules to specify exceptions to the default rule.

Note: Any outbound traffic that is not blocked by rules that you have created is allowed by the default rule.

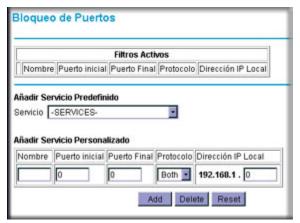
To configure port blocking and services to block specific outbound traffic:

- 1. In the main menu, under Advanced, select Port Blocking.
- 2. In the **Services** field, select a service from the drop-down list. (For example, FTP, which uses TCP ports 20 and 21.)
- To add a custom rule that is not in the list of services, specify these settings in the Add Custom Rules table:
 - **Name**. Enter a name for the service.
 - **Start Port**. Enter the start port for the service.
 - **End Port**.Enter the end port for the service.
 - **Protocol**. Select the protocol for the ports:
 - TCP. Select TCP only.
 - UDP. Select UDP only.
 - Both. Select both TCP and UDP.
 - Local IP Address. Complete the local IP address for the computer that is using the service.
- 4. Perform one of the following actions:
 - Click **Add** to save your settings. The Active Filters table now displays the list of ports that are currently forwarded.
 - To delete a service, select the radio button in the Active Filters table for the service that you want to delete, and then click **Delete**.
 - To reset the selection in the Services drop-down list and to clear all the fields in the Add Custom Rules table, click **Reset**.

Port Forwarding

A firewall has default rules for inbound traffic (WAN to LAN) and for outbound traffic. Port forwarding affects the inbound rules. These rules restrict access from outsiders. By default, the gateway blocks access from outside except responses to requests from the LAN side. You can use port forwarding to add rules to specify exceptions to the default rule.

Because the gateway uses Network Address Translation (NAT), your network presents only one IP address to the Internet, and outside users cannot directly address any of your local computers. However, by defining an inbound rule you can make a local server (for example,



a web server or game server) or computer visible and available to the Internet. The rule tells the Gateway to direct inbound traffic for a particular service to one local server or computer based on the destination port number. This is also known as port forwarding.

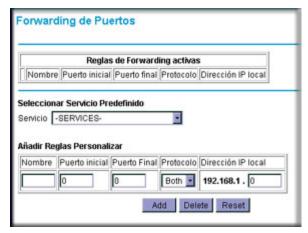
Some residential broadband ISPs do not allow you to run server processes (such as a Web or ftp server) from your location. Your ISP might check for servers and suspend your account if it finds active services at your location. See your ISP's Acceptable Use policy.

To configure port forwarding and services for specific inbound traffic:

- 1. In the main menu, under Advanced, select Port Forwarding.
- 2. In the **Service** field, select a service from the drop-down list. (For example, FTP, which uses TCP ports 20 and 21.)
- **3.** To add a custom rule that is not in the list of services, specify these settings in the Add Custom Rules table:
 - **Name**. Enter a name for the service.
 - **Start Port**. Enter the start port for the service.
 - **End Port**.Enter the end port for the service.
 - **Protocol**. Select the protocol for the ports:
 - TCP. Select TCP only.
 - UDP. Select UDP only.
 - Both. Select both TCP and UDP.
 - Local IP Address. Complete the local IP address for the computer that is using the service.
- 4. Perform one of these actions:
 - Click Add. The Active Forwarding Rules table displays the list of forwarded ports.
 - To delete a service, select the radio button in the Active Forwarding Rules table for the service that you want to delete, and then click **Delete**.
 - To reset the selection in the **Services** field and to clear all the fields in the Add Custom Rules table, click **Reset**.

Considerations for Port Forwarding

• If the IP address of the local server PC is assigned by DHCP, it might change when the PC is rebooted. To avoid this, you can assign a static IP address to your server outside the range that is assigned by DHCP, but in the same subnet as your LAN. By default, the IP addresses from 192.168.1.2 through 192.168.1.9 are reserved for this purpose.



- Local PCs must access the local server using the PCs' local LAN address (192.168.1.XXX, by default). Attempts by local PCs to access the server using the external WAN IP address will fail.
- Port forwarding opens holes in your firewall. Only enable ports that are necessary.

Port Triggering

Port triggering is an advanced feature that you can use to allow gaming and other Internet applications that would otherwise be blocked by the firewall. You must know the port numbers that are used by the application. Port triggering operates as follows:

- 1. A computer makes an outgoing connection using a port number defined in the Port Triggering table.
- 2. The gateway records this connection, opens the incoming port or ports associated with this entry in the Port Triggering List, and associates them with the PC.
- 3. The remote system receives the PCs request, and responds using a different port number.
- 4. The gateway matches the response to the previous request, and forwards the response to the PC. (Without port triggering, this response would be treated as a new connection request rather than a response. As such, it would be handled in accordance with the port forwarding rules.)

Note: Only one computer at a time can use port triggering. After a computer finishes using a port triggering application, there is a short time-out period before the application can be used by another PC.

To configure port triggering:

1. In the main menu, under Advanced, select Port Triggering.

		Lista de /	Activación de P	uertos		
	Rango de /		Rango D		Protocolo	Activado
	Puerto inicial	Puerto final	Puerto inicial<	Puerto final	100000	
0	0	0	0	0	Both 💽	
0	0	0	0	0	Both 🔹	
0	0	0	0	0	Both 💽	
0	0	0	0	0	Both 💌	
0	0	0	0	0	Both 💽	
0	0	0	0	0	Both 💌	
0	0	0	0	0	Both 💽	
0	0	0	0	0	Both -	
0	0	0	0	0	Both 💽	
0	0	0	0	0	Both 💌	

- 2. For each port trigger, enter the settings in the Port Trigger List:
 - **Trigger Range**. To specify the range of outgoing ports that will be monitored to trigger the incoming port forwarding rule, enter the **Start Port** and **End Port**.
 - **Target Range**. To specify the range of incoming ports that will be opened when triggered, enter the **Start Port** and **End Port**.
 - **Protocol**. Select the protocol for the ports:
- 3. Select the **Enable** checkbox for the port trigger.
- 4. Perform one of the following actions:
 - Click **Apply** to save your settings and activate the port triggers.
 - To remove a port trigger, select it's radio button and click **Delete**.
 - To return all trigger and target ranges to zero, click Reset.

DMZ Host

You can use the DMZ Host screen to set up a default DMZ computer. Specifying a default DMZ computer allows you to set up a PC that is available to anyone on the Internet for services that you have not defined. There are security issues with doing this, so only set up the DMZ host if you are willing to risk open access. If you do not define a DMZ host the gateway discards any undefined service requests.

To set up a DMZ host:

1. In the main menu, under Advanced, select DMZ Host.

Responder a Ping por el puerto WAN	
Dirección DMZ	192.168.1 . 0
Tamaño MTU	0 (256-1500 octetos, 0 = usar valor por defecto)

- 2. If desired, select the **Respond to Ping on WAN Port** checkbox.
- 3. Type the last digit(s) of the IP address in the DMZ Address field.
- 4. Click Apply.

LAN IP Setup

The LAN IP screen allows you to configure LAN services such as the IP address of the gateway and DHCP. The TCP/IP and DHCP default values work fine in most cases.

Note: If you disable the DHCP server, you will need to assign to your computer a static IP address to reconnect to the gateway and enable the DHCP server again.

To configure LAN IP settings:

- 1. In the main menu, under Advanced, select LAN IP.
- 2. Specify these settings:
 - LAN IP Address: The factory default setting is 192.168.1.1.
 - **Subnet Mask**: The network number portion of an IP address. Unless you are implementing subnetting, use 255.255.255.0 as the subnet mask.
 - **DHCP Server**: The **Yes** radio button is selected by default so the gateway acts as a DHCP server, providing the TCP/IP configuration for all the computers connected to it.

If you will assign IP addresses manually, or you have another DHCP server on your network, select the **No** radio button.

- Starting IP Address and Ending IP Address: These fields specify the range in the IP address pool.
- **Max Users**: The maximum number of users on the network.
- **DHCP Lease**: See the following section, *Reserving an IP Address for DHCP Use*.
- 3. Click Apply to save your LAN settings

Reserving an IP Address for DHCP Use

To reserve an IP address for DHCP use, enter the DHCP server reservation settings for the private LAN under DHCP Reservation Lease Info in the LAN Setup screen.

To reserve an IP address for DHCP:

- 1. Enter the MAC address of the computer for which you want to reserve an IP address.
- 2. Enter the permanent IP address for the computer.
- 3. Click Add to save your settings.

The MAC address and IP address are displayed in the DHCP Client Lease Info table. The current system time is also displayed.

lombre del dispositivo	
Dirección IP de la LAN	192.168.1.1
Máscara de subred	255.255.255.0
Servidor DHCP	OSI ONO
Dirección IP de comienzo	192.168.1. 2
Dirección IP final	192.168.1. 254
Usuarios Máximos	253
Tiempo de Lease	3600
	Aplicar
Información de Reservas	de Lease
	ddress
	1
# Mac Address IP Ac	1
# Mac Address IP Ac	Add Delete
Mac Address IP Ac Dirección Mac I	Add Delete

To delete an IP address from the DHCP Client Lease Info table:

- 1. In the DHCP Client Lease Info table, click the radio button for the MAC and IP address that you want to remove.
- 2. Click **Delete** to remove the information for the selected MAC and IP address from the DHCP Client Lease Info table.

To remove all information from the DHCP Client Lease Info table, click **Clear DHCP Leases**.

Remote Management

With remote management, you can allow a user or users on the Internet to configure, upgrade, and check the status of the gateway.

Note: Use very secure passwords if you enable remote management. Passwords should contain no dictionary words from any language, and should be a mixture of letters (both upper and lower case), numbers, and symbols. Your password can be up to 16 characters.

To manage this gateway through the Internet, you need its public IP Address, as seen from the Internet. This public IP address is allocated by your ISP. But if your ISP account uses a dynamic IP address, the address can change each time you connect to your ISP. There are two solutions to this problem:

- Have your ISP allocate you a fixed IP address.
- Use the DDNS (Dynamic DNS) feature so you can connect using a domain name, rather than an IP address.

To configure the gateway for remote management:

1. In the main menu, under Advanced, select Remote Management.

- 2. Select one of the Allow Remote Management checkboxes.
- 3. Fill in the Remote User Name and Remote Password fields.
- Specify the port numbers to access the gateway remotely in your browser when you connect. To specify the port numbers:
 - **a.** From a remote location, start a browser.
 - b. In the Address or Location field, enter the Internet IP address of this gateway (NOT the LAN IP address), followed by a colon and the port number, as follows:

```
http://ip_address:pn ||
https://ip_address:pn
```

where:

ip_address is the Internet IP address of this gateway.

pn is the port number assigned on this screen.

	rP, HTTPS a través del interfaz de CM
Permite la administración remota vía HTT	IP, HTTPS a través del interfaz de WAN
Nombre de Usuario Remoto:	admin
Contraseña Remota:	•••••
Puerto para HTTP en el interfaz del CM:	80
Puerto para HTTP en el interfaz WAN interfac	e: 8080
Puerto para HTTPS en el interfaz del CM:	443
Puerto para HTTPS en el interfaz WAN:	443
Dirección IP para conectarse con este dispos	itivo:
Dirección IP para conectarse con este dispos Desde el Interfaz de CM	itivo:
Desde el Interfaz de CM	itivo:
Desde el Interfaz de CM Desde el interfaz WAN	
Desde el Interfaz de CM	
Desde el Interfaz de CM Desde el interfaz WAN	
Desde el Interfaz de CM Desde el Interfaz WAN http://192.168.18.5:8080/, https://192.168.18.5:4	
Desde el Interfaz de CM Desde el Interfaz WAN http://192.168.18.5:8080/, https://192.168.18.5:4 Permitir la administración vía telnet	
Desde el Interfaz de CM Desde el Interfaz WAN http://192.168.18.5:8080/, https://192.168.18.5:4 Permitir la administración vía telnet a través del Interfaz LAN	143/ Port≢23
Desde el Interfaz de CM Desde el Interfaz WAN http://192.168.18.5:8080/, https://192.168.18.5:4 Permitir la administración vía telnet a través del Interfaz LAN a través del Interfaz CM	Port # 23 Port # 23
Desde el Interfaz de CM Desde el Interfaz WAN http://192.168.18.5:8080/, https://192.168.18.5:4 Permitir la administración vía telnet a través del Interfaz LAN a través del Interfaz CM a través del Interfaz WAN	Port # 23 Port # 23
Desde el Interfaz de CM Desde el Interfaz WAN http://192.168.18.5:8080/, https://192.168.18.5:4 Permitir la administración vía telnet a través del Interfaz LAN a través del Interfaz CM a través del Interfaz WAN Permitir la administración vía SSH	Port # 23 Port # 23 Port # 23 Port # 23

- c. You will be prompted for the password for this gateway.
- 5. If you want the ability to reset to factory default settings remotely, and then log in again remotely, select the Allow Remote management after Factory Default Reset checkbox.
- 6. Click Apply to save your changes.

Remote Management Settings	Description
Allow Remote Management (HTTP/HTTPS) CM interface	If selected, remote management is enabled, and connection from the Internet to this gateway with HTTP and HTTPS is possible. The correct port number must be used when connecting
Allow Remote Management (HTTP/HTTPS) CM interface	If selected, remote management is enabled, and connection from the Internet to this gateway with HTTP and HTTPS is possible.
Remote User Name and Remote Password	Enter the User Name and Password that will be used from the remote PC to manage the gateway. Use a very secure password.
Port Number fields	Web browser access normally uses the standard HTTP service port 80. NETGEAR recommends that you use a different port number for remote management, as using port 80 will prevent the use of a Web Server on your LAN, and can be more readily discovered by hackers. Use the default (8080) or choose a port number between 1 and 65535.
Revert to factory default settings	Allow Remote management after Factory Default Reset

Remote Management Settings (Continued)	Description (Continued)
IP Address to connect this device	
Allow Management via Telnet Allow Management via SSH	You can select LAN interface (local management), CM Interface (remote management), or WAN Interface (remote management) in order to connect to the gateway from the Internet. The correct port number must be used when connecting

Configuring Universal Plug and Play (UPnP)

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. With UPnP you can specify:

- Advertisement Period. This specifies how often the gateway broadcasts its UPnP information. The default is 30 minutes. Lower numbers ensure that control points have current device status at the expense of additional network traffic. Larger numbers may compromise the freshness of the device status but can significantly reduce network traffic.
- Advertisement Time to Live. The time to live for the advertisement, measured in hops (steps) for each UPnP packet that is sent. A hop is the number of steps that are 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, you might need to increase this value slightly.

To configure UPnP:

1. In the main menu, under Advanced, select UPnP.

MCONG	ir UPnP		
Periodo de	el Anuncio (en mir	nutos)	3
Tiempo de	Vida del Anuncio	(in saltos)	1
	ar ara ar		
Tabla de M	lapeo de Puertos		

2. Select the **Turn UPnP On** check box. The default setting is disabled, which prevents the gateway from allowing any device to automatically control of its the resources, such as port forwarding.

3. Fill in the Advertisement Period and Advertisement Time to Live fields.

The UPnP Portmap Table displays the IP address of each UPnP device that is currently accessing the gateway and which internal and external ports of the gateway were opened by that device. The UPnP Portmap Table also displays the protocol for the port that was opened and if that port is still active for each IP address.

- 4. Perform one of the following actions:
 - Click **Apply** to save your settings.
 - Click **Cancel** to disregard any unsaved changes.
 - Click **Refresh** to update the UPnP Portmap Table and to show the active ports that are currently opened by UPnP devices.

Troubleshooting

This chapter gives information about troubleshooting your NETGEAR Wireless Cable Gateway CG3100Dv3. For the common problems listed, go to the section indicated.

• Have I connected the gateway correctly?

Go to *Basic Functions* on page 43.

I cannot access the gateway configuration with my browser.

Go to Connecting to the Gateway's Main Menu on page 44.

• I have configured the gateway but I cannot access the Internet.

Go to Troubleshooting the ISP Connection on page 45.

• I cannot remember the gateway's configuration password or I want to clear the configuration and start over again.

Go to Factory Default Settings in Appendix A.

Tip: NETGEAR provides helpful articles, documentation, and the latest software updates at *http://www.netgear.com/support*.

Basic Functions

After you have turned on power to the gateway, you should do the following:

- 1. Check to see that the Power LED is on.
- 2. Check that the numbered Ethernet LEDs come on momentarily.
- **3.** After a few seconds, check that the local port link LEDs are lit for any local ports that are connected.

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

Using LEDs to Troubleshoot

The following table provides help when using the LEDs for troubleshooting.

LED Behavior	Action
All LEDS are off when the gateway is plugged in.	Make sure that the power cord is properly connected to your gateway and that the power supply adapter is properly connected to a functioning power outlet. Check that you are using the 12VDC power adapter supplied by NETGEAR for this product. If the error persists, you have a hardware problem and should contact technical support.
All LEDs Stay On	 Clear the gateway's configuration to factory defaults. This will set the gateway's IP address to 192.168.1.1. See <i>Factory Default Settings</i> in Appendix A. If the error persists, you might have a hardware problem and should contact technical support.
LAN LED is off for a port with an Ethernet connection.	 Make sure that the Ethernet cable connections are secure at the gateway and at the hub or PC. Make sure that power is turned on to the connected hub or PC. Be sure you are using the correct cable.
Internet LED is off and the gateway is connected to the cable television cable.	 Make sure that the coaxial cable connections are secure at the gateway and at the wall jack. Make sure that your cable internet service has been provisioned by your cable service provider. Your provider should verify that the signal quality is good enough for cable modem service. Remove any excessive splitters you may have on your cable line. It may be necessary to run a "home run" back to the point where the cable enters your home.

Connecting to the Gateway's Main Menu

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

- Check the Ethernet connection between the computer and the gateway as described in the previous section.
- Make sure that your PC's IP address is on the same subnet as the gateway. If you are using the recommended addressing scheme, your PC's address should be in the range of 192.168.1.10 to 192.168.1.254.

- Note: If your PC's IP address is shown as 169.254.x.x: Recent versions of Windows and MacOS will 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 PC to the gateway and reboot your PC.
- If your gateway's IP address has been changed and you don't know the current IP address, clear the gateway's configuration to factory defaults. This will set the gateway's IP address to 192.168.1.1. This procedure is explained in *Factory Default Settings* in Appendix A.
- Make sure your browser has Java, JavaScript, or ActiveX enabled. If you are using Internet Explorer, click Refresh to make sure that the Java applet is loaded.
- Try quitting the browser and launching it again.
- Make sure you are using the correct login information. The gateway user name **admin** is lower-case (**Caps Lock** should be off). The default password of **password**.

If the gateway does not save changes you have made, check the following:

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

Troubleshooting the ISP Connection

If your gateway is unable to access the Internet and your Cable Link LED is on, you may need to register the cable MAC address and/or device MAC address of you gateway with your cable service provider.

Additionally, your PC may not have the gateway configured as its TCP/IP gateway. If your PC obtains its information from the gateway by DHCP, reboot the PC and verify the gateway address.

Troubleshooting a TCP/IP Network Using a 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. Troubleshooting a TCP/IP network is made easier by using the ping utility in your PC or workstation.

Testing the LAN Path to Your Gateway

You can use ping to verify that the LAN path to your gateway is set up correctly.

To ping the gateway from a PC running Windows 95 or later:

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

ping 192.168.1.1

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 the LAN port LED is on. If the LED is off, see Using LEDs to Troubleshoot on page 44.
 - 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 gateway.
- Wrong network configuration.
 - Verify that the Ethernet card driver software and TCP/IP software are both installed and configured on your PC or workstation.
 - Verify that the IP address for your gateway and your workstation are correct and that the addresses are on the same subnet.

Testing the Path from Your PC to a Remote Device

After verifying that the LAN path works correctly, test the path from your PC to a remote device. From the Windows run menu, 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 PC has the IP address of your gateway listed as the default gateway. If the IP configuration of your PC is assigned by DHCP, this information will not be visible in your PC's Network Control Panel. Verify that the IP address of the gateway is listed as the default gateway.

- Check to see that the network address of your PC (the portion of the IP address specified by the netmask) is different from the network address of the remote device.
- Check that your Cable Link LED is on.
- If your ISP assigned a host name to your PC, enter that host name as the Account Name in the Basic Settings screen.

Wireless Performance and Gateway Location

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

For best results, place your gateway 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 PCs have line-of-sight access (even if through walls).
- Away from sources of interference, such as PCs, microwave ovens, and 2.4 GHz cordless phones.
- 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.
- To reduce interference when using more than one access point, NETGEAR recommends using 5 channel spacing between adjacent access points (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 the gateway location. WEP connections can take slightly longer to establish. Also, WEP encryption can consume more battery power on a notebook computer.

A

Default Settings and Technical Specifications

This chapter includes:

- Factory Default Settings
- Technical Specifications on page 49

Factory Default Settings

You can return the gateway to its factory settings. On the back panel of the gateway, press and hold the Restore Factory Settings button of for over 7 seconds. The gateway resets, and returns to its factory settings. Your device will return to the factory configuration settings shown in the following table.

Factory Default	Settings		
Gateway Login	User login URL	http://192.168.1.1	
	User name and password (case sensitive)	admin/password	
Local Network	LAN IP	192.168.1.1	
(LAN)	Subnet mask	255.255.255.0	
	DHCP server	Enabled	
	DHCP starting IP address	192.168.1.2	
	DHCP Ending IP address	192.168.1.254	
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	
Internet	WAN MAC address	Use default hardware address	
connection	WAN MTU size	1500	

Factory Defa	ault Settings (Continued)	
Wireless	Wireless communication	Enabled
	SSID name	As shown on the product label.
	Security	WPA/WPA2 The default WPA/WPA2 passphrase is as shown on the product label.
	Broadcast SSID	Enabled
	Transmission speed	Auto ¹
	Country/region	EU
	RF channel	Auto
	Operating mode	n, g, and b
	Data rate	Best
	Output power	Full
	Access point	Enabled
	Authentication type	Open System
	Wireless card access list	All wireless stations allowed

1. 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, may lower actual data throughput rate.

Technical Specifications

The following table describes the technical specifications for the gateway.

Technical Specifications		
Network protocol and standards compatibility	Data and Routing Protocols: TCP/IP, DHCP server and client, DNS relay, NAT (many-to-one), TFTP client, VPN pass through (IPSec, PPTP)	
Power adapter	 Europe (input): 230V, 50 Hz, input All regions (output): 12 V DC @ 1.5A output 18W maximum or 12 V DC @ 2.5A output 30W maximum 	
Physical specifications	 Dimensions: 7.5 by 3.8 by 1.4 in (195 by 112 by 33 mm) Weight: 0.65 lb (0.28 kg) 	
Environmental	 Operating temperature: 32° to 140° F (0° to 40° C) Operating humidity: 90% maximum relative humidity, noncondensing Electromagnetic emissions: Meets requirements of: FCC Part 15 Class B. 	

Technical Specifications (Continued)	
Interface	Local: 10BASE-T, 100/1000BASE-Tx, RJ-45 802.11n/g/b
	Internet: DOCSIS 3.0. Downward compatible with DOCSIS 2.0, 1.1 and 1.0

Notification of Compliance

B

NETGEAR Wireless Routers, Gateways, APs

Regulatory Compliance Information

Note: 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.

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 EN60950-1

For complete DoC, visit the NETGEAR EU Declarations of Conformity website at: http://support.netgear.com/app/answers/detail/a_id/11621/

EDOC in Languages of the European Community

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.
Dansk [Danish]	Undertegnede NETGEAR Inc. erklærer herved, at følgende udstyr Radiolan overholder de væsentlige krav og øvrige relevante krav i direktiv 1999/5/EF.
Deutsch [German]	Hiermit erklärt <i>NETGEAR Inc.</i> , 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 <i>NETGEAR Inc.</i> seadme Radiolan vastavust direktiivi 1999/5/EÜ põhinõuetele ja nimetatud direktiivist tulenevatele teistele asjakohastele sätetele.
English	Hereby, <i>NETGEAR Inc.</i> , declares that this Radiolan is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.

Español	Por medio de la presente NETGEAR Inc. declara que el Radiolan cumple con los	
[Spanish]	requisitos esenciales y cualesquiera otras disposiciones aplicables o exigibles de la Directiva 1999/5/CE.	
Ελληνική [Greek]	ΜΕ ΤΗΝ ΠΑΡΟΥΣΑ <i>ΝΕΤGEAR Inc.</i> ΔΗΛΩΝΕΙ ΟΤΙ Radiolan ΣΥΜΜΟΡΦΩΝΕΤΑΙ ΠΡΟΣ ΤΙΣ ΟΥΣΙΩΔΕΙΣ ΑΠΑΙΤΗΣΕΙΣ ΚΑΙ ΤΙΣ ΛΟΙΠΕΣ ΣΧΕΤΙΚΕΣ ΔΙΑΤΑΞΕΙΣ ΤΗΣ ΟΔΗΓΙΑΣ 1999/5/ΕΚ.	
Français [French]	Par la présente <i>NETGEAR Inc.</i> déclare que l'appareil Radiolan est conforme aux exigences essentielles et aux autres dispositions pertinentes de la directive 1999/5/CE.	
Italiano [Italian]	Con la presente <i>NETGEAR Inc.</i> dichiara che questo Radiolan è conforme ai requisiti essenziali ed alle altre disposizioni pertinenti stabilite dalla direttiva 1999/5/CE.	
Latviski [Latvian]	Ar šo NETGEAR Inc. deklarē, ka Radiolan atbilst Direktīvas 1999/5/EK būtiskajām prasībām un citiem ar to saistītajiem noteikumiem.	
Lietuvių [Lithuanian]	Šiuo <i>NETGEAR Inc.</i> deklaruoja, kad šis Radiolan atitinka esminius reikalavimus ir kitas 1999/5/EB Direktyvos nuostatas.	
Nederlands [Dutch]	Hierbij verklaart <i>NETGEAR Inc.</i> dat het toestel Radiolan in overeenstemming is met de essentiële eisen en de andere relevante bepalingen van richtlijn 1999/5/EG.	
Malti [Maltese]	Hawnhekk, <i>NETGEAR Inc.</i> , jiddikjara li dan Radiolan jikkonforma mal-htigijiet essenzjali u ma provvedimenti ohrajn relevanti li hemm fid-Dirrettiva 1999/5/EC.	
Magyar [Hungarian]	Alulírott, <i>NETGEAR Inc.</i> nyilatkozom, hogy a Radiolan megfelel a vonatkozó alapvető követelményeknek és az 1999/5/EC irányelv egyéb előírásainak.	
Polski [Polish]	Niniejszym NETGEAR Inc. oświadcza, że Radiolan jest zgodny z zasadniczymi wymogami oraz pozostałymi stosownymi postanowieniami Dyrektywy 1999/5/EC.	
Português [Portuguese]	NETGEAR Inc. declara que este Radiolan está conforme com os requisitos essenciais e outras disposições da Directiva 1999/5/CE.	
Slovensko [Slovenian]	NETGEAR Inc. izjavlja, da je ta Radiolan v skladu z bistvenimi zahtevami in ostalimi relevantnimi določili direktive 1999/5/ES.	
Slovensky [Slovak]	NETGEAR Inc. týmto vyhlasuje, že Radiolan spĺňa základné požiadavky a všetky príslušné ustanovenia Smernice 1999/5/ES.	
Suomi [Finnish]	NETGEAR Inc. vakuuttaa täten että Radiolan tyyppinen laite on direktiivin 1999/5/EY oleellisten vaatimusten ja sitä koskevien direktiivin muiden ehtojen mukainen.	
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.	

Íslenska [Icelandic]	Hér með lýsir <i>NETGEAR Inc.</i> yfir því að Radiolan er í samræmi við grunnkröfur og aðrar kröfur, sem gerðar eru í tilskipun 1999/5/EC.
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.

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.

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 Guidelines for Human Exposure

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

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

FCC Declaration of Conformity

We, NETGEAR, Inc., 350 East Plumeria Drive, San Jose, CA 95134, declare under our sole responsibility that the NETGEAR Wireless Cable Gateway CG3100Dv3 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.

FCC Caution

- Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.
- This device complies with Part 15 of the FCC 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.

- For product available in the USA market, only channel 1~11 can be operated. Selection of other channels is not possible.
- This device and its antenna(s) must not be co-located or operation in conjunction with any other antenna or transmitter.

Canadian Department of Communications Radio Interference Regulations

This digital apparatus (NETGEAR Wireless Cable Gateway CG3100Dv3) 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.

This Class [B] digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe [B] est conforme à la norme NMB-003 du Canada

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.

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

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