NETGEAR®

ADSL Modem

with Ethernet or USB connection DM602

Installation Guide

Technical Support

Please refer to the Support Information card that shipped with your product.

By registering your product at www.NETGEAR.com/register, we can provide you with faster expert technical support and timely notices of product and software upgrades.

NETGEAR, INC.

Support Information

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

For other countries see your Support Information card.

E-mail: Support@NETGEAR.com

Website: www.NETGEAR.com

Introduction

ADSL Modem DM602

Thank you for purchasing a NETGEAR DM602 ADSL Modem. With this modem you can have secure high-speed ADSL Internet access for your computer using either an Ethernet or USB cable.

This installation guide shows you how to connect the modem and configure it for secure Internet access. Setup is easy—follow the instructions in this guide and your system will be up and running quickly.

If you have problems, there is a troubleshooting section on pages 11 and 12 to help you. You can get more detailed troubleshooting information from the *Reference Manual* on the CD, online at www.NETGEAR.com, or by phone. If you have questions about terminology, you can find definitions in the short glossary on page 13 and in the more extensive glossary in the *Reference Manual*.
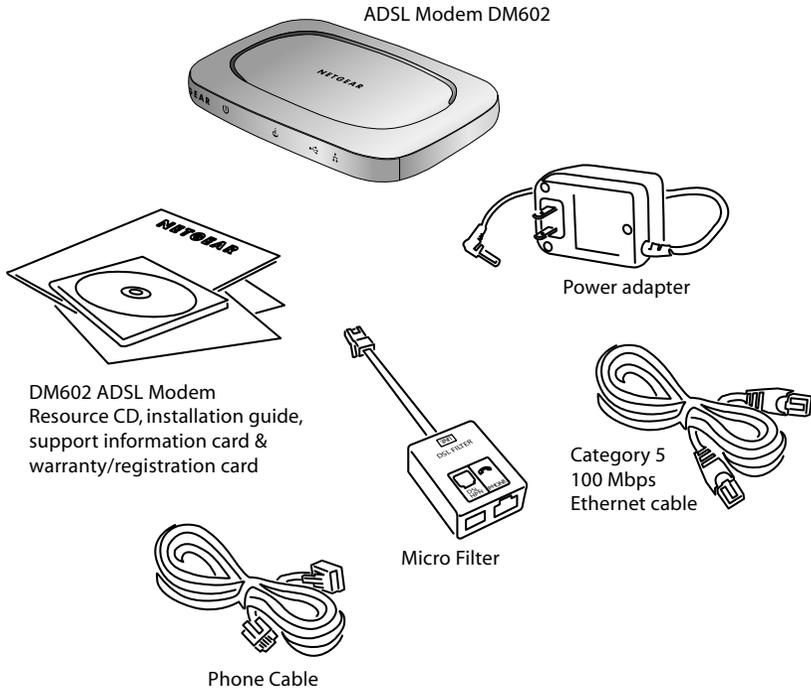
On the *DM602 Resource* CD, you'll find the *DM602 Installation Assistant,* which supplements the instructions in this installation guide by animating the step-by-step procedures given here. For more detailed information about installation, troubleshooting and configuration procedures, see the *Reference Manual* on the CD.

Installation Overview

Estimated time: 15 to 30 minutes

1. Gather the configuration information you have for your Internet account from your Internet Service Provider (ISP).
2. Connect the modem to your computer.
3. Configure your computer to work with the modem and restart the computer.
4. Configure the modem and go online to test the connection.

What's in the Box

ADSL Modem DM602

Power adapter

DM602 ADSL Modem Resource CD, installation guide, support information card & warranty/registration card

Micro Filter

Category 5 100 Mbps Ethernet cable

Phone Cable

When you open the box, verify that you received everything.

The package includes:

- DM602 ADSL Modem
- AC power adapter
- Microfilter splitter (depending on the country of purchase)
- Category 5 Ethernet straight-through cable
- USB cable (depending on the country of purchase)
- Phone cable
- *DM602 Resource* CD, including a full *Reference Manual* and *Installation Assistant*
- *DM602 Installation Guide* (this document)
- Warranty and registration card
- Support information card

1 Gather Configuration Information from Your Internet Service Provider

Before installing the DM602 modem, you must have active ADSL service and an Internet account with an Internet Service Provider (ISP).

Ethernet Connection

You may use the Ethernet connection with any computer that supports TCP/IP. To connect the modem with an Ethernet cable, you must have the following:

- An available RJ-45 Ethernet port in the computer — either built-in or on an installed network interface card (NIC).

    Note: If you have a built-in modem or a modem card, the telephone jack for the modem looks very similar to an RJ-45 Ethernet port, but the RJ-45 port is larger.

- TCP/IP networking installed.
- For Windows® computers: Client for Microsoft® Networks software installed.

    Note: TCP/IP and Client for Microsoft Networks is installed on most Windows computers. If you have viewed Web sites with a browser, you are ready to go. Please see the *Reference Manual* on the CD if you need help installing either on a Windows computer.

- An Ethernet patch cable. (One is provided with the modem.)

USB Connection

You may use the USB connection with any Windows computer that has an available USB port. To connect the modem with a USB cable, you must have the following:

- A computer running Windows 98 or later.
- An available USB port.
- A USB cable.

Connection information

Later in the setup process when you configure the modem to work with your computer, you'll need to know the type of account you have with your ISP and specific account information. The next page includes blanks for you to fill in your ISP information and use later.

Note: Your ISP should have provided you with a summary sheet of all the information needed to connect your computer to the Internet. If you cannot locate the information, you'll have to contact your ISP.

Multiplexing Method and Virtual Circuit Number

Your ISP should give you information about the type of multiplexing used and the numbers for the virtual circuits, if used.

Circle either:

VC-Based   or   LLC-Based

> **Note:** Use LLC-Based if your ISP did not give you a specific method.

VPI: _____ (a number between 0 and 255)

VCI: _____ (a number between 1 and 65535)

Login Name

If your ISP requires a login name and password because you have a PPPoE or PPPoA account, fill in the following:

Login name: _____ (may be your full e-mail address)

Password: _____

Service name: _____ (if required by your ISP)

> **Note:** The login name could be called a user name or account name by your ISP. The login name is case sensitive. You must type it *exactly* as given by your ISP. For example, c_jones is a different login name than C_Jones or cjones.

Fixed (or Static) IP Address

If you have a static IP address through your ISP, fill in the following information:

Internet IP address: _____ . _____ . _____ . _____

Subnet mask: _____ . _____ . _____ . _____

Gateway IP address: _____ . _____ . _____ . _____

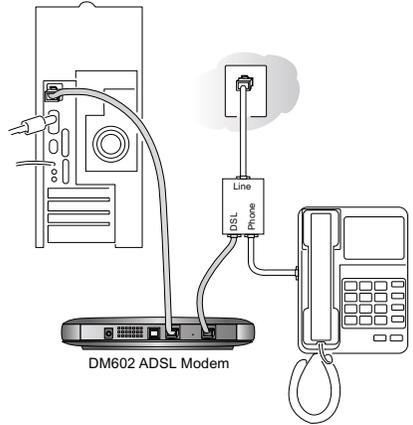> **Note:** For example, 169.254.141.148 could be a valid IP address.

DNS server address information

If you were given specific Domain Name System (DNS) server addresses, fill in the following:

DNS Server IP address(es): _____ . _____ . _____ . _____

_____ . _____ . _____ . _____

2 Connect the Modem

After unpacking the box and locating the configuration
information, you can install the modem.

> **Note:** You do not have to power down your
> computer to do this, but if you need to move your
> computer (perhaps to get to a port in the back),
> you may want to shut down the computer before
> moving it.

DM602 ADSL Modem

Ethernet Connection

1. Connect a phone cord between the telephone wall
   jack and the **ADSL** port on the modem.

   > **Note:** If you want to connect a telephone using this wall jack, you may use a
   > microfilter splitter as illustrated.

2. Use an Ethernet cable to connect the computer to the Ethernet port on the modem.

   > **Note:** If you've powered down your computer, start it up now.

3. Connect the power adapter into the back of the modem and then plug the adapter into a
   power source (such as a wall socket or power strip) and make sure that power is applied.

4. Check the setup. (See the procedure on the next page.)

USB Connection

To use the USB port on the modem you must have a computer with Windows 98 or later.

1. Connect a phone cord between the telephone wall jack and the **ADSL** port on the
   modem.

   > **Note:** If you want to connect a telephone at the wall jack, you may use a microfilter
   > splitter as illustrated.

2. Connect the power adapter into the back of the modem and then plug the adapter into a
   power source (such as a wall socket or power strip) and make sure that power is applied.

   > **Note:** If you've powered down your computer, start it up now.

3. Insert the *DM602 Resource* CD in the CD-ROM drive.

4. Use a USB cable to connect the computer to the USB port on the modem.

   The *Add New Hardware* wizard appears.

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5. Click **Next** to start the wizard.

6. Select **Search for a suitable driver for my device** and click **Next**.

7. Verify the driver found on the CD is dm602bus.inf and click **Next**.

   Note: If Windows doesn't locate the driver automatically, you have to browse for the driver. It is in the [CD-ROM drive letter]:\DM602v1.0\USB\ folder.

8. Click **Finish**.
   The USB driver is installed.

   WARNING: Once you finish installing the USB driver, you MUST complete the process by installing the Ethernet driver.

Next you need to install a special Ethernet driver for the modem, called NETGEAR PC-attached Gateway, using the wizard that now appears on screen.
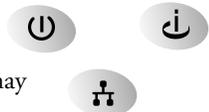
9. Click **Next** to start the wizard.

10. Again, select **Search for a suitable driver for my device** and click **Next**.

11. Verify the driver found on the CD is dm602eth.inf and click **Next**.

   Note: If Windows doesn't locate the driver automatically, you have to browse for the driver. It is in the [CD-ROM drive letter]:\DM602v1.0\USB\ folder.

12. If you get queried about a Microsoft digital signature, click **Yes**.

13. Click **Finish**.

14. Check the setup.

Check the Setup

- The **Power** and **Internet** lights should be lit.

- For an Ethernet connection, the **Ethernet** light should be lit and may blink to show network activity.

   Note: If the Ethernet connection is a 100 Mbps connection, the light is green. If it is a 10 Mbps connection, the light is yellow. If the **Power**, **Internet** or **Ethernet** light isn't lit, go to *Troubleshooting* on page 11.

- For a USB connection, the **USB** light should be lit and may blink to show network activity.

   Note: If the **Power**, **Internet** or **USB** light isn't lit, go to *Troubleshooting* on page 11.

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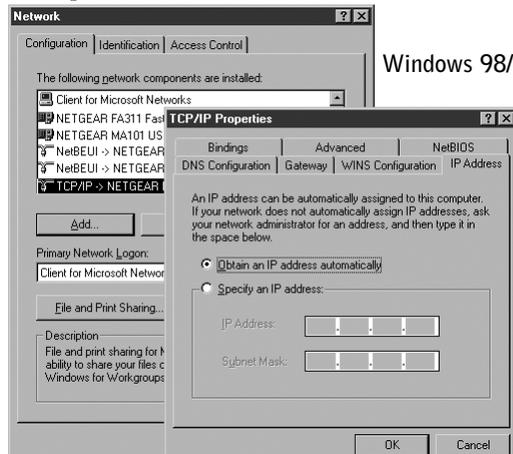# 3 Configure the Computer to Work with the Modem and Restart the Network

Next, you configure the computer to interact with the modem. To do this, you configure the TCP/IP settings on the computer and then restart the computer. How you do this depends on your computer.

Windows Operating System

Normally, you leave the TCP/IP setup parameters at their factory default settings unless you have a specific reason to change them. You should verify that the computer is set to 'obtain an IP address automatically' in the *Network* control panel.

Windows 98 or Me

1. Choose **Settings>Control Panel** from the **Start** menu.

2. Double-click the **Network** icon.

3. Click the **Configuration** tab.

4. In the list of installed network components, select the TCP/IP entry for the computer's Ethernet adapter or NIC.

5. Click **Properties**.

6. Click the **IP Address** tab.

7. If not selected, select **Obtain an IP address automatically.**

8. Click the **Gateway** tab.

9. Select and remove any IP Gateway addresses that are listed.

10. Click **OK** and click **OK** again to close the *Network* control panel.

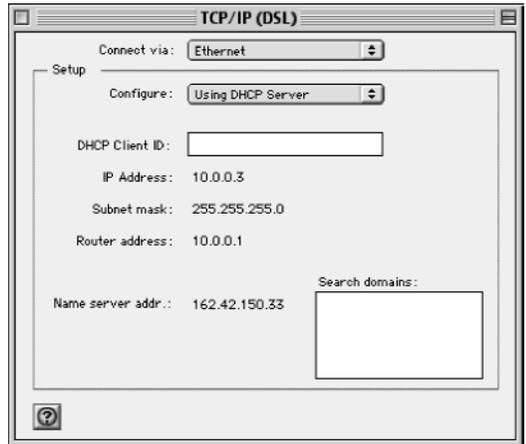11. Restart your computer.

Windows 98/Me

Windows 2000 or XP

1. Right-click **My Network Place** and choose **Properties**.

2. Double-click **Local Area Network Connection** and click **Properties.**

3. Select **Internet Protocol (TCP/IP)** and click **Properties**.

4. Select **Obtain IP address automatically** and **Obtain DNS server address automatically.**

5. Click **OK** twice and click **Close.**

6. Restart your computer.

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Macintosh Operating System

Mac OS® 8.6 or 9.x

1. Choose **Control Panels** >**TCP/IP** from the **Apple (🍎) menu**.

2. If not already selected, select **Ethernet** in the *Connect via* list.

3. Select **Using DHCP Server** in the *Configure* list.

4. Click the close box.

5. Click **Save**.

6. Restart your computer.

Mac OS 8.6/9.x

Mac OS X

1. Choose **System Preferences** from the **Apple** menu.

2. Double-click **Network**.

3. If not already selected, select **Built-in Ethernet** in the *Configure* list.

4. If not already selected, select **Using DHCP** in the **TCP/IP** tab.

5. Click **Save**.

6. Restart your computer.

Linux® or UNIX® Operating System

If you're installing the modem with a Linux-based or UNIX-based computer, see your system documentation to set up TCP/IP networking to obtain IP addresses automatically using DHCP.

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4 Configure the Modem and Test the Connection

For PPPoE or PPPoA access

If you have PPPoE or PPPoA access through your ISP, use this procedure to configure the modem to work with your ISP. You'll need the information you filled in on page 4. You configure your modem using Internet browser software such as Microsoft® Internet Explorer 5.0 or Netscape Navigator® 4.7 or later.

Note: If you normally use a login program to access the Internet, do NOT start that program now.

1. Start a browser on the computer connected to the modem.
2. In the **Address** or **Location** box, type http://192.168.0.1 and press **Enter** or **Return**.

    Note: You may want to bookmark this address in your browser for handy access in the future.

3. Type admin in the **User Name** box.
4. Type password in the **Password** box.

    Note: Both User Name and Password are case sensitive.

5. Click **OK**.

    The modem's *Basic Settings* page appears.

6. Fill in the form on the *Basic Settings* page. (Refer to the information filled in on page 4.)

    Note: Helpful information appears on the right side of the page to assist you as you fill in the form. You may also find pertinent information in the ISP guide on the CD.

7. Click **Apply** to have your information sent to the modem.

    Note: You will no longer need to use a login program to get online nor manually disconnect. If you want to continue using a login program, click **Device Mode** in the *Advanced* section and select **DM602 (Modem)** as the device type. Then click **Apply**.

8. Click **Logout**.
9. Go to *Test the Connection* on the next page.

For a Fixed (Static) IP Address

If you have a fixed IP address, use this procedure to configure the modem to work with your ISP. You'll need the information you filled in on page 4. You configure your modem using Internet browser software such as Microsoft® Internet Explorer 5.0 or Netscape Navigator® 4.7 or later.

1. Start a browser on the computer connected to the modem.

2. In the **Address** or **Location** box, type http://192.168.0.1 and press **Enter** or **Return**.

    Note: You may want to bookmark this address in your browser for handy access in the future.

3. Type admin in the **User Name** box.

4. Type password in the **Password** box.

    Note: Both User Name and Password are case sensitive.

5. Click **OK**.

    The modem's *Basic Settings* page appears.

6. Click **Device Mode** in the *Advanced* section.

7. Select **DM602 (Modem)** as the device type and click **Apply**.
    The *Basic Settings* page appears.

8. Fill in the form on the *Basic Settings* page. (Refer to the information filled in on page 4.)

    Note: Helpful information appears on the right side of the page to assist you as you fill in the form. You may also find pertinent information in the ISP guide on the CD.

10. Click **Apply** to have your information sent to the modem.

11. Click **Logout**.

Test the Connection

1. In your browser's **Address** or **Location** box, type www.NETGEAR.com and press **Enter** or **Return**.
    This should take you to NETGEAR's Web site.

    Note: If NETGEAR'S Web site doesn't appear, go to *Troubleshooting* on page 11.

2. Quit your browser.

Troubleshooting

No lights are lit on the modem

The modem has no power.

- Make sure you're using the correct power adapter (15 VAC).
- Make sure the power adapter is properly connected to the modem.
- Make sure the power adapter is properly connected to a functioning power outlet. If it's in a power strip, make sure the power strip is turned on.

The Internet light doesn't light up

The **Power** light and the **Ethernet** (or **USB**) light is lit, but the **Internet** light isn't lit.

- You may not have active ADSL service yet. Contact your provider to verify activation.
- If you have multiple phone lines, you may be connecting to the wrong one. Try connecting to a different line.

The Internet light is blinking yellow

The modem is attempting to connect.

- If it doesn't turn green within a few minutes, disconnect all phones on the line and reconnect them one by one using a microfilter with each.
- If it still doesn't turn green, the phone wiring may be bad.

The Ethernet (or USB) light isn't lit

There's a hardware connection problem.

- Make sure the cable connectors are securely plugged in at the modem and the computer.
- Make sure the computer is turned on.

I cannot get onto the Internet with a computer

You may not have restarted the computer to have TCP/IP changes take effect.

- Restart the computer.
- Unplug the modem, plug it in again, wait 10 seconds, and then restart the computer.

Your computer may not recognize any addresses.

- If you typed in addresses of one or two DNS servers when you configured the modem, restart your computer. Open the modem's *Settings* pages and verify that the DNS addresses appear. See instructions on page 9 to view the modem's *Basic Settings* page.

Your computer may not have the correct TCP/IP settings to recognize the modem.

- Restart the computer and check that you have TCP/IP set up properly.

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For Windows, the **Network Properties** should have **Obtain an IP address automatically** selected (see page 6). For Macintosh computers, the **TCP/IP** (or **Network**) control panel should be set to **Using DHCP Server** (see page 7).

- You may also verify that the modem's local IP address is 192.168.0.1. The computer's IP address should be between 192.168.0.2 and 192.168.0.254.

Resetting TCP/IP Properties (Windows)

If you're on a Windows computer and are still having problems, you may try the following procedure before contacting technical support.

Windows 98/Me

1. Click the **Start** button and then click **Run**.

2. Type **winipcfg** and then click **OK**.

3. Select your Ethernet adapter.

Windows 2000

1. Click the **Start** button and then click **Run**.

2. Type **CMD** and click **OK**.

3. Type **ipconfig/all**.

Windows XP

1. Open **My Network Places.**

2. Click **View network connections** (*Network Tasks*).

3. Click your enabled LAN connection.

For any Windows computer, if you are using the recommended default TCP/IP settings, they should be:
- **IP Address**: between 192.168.0.2 and 192.168.0.254
- **Subnet Mask**: 255.255.255.0
- **Default Gateway**: 192.168.0.1

4. Click **More Info** and verify that the **DNS Servers** box displays 192.168.0.1.

5. Click **Release All** and then **Renew All**.

6. Verify that there is a valid address and click **OK**.

4. Type **ipconfig/release.**

5. Type **ipconfig/renew**.

6. Verify that there is a valid address and close the window.

4. Click **Repair this connection** (*Network Tasks)*.

5. Verify that there is a valid address and close the window.

Note: For Windows XP, you'll find the TCP/IP information in the *Details* area.

Note: If you're still having problems, check the troubleshooting section in the *Reference Manual*.

Glossary of Terms

You'll find a more extensive glossary in the *Reference Manual* on the *DM602 Resource CD*.

Asymmetric Digital Subscriber Line (ADSL): A technology for sending high-speed data over telephone lines.

Domain Name System (DNS) server: A server that matches URLs (such as www.netgear.com) to numeric IP addresses.

IP Address: A 4-part number uniquely defining each host on the Internet. Usually written in dotted-decimal notation with separating periods (for example, 134.177.244.57).

ISP: Internet service provider.

Local Area Network (LAN): A communications network within a limited area, such as one building.

PPP: Point-to-Point Protocol, the standard Internet protocol for dial-up connections.

PPP over ATM (PPPoA): A protocol for connecting remote hosts to the Internet over an always-on connection by simulating a dial-up connection.

PPP over Ethernet (PPPoE): A protocol for connecting remote hosts to the Internet over an always-on connection by simulating a dial-up connection.

TCP/IP: Transfer Control Protocol (TCP) with Internet Protocol (IP). The main internetworking protocol used in the Internet.

Wide Area Network (WAN): A long distance link used to extend or connect remotely located local area networks (for example, connecting your home computer to the Internet).

Modem System Requirements

To use the modem in your network you must have:

- ADSL service

- An account with an ISP

- Ethernet network card (NIC) (or built-in networking) and network software or USB port (Windows only)

- Internet Explorer 5.0 or later; Netscape Navigator 4.7 or later

Modem Specifications

Routing Protocols:	TCP/IP, DHCP server and relay, PPPoE, PPPoA, RFC 1483, 2684 Bridged Ethernet Encapsulation
Dimensions:	W: 255 mm (10.0") D: 169 mm (6.7") H: 24 mm (1.3")
Weight:	0.54 kg (1.2 lbs.)
LAN:	10BASE-T or 100BASE-TX, USB 1.1
WAN:	ADSL, RJ-11
Power Adapter:	15 V AC, 1.0 A with localized plug for North America, Japan, UK, Europe or Australia

Environmental Specifications

Operating temperature:	0 to 40°C (32˚ to 104˚F)
Operating humidity:	90% maximum relative humidity, noncondensing
Electromagnetic Emissions:	FCC Part 15 Class B; VCCI Class B
	EN 55 022 (CISPR 22), Class B Interface Specifications

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Voluntary Control Council for Interference (VCCI) Statement

This equipment is in the second category (information equipment to be used in residential areas) and conforms to the standards set by the Voluntary Control Council for Interference by Data Processing Equipment and Electronic Office Machines that are aimed at preventing radio interference in residential areas.

EN 55 022 Declaration of Conformance

This is to certify that the NETGEAR Model DM602 ADSL Modem is shielded against the generation of radio interference in accordance with the application of Council Directive 89/336/EEC, Article 4a. Conformity is declared by the application of EN 55 022 Class B (CISPR 22).

Federal Communications Commission (FCC) Compliance Notice: Radio Frequency Notice

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 generates, 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 measures:

• Reorient or relocate the receiving antenna.

• Increase the separation between the equipment and receiver.

• Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

• Consult the dealer or an experienced radio/TV technician for help.

Canadian Department of Communications Radio Interference Regulations

This digital apparatus (NETGEAR Model DM602 ADSL Modem) 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.

Règlement sur le brouillage radioélectrique du ministère des Communications

Cet appareil numérique (NETGEAR Model DM602 ADSL Modem) respecte les limites de bruits radioélectriques visant les appareils numériques de classe B prescrites dans le Règlement sur le brouillage radioélectrique du ministère des Communications du Canada.

Statement of Conditions

In the interest of improving internal design, operational function, and/or reliability, NETGEAR reserves the right to make changes to the products described in this document without notice.

NETGEAR does not assume any liability that may occur due to the use or application of the product(s) or circuit layout(s) described herein.

Certificate of the Manufacturer/Importer

It is hereby certified that the NETGEAR Model DM602 ADSL Modem has been suppressed in accordance with the conditions set out in the BMPT-AmtsblVfg 243/1991 and Vfg 46/1992. The operation of some equipment (for example, test transmitters) in accordance with the regulations may, however, be subject to certain restrictions. Please refer to the notes in the operating instructions.

Federal Office for Telecommunications Approvals has been notified of the placing of this equipment on the market and has been granted the right to test the series for compliance with the regulations.

Bestätigung des Herstellers/Importeurs

Es wird hiermit bestätigt, daß das Model DM602 ADSL Modem gemäß der im BMPT-AmtsblVfg 243/1991 und Vfg 46/1992 aufgeführten Bestimmungen entstört ist. Das vorschriftsmäßige Betreiben einiger Geräte (z.B. Testsender) kann jedoch gewissen Beschränkungen unterliegen. Lesen Sie dazu bitte die Anmerkungen in der Betriebsanleitung.

Das Bundesamt für Zulassungen in der Telekommunikation wurde davon unterrichtet, daß dieses Gerät auf den Markt gebracht wurde und es ist berechtigt, die Serie auf die Erfüllung der Vorschriften hin zu überprüfen.