ADSL2+ Modem Router User Manual

NETGEAR®

NETGEAR, Inc.
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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.

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.

Federal Communications Commission (FCC) Radiation Exposure Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. In order to avoid the possibility of exceeding the FCC radio frequency exposure limits, human proximity to the antenna shall not be less than 20 cm (8 inches) during normal operation.

European Union Statement of Compliance

Hereby, NETGEAR, Inc. declares that this modem router is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.

Èesky [Czech]	NETGEAR, Inc. tímto prohlašuje, že tento ADSL2+ Modem Router DM111P(U)v2 je ve shodì se základními požadavky a dalšími pøíslušnými ustanoveními smìrnice 1999/5/ES.
Dansk [Danish]	Undertegnede NETGEAR, Inc. erklærer herved, at følgende udstyr ADSL2+ Modem Router DM111P(U)v2 overholder de væsentlige krav og øvrige relevante krav i direktiv 1999/5/EF.
Deutsch [German]	Hiermit erklärt NETGEAR, Inc., dass sich das Gerät ADSL2+ Modem Router DM111P(U)v2 in Übereinstimmung mit den grundlegenden Anforderungen und den übrigen einschlägigen Bestimmungen der Richtlinie 1999/5/EG befindet.
Eesti [Estonian]	Käesolevaga kinnitab NETGEAR, Inc. seadme ADSL2+ Modem Router DM111P(U)v2 vastavust direktiivi 1999/5/EÜ põhinõuetele ja nimetatud direktiivist tulenevatele teistele asjakohastele sätetele.
English	Hereby, NETGEAR, Inc., declares that this ADSL2+ Modem Router DM111P(U)v2 is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.
Español [Spanish]	Por medio de la presente NETGEAR, Inc. declara que el ADSL2+ Modem Router DM111P(U)v2 cumple con los requisitos esenciales y cualesquiera otras disposiciones aplicables o exigibles de la Directiva 1999/5/CE.
Ελληνική [Greek]	ΜΕ ΤΗΝ ΠΑΡΟΥΣΑ NETGEAR, Inc. ΔΗΛΩΝΕΙ ΟΤΙ ADSL2+ Modem Router DM111P(U)v2 ΣΥΜΜΟΡΦΩΝΕΤΑΙ ΠΡΟΣ ΤΙΣ ΟΥΣΙΩΔΕΙΣ ΑΠΑΙΤΗΣΕΙΣ ΚΑΙ ΤΙΣ ΛΟΙΠΕΣ ΣΧΕΤΙΚΕΣ ΔΙΑΤΑΞΕΙΣ ΤΗΣ ΟΔΗΓΙΑΣ 1999/5/ΕΚ.
Français [French]	Par la présente NETGEAR, Inc. déclare que l'appareil ADSL2+ Modem Router DM111P(U)v2 est conforme aux exigences essentielles et aux autres dispositions pertinentes de la directive 1999/5/CE.
Italiano [Italian]	Con la presente NETGEAR, Inc. dichiara che questo ADSL2+ Modem Router DM111P(U)v2 è conforme ai requisiti essenziali ed alle altre disposizioni pertinenti stabilite dalla direttiva 1999/5/CE.
Latviski [Latvian]	Ar šo NETGEAR, Inc. deklarç, ka ADSL2+ Modem Router DM111P(U)v2 atbilst Direktîvas 1999/5/EK bûtiskajâm prasîbâm un citiem ar to saistîtajiem noteikumiem.
Lietuviø [Lithuanian]	Šiuo NETGEAR, Inc. deklaruoja, kad šis ADSL2+ Modem Router DM111P(U)v2 atitinka esminius reikalavimus ir kitas 1999/5/EB Direktyvos nuostatas.
Nederlands [Dutch]	Hierbij verklaart NETGEAR, Inc. dat het toestel ADSL2+ Modem Router DM111P(U)v2 in overeenstemming is met de essentiële eisen en de andere relevante bepalingen van richtlijn 1999/5/EG.

Malti [Maltese]	Hawnhekk, NETGEAR, Inc., jiddikjara li dan ADSL2+ Modem Router DM111P(U)v2 jikkonforma mal-tiijiet essenzjali u ma provvedimenti orajn relevanti li hemm fid-Dirrettiva 1999/5/EC.
Magyar [Hungarian]	Alulírott, NETGEAR, Inc. nyilatkozom, hogy a ADSL2+ Modem Router DM111P(U)v2 megfelel a vonatkozó alapvetõ követelményeknek és az 1999/5/EC irányelv egyéb elõírásainak.
Polski [Polish]	Niniejszym NETGEAR, Inc. oœwiadcza, ¿e ADSL2+ Modem Router DM111P(U)v2 jest zgodny z zasadniczymi wymogami oraz pozosta³ymi stosownymi postanowieniami Dyrektywy 1999/5/EC.
Português [Portuguese]	NETGEAR, Inc. declara que este ADSL2+ Modem Router DM111P(U)v2 está conforme com os requisitos essenciais e outras disposições da Directiva 1999/5/CE.
Slovensko [Slovenian]	NETGEAR, Inc. izjavlja, da je ta ADSL2+ Modem Router DM111P(U)v2 v skladu z bistvenimi zahtevami in ostalimi relevantnimi doloèili direktive 1999/5/ES.
Slovensky [Slovak]	NETGEAR, Inc. týmto vyhlasuje, že ADSL2+ Modem Router DM111P(U)v2 spåòa základné požiadavky a všetky príslušné ustanovenia Smernice 1999/5/ES.
Suomi [Finnish]	NETGEAR, Inc. vakuuttaa täten että ADSL2+ Modem Router DM111P(U)v2 tyyppinen laite on direktiivin 1999/5/EY oleellisten vaatimusten ja sitä koskevien direktiivin muiden ehtojen mukainen.
Svenska [Swedish]	Härmed intygar NETGEAR, Inc. att denna *[utrustningstyp]* står I överensstämmelse med de väsentliga egenskapskrav och övriga relevanta bestämmelser som framgår av direktiv 1999/5/EG.

A printed copy of the EU Declaration of Conformity certificate for this product is provided in the DM111P(U)v2 product package.

Bestätigung des Herstellers/Importeurs

Es wird hiermit bestätigt, daß das ADSL2+ Modem Router DM111P(U)v2 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.

Certificate of the Manufacturer/Importer

It is hereby certified that the ADSL2+ Modem Router DM111P(U)v2 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.

Voluntary Control Council for Interference (VCCI) Statement

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

When used near a radio or TV receiver, it may become the cause of radio interference.

Read instructions for correct handling.

Product and Publication Details

Model Number:	DM111P(U)v2
Publication Date:	October 2008
Product Family:	Modem Router
Product Name:	ADSL2+ Modem Router DM111P(U)v2
Home or Business Product:	Home
Language:	English
Publication Part Number:	202-10392-01

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About This Manual

The *NETGEAR® ADSL2+ Modem Router User Manual* describes how to install, configure and troubleshoot the ADSL2+ Modem Router DM111P(U)v2.The information is this manual is intended for readers with intermediate computer and Internet skills.

Conventions, Formats and Scope

The conventions, formats, and scope of this manual are described in the following paragraphs:

• **Typographical Conventions.** This manual uses the following typographical conventions:

Italics	Emphasis, books, CDs, URL names
Bold	User input
Fixed	Screen text, file and server names, extensions, commands, IP addresses

• **Formats.** This manual uses the following formats to highlight special messages:

> **Note:** This format is used to highlight information of importance or special interest.

> **Tip:** This format is used to highlight a procedure that will save time or resources.

> **Warning:** Ignoring this type of note may result in a malfunction or damage to the equipment.

> **Danger:** This is a safety warning. Failure to take heed of this notice may result in personal injury or death.

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- **Scope.** This manual is written for the ADSL2+ Modem Router according to these specifications:

Product Version	ADSL2+ Modem Router DM111P(U)v2
Manual Publication Date	October 2008

For more information about network, Internet technologies, see the links to the NETGEAR website in Appendix B, "Related Documents".

→ **Note:** Product updates are available on the NETGEAR, Inc. website at *http://www.netgear.com/support*.

How to Use This Manual

The HTML version of this manual includes the following:

- Buttons, ⟩ and ⟨ , for browsing forwards or backwards through the manual one page at a time
- A ☰ button that displays the table of contents and an ⊞ button. Double-click on a link in the table of contents or index to navigate directly to where the topic is described in the manual.
- A ⬈ button to access the full NETGEAR, Inc. online knowledge base for the product model.
- Links to PDF versions of the full manual and individual chapters.

How to Print this Manual

To print this manual you can choose one of the following several options, according to your needs.

- **Printing a Page in the HTML View**.

  Each page in the HTML version of the manual is dedicated to a major topic. Use the *Print* button on the browser toolbar to print the page contents.

- **Printing a Chapter**.

  Use the *PDF of This Chapter* link at the top left of any page.

  – Click the *PDF of This Chapter* link at the top right of any page in the chapter you want to print. The PDF version of the chapter you were viewing opens in a browser window.

  – Your computer must have the free Adobe Acrobat reader installed in order to view and print PDF files. The Acrobat reader is available on the Adobe Web site at *http://www.adobe.com*.

  – Click the print icon in the upper left of the window.

  > **Tip:** If your printer supports printing two pages on a single sheet of paper, you can save paper and printer ink by selecting this feature.

- **Printing the Full Manual**.

  Use the *Complete PDF Manual* link at the top left of any page.

  – Click the Complete PDF Manual link at the top left of any page in the manual. The PDF version of the complete manual opens in a browser window.

  – Click the print icon in the upper left of the window.

  > **Tip:** If your printer supports printing two pages on a single sheet of paper, you can save paper and printer ink by selecting this feature.

Revision History

Part Number	Version Number	Date	Description
202-10392-01	1.0	October 2008	Manual initial release

Chapter 1
Configuring Your Internet Connection

This chapter describes how to configure your ADSL2+ Modem Router DM111P(U)v2 Internet connection. When you perform the initial configuration of your modem router using the *Resource CD* as described in the *ADSL2+ Modem Router Setup Manual,* these settings are configured automatically for you. This chapter provides further details about these settings, as well as instructions on how to log in to the modem router for further configuration.

> **Note:** NETGEAR recommends using the Smart Wizard™ Installation Assistant on the *Resource CD* for initial configuration, as described in the *ADSL2+ Modem Router Setup Manual*.

This chapter includes:

Installation Requirements

Before installation, please have your DSL log in user name and password available. If not available, please obtain them from your Internet Service Provider (ISP) at the numbers below and IMMEDIATELY FOLLOW NETGEAR INSTALLATION PROCEDURES located in the Smart Wizard installation CD.

- For Earthlink customers, please call 1-800-EARTHLINK.
- For AT&T customers, please call 1-877-722-3755.

• For Qwest customers, please call 1-877-348-9005.

• For Verizon customers, please call 1-800-567-6789.

NETGEAR modem and gateway products are designed to be compatible with major ISPs in North America including Earthlink, AT&T, Qwest, and Verizon. For any NETGEAR product installation support and compatibility concerns, please call NETGEAR at 1-888-NETGEAR, as ISP support for NETGEAR products may be limited. Please only call your ISP to obtain the log in user name and password.

Using the Smart Wizard to Set Up Your Modem Router

For first-time installation of your modem router, refer to the *ADSL2+ Modem Router Setup Manual*. The Setup Manual explains how to launch the NETGEAR Smart Wizard on the *Resource CD* to step you through the procedure to connect your modem router and computer. The Smart Wizard will assist you in configuring your wireless settings and enabling wireless security for your network. After initial configuration using the Setup Manual, you can use the information in this manual to configure additional features of your modem router.

> **Note:** The Smart Wizard cannot detect a PPTP connection with your ISP. If your ISP uses this protocol, then you must use Quick Setup to configure your connection manually. See "Using Quick Setup to Configure the Modem Router" on page 1-6.

For installation instructions in a language other than English, see the language options on the *Resource CD.*

Logging In to the Modem Router

You can log in to the modem router to view or change its settings.

> **Note:** Your computer must be configured for DHCP. For help with configuring DHCP, see the documentation that came with your computer or see the link to the online document in "Preparing Your Network" in Appendix B.

1. On your PC, open a Web browser, such as Microsoft Internet Explorer, and type the URL **http://192.168.0.1** in the address box. A dialog screen will be displayed prompting you for a user name and password.

A window similar to the following login window opens:

Figure 1-1

> **→** **Note:** After you open the utility, you will have the option of changing the modem router's LAN IP address. If you do so, you will need to use the revised IP address to log in to the modem router in the future.

2. Type **admin** for the user name, **password** for the password, and then click **OK.** The Connect to Internet screen displays:
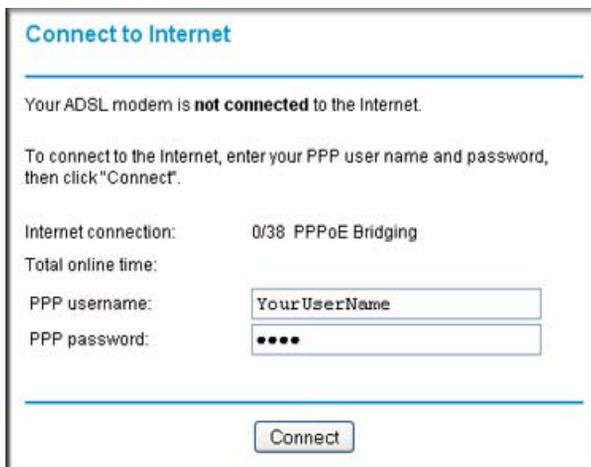

Figure 1-2

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Figure 1-2 on page 1-3 shows whether or not the modem router is connected to the Internet, and the basic Internet connection settings.

Setting Up Your Modem Router Manually

If you elect not to use the Smart Wizard, you can set up the modem router manually. However, you need to prepare the following before you can set up your router:

- Active Internet service provided by an ADSL account.

- The Internet Service Provider (ISP) configuration information for your ADSL account.
  - ISP login name and password
  - ISP Domain Name Server (DNS) addresses
  - Fixed or static IP address
  - Host and domain names

- Depending on how your ISP set up your Internet account, you need to know one or more of these settings:
  - Virtual path identifier (VPI) and Virtual channel identifier (VCI) parameters
  - Multiplexing method
  - Host and domain names

- ASDL microfilters as explained in the *ADSL2+ Modem Router Setup Manual*.

- Your computer must be set up to use DHCP to get its TCP/IP configuration from a router. This is usually the case. For help with DHCP, see the documentation that came with your computer, or see the link to the online document in "Preparing Your Network" in Appendix B.

Your ISP should have provided you with all the information needed to connect to the Internet. If you cannot locate this information, you can ask your ISP to provide it.

You can use the Setup Wizard to auto-detect your Internet connection, or you can bypass the wizard and enter settings in the Quick Setup screens.

- **Setup Wizard**. This wizard searches your Internet connection for servers and protocols to determine your Internet Service Provider (ISP) configuration. See the following section, "Using Quick Setup to Configure the Modem Router".

> **Note:** The Setup Wizard cannot detect a PPTP connection with your ISP. If your ISP uses this protocol, then you must use Quick Setup to configure your connection manually.

Quick Setup. You are prompted to configure the Internet connection and LAN settings. See "Using Quick Setup to Configure the Modem Router" on page 1-6.

Using the Setup Wizard to Auto-Detect the Internet Connection

To use the Setup Wizard to assist with configuration or to view the Internet connection settings:

1. Select Setup Wizard from the main menu, and the following screen displays:

Setup Wizard

Auto-Detect Connection Type
This Setup Wizard can detect the type of Internet connection you have.
Do you want the Setup Wizard to try and detect the connection type now?

⦿ Yes.

◯ No. I want to configure the router by myself.

[Next]

Figure 1-1

2. To use the Setup Wizard, select **Yes**, and then click **Next**.

The Setup Wizard detects your ISP configuration. Depending on the type of connection, you are prompted to enter your ISP settings, as shown in the following table.

Table 1-1. Auto-Detected Internet Connection Types

Connection Type	ISP Information
PPP over Ethernet (PPPoE) PPP over ATM (PPPoA)	Enter the login user name and password. These fields are case-sensitive.
Dynamic IP Account Setup	No entries are needed.
IP over ATM Classical IP assignment (RFC1577)	• Enter the assigned IP address, subnet mask, and the IP address of your ISP's primary DNS server. If a secondary DNS server address is available, enter it also. • DNS servers are required to perform the function of translating an Internet name such as www.netgear.com to a numeric IP address. For a fixed IP address configuration, you must obtain DNS server addresses from your ISP and enter them manually here.

Table 1-1. Auto-Detected Internet Connection Types (continued)

Connection Type	ISP Information
Fixed IP (Static) Account Setup	1. If required, enter the account name and domain name from your ISP. 2. Select **Use Static IP Address** or **Use IP Over ATM** (IPoA — RFC1483 Routed) according to the information from your ISP. If you select IPoA, the modem router will detect the gateway IP address, but you still need to provide the modem router IP address. 3. Enter your assigned IP address, subnet mask, and the IP address of your ISP's gateway modem router. This information should have been provided to you by your ISP. 4. Enter the IP address of your ISP's primary DNS server. If a secondary DNS server address is available, enter it also. DNS servers are required to perform the function of translating an Internet name such as www.netgear.com to a numeric IP address. For a fixed IP address configuration, you must obtain DNS server addresses from your ISP and enter them manually here.

3. To save your settings, click **Apply**.

Click **Test** to verify your Internet connection. If you have trouble connecting to the Internet, see Chapter 3, "Troubleshooting".

Using Quick Setup to Configure the Modem Router

You can bypass the Setup Wizard and use the Quick Setup screens to manually configure your modem router.

To manually configure the modem router settings:

1. Select Setup Wizard from the main menu. The following screen displays (see next page).

Figure 1-3

2. To bypass the Setup Wizard, select **No**, and then click **Next**. The ADSL Settings screen displays.

Figure 1-4

3. Enter the settings in the ADSL Settings screen. These settings are described in Table 1-2.

4. Click **Finish** to save the settings and reboot the modem router.

The following table describes the settings for the ADSL Settings screen.

**Table 1-2.   ADSL Settings**

Settings	Description
VPI	The Virtual Path Identifier (VPI) identifies the virtual path between endpoints in an ATM network. The valid range is from 0 to 255.
VCI	The Virtual Channel Identifier (VCI) identifies the virtual channel endpoints in an ATM network. The valid range is from 32 to 65535 (1 to 31 are reserved for well-known protocols).
Protocol	Select the service that is provided by your ISP: • **RFC2684 Bridging**. Multiprotocol Encapsulation over ATM Adaptation Layer 5 service. • **PPPoE Bridging**. PPP over Ethernet service. • **PPPoA Bridging**. PPP over ATM service.
Multiplexing Method	Select the multiplexing service that is provided by your ISP: • **LLC-Based**. Logical link control multiplexing. • **VC-Based**. Virtual circuit multiplexing.
PPP username	Enter your login user name. This fields is case-sensitive.
PPP password	Enter you login password. This fields is case-sensitive.
Disconnect if no activity (in minutes)	This is also known as the PPP idle timer. When the PPP idle timer is configured as zero, the PPP connection remains always on. However, when the PPP idle timer has a value other than zero, the PPP connection will be terminated when the configured period of inactivity is reached.
MTU Size (in bytes)	1492 bytes is the default value for PPPoE. 1500 bytes is the default value for PPPoA. Do not changes these values unless your ISP asks you to do so.

LAN IP Setup

If you intend to connect your modem router to a router, configure the local area network Internet Protocol (LAN IP) settings, as follows:

1. Select LAN IP Setup from the main menu to display the following screen:
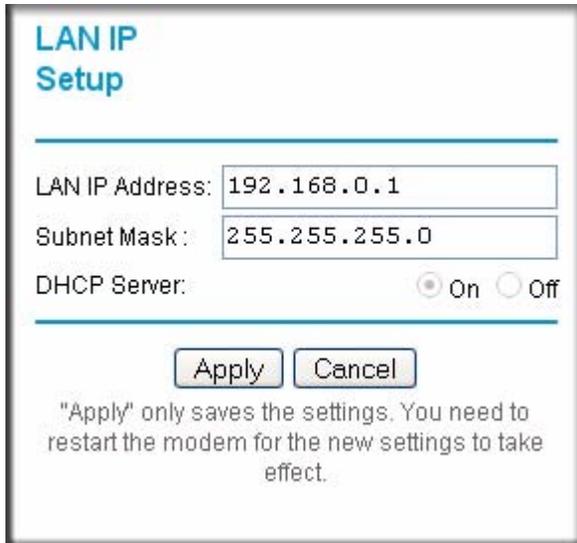
Figure 1-5

2. Check the LAN IP address of your router, which is usually printed on a label on the bottom or at the rear of the device.

    Note how the address is comprised of four numbers separated by period characters. If necessary, change the LAN IP address of the modem router so that the two left-most numbers of the address are the same as the two left-most numbers of the router's LAN IP address, and the third number in the modem router's address is different from the third number in the router's address. For example, if the router's LAN IP address is the same as the modem router's default address (192.168.0.1), change the LAN IP address of the modem to 192.168.1.1.

> **Tip:** If you change the LAN IP address of the modem router, write the new address on a sticky label and attach it to the bottom of the unit. You will need the new address to access the modem router management utility in the future.

3. By default, most routers (and all NETGEAR routers) include an active DHCP server. If this is the case for your router, click the **Off** radio button to disable the DHCP server in the modem router.

4. If you changed the LAN IP address or DHCP server setting, click **Apply** to make the new settings take effect.

> **Note:** If you change the LAN IP address, you will lose your connection to the modem router management utility. You will need to type the new IP address into your browser address box to re-access the utility.

Understanding the LAN IP Settings

The following table explains the fields and button on the LAN IP Setup screen.

Table 1-3.   LAN IP Settings

Settings	Description
LAN IP Address	The LAN IP address of the modem router.
Subnet Mask	The LAN subnet mask of the modem router. Combined with the IP address, the IP Subnet Mask allows a device to know which other addresses are local to it, and which must be reached through a gateway or modem router.
DHCP Server	The modem router is set up by default to be a DHCP server, which provides TCP/IP configuration for computers that are connected to it. If you are connecting the modem router to a network with a router that is the DHCP server, select the **Off** check box, and then click **Apply** to save your change.

How the Internet Connection Works

Your modem router is now configured to provide Internet access for your network. Your modem router automatically connects to the Internet when one of your computers requires access. It is not necessary to run a dialer or login application such as dial-up networking or Enternet to connect, log in, or disconnect. The modem router performs these functions automatically as needed.

To access the Internet from any computer connected to your modem router, launch an Internet browser such as Microsoft Internet Explorer. You should see the modem router's Internet LED blink, indicating communication to the ISP. The browser should begin to display a Web page.

Chapter 2
Managing Your Modem Router

This chapter describes how to perform management tasks on your ADSL2+ Modem Router DM111P(U)v2.

All sections in this chapter refer to functions in the modem router management utility, and assumes the utility has been opened in your web browser, as described in "Logging In to the Modem Router" on page 1-2.

This chapter includes:

- "Changing the Password" in the following section.
- "Backing Up, Restoring, or Erasing Your Settings" on page 2-2.
- "Upgrading the Modem Router's Firmware" on page 2-3.
- "Network Management Information" on page 2-5.
- "Running Diagnostic Utilities and Rebooting the Modem Router" on page 2-8.
- "Configuring Remote Access" on page 2-10.

Changing the Password

To keep your modem router configuration settings secure, you can change the password needed to access the modem router management utility, as follows:

1. Click **Set Password** in the Maintenance section of the main menu.

Set Password

User Name:	admin
New Password:	
Confirm New Password:	

Apply

Figure 2-1

2. Type the new password where prompted, and click **Apply.**

Backing Up, Restoring, or Erasing Your Settings

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

Backing Up the Configuration to a File

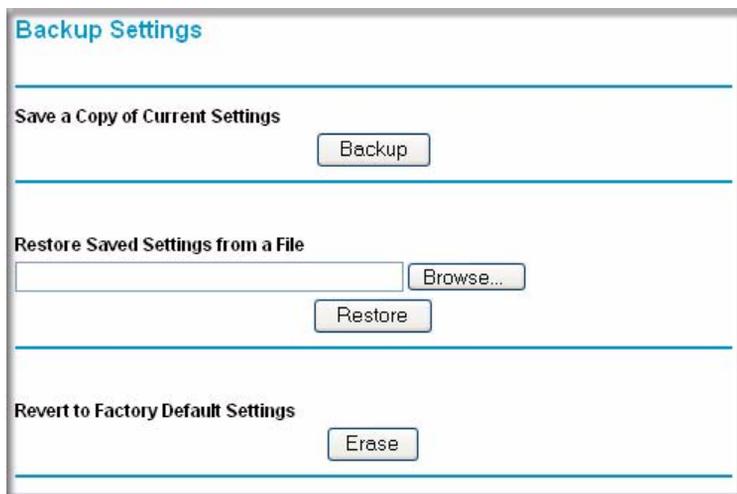**1.** From the Maintenance heading of the Main Menu, select the Backup Settings menu as seen in Figure 2-2.

Backup Settings

Save a Copy of Current Settings

[Backup]

Restore Saved Settings from a File

[   ] [Browse...]
[Restore]

Revert to Factory Default Settings

[Erase]

Figure 2-2

2. Click Backup to save a copy of the current settings.

3. Store the `.cfg` file on a computer on your network.

Restoring the Configuration from a File

1. From the Maintenance heading of the Main Menu, select the Settings Backup menu as seen in Figure 2-2.

2. Enter the full path to the file on your network or click the Browse button to locate the file.

3. When you have located the `.cfg` file, click the Restore button to upload the file to the modem router.

4. The modem router will then reboot automatically.

Resetting the Configuration to the Factory Default Settings

It is sometimes desirable to restore the modem router to the factory default settings. This can be done by using the Erase function.

1. To erase the configuration, from the Maintenance menu Settings Backup link, click the Erase button on the screen.

2. The modem router will then reboot automatically.

After an erase, the modem router's password will be **password**, the LAN IP address will be 192.168.0.1, and the modem router's DHCP client will be enabled.

→ **Note:** To restore the factory default configuration settings without knowing the login password or IP address, you must use the Default Reset button on the rear panel of the modem router; see Figure 1-1 on page 1-3.

Upgrading the Modem Router's Firmware

The software of the modem router is stored in FLASH memory, and can be upgraded as new software is released by NETGEAR.

Upgrade files can be downloaded from NETGEAR's Web site. If the upgrade file is compressed (.ZIP file), you must first extract the binary (.BIN or .IMG) file before uploading it to the modem router.

To upgrade the modem router firmware

→ **Note:** NETGEAR recommends that you back up your configuration before doing a firmware upgrade. After the upgrade is complete, you may need to restore your configuration settings.

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

The Web browser used to upload new firmware into the modem router must support HTTP uploads. NETGEAR recommends using Microsoft Internet Explorer 5.0 or above.

2. From the Main Menu of the browser interface, under the Maintenance heading, select the **Modem Router Upgrade** heading.
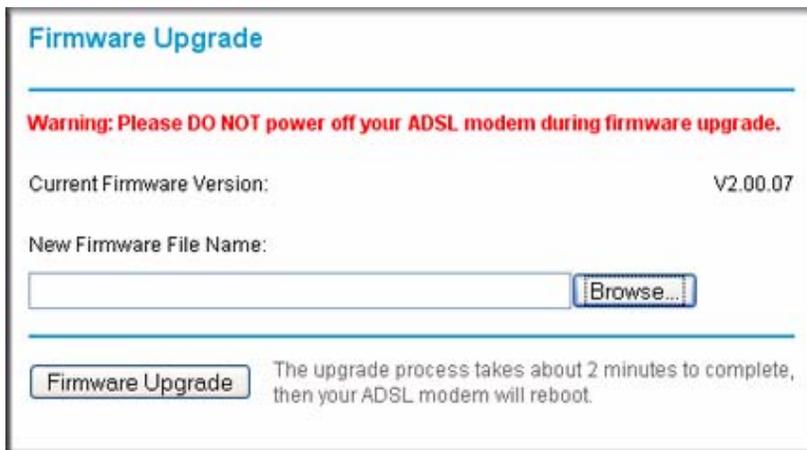

Figure 2-3

3. Click **Browse** to locate the binary (.BIN or .IMG) upgrade file.

4. Click **Firmware Upgrade**.

> ⚠ **Warning:** When uploading software to the modem router, it is important not to interrupt the Web browser by closing the window, clicking a link, or loading a new page. If the browser is interrupted, it may corrupt the software. When the upload is complete, your modem router will automatically restart. The upgrade process will typically take about two minutes. In some cases, you may need to clear the configuration and reconfigure the modem router after upgrading.

Network Management Information

The modem router provides a variety of status and usage information which is discussed below.

Viewing the Modem Router Status

From the Maintenance section of the main menu, select **Modem Router Status** to view the screen in Figure 2-4.

Figure 2-4

This screen shows the following settings:

Table 2-1. Menu 3.2 - Modem Router Status Fields

Field	Description
System Up Time	The time that the modem router has been connected to the Internet in the format days:hours:minutes:seconds.
Account Name	The Account Name assigned to the modem router during setup.
Firmware Version	The modem router firmware version. This value will change if you upgrade your modem router.
Bootloader Version	The modem router bootloader version. This value will change if you upgrade your modem router.
ADSL Driver Version	The modem router driver version.
ADSL Port	These settings apply to the Internet (ADSL) port of the modem router.
MAC Address	The Ethernet MAC address being used by the Internet (ADSL) port of the modem router.
IP Address	The IP address that is used by the Internet (ADSL) port of the modem router. If no address is shown, the modem router cannot connect to the Internet.
Network Type	Indicates either *Client* (in which case the IP address is obtained dynamically from the ISP) or *None*.
IP Subnet Mask	The IP Subnet Mask being used by the Internet (ADSL) port of the modem router.
Gateway IP Address	The gateway that is associated with the Internet IP address.
Primary DNS Server	The primary DNS server IP address that is used by the modem router. This address is usually obtained dynamically from the ISP.
Secondary DNS Server	The secondary DNS server IP address that is used by the modem router. This address is usually obtained dynamically from the ISP.
LAN Port	These settings apply to the Ethernet port of the modem router.
MAC Address	The Ethernet MAC address that is used by the Local (LAN) port of the modem router.
IP Address	The IP address that is used by the Local (LAN) port of the modem router. The default is 192.168.0.1.
DHCP	If OFF, the modem router will not assign IP addresses to PCs on the LAN. If ON, the modem router will assign IP addresses to PCs on the LAN.
IP Subnet Mask	The IP subnet mask that is used by the Local (LAN) port of the modem router. The default is 255.255.255.0.

Table 2-1. Menu 3.2 - Modem Router Status Fields (continued)

Field	Description
Modem	These settings apply to the ADSL port of the modem router.
Modem Status	The connection status of the modem.
Downstream Connection Speed	The speed at which the modem is receiving data from the ADSL line.
Upstream Connection Speed	The speed at which the modem is transmitting data to the ADSL line.
VPI	The Virtual Path Identifier (VPI) setting.
VCI	The Virtual Channel Identifier (VCI) setting.

Viewing the ADSL Line Status

From the Maintenance section of the main menu, click **ADSL Line Status**.

Figure 2-5

The upper table indicates how the modem router has detected the ADSL parameters are configured, except for the "Line Up Time", which indicates the time elapsed since the last reset or power cycle.

The lower table provides information about the quality of upstream and downstream data. These statistics will be of interest to your technical support representative if you are having problems obtaining or maintaining a connection.

Table 2-1. Router Statistics Fields

Field	Description
Line Rate	Average data rates.
Attainable Line Rate	The maximum attainable line rates. Typically, the downstream speed is faster than the upstream speed.
Noise Margin	This is the signal-to-noise ratio and is a measure of the quality of the signal on the line. The higher the margin, the better the quality.
Line Attenuation	The line attenuation will increase the further you are physically located from your ISP's facilities.
Output Power	Indicates the strength of the upstream and downstream signals.

Clicking the **More Information** link will provide more details about the quality of the traffic sent and received, which also may be of interest to your technical support representative if you are having problems obtaining or maintaining a connection.

Running Diagnostic Utilities and Rebooting the Modem Router

The modem router has a diagnostics feature. You can use the diagnostics menu to perform the following functions from the modem router:

- Perform a diagnostic test to check that the unit is working properly.

- Display the Routing Table to identify what other modem routers the modem router is communicating with.

- Reboot the modem router to enable new network configurations to take effect or to clear problems with the modem router's network connection.

From the Maintenance section of the main menu select **Diagnostics**.
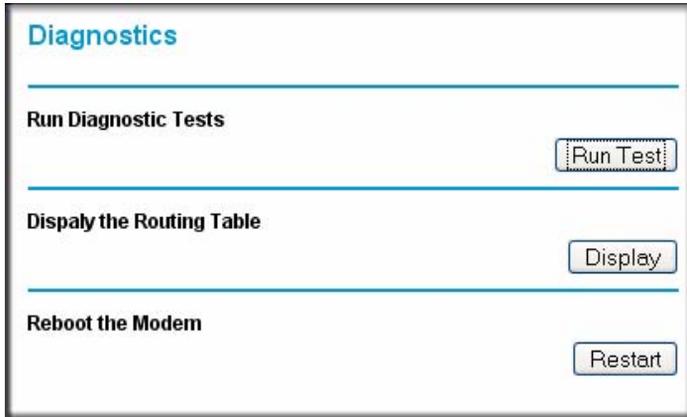

Figure 2-6

From this screen you can run diagnostics tests, display the Routing Table, or reboot the router.

Running Diagnostics Tests

On the Diagnostics screen, click **Run Diagnostic Tests**. The modem router runs tests and displays the test results, similar to the results shown in the following figure:

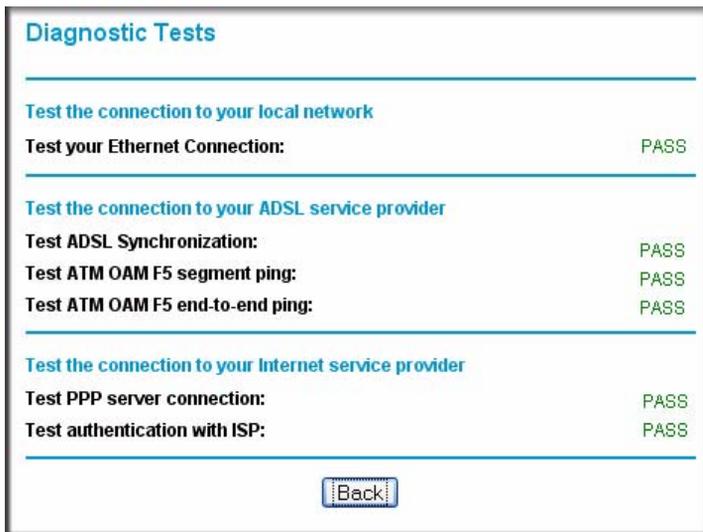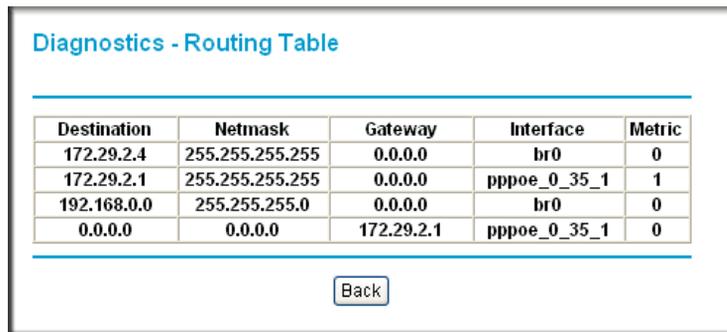**Figure 2-7**

Routing Table

On the Diagnostics screen, click **Display**. The following figure shows a typical routing table.
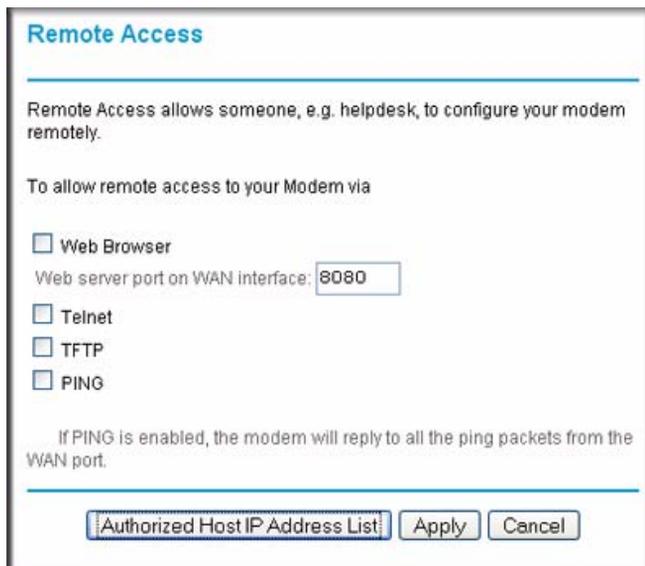

Figure 2-8

Configuring Remote Access

You can set up the modem router to allow remote access.

1. From the Maintenance section of the main menu, select **Remote Access**.

Figure 2-9

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2. Select the check box for the remote access that you want to allow. The selections are:

- **Web Browser.** Select this check box to configure remote control through HTTP. The default port number is 8080. Choose a number between 0 and 65534, but do not use the number of any common service port. To access the modem router, type the modem router's WAN IP address into your browser's address field, followed by a colon (:), and then the custom port number. For example, if your external address is 10.0.0.123 and you use port number 8080, enter in your browser: **http://10.0.0.123:8080**.

- **Telnet**. Select this check box to configure remote control through telnet.

- **TFTP**. Select this check box to configure remote control through Trivial File Transfer Protocol (TFTP).

- **PING**. Select this check box to configure the modem router to reply to a ping command under a DOS prompt.

3. As an optional step, you can specify authorized IP addresses that can be used to access the modem router. To do so, click **Authorized Host IP Address List**.

Figure 2-10

4. To add and activate an authorized IP address for remote access:

- **a.** Select the **Only authorized Internet hosts can access your router** radio button.

- **b.** Enter an authorized IP address in the Add a new authorized IP address field.

- **c.** Click **Add**.

    d. Select the authorized IP address from the Authorized host IP address list pull-down menu.

    e. Click **Apply** in the Authorized Host IP Address List screen to activate the authorized IP address for remote access.

5. When you are finished, click **Apply** in the Remote Access screen so that your changes take effect.

This chapter provides information about troubleshooting your ADSL2+ Modem Router DM111P(U)v2. After each problem description, instructions are provided to help you diagnose and solve the problem. For the common problems listed, go to the section indicated.

- Is the modem router on?

  Go to "Basic Functioning" in the following section.

- Have I connected the modem router correctly?

  Go to "Basic Functioning" in the following section.

- I cannot access the modem router's configuration with my browser.

  Go to "Cannot Log in to the Modem Router" on page 3-4.

- The configuration changes are not saved.

  Go to "Modem Router Does Not Save Configuration Changes" on page 3-5.

- I've configured the modem router but I cannot access the Internet.

  Go to "Troubleshooting the Internet Connection" on page 3-5.

- I cannot remember the modem router's management utility password.

  Go to "Restoring the Default Configuration and Password" on page 3-7.

- I want to clear the modem router configuration and start over again.

  Go to "Restoring the Default Configuration and Password" on page 3-7.

Basic Functioning

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

1. When power is first applied, verify that the Power LED initially displays red to indicate that the self-test procedure is running (see the *ADSL2+ Modem Router Setup Manual* for an illustration and explanation of the LEDs).

2. After approximately 10 seconds, verify that:

    a. The Power LED changes color from red to green.

    b. The LAN port LEDs is lit to indicate that the modem router is connected to your PC or router.

    c. The ADSL port LED is lit, indicating that your modem router is synchronized to your ISP's DSLAM.

    d. The Internet LED is lit to indicate that you have an Internet connection.

> **Note:** If the Internet LED is off, it might not mean that you do not have an Internet connection. It means that you do not have an Internet connection through the PPP. When you connect the Internet using IPoA or bridging, the Internet LED will not light up.

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

Power LED Is Off or Never Turns Green

The following table provides troubleshooting tips for situations when the Power LED is off or never turns green.

Table 3-1.   Power LED Troubleshooting

Power LED Situation	Action
The Power and other LEDS are off when the modem router is turned on.	• Make sure that the power cord is properly connected to your modem router, that the power supply adapter is properly connected to a functioning power outlet, and the power switch on the back of the modem router is pressed in. • Check that you are using the 12 V DC power adapter supplied by NETGEAR for this product. • If the error persists, you have a hardware problem and should contact technical support.
The Power LED never turns green.	This indicates that the modem router's self-test failed. • Cycle the power to see if the modem router recovers. • Clear the modem router's configuration to factory defaults. This will set the modem router's IP address to 192.168.0.1. This procedure is explained in "Using the Reset button" on page 3-8. • If the error persists, you might have a hardware problem and should contact technical support.

ADSL LED Is Off or Is Blinking

The following table provides troubleshooting tips if the ADSL LED is off or is blinking.

Table 3-2.   ADSL LED Troubleshooting

ADSL LED Situation	Action
The ADSL LED is off (no ADSL link is detected)	• Make sure that the telephone jack is live—temporarily connect a standard telephone to the telephone jack to check for a dial tone. • Make sure that the telephone cable connections are secure at the modem router and at the ADSL-capable telephone jack.
The modem router was just installed and the LED has never been solid on.	• Disconnect all telephones on the line. If this solves the problem, reconnect the telephones one at a time, being careful to use a microfilter on each telephone. If the microfilters are connected correctly, you should be able to connect all your telephones. • If disconnecting telephones does not result in a green Internet LED, there may be a problem with your wiring. If the telephone company has tested the ADSL signal at your Network Interface Device (NID), then you may have poor quality wiring in your house. • Verify that you are connected to the correct telephone line. If you have more than one phone line, be sure that you are connected to the line with the ADSL service. It may be necessary to use a swapper if you ADSL signal is on pins 1 and 4 or the RJ-11 jack. The ADSL2+ Modem Router uses pins 2 and 3. • Log in to the modem router as described in "Logging In to the Modem Router" on page 1-2, and select ADSL Settings from the main menu. Make sure that your login name and account password are correct and the ADSL settings are set to the values required by your ISP.
The ADSL light was solid on, but is now blinking.	Switch off the modem router, wait 30 seconds, and then switch it back on again to see if the modem router recovers. If the problem persists, try the following: • Check with your ISP that your service is not being interrupted. • If you have recently installed a telephone or other device that uses the telephone lines, make sure that it is connected to the telephone line via a microfilter. • Log in to the modem router as described in "Logging In to the Modem Router" on page 1-2, note the modem router and ADSL status, and run the ADSL Bit Error Test (BER) and modem router diagnostics, as described in Chapter 2, "Managing Your Modem Router", and contact your ISP's technical support representative.

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LAN or Internet Port LEDs Not On

If either the LAN LED or Internet LED does not light when the Ethernet connection is made, check the following:

- The Ethernet cable connections are secure at the modem router and at the connected router or computer.

- Power is turned on to the connected router or computer.

- If the LAN port is lit, but the Internet port is not, log in to the modem router interface, as described in "Logging In to the Modem Router" on page 1-2, note the modem router status, run the diagnostics test, as described in "Managing Your Modem Router" on page 2-1, and contact your ISP's technical support representative.

Cannot Log in to the Modem Router

If you are unable to log in to the modem router with your computer's Internet browser, check the following:

- Check the Ethernet connection between the modem router and the computer or router as described in the previous section.

- If your computer is directly connected to the modem router, make sure your computer's IP address is on the same subnet as the modem router. If you are using the recommended addressing scheme, your computer's address should be in the range of 192.168.0.2 to 192.168.0.254. Follow the instructions in the online document that you can access from "Preparing Your Network" in Appendix B to configure your computer.

> **Note:** If your computer'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 computer to the modem router and reboot your computer.

- If your modem router is connected to your computer via a router, make sure the computer's IP address is on the same subnet as the router, and the router is on a *different* subnet from the modem router. The LAN IP addresses of the modem and router will normally be printed on a label on the bottom or rear of the unit. For details about changing the modem router's IP address, see "LAN IP Setup" on page 1-9.

- If your modem router's IP address was changed and you do not know the current IP address, clear the modem router's configuration to factory defaults. This will set the modem router's IP address to 192.168.0.1. This procedure is explained in "Using the Reset button" on page 3-8.

- Make sure that your browser has Java, JavaScript, or ActiveX enabled. If you are using Internet Explorer, click Refresh to be sure the Java applet is loaded.

- Try quitting the browser and launching it again.

- Make sure you are using the correct login information. The factory default login name is **admin** and the password is **password**. Make sure that CAPS LOCK is off when entering this information.

If the modem router does not save changes you have made in the Web Management Interface, check the following:

- When entering configuration settings, be sure to click the **Apply** button before moving to another menu or tab, or your changes are lost.

- lick the **Refresh** or **Reload** button in the Web browser. The changes may have occurred, but the Web browser may be caching the old configuration.

Modem Router Does Not Save Configuration Changes

If the modem router 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 Internet Connection

If your computer is connected to your modem router via a router, disconnect the router and directly connect the computer to the modem router. If you now have Internet access, use the documentation that came with the router to perform re-installation and troubleshooting.

If your modem router is unable to access the internet, but your Internet LED is green or blinking green, you should determine whether the modem router is able to obtain an IP address from the ISP. Unless you have been assigned a static IP address, your modem router must request an IP address from the ISP. You can determine whether the request was successful using the browser interface.

To check the WAN IP address from the browser interface:

1. Launch your browser and select an external site such as *www.netgear.com*.

2. Access the management interface of the modem router using your browser. For details, see "Logging In to the Modem Router" on page 1-2.

3. Under the Maintenance heading, select **Modem Status**. Check that an IP address is shown for the ADSL port. If 0.0.0.0 is shown, your modem router has not obtained an IP address from your ISP.

If your modem router is unable to obtain an IP address from the ISP, the problem may be one of the following:

• Your ISP may require a Multiplexing Method or Virtual Path Identifier/Virtual Channel Identifier parameter.

 Verify with your ISP the Multiplexing Method and parameter value, and update the router's ADSL settings accordingly.

• If your ISP requires PPP over Ethernet (PPPoE) or PPP over ATM (PPPOA), check that your login credentials are correct.

• Log in to the modem router as described in "Logging In to the Modem Router" on page 1-2, note the modem router status, run the modem router diagnostics, as described in "Managing Your Modem Router" on page 2-1, and contact your ISP's technical support representative.

Troubleshooting PPPoE or PPPoA Connection

The PPPoA or PPPoA connection can be debugged as follows:

1. Access the Main Menu of the router at **http://192.168.0.1**.

2. Under the Maintenance heading, select the **Diagnostics**.

3. Click **Run Diagnostic Tests**.

4. If all of the steps indicate "OK" then your PPPoE or PPPoA connection is up and working.

If you cannot connect after several minutes, you may be using an incorrect service name, user name, or password. There also may be a provisioning problem with your ISP.

→ **Note:** Unless you connect manually, the modem router will not authenticate using PPPoE or PPPoA until data is transmitted to the network.

Troubleshooting Internet Browsing

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

• Your computer may not recognize any DNS server addresses.

A DNS server is a host on the Internet that translates Internet names (such as www addresses) to numeric IP addresses. Typically your ISP will provide the addresses of one or two DNS servers for your use. If you entered a DNS address during the modem router's configuration, reboot your computer and verify the DNS address as described in the online document that you can access from "Preparing Your Network" in Appendix B. Alternatively, you can configure your computer manually with DNS addresses, as explained in your operating system documentation.

• Your computer may not have the modem router configured as its TCP/IP modem router.

If your computer obtains its information from the modem router by DHCP, reboot the computer and verify the modem router address as described in the online document that you can access from "Preparing Your Network" in Appendix B.

Restoring the Default Configuration and Password

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

• Use the Erase function of the Web Management Interface (see "Backing Up, Restoring, or Erasing Your Settings" on page 2-2).

• Use the Default Reset button on the rear panel of the router. Use this method for cases when the administration password or IP address is not known.

Using the Reset button

To restore the factory default configuration settings without knowing the administration password or IP address, you must use the Default Reset button on the rear panel of the router.

1. Press and hold the default reset button until the Power LED turns red (about 10 seconds).

2. Release the Default Reset button and wait for the router to reboot.

Appendix A
Technical Specifications

This appendix provides technical specifications for the ADSL2+ Modem Router DM111P(U)v2.

Network Protocol and Standards Compatibility	
Data and Routing Protocols:	TCP/IP (Optional) RIP-1 (Optional) RIP-2 (Optional) DHCP (Optional) PPPoE or PPPoA RFC 1483/RFC 2684 Bridged or Routed (Optional) Ethernet RFC 1577 Classical IP over ATM (Optional)
Power Adapter	
North America:	120V, 60 Hz, input
United Kingdom, Australia:	240V, 50 Hz, input
Europe:	230V, 50 Hz, input
Japan:	100V, 50/60 Hz, input
All regions (output):	12 V AC @ 1.0A output
Physical Specifications	
Dimensions:	5.8" x 3.8" x 1.4" 147 mm x 95.5 mm x 34.4 mm
Weight:	0.42 lbs 0.19 kg
Environmental Specifications	
Operating temperature:	0° to 40° C (32° to 104° F)
Operating humidity:	90% maximum relative humidity, noncondensing
Electromagnetic Emissions	
Meets requirements of:	FCC Part 15 Class B
	VCCI Class B
	EN 55 022 (CISPR 22), Class B

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Interface Specifications	
LAN:	10BASE-T or 100BASE-Tx, RJ-45
WAN:	ADSL, ADSL2+, Dual RJ-11, pins 2 and 3 T1.413, G.DMT, G.Lite ITU Annex A or B (Annex B unit is DM111PB)

Technical Specifications

Appendix B
Related Documents

This appendix provides links to reference documents you can use to gain a more complete understanding of the technologies used in your NETGEAR product.

Document	Link
TCP/IP Networking Basics	*http://documentation.netgear.com/reference/enu/tcpip/index.htm*
Preparing Your Network	*http://documentation.netgear.com/reference/enu/wsdhcp/index.htm*
Virtual Private Networking Basics	*http://documentation.netgear.com/reference/enu/vpn/index.htm*
Glossary	*http://documentation.netgear.com/reference/enu/glossary/index.htm*

Related Documents

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