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You can read the recommendations in the user guide, the technical guide or the installation guide for NETGEAR DGN2200. You'll find the answers to all your questions on the NETGEAR DGN2200 in the user manual (information, specifications, safety advice, size, accessories, etc.). Detailed instructions for use are in the User's Guide.

User manual NETGEAR DGN2200
User guide NETGEAR DGN2200
Operating instructions NETGEAR DGN2200
Instructions for use NETGEAR DGN2200
Instruction manual NETGEAR DGN2200

NETGEAR

N300 Wireless ADSL2+
Modem Router DGN2200
User Manual

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USA

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Manual abstract:

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It has a built-in DSL modem, is compatible with all major DSL Internet service providers, lets you block unsafe Internet content and applications, and protects the devices (PCs, gaming consoles, and so on) that you connect to your home network. For more information on the topics covered in this manual, visit the Support website at http://support. If you have not already set up your new modem router using the installation guide that comes in the box, this chapter walks you through the hardware setup. Chapter 2, Modem Router Setup, explains how to set up your Internet connection. This chapter contains the following sections: â¢ â¢ â¢ â¢ â¢ â¢ Unpack Your Modem Router Hardware Features Position Your Modem Router ADSL Microfilters Cable Your Modem Router Verify the Cabling Chapter 1.

Hardware Setup | 8 N300 Wireless ADSL2+ Modem Router DGN2200 Unpack Your Modem Router Your box should contain the following items: â¢ â¢ â¢ â¢ â¢ â¢ â¢ N300 Wireless ADSL2+ Modem Router DGN2200 AC power adapter (plug varies by region) Category 5 (Cat 5) Ethernet cable Telephone cable with RJ-11 connector Microfilters and splitters (quantity and type vary by region) Resource CD with NETGEAR Genie setup Installation guide with cabling and modem router setup instructions If any parts are incorrect, missing, or damaged, contact your NETGEAR dealer. Keep the carton and original packing materials, in case you need to return the product for repair. Hardware Features Before you cable your modem router, take a moment to become familiar with the label and the front and back panels. Pay particular attention to the LEDs on the front panel. Label The label on the bottom of the modem router shows the Restore Factory Settings button, security PIN, preset login information, MAC address, and serial number.

restore Factory Settings Wi-Fi network name and password WPS security PIN Serial number MAC address Figure 1. Label on modem router bottom See Preset Security on page 30 for information about preset security and MAC addresses. See Factory Settings on page 138 for information about restoring factory settings. chapter 1. Hardware Setup | 9 N300 Wireless ADSL2+ Modem Router DGN2200 Back Panel The back panel has the On/Off button and port connections as shown in the figure. uSB Ethernet LAN ADSL Power On/Off Figure 2. Back panel port connections Front Panel The modem router front panel has the status LEDs and icons shown in the figure. Note that the Wireless and WPS icons are buttons. power LAN Ports (1-4) USB DSL Internet Wireless WPS Figure 3. Front panel LEDs and icons The following table describes the LEDs, icons, and buttons on the front panel from left to right.

Front Panel LEDs Icon Power LED Activity Solid green Solid red Off Restore factory settings Description Power is supplied to the modem router. pOST (power-on self-test) failure or a device malfunction has occurred. Power is not supplied to the modem router. The LED blinks momentarily when the Restore Factory Settings button on the bottom of the unit is pressed for 6 seconds. The Power LED then blinks red three times when the Restore Factory Settings button is released and then turns green as the gateway resets to the factory defaults. The LAN port has detected an Ethernet link with a device. In technical terms, the DSL port is synchronized with an ISPâs network-access device. Indicates that the modem router is negotiating the best possible speed on the DSL line. The unit is off or there is no IP connection. you have an Internet connection.

If this connection is dropped due to an idle time-out but the DSL connection is still present, the light stays green. If the Internet connection is dropped for any other reason, the light turns off. the Internet (IP) connection failed. See Troubleshooting the Internet Connection on page 131 for troubleshooting information. Data is being transmitted over the DSL port.

No Internet connection is detected or the device is in bridge mode (an external device handles the ISP connection). there is wireless connectivity. Data is being transmitted or received over the wireless link. there is no wireless connectivity. You can still plug an Ethernet cable into one of the LAN ports to get wired connectivity.

See Turn Off Wireless Connectivity on page 30 for more information about the use of this button. Indicates that wireless security has been enabled. See Wi-Fi Protected Setup (WPS) Method on page 32 for more information about the use of this button. LAN Solid green Blinking green Off USB Off Solid green Blinking green DSL Solid green Blinking green Off Internet Solid green Solid red Blinking green Wireless Off Solid green Icon is on the Blinking green Wireless button Off WPS Solid green Blinking green Icon is on the WPS button Off Chapter 1. Hardware Setup | 11 N300 Wireless ADSL2+ Modem Router DGN2200 Modem Router Stand For optimal wireless network performance, use the stand (included in the package) to position your modem router upright. Insert the tabs of the stand into the slots on the bottom of your modem router as shown. 3. Place your modem router in a suitable area for installation (near an AC power outlet and accessible to the Ethernet cables for your wired computers). Position Your Modem Router The modem router lets you access your network from virtually anywhere within the operating range of your wireless network. However, the operating distance or range of your wireless connection can vary significantly depending on the physical placement of your modem router.

For example, the thickness and number of walls the wireless signal passes through can limit the range.

For best results, place your modem router: â□¢ â□¢ â□¢ â□¢ Near the center of the area where your computers and other devices operate, and preferably within line of sight to your wireless devices. So it is accessible to an AC power outlet and near Ethernet cables for wired computers. In an elevated location such as a high shelf, keeping the number of walls and ceilings between the modem router and your other devices to a minimum. Away from electrical devices that are potential sources of interference, such as ceiling fans, home security systems, microwaves, PCs, or the base of a cordless phone or 2. 4 GHz cordless phone. Away from any large metal surfaces, such as a solid metal door or aluminum studs. Large expanses of other materials such as glass, insulated walls, fish tanks, mirrors, brick, and concrete can also affect your wireless signal. With the antennas in a vertical position to provide the best side-to-side coverage or in a horizontal position to provide the best up-and-down coverage, as applicable. â□¢ â□¢ When you use multiple access points, it is better if adjacent access points use different radio frequency channels to reduce interference.

The recommended channel spacing between adjacent access points is 5 channels (for example, use Channels 1 and 6, or 6 and 11). 12 | Chapter 1. Hardware Setup N300 Wireless ADSL2+ Modem Router DGN2200 ADSL Microfilters If this is the first time you have cabled a router between a DSL phone line and your computer or laptop, you might not be familiar with ADSL microfilters. If you are, you can skip this section and proceed to Cable Your Modem Router on page 14. An ADSL microfilter is a small in-line device that filters DSL interference out of standard phone equipment that shares the same line with your DSL service.

Every telephone device that connects to a telephone line that provides DSL service needs an ADSL microfilter to filter out the DSL interference. Example devices are telephones, fax machines, answering machines, and caller ID displays. Note that not every phone line in your home necessarily carries DSL service. That depends on the DSL service setup in your home. Note: Often the ADSL microfilter is in the box with the modem router.

If you purchased the modem router in a country where a microfilter is not included, you have to acquire the ADSL microfilter separately. One-Line ADSL Microfilter Plug the ADSL microfilter into the wall outlet and plug your phone equipment into the jack labeled Phone. The modem router plugs directly into a separate DSL line. Plugging the modem router into the phone jack blocks the Internet connection. If you do not have a separate DSL line for the modem router, the best thing to do is to use an ADSL microfilter with a built-in splitter (see Two-Line ADSL Microfilter). plugs into DSL line Figure 4. One-line ADSL microfilter If you do not have a separate DSL line for the modem router, the second-best solution is to get a separate splitter. To use a one-line filter with a separate splitter, insert the splitter into the phone outlet, connect the one-line filter to the splitter, and connect the phone to the filter. Two-Line ADSL Microfilter Use an ADSL microfilter with a built-in splitter when there is a single wall outlet that provides connectivity for both the modem router and your telephone equipment. plug the ADSL Chapter 1.

Hardware Setup | 13 N300 Wireless ADSL2+ Modem Router DGN2200 microfilter into the wall outlet, plug your phone equipment into the jack labeled Phone, and plug the modem router into the jack labeled ADSL. Use with a phone or fax machine. splitter. Use with a one-line ADSL microfilter to share an outlet with a phone and the modem router. two-line ADSL microfilter with built-in splitter. Use to share an outlet with a phone and the modem router. Cable Your Modem Router The installation guide that came in the box has a cabling diagram on the first page. This section walks you through cabling with detailed illustrations. CAUTION: Incorrectly connecting a filter to your modem router blocks your DSL connection. 1.

Put an ADSL microfilter between the phone line and the phone as shown here. The illustration shows a two-line ADSL microfilter with built-in splitter. aDSL microfilter Figure 6. ADSL microfilter between the phone line and the phone 14 | Chapter 1. hardware Setup N300 Wireless ADSL2+ Modem Router DGN2200 2.

Use the included phone cable with RJ-11 jacks to connect the ADSL port (A) of the modem router to the ADSL port (B) of the two-line ADSL microfilter. b A Figure 7. Cable the modem modem router to the microfilter 3. Connect the Ethernet cable from a modem router LAN port (C) to an Ethernet port (D) in your computer. Plug the power adapter into the AC power adapter input (labeled Power), and plug the other end into a power outlet.

5. Connect any additional wired PCs to your modem router by inserting an Ethernet cable from a PC into one of the three remaining LAN ports. chapter 1. Hardware Setup | 15 N300 Wireless ADSL2+ Modem Router DGN2200 Verify the Cabling Verify that your modem router is cabled correctly by checking the modem router LEDs. Turn on the modemp the modem router because it automates many steps and verifies that those steps have been successfully completed. it takes about 15 minutes to complete. Before running NETGEAR Genie on a corporate PC, check with your companyâ□□s network support staff. Corporate network settings or virtual private network (VPN) client software might conflict with your modem router settings. Locate the DSL settings information (user name and password) provided by your ISP. Contact your ISP if you do not have it.

2. Insert the Resource CD into your Windows PC. The CD starts and detects the language you are using on your PC. Select a different language option, if you prefer. If the CD does not start, go to the CD drive (under My Computer on Windows), browse . the CD , and double-click 3. When the Welcome screen displays, click Setup to start the genie. Follow the instructions to complete the setup. NETGEAR Genie checks your hardware setup and guides you through connecting the modem router to the Internet and adding computers to your network. Your modem router connects to the Internet when any computer on your network launches a Web browser to access the Internet.

the modem routerâ□□s Internet LED blinks. View or Change Settings You can view and change the settings in the following ways: â□¢ Log in to your modem router. To do this you can click the shortcut that was placed on your desktop during the NETGEAR Genie setup, or use an Internet browser. See Log In to the Modem Router on page 20. open the Router_Setup.

Html file that was placed on your desktop during the NETGEAR Genie setup. This file has setup and system information, the NETGEAR Technical Support phone number, links to the NETGEAR website, and a modem router login link. â□¢ Settings Description When the NETGEAR Genie is done, your modem router has the following settings.

Some of these can be viewed in Router_Setup. The NETGEAR Genie steps you through connecting from your computer to the modem router. chapter 2. Modem Router Setup | 19 N300 Wireless ADSL2+ Modem Router DGN2200 Log In to the Modem Router Log in to the modem router to view or change settings or to set up the modem router. 1 in the address field of your browser and press Enter to display the login window. You can also enter either of these addresses to access the modem router: http://www. Enter admin for the user name and password for the password, both in lowercase letters. Note: The modem router user name and password are probably different from the user name and password for logging in to your Internet connection. See Types of Logins on page 28 for more information. the modem router screen displays as described in Modem Router Interface on page 21. If you do not see the login prompt: 1. Check the LEDs on the modem router front panel to make sure that the modem router is plugged into an electrical outlet, its power is on, and the Ethernet cable between your computer and the modem router is connected to a LAN port.

2. If you connected the Ethernet cable and quickly launched your browser and typed in the modem router URL, your computer might need a minute or two to recognize the LAN connection. Relaunch your browser and try again. 3. If you are having trouble accessing the modem router wirelessly, NETGEAR recommends that during setup you use an Ethernet cable to connect your computer so that you can log in to the modem router. 4. If you cannot connect to the modem router, check the Internet Protocol (TCP/IP) properties in the Network Connections section of your PC Control Panel. They should be set to obtain both IP and DNS server addresses automatically. Modem Router Setup N300 Wireless ADSL2+ Modem Router DGN2200 Upgrade Modem Router Firmware When you log in, if you are connected to the Internet, the Firmware Upgrade Assistant screen displays so you can upgrade to the latest firmware. See Chapter 5, Network Maintenance, for more information about upgrading firmware.

The modem router checks the NETGEAR database for new firmware. You can check for new firmware later. 3. If new firmware is available, click Yes to upgrade the modem router with the latest firmware. After the upgrade, the modem router restarts.

CAUTION: Do not try to go online, turn off the modem router, shut down the computer, or do anything else to the modem router until the modem router finishes restarting and the Ready light has stopped blinking for several seconds. You cannot upgrade firmware until you have established your Internet connection as described in Setup Wizard on page 22. Modem Router Interface The modem router interface lets you view or change the modem router settings. The left column has menus, and the right column provides online help. The middle column is the screen for the current menu option.

Language Menus (scroll down to view more) Help for the current screen Screen selected from the menu Figure 9. Specify the language and location, and automatically detect the Internet connection. Add WPS-compatible wireless devices and other equipment to your wireless network. Set, upgrade, and check the ISP and wireless network settings of your modem router. see Manual Setup (Basic Settings) on page 23 and ADSL Settings on page 26. See also Chapter 3, Wireless Settings, for information about preset and basic security settings. content Filtering menu. View and configure the modem router firewall settings to prevent objectionable content from reaching your PCs. Set the modem router up for unique situations such as when remote access by IP or by domain name from the Internet is needed. Set up virtual private networking (VPN) features of the modem router.

Go to the NETGEAR support site to get information, help, and product documentation. These links work once you have an Internet connection. Â□¢ â□¢ â□¢ â□¢ â□¢ Setup Wizard If you do not use the NETGEAR Genie, you have to log in to the modem router to set the country, language, and Internet connection. If you performed the NETGEAR Genie setup, the country, language, Internet, and wireless network settings are already configured. 1. From the top of the modem router menu, select Setup Wizard to display the following screen: 2. Modem Router Setup N300 Wireless ADSL2+ Modem Router DGN2200 It is important to specify the location where the modem router operates so that the Internet connection works correctly. 3. Select either Yes or No, I want to configure the Router myself. With automatic Internet detection, the Setup Wizard searches your Internet connection for servers and protocols to determine your ISP configuration.

note: The Setup Wizard cannot detect a Point-to-Point Tunneling Protocol (PPTP) connection. If your ISP uses PPTP, you have to set your Internet connection through the screen described in Manual Setup (Basic Settings) on page 23. manual Setup (Basic Settings) The Basic Settings screen displays when you select No. I want to configure the Router myself in the Setup Wizard and is also available from the modem router menu. it is where you view or change ISP information.

The fields that display vary depending on whether or not your Internet connection requires a login. Note: Check that the country is set as described Setup Wizard on page 22 before proceeding with the manual setup. 1. Select Set Up > Basic Settings, and select Yes or No depending on whether or not your ISP requires a login. Figure 10, Basic Settings screen without (left) and with (right) login.

Shows both forms of the Basic Settings screen. â□¢ Yes. Select the encapsulation method and enter the login name. If you want to change the login time-out, enter a new value in minutes. â□¢ No. Enter the account and domain names, as needed. 2. Enter the settings for the IP address and DNS server. The default DSL settings usually work fine. If you have problems with your connection, check the DSL settings, and see ADSL Settings on page 26 for more information.

3. If no login is required, you can specify the MAC Address setting. If the NETGEAR website does not appear within 1 minute, and see Troubleshooting on page 128. ISP does not require login ISP does require login Figure 10. Basic Settings screen without (left) and with (right) login. The following table explains all the possible fields in the Basic Settings screen. Note that which fields appear in this screen depends on whether or not a login is required. Account Name These fields display only if (If required) no login is Domain Name required. (If required) Description â□¢ Yes â□¢ No Enter the account name provided by your ISP. This might be called the host name.

Enter the domain name provided by your ISP. Basic Settings Screen Description Settings These fields Encapsulation display only if your ISP requires a login. The choices are: â□¢ PPPoE (PPP over Ethernet) â□¢ PPPoA (PPP over ATM) The login name provided by your ISP.

This is often an email address. The password that you use to log in to your ISP.

The number of minutes the modem router keeps the Internet connection active after there is no Internet activity from the LAN. You can enter a new value in minutes. Your ISP uses DHCP to assign your IP address. Your ISP automatically assigns these addresses. â¢ Use Static IP Address.

Enter the IP address, IP subnet mask, and the gateway IP address that your ISP assigned. The gateway is the ISPâs gateway to which your modem router will connect. This field displays only Use IP Over ATM (IPoA). Enter the IP address, IP subnet mask, and gateway IP addresses that your ISP assigned. Domain Name Server (DNS) Address The DNS server looks up website addresses based on their names. â¢ Get Automatically from ISP. Your ISP uses DHCP to assign your DNS servers automatically. â¢ Use These DNS Servers. If you know that your ISP does not send DNS addresses to the modem router during login, select this option, and enter the IP address of your ISPâs primary DNS server. If a secondary DNS server address is available, enter it also.

Disable NAT only if you are technically skilled and are sure you do not need it. 1 â¢ Disable firewall. This disables the firewall and NAT. This removes the usual protection for your network. The Ethernet MAC address used by the modem router Internet port. Some ISPs register the MAC address of the network interface card in your computer when your account is first opened. They will then accept traffic only from that MAC address. Copy (clone) the MAC address of the computer that you are now using and use that for the ISP. You have to use the computer that is allowed by the ISP. â¢ Use This MAC Address. Enter the MAC address you want to use. nAT (Network Address Translation) Router MAC Address 1. Disabling NAT reboots the modem router and restores its factory default settings. Disable NAT only if you plan to manually administer the IP address space on the LAN side of the modem router. chapter 2. Modem Router Setup | 25 N300 Wireless ADSL2+ Modem Router DGN2200 ADSL Settings DSL settings of your modem router work fine for most ISPs. However, some ISPs use a multiplexing method and virtual circuit number for the virtual path identifier (VPI) and virtual channel identifier (VCI). Note: You have to use the Setup Wizard to select the correct country for the default DSL settings to work. If your ISP provided you with a multiplexing method or VPI/VCI number, enter the setting: 1. For the VPI, type a number between 0 and 255.

The default is 8 for the U. s. Version, 0 for the world wide version, and 1 for the German version. 4. For the VCI, type a number between 32 and 65535. The default is 35 for the U. s. Version, 38 for the worldwide version, and 32 for the German version. Review your settings to be sure that you have selected the correct options and typed everything correctly. 2.

Contact your ISP to verify that you have the correct configuration information. If problems persist, register your NETGEAR product and contact NETGEAR Technical Support. 4. If you cannot connect to the modem router, check the Internet Protocol (TCP/IP) properties in the Network Connections section of your PC Control Panel. They should be set to obtain both IP and DNS server addresses automatically. Modem Router Setup N300 Wireless ADSL2+ Modem Router DGN2200 Change Password and Login Time-Out For security reasons, the modem router has its own user name and password that default to admin and password. You can and should change these to a secure user name and password that are easy to remember. The ideal password contains no dictionary words from any language and is a mixture of upper case and lower case letters, numbers, and symbols. it can be up to 30 characters. Note: The modem router user name and password are not the same as the user name and password for logging in to your Internet connection.

See Types of Logins on page 28 for more information about login types. Change the login time-out to a value between 1 and 99 minutes if the default value of 5 minutes does not meet your needs. The administratorâs login to the modem router configuration times out after a period of inactivity to prevent someone else from accessing the modem router interface when you step away. After changing the password, you are required to log in again to continue the configuration. If you have backed up the modem router settings previously, you should do a new backup so that the saved settings file includes the new password.

See Back Up on page 56 for information about backing up your network configuration. chapter 2. Modem Router Setup | 27 N300 Wireless ADSL2+ Modem Router DGN2200 Log Out Manually The modem router interface provides a Logout command at the bottom of the modem router menus. Log out when you expect to be away from your computer for a relatively long period of time. Types of Logins There are three separate types of logins that have different purposes.

It is important that you understand the difference so that you know which login to use when. Â¢ â¢ Modem router login logs you in to the modem router interface. See Log In to the Modem Router on page 20 for details about this login. ISP login logs you in to your Internet service. Your service provider has provided you with this login information in a letter or some other way. If you cannot find this login information, contact your service provider. Wi-Fi network name and passphrase logs you in to your wireless network. This login is preconfigured and can be found on the label on the bottom of your unit. See Chapter 3, Wireless Settings, for more information. Wireless Settings Protecting your network 3 This chapter describes how to use the Wireless Settings screens to view and change (if needed) your wireless network settings.

Security features to prevent objectionable content from reaching your PCs are covered in Chapter 4, Content Filtering Settings. This chapter contains the following sections: â¢ â¢ â¢ â¢ â¢ â¢ Wireless Adapter Compatibility Preset Security Security Basics Add Clients (Computers or Devices) to Your Network Wireless Settings Screen Wireless Guest Networks Wireless Adapter Compatibility A wireless adapter is the wireless radio in your PC or laptop that lets the PC or laptop connect to a wireless network. Most PCs and laptops come with an adapter already installed, but if it is outdated or slow, you can purchase a USB adapter to plug into a USB port. Make sure the wireless adapter in each computer in your wireless network supports the same security settings as the modem router. See Preset Security on page 30 for information about the modem routerâs preconfigured security settings. Note: If you connect devices to your modem router using WPS as described in Wi-Fi Protected Setup (WPS) Method on page 32, those devices assume the security settings of the modem router.

This means that the Wi-Fi network name (SSID), passphrase, and security option (encryption protocol) are preset in the factory. You can find the preset SSID and passphrase on the bottom of the unit. Â□¢ â□¢ Wi-Fi network name (SSID) identifies your network so devices can find it. passphrase controls access to your network.

Devices that know the SSID and the passphrase can find your wireless network and connect. Note: The preset SSID and passphrase are uniquely generated for every device to protect and maximize your wireless security. Â□¢ Security option is the type of security protocol applied to your wireless network. The security protocol in force encrypts data transmissions and ensures that only trusted devices receive authorization to connect to your network. The preset security option is WPA-PSK/WPA2-PSK mixed mode, described in Wireless Security Options on page 31.

The Wireless Settings screen lets you view and change the preset security settings. However, NETGEAR recommends that you not change your preset security settings. If you do decide to change your preset security settings, make a note of the new settings and store it in a safe place where you can easily find it. Security Basics Unlike wired network data, wireless data transmissions extend beyond your walls and can be received by any device with a compatible wireless adapter (radio). For this reason, it is very important to maintain the preset security and understand the other security features available to you. Besides the preset security settings described in the previous section, your modem router has the security features described here and in Chapter 4, Content Filtering Settings. Â□¢ â□¢ â□¢ â□¢ Turn off wireless connectivity Disable SSID broadcast Restrict access by MAC address Wireless security options Turn Off Wireless Connectivity You can turn off the wireless connectivity of the modem router by pressing the Wireless . For example, if you use your laptop to wirelessly connect On/Off button on its front panel to your modem router and you take a business trip, you can turn off the wireless portion of the modem router while you are traveling. Other members of your household who use computers connected to the modem router through Ethernet cables can still use the modem router. 30 | Chapter 3. Wireless Settings N300 Wireless ADSL2+ Modem Router DGN2200 Disable SSID Broadcast By default, the modem router broadcasts its Wi-Fi network name (SSID) so devices can find it. If you change this setting to not allow the broadcast, wireless devices will not find your modem router unless they are configured with the same SSID. See Wireless Access Point Settings on page 35 for the procedure. Note: Turning off SSID broadcast nullifies the wireless network discovery feature of some products such as Windows XP, but the data is still fully exposed to a determined snoop using specialized test equipment like wireless sniffers. If you allow the broadcast, be sure to keep wireless security enabled.

Restrict Access by MAC Address You can enhance your network security by allowing access to only specific PCs based on their Media Access Control (MAC) addresses. You can restrict access to only trusted PCs so that unknown PCs cannot wirelessly connect to the modem router. The Wireless Station MAC address filtering adds additional security protection to the wireless security option that you have in force. The Access list determines which wireless hardware devices are allowed to connect to the modem router by MAC address. See Advanced Wireless Settings on page 79 for the procedure. Wireless Security Options A security option is the type of security protocol applied to your wireless network. The security protocol encrypts data transmissions and ensures that only trusted devices receive authorization to connect to your network. there are several types of encryption: Wi-Fi Protected Access II (WPA2) , WPA , and Wired Equivalent Privacy (WEP). WPA2 is the latest and most secure, and is recommended if your equipment supports it. WPA has several options including pre-shared key (PSK) encryption and 802.

You can view or change the wireless security options in the Wireless Settings screen. see Wireless Settings Screen on page 33. Add Clients (Computers or Devices) to Your Network Choose either the manual or the WPS method to add wireless computers or devices to your wireless network. Open the software that manages your wireless connections on the wireless device (laptop computer, gaming device, iPhone) that you want to connect to your modem router. This software scans for all wireless networks in your area.

2. Look for your network and select it. If you did not change the name of your network during the setup process, look for the default Wi-Fi network name (SSID) and select it. The default Wi-Fi network name (SSID) is located on the product label on the bottom of the modem router. The default modem router passphrase is located on the product label on the bottom of the modem router.

4. Repeat steps 1â□□3 to add other wireless devices. Wi-Fi Protected Setup (WPS) Method Wi-Fi Protected Setup (WPS) is a standard that lets you easily join a secure wireless network with WPA or WPA2 wireless security. The modem router automatically sets security for each computer or device that uses WPS to join the wireless network. To use WPS, make sure that your wireless devices are Wi-Fi certified and support WPS. NETGEAR products that use WPS call it Push 'N' Connect. 1 Note: If the wireless network name (SSID) changes each time you add a WPS client, the Keep Existing Wireless Settings check box on the Advanced Wireless Settings screen has been cleared. See WPS Settings on page 80 for more information about this setting. You can use a WPS button or the modem router interface method to add wireless computers and devices to your wireless network. wPS Button Method 1.

Press the WPS button on the modem router front panel. 2. Within 2 minutes, press the WPS button on your wireless computer or device, or follow the WPS instructions that came with the computer. The device is now connected to your modem router. 3. Repeat steps 1â□□2 to add other WPS wireless computers or devices. modem Router Interface Method 1. Select Add WPS Client at the top of the modem router menus. 1. For a list of other Wi-Fi-certified products available from NETGEAR, go to http://www.

The following screen lets you select the method for adding the WPS client. With either method, the modem router tries to communicate with the computer or wireless device, set the wireless security for wireless device, and allow it to join the wireless network. The PIN method displays this screen so you can enter the client security PIN number: WPS PIN method While the modem router attempts to connect, the WPS LED on the front of the modem router blinks green. When the modem router establishes a WPS connection, the LED is solid green and the modem router WPS screen displays a confirmation message.

4.

Repeat to add another WPS client to your network. Wireless Settings Screen The Wireless Settings screen lets you view or change the wireless network settings. Note that your preset modem router has a unique network name and password, located on the product label. NETGEAR recommends that you use these settings. If you decide to change them, note the new settings and save them in a secure location.

Note: If you use a wireless computer to change the wireless network name (SSID) or security options, you are disconnected when you click Apply. To avoid this problem, use a computer with a wired connection to access the modem router. chapter 3. Wireless Settings | 33 N300 Wireless ADSL2+ Modem Router DGN2200 Consider Every Device on Your Network Before you begin, check the following: â•¢ â•¢ Every wireless computer has to be able to obtain an IP address by DHCP from the modem router as described in Use Standard TCP/IP Properties for DHCP on page 18. Each computer or wireless adapter in your network must have the same SSID and wireless mode (bandwidth/data rate) as the modem router. Check that the wireless adapter on each computer can support the mode and security option you want to use. The security option on each wireless device in the network must match the modem router. For example, if you select a security option that requires a passphrase, be sure to use same passphrase for each wireless computer in the network. Â•¢ View or Change Wireless Settings Your preset modem router comes set up with a unique wireless network name (SSID) and network password. This information is printed on the label for your modem router.

You view or change these settings in the Wireless Settings screen. You can also use this screen to set up guest wireless networks. Select the wireless network that you want to configure. 3. Make any changes that are needed, and click Apply when done to save your settings. 34 | Chapter 3. Wireless Settings N300 Wireless ADSL2+ Modem Router DGN2200 Note: The screen sections, settings, and procedures are explained in the following sections. 4. Set up and test your computers for wireless connectivity: a. Use your wireless computer or device to join your network.

When prompted, enter the network password. b. From the wirelessly connected computer, make sure that you can access the Internet. Wireless Settings Screen Fields Wireless Network The primary network is the one that you usually use. You can set up guest networks too.

You can customize access so that people who use their computers to access your guest network can use the Internet, but they do not have access to the rest of your home network. â•¢ Name (SSID). The SSID is also known as the wireless network name. Enter a 32-character (maximum) name in this field. this field is case-sensitive.

The default SSID for your primary network is randomly generated, and there is typically no need to change it. If you want to set up guest networks, NETGEAR does recommend that you customize the default guest network names (SSIDs). region. The location where the modem router is used. It might not be legal to operate the modem router in a region other than the regions listed. channel. The wireless channel used by the gateway: 1 through 13. Do not change the channel unless you experience interference (shown by lost connections or slow data transfers). If this happens, experiment with different channels to see which is the best. When this check box is selected, the modem router accepts wireless clients for the network.

By default, this check box is selected for your primary network. If you clear this check box, the modem router accepts wired clients only. allow Broadcast of Name (SSID). This setting allows the modem router to broadcast its SSID so that a wireless station can display this wireless name (SSID) in its scanned network list. This check box is selected by default. To turn off the SSID broadcast, clear the Allow Broadcast of Name (SSID) check box and click Apply. wireless Isolation. When this check box is selected, wireless stations cannot communicate with each other or with stations on the wired network. By default, this check box is not selected. â•¢ â•¢ Chapter 3.

Wireless Settings | 35 N300 Wireless ADSL2+ Modem Router DGN2200 Security Options Settings The Security Options section of the Wireless Settings screen lets you change the security option and passphrase. The primary network for your preset modem router is already set up with WPA2 and WPA security. NETGEAR recommends that you set up wireless security for each guest network that you plan to use. For information about changing these settings, see the following section, Change WPA Security Option and Passphrase, and Set WEP Encryption and Passphrase on page 36. change WPA Security Option and Passphrase 1.

In the Security Options section, select the WPA option that you want. 2. Enter the passphrase that you want to use. In the Security Options section of the Wireless Settings screen, select WEP: 36 | Chapter 3. Other choices are Open System (any client can authenticate itself to the network) and Shared Key (a passphrase and a four-way challenge are needed for authentication).

3. Select the encryption strength setting, either 64 bit or 128 bit. 4. Enter the four data encryption keys either manually or automatically. These values must be identical on all computers and access points in your network. â•¢ Automatic. Enter a word or group of printable characters in the Passphrase field and click Generate. The four key fields are automatically populated with key values. â•¢ Manual. The number of hexadecimal digits that you enter depends on the encryption strength setting: For 64-bit WEP, enter 10 hexadecimal digits (any combination of 0â••9, aâ••f, or Aâ••F).

For 128-bit WEP, enter 26 hexadecimal digits (any combination of 0â••9, aâ••f, or Aâ••F). 5. Select the radio button for the key you want to make active. Make sure that you understand how the WEP key settings are configured in your wireless adapter. Wireless adapter configuration utilities such as the one in Windows XP allow one key entry, which has to match the default key you set in the modem router. Wireless Guest Networks A wireless guest network allows you to provide guests access to your wireless network without prior authorization of each individual guest. You can configure wireless guest networks and specify the security options for each wireless guest network. Select the radio button for the network profile that you want to set up. 3. You can specify whether the SSID broadcast is enabled, and whether you want to allow the guest to access your local network.

You can also change the SSID. â•¢ NETGEAR strongly recommends that you change the SSID to a different name. note that the SSID is case-sensitive. For example, GuestNetwork is not the same as Guestnetwork. â•¢ For guest networks, wireless security is disabled by default.

NETGEAR strongly recommends that you implement wireless security for the guest network. 4. Select a security option for the guest network and specify the password. 5. When you have finished making changes, click Apply.

Content Filtering Settings Keeping unwanted content out of your network 4 This chapter explains how to use the basic firewall features of the modem router to prevent objectionable content from reaching the PCs and other devices connected to your network. This chapter contains the following sections: â□¢ â□¢ â□¢ â□¢ â□¢ â□¢ â□¢ Logs Keyword Blocking of HTTP Traffic Firewall Rules to Control Network Access Set Up Services Set the Time Zone Schedule Services Enable Security Event Email Notification Chapter 4. content Filtering Settings | 39 N300 Wireless ADSL2+ Modem Router DGN2200 Logs The modem router logs security-related events such as denied incoming service requests , hacker probes , and administrator logins. If you enable content filtering in the Block Sites screen, the Logs screen show you when someone on your network tries to access a blocked site. If you enable email notification, you will receive these logs in an email message. to view the log , select Content Filtering > Logs. A screen similar to the following displays: The Include in Log check boxes allow you to select which events are logged. You can write the logs to a computer running a syslog program. To activate this feature, select Broadcast on LAN, or enter the IP address of the server where the syslog file will be written. The security log entries include the following information: â□¢ â□¢ â□¢ â□¢ â□¢ â□¢ Date and time.

The date and time the log entry was recorded. description or action. The type of event and what action was taken, if any. source IP. The IP address of the initiating device for this log entry. source port and interface. The service port number of the initiating device, and whether it originated from the LAN or WAN. destination. The name or IP address of the destination device or website. destination port and interface.

The service port number of the destination device, and whether it is on the LAN or WAN. In all cases, the log entry shows the time stamp as day, year-month-date hour:minute:second. Activation and Administration Tue, 2006-05-21 18:48:39 - NETGEAR activated [This entry indicates a power-up or reboot with initial time entry. 2 [This entry shows an administrator logging in and out from IP address 192. 2 [This entry shows a time-out of the administrator login.] Wed, 2006-05-22 22:00:19 - Log emailed [This entry shows when the log was emailed. 11,21,LAN - [Inbound Default rule match] Sun, 2006-05-22 12:50:33 - UDP packet dropped Source:64. 11,6970,LAN [Inbound Default rule match] Sun, 2006-05-22 21:02:53 - ICMP packet dropped Source:64. 11,0,LAN - [Inbound Default rule match] [These entries show an inbound FTP (port 21) packet, a User Datagram Protocol (UDP) packet (port 6970), and an Internet Control Message Protocol (ICMP) packet (port 0) being dropped as a result of the default inbound rule, which states that all inbound packets are denied.] Chapter 4.

Content Filtering Settings | 41 N300 Wireless ADSL2+ Modem Router DGN2200 Keyword Blocking of HTTP Traffic Use keyword blocking to prevent certain types of HTTP traffic from accessing your network. The blocking can be always or according to a scheduled. Turn on keyword blocking according to the Schedule screen settings. â□¢ Always. Turn on keyword blocking all the time, independent of the Schedule screen. 3. In the Keyword field, enter a keyword or domain, click Add Keyword, and click Apply. Here are some sample entries: â□¢ â□¢ â□¢ Specify XXX to block http://www. Com if you want to allow only sites with domain suffixes such as . Enter a period (.

Select the keyword or domain that you want to delete from the list. Content Filtering Settings N300 Wireless ADSL2+ Modem Router DGN2200 Specify Trusted Computer You can exempt one trusted computer from blocking and logging. The computer you exempt has to have a fixed IP address. 1. In the Trusted IP Address field, enter the IP address. Firewall Rules to Control Network Access Your modem router has a firewall that blocks unauthorized access to your wireless network and permits authorized inbound and outbound communications. Authorized communications are established according to inbound and outbound rules. The firewall has the following two default rules. You can create custom rules to further restrict the outbound communications or more widely open the inbound communications: â□¢ â□¢ Inbound. Block all access from outside except responses to requests from the LAN side.

outbound. Allow all access from the LAN side to the outside. Configure Firewall Rules The Firewall Rules screen lets you configure custom rules to make exceptions to the default rules. Exceptions can be based on the service or application, source or destination IP addresses, and time of day. You can log traffic that matches or does not match the rule and change the order of rule precedence.

See Set Up Services on page 48 for information about services. All traffic attempting to pass through the firewall is subjected to the rules in the order shown in the Rules table from the top (highest precedence) to the default rules at the bottom. In some cases, the order of precedence is important to determine which communications are allowed into or out of the network. To edit or delete a rule, select its button on the left side and click Edit or Delete. Select its button on the left side of the table and click Move.

b. At the prompt, enter the number of the new position and click OK. 5. To open or close instant messaging, select one of the following radio buttons: â□¢ Close IM Ports. Inbound Rules (Port Forwarding) Because the modem router 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) visible and available to the Internet. The rule tells the modem router to direct inbound traffic for a particular service to one local server based on the destination port number. This is also known as port forwarding. allowing inbound services opens holes in your firewall. Enable only those ports that are necessary for your network.

The following are two examples of inbound rules. 44 | Chapter 4. Content Filtering Settings N300 Wireless ADSL2+ Modem Router DGN2200 Note: Some residential broadband ISP accounts do not let you run server processes (such as a Web or FTP server) from your location. Your ISP might periodically check for servers and suspend your account if it discovers any active services at your location.

If you are unsure, refer to the acceptable use policy of your ISP. Inbound Rule Example: A Local Public Web Server If you host a public Web server on your local network, you can define a rule to allow inbound Web (HTTP) requests from any outside IP address to the IP address of your Web server at any time of day, as shown here and described following the figure: The settings are: â•¢ Service. From this list, select the application or service you want to allow or block. The list already displays many common services, but you are not limited to these choices. Use the Services screen to add any additional services or applications that do not already appear. Choose how you want to handle this type of traffic.

You can block or allow always, or you can block or allow according to the schedule you have defined in the Schedule screen, described in Schedule Services on page 50. send to LAN Server. Enter the IP address of the computer or server on your LAN that receives the inbound traffic covered by this rule. wAN Users. These settings determine which packets are covered by the rule, based on their source (WAN) IP address: Any.

All IP addresses are covered by this rule. address range. If this option is selected, you must fill in the Start and Finish fields. single address. Enter the required address in the Start field.

You can select whether to log the traffic: Never. No log entries are made for this service. always. Any traffic for this service type is logged. match. Traffic of this type that matches the settings and action are logged. not match. Traffic of this type that does not match the settings and action are logged. Inbound Rule Example: Allowing Video Conferencing Create an inbound rule to allow incoming video conferencing to be initiated from a restricted range of outside IP addresses, such as from a branch office. In the following figure, CU-SeeMe connections are allowed from a specified range of external IP addresses only.

In this case, incoming CU-SeeMe requests that do not match the allowed settings are logged. figure 11. Inbound video conferencing Considerations for Inbound Rules â•¢ If your external IP address is assigned dynamically by your ISP, the IP address might change periodically as the DHCP lease expires. Consider using the Dynamic DNS screen described in Dynamic DNS on page 75 so that external users can always find your network. If the IP address of the local server computer is assigned by DHCP, it might change when the computer is rebooted. To avoid this, use the Reserved IP address feature in the LAN IP Setup screen to keep the computerâ••s IP address constant. Local computers must access the local server using the computerâ••s local LAN address (192. Attempts by local computers to access the server using the external WAN IP address fail. â•¢ â•¢ 46 | Chapter 4. Content Filtering Settings N300 Wireless ADSL2+ Modem Router DGN2200 Outbound Rules (Service Blocking) You can block computers on your local network from using certain Internet services. This is called service blocking or port filtering. You can add an outbound rule to block Internet access from a local computer based on the computer, Internet site, time of day, and type of service. Fill in the fields as follows and click Apply to save your settings: â•¢ Service. Select the application or service to be allowed or blocked. The list has many services, but you are not limited to these choices.

You can use the Add Custom Service button (see Set Up Services on page 48) to add services or applications. â•¢ â•¢ Action. Choose how to handle this type of traffic. You can block or allow always, or according to the schedule you define. These settings determine which packets are covered by the rule, based on their source LAN IP address.

Select the option that you want: â•¢ Any. All IP addresses are covered by this rule. address range. If this option is selected, fill in the Start and Finish fields. single address. Enter the required address in the Start field. wAN Users. These settings determine which packets are covered by the rule, based on their destination WAN IP address. Select the option that you want: Any. All IP addresses are covered by this rule.

address range. If this option is selected, fill in the Start and Finish fields. single address. Enter the required address in the Start field. never. No log entries are made for this service. always. Any traffic for this service type is logged. match. Traffic of this type that matches the settings and action is logged. not match. Traffic that does not match the settings and action is logged. â•¢ Log. You can select to log the traffic: - Chapter 4. Content Filtering Settings | 47 N300 Wireless ADSL2+ Modem Router DGN2200 Set Up Services Services are functions performed by server computers at the request of client computers. For example, Web servers serve Web pages, time servers serve time and date information, and game hosts serve data about other playersâ•• moves. When a computer on the Internet sends a request for service to a server computer, the requested service is identified by a service or port number. This number appears as the destination port number in the transmitted IP packets. For example, a packet that is sent with destination port number 80 is an HTTP (Web server) request. The service numbers for many common protocols are defined by the Internet Engineering Task Force (IETF at http://www. â•• Service numbers for other applications are typically chosen from the range 1024 to 65535 by the authors of the application. Although the modem router already holds a list of many service port numbers, you are not limited to these choices. To create a new service, click the Add button. Enter a meaningful name for the service. type. Select the correct type for this service. if in doubt , select TCP/UDP. The options are TCP, UDP, and TCP/UDP. If a single port is required, enter the same value in both fields. Content Filtering Settings N300 Wireless ADSL2+ Modem Router DGN2200 Set the Time Zone The modem router uses the Network Time Protocol (NTP) to obtain the current time and date from one of several network time servers on the Internet.

This setting determines the blocking schedule and time-stamping of log entries. 3. If your time zone is in daylight savings time, select the Adjust for daylight savings time check box to add one hour to standard time. Note: If your region uses daylight savings time, select Adjust for daylight savings time on the first day and clear it after the last day. Content Filtering Settings | 49 N300 Wireless ADSL2+ Modem Router DGN2200 Schedule Services If you enabled service blocking in the Block Services screen or port forwarding in the Ports screen, you can set up a schedule for when blocking occurs or when access is not restricted. To block Internet services based on a schedule, select Every Day or select one or more days. 3. If you want to limit access completely for the selected days, select All Day.

Otherwise, to limit access during certain times for the selected days, enter times in the Start Blocking and End Blocking fields. Note: Enter the values in 24-hour time format.

Would be 10 hours and 30 minutes, and 10:30 p. m. Would be 22 hours and 30 minutes. If you set the start time after the end time, the schedule is effective through midnight the next day. Content Filtering Settings N300 Wireless ADSL2+ Modem Router DGN2200 Enable Security Event Email Notification To receive logs and alerts by email, provide your email information in the E-mail screen and specify which alerts you want to receive and how often. Select this check box if you want to receive email logs and alerts from the modem router. send to This E-mail Address. Enter the email address where you want logs and alerts sent. This email address is also used as the From address. If you leave this field blank, log and alert messages are not sent by email. your Outgoing Mail Server. Enter the name or IP address of your ISPâ□□s outgoing (SMTP) mail server (such as mail. You might be able to find this information in the configuration settings of your email program. Enter the email address to which logs and alerts are sent. This email address is also used as the From address. If you leave this field blank, log and alert messages are not sent by email. my mail derver requires authentication. If you use an outgoing mail server provided by your current ISP, you do not need to select this field. If you use an email account that is not provided by your ISP, select this field, and enter the required user name and password information. Select the corresponding check box if you would like immediate notification of a significant security event, such as a known attack, port scan, or attempted access to a blocked site.

Send logs according to this schedule. Specifies how often to send the logs: Hourly, Daily, Weekly, or When Full. Days specifies which day of the week to send the log. This is relevant when the log is sent weekly. Time specifies the time of day to send the log. This is relevant when the log is sent daily or weekly. Â□¢ Note: If the Weekly, Daily, or Hourly option is selected and the log fills up before the specified period, the log is automatically emailed to the specified email address. After the log is sent, it is cleared from the modem routerâ□□s memory. If the modem router cannot email the log file, the log buffer might fill up. In this case, the modem router overwrites the log and discards its contents.

Network Maintenance Administering your network 5 This chapter describes the modem router settings for administering and maintaining the modem router and home network. This chapter contains the following sections: â□¢ â□¢ â□¢ â□¢ â□¢ â□¢ Upgrade the Modem Router Firmware Manually Check for Firmware Upgrades Manage the Configuration File View Router Status View Attached Devices Run Diagnostic Utilities Chapter 5. network Maintenance | 53 N300 Wireless ADSL2+ Modem Router DGN2200 Upgrade the Modem Router Firmware The modem router firmware (routing software) is stored in flash memory. By default, when you log in to your modem router, it checks the NETGEAR website for new firmware and alerts you if there is a newer version. wARNING! When uploading firmware to the modem router, do not interrupt the Web browser by closing the window, clicking a link, or loading a new page. If the browser is interrupted, it could corrupt the firmware. Automatic Firmware Check When automatic firmware checking is on, the modem router performs the check and notifies you if an upgrade is available or not as shown here. 1. Click Yes to allow the modem router to download and install the new firmware. The upgrade process could take a few minutes.

When the upload is complete, your modem router restarts. 2. Go to the DGN2200 support page at http://www. And read the new firmware release notes to determine whether you need to reconfigure the modem router after upgrading. Note: If you get a â□□Firmware needs to be reloadedâ□□ message, it means a problem has been detected with the modem routerâ□□s firmware. Follow the prompts to correct the problem or see Incorrect Date or Time on page 136 for a description of the steps. 54 | Chapter 5. Network Maintenance N300 Wireless ADSL2+ Modem Router DGN2200 Stop the Automatic Firmware Check You can turn the automatic firmware checking off and check for firmware updates manually if you prefer. See Manually Check for Firmware Upgrades on page 55. To turn off the automatic firmware check at login: 1.

Clear the Check for Updated Firmware Upon Log-in check box. Manually Check for Firmware Upgrades You can use the Router Upgrade screen to manually check the NETGEAR website for newer versions of firmware for your product. wARNING! When uploading firmware to the modem router, do not interrupt the Web browser by closing the window, clicking a link, or loading a new page. If the browser is interrupted, it could corrupt the firmware. 1. Select Maintenance > Router Status and make a note of the modem router firmware version number. 2. Go to the DGN2200 support page on the NETGEAR website at http://www. If the firmware version on the NETGEAR website is newer than the firmware on your modem router, download the file to your computer. Click Browse, and locate the firmware you downloaded (the file ends in .

Click Upload to send the firmware to the modem router. When the upload is complete, your modem router restarts. The upgrade process typically takes about 1 minute. Read the new firmware release notes to determine whether or not you need to reconfigure the modem router after upgrading. Manage the Configuration File The modem router configuration settings are stored in a configuration file (*.

cfg). This file can be backed up to your computer, restored, or used to revert to factory default settings. Click Save to save a copy of the current settings. 3. Choose a location to store the .

Cfg file that is on a computer on your network. Enter the full path to the file on your network, or click the Browse button to find the file. 2. When you have located the . Cfg file, click the Restore button to upload the file to the modem router. Upon completion, the modem router reboots. Erase Click the Erase button to reset the modem router to its factory default settings. Erase sets the password to password, the LAN IP address to 192. View Router Status Select Maintenance > Router Status to display this screen. The model of the hardware and the currently running firmware version.

The Ethernet MAC address of the DSL port. If no address is shown, the modem router cannot connect to the Internet. network Type. The value depends on your ISP. The IP address used as a gateway to the Internet for computers configured to use DHCP. These addresses are usually obtained dynamically from the ISP. If Off, the modem router does not assign IP addresses to PCs on the LAN. If On, the modem router does assign IP addresses to PCs on the LAN.