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User manual LINKSYS WRT54G3G  
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**LINKSYS**<sup>®</sup>  
A Division of Cisco Systems, Inc.

2,4GHz  
802.11g

**Wireless-G**  
Router for 3G/UMTS Broadband

**User Guide**

Model No. **WRT54G3G (EM)**

CISCO SYSTEMS



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**Manual abstract:**

and/or its affiliates in the U.S. and certain other countries. Copyright © 2007 Cisco Systems, Inc. All rights reserved. @@@@This question mark provides you with a reminder about something you might need to do while using the Wireless-G Router for 3G/UMTS Broadband. In addition to these symbols, there are definitions for technical terms that are presented like this: word: definition. Also, each figure (diagram, screenshot, or other image) is provided with a figure number and description, like this: Figure 0-1: Sample Figure Description Figure numbers and descriptions can also be found in the "List of Figures" section in the "Table of Contents". 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QoS Figure 5-45: Administration Tab - Management Figure 5-46: Administration Tab - Log Figure 5-47: Administration Tab - Diagnostics Figure 5-48: Ping Test Figure 5-49: Traceroute Test Figure 5-50: Administration Tab - Factory Defaults 27 27 28 29 29 30 31 31 31 32 32 33 33 34 34 35 35 36 38 39 39 40 40 41 42 43 43 45 46 47 47 47 48 Wireless-G Router for 3G/UMTS Broadband Figure 5-51: Administration Tab - Firmware Upgrade Figure 5-52: Administration Tab - Config Management Figure 5-53: Status Tab - 3G/UMTS Figure 5-54: Status Tab - Router Figure 5-55: Status Tab - Local Network Figure 5-56: Status Tab - Wireless Figure C-1: Upgrade Firmware Figure E-1: MAC Address/Physical Address Figure E-2: MAC Address Filter List Figure E-3: MAC Address Clone 48 48 49 50 51 52 72 74 74 75 Wireless-G Router for 3G/UMTS Broadband Chapter 1: Introduction Welcome Thank you for choosing the Linksys Wireless-G Router for 3G/UMTS Broadband. The Wireless-G Router for 3G/UMTS Broadband will allow you to network wirelessly better than ever, sharing Internet access, files and fun, easily and securely.



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How does the Wireless-G Router for 3G/UMTS Broadband do all of this? A router is a device that allows access to an Internet connection over a network. With the Wireless-G Router for 3G/UMTS Broadband, you can access the Internet through either your HSDPA/3G/UMTS or GPRS service (requires an HSDPA/3G/UMTS data card, available separately), or you can use a cable or DSL modem for broadband service.

Plus, this access can be shared over the four switched ports or via the wireless broadcast at up to 54Mbps for Wireless-G or up to 11Mbps for Wireless-B. Use the WPA or WPA2 standard to secure your wireless network while the whole network is protected through a Stateful Packet Inspection (SPI) firewall and Network Address Translation (NAT) technology. Access the Router's features through the easy-to-use, browser-based utility. But what does all of this mean?

Networks are useful tools for sharing computer resources. You can access one printer from different computers and access data located on another computer's hard drive.

Networks are even used for playing multiplayer video games. So, networks are not only useful in homes and offices, they can also be fun. PCs on a wired network create a LAN, or Local Area Network. They are connected with Ethernet cables, which is why the network is called "wired". PCs equipped with wireless cards or adapters can communicate without cumbersome cables. By sharing the same wireless settings, within their transmission radius, they form a wireless network. This is sometimes called a WLAN, or Wireless Local Area Network. The Wireless-G Router for 3G/UMTS Broadband bridges wireless networks of both 802.11b and 802.11g standards and wired networks, allowing them to communicate with each other.

With your networks all connected, wired, wireless, and the Internet, you can now share files and Internet access--and even play games. All the while, the Wireless-G Router for 3G/UMTS Broadband protects your networks from unauthorised and unwelcome users. wpa (wi-fi protected access): a wireless security protocol using TKIP (Temporal Key Integrity Protocol) encryption, which can be used in conjunction with a RADIUS server. spi (stateful packet inspection) firewall: a technology that inspects incoming packets of information before allowing them to enter the network. firewall: Security measures that protect the resources of a local network from intruders. nat (network address translation): NAT technology translates IP addresses of a local area network to a different IP address for the Internet. lan (local area network): The computers and networking products that make up the network in your home or office.

Chapter 1: Introduction Welcome 1 Wireless-G Router for 3G/UMTS Broadband Use the instructions in the User Guide to help you connect and set up the Router. These instructions should be all you need to get the most out of the Wireless-G Router for 3G/UMTS Broadband. What's in this User Guide? This user guide covers the steps for setting up and using the Wireless-G Router for 3G/UMTS Broadband.

· Chapter 1: Introduction This chapter describes the Router's applications and this User Guide. · Chapter 2: Planning Your Wireless Network This chapter describes the basics of wireless networking. · Chapter 3: Getting to Know the Wireless-G Router for 3G/UMTS Broadband This chapter describes the physical features of the Router. · Chapter 4: Connecting the Wireless-G Router for 3G/UMTS Broadband This chapter instructs you on how to connect the Router to your network. · Chapter 5: Configuring the Wireless-G Router for 3G/UMTS Broadband This chapter explains how to use the Web-based Utility to configure the settings on the Wireless-G Router for 3G/UMTS Broadband.

· Appendix A: Troubleshooting This appendix describes some problems and solutions, as well as frequently asked questions, regarding installation and use of the Wireless-G Router for 3G/UMTS Broadband. · Appendix B: Wireless Security This appendix explains the risks of wireless networking and some solutions to reduce the risks. · Appendix C: Upgrading Firmware This appendix instructs you on how to upgrade the firmware on the Router should you need to do so. · Appendix D: Windows Help This appendix describes how you can use Windows Help for instructions about networking, such as installing the TCP/IP protocol. · Appendix E: Finding the MAC Address and IP Address for your Ethernet Adapter.

This appendix describes how to find the MAC address for your computer's Ethernet adapter so you can use the MAC filtering and/or MAC address cloning feature of the Router. Chapter 1: Introduction What's in this User Guide? 2 Wireless-G Router for 3G/UMTS Broadband · Appendix F: Glossary This appendix gives a brief glossary of terms frequently used in networking. · Appendix G: Specifications This appendix provides the technical spe. Go to the Linksys website at [www.linksys.com/international](http://www.linksys.com/international) for more information about products that work with the Wireless-G Router for 3G/UMTS Broadband.

Chapter 2: Planning Your Wireless Network Network Layout 5 Wireless-G Router for 3G/UMTS Broadband Chapter 3: Getting to Know the Wireless-G Router for 3G/UMTS Broadband The Router's Ports The Router's ports and Reset button are located on the side panel with the antenna port. Figure 3-1: The Router's Ports (Antenna) Internet The antenna port is where you will attach the Router's antenna. The Internet port is where you will connect your broadband Internet connection, if you are using broadband WAN service. Security Bracket Ethernet 1, 2, 3, 4 These ports (1, 2, 3, 4) connect the Router to your PCs and other Ethernet network devices.

Figure 3-2: The Router's Front Panel IMPORTANT: Resetting the Router will erase all of your settings (Internet connection, wireless security, and other settings) and replace them with the factory defaults. Do not reset the Router if you want to retain these settings. Security Bracket The red bracket labeled "RESET" clips onto the Router. It covers the Reset button and the security slot on the Router's front panel. You can remove the security bracket to access the Reset button. To protect the Router from theft, you can attach a lock to the Router using the security slot and bracket. Reset Button There are two ways to reset the Router's factory defaults. Either press the Reset button, for approximately five seconds, or restore the defaults from the Administration tab - Factory Defaults tab in the Router's Web-based Utility. The Power port is where you will connect the power adapter. Power Chapter 3: Getting to Know the Wireless-G Router for 3G/UMTS Broadband The Router's Ports 6 Wireless-G Router for 3G/UMTS Broadband The Router's LEDs The Router's LEDs are located on the Router's other side panel.

Figure 3-2: The Router's Front Panel IMPORTANT: Resetting the Router will erase all of your settings (Internet connection, wireless security, and other settings) and replace them with the factory defaults. Do not reset the Router if you want to retain these settings. Security Bracket The red bracket labeled "RESET" clips onto the Router. It covers the Reset button and the security slot on the Router's front panel. You can remove the security bracket to access the Reset button. To protect the Router from theft, you can attach a lock to the Router using the security slot and bracket. Reset Button There are two ways to reset the Router's factory defaults. Either press the Reset button, for approximately five seconds, or restore the defaults from the Administration tab - Factory Defaults tab in the Router's Web-based Utility. The Power port is where you will connect the power adapter. Power Chapter 3: Getting to Know the Wireless-G Router for 3G/UMTS Broadband The Router's Ports 6 Wireless-G Router for 3G/UMTS Broadband The Router's LEDs The Router's LEDs are located on the Router's other side panel.

Figure 3-3: The Router's LEDs 3G/UMTS Button This button allows you to connect to and disconnect from the HSDPA/3G/UMTS or GPRS network (you can also use the Basic Setup tab of the Router's Web-based Utility).

Figure 3-3: The Router's LEDs 3G/UMTS Button This button allows you to connect to and disconnect from the HSDPA/3G/UMTS or GPRS network (you can also use the Basic Setup tab of the Router's Web-based Utility).

Figure 3-3: The Router's LEDs 3G/UMTS Button This button allows you to connect to and disconnect from the HSDPA/3G/UMTS or GPRS network (you can also use the Basic Setup tab of the Router's Web-based Utility).



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**POWER Green.** The POWER LED lights up and will stay on when the Router is powered on. When the Router goes through its self-diagnostic mode during every boot-up, this LED will flash. When the diagnostic is complete, the LED will be solidly lit.

**ETHERNET 1, 2, 3, 4 Green.** These numbered LEDs, corresponding with the numbered ports on the Router's back panel, serve two purposes. If the LED is continuously lit, the Router is successfully connected to a device through that port. A flashing LED indicates network activity over that port. Green. The DMZ LED lights up and will remain lit while the Router uses its DMZ function. Green. The WIRELESS LED lights up whenever there is a successful wireless connection. If the LED is flashing, the Router is actively sending or receiving data over the wireless network. Blue/Green. The 3G/UMTS LED flashes as the Router connects to the mobile network. It is solidly lit when the connection is established. The LED lights up blue if the Router connects to a HSDPA/3G/UMTS network. It lights up green if the Router connects to a GPRS network. If the LED quickly flashes, alternating between blue and green, and the Router does not have a connection to the mobile network, then either the Router's PIN code is incorrect, or there is no HSDPA/3G/UMTS data or SIM card inserted when you push the 3G/UMTS Connect/Disconnect button.

Contact your mobile service provider for assistance. DMZ WIRELESS 3G/UMTS INTERNET Green. The INTERNET LED lights up when a connection is made through the Internet port. Chapter 3: Getting to Know the Wireless-G Router for 3G/UMTS Broadband The Router's LEDs 7 Wireless-G Router for 3G/UMTS Broadband The Router's 3G/UMTS Slot The Router's 3G/UMTS slot is located on the Router's top panel. Figure 3-4: The Router's LEDs 3G/UMTS Slot Insert the HSDPA/3G/UMTS data card (available separately) into this slot if the Router will connect to a HSDPA/3G/UMTS or GPRS service. Chapter 3: Getting to Know the Wireless-G Router for 3G/UMTS Broadband The Router's 3G/UMTS Slot 8 Wireless-G Router for 3G/UMTS Broadband Chapter 4: Connecting the Wireless-G Router for 3G/UMTS Broadband Overview This chapter includes three sets of instructions. If the Router will use the HSDPA/3G/UMTS or GPRS service only, follow the instructions in "Hardware Installation for Use of the HSDPA/3G/UMTS or GPRS Service." If the Router will be the only router in your network and you have a broadband modem, follow the instructions in "Hardware Installation for Connection to Your Broadband Modem." If you want to install the Wireless-G Router for 3G/UMTS Broadband behind another router in your network, then follow the instructions in "Hardware Installation for Connection to Another Router." Hardware Installation for Use of the HSDPA/3G/UMTS or GPRS Service 1. Power down your network devices. 2. Locate an optimum location for the Router. The best place for the Router is usually at the center of your wireless network, with line of sight to all of your mobile stations. 3.

Attach the antenna and fix its direction. Try to place the Router in a position that will best cover your wireless network. Normally, the higher you place the antenna, the better the performance will be. 4. Insert the SIM card into your mobile card as needed, following your card's instructions. Then insert your mobile card into the Router's 3G/UMTS slot. Chapter 4: Connecting the Wireless-G Router for 3G/UMTS Broadband Overview 9 Wireless-G Router for 3G/UMTS Broadband 5. Connect your PCs or other devices to the Router's numbered ports with standard Ethernet network cables. Figure 4-1: Connect Your Computer 6. Connect the power adapter to the Router's Power port, and plug the other end into an electrical outlet. Only use the power adapter supplied with the Router. Use of a different adapter may result in product damage. IMPORTANT: Make sure you use the power adapter that is supplied with the Router. Use of a different power adapter could damage the Router. Figure 4-2: Connect the Power Proceed to the section at the end of this chapter, "Placement Options."

" Chapter 4: Connecting the Wireless-G Router for 3G/UMTS Broadband Hardware Installation for Use of the HSDPA/3G/UMTS or GPRS Service 10 Wireless-G Router for 3G/UMTS Broadband Hardware Installation for Connection to Your Broadband Modem 1. Power down your network devices. 2. Locate an optimum location for the Router. The best place for the Router is usually at the center of your wireless network, with line of sight to all of your mobile stations. 3. Attach the antenna and fix its direction. Try to place the Router in a position that will best cover your wireless network. Normally, the higher you place the antenna, the better the performance will be. 4.

Connect a standard Ethernet network cable to the Router's Internet port. Then, connect the other end of the Ethernet cable to your cable or DSL broadband modem. Figure 4-3: Connect the Broadband Modem Chapter 4: Connecting the Wireless-G Router for 3G/UMTS Broadband Hardware Installation for Connection to Your Broadband Modem 11 Wireless-G Router for 3G/UMTS Broadband 5. Connect your network PCs or Ethernet devices to the Router's numbered ports using standard Ethernet network cabling. Figure 4-4: Connect Your Computer 6.

Connect the power adapter to the Router's Power port, and plug the other end into an electrical outlet. Only use the power adapter supplied with the Router. Use of a different adapter may result in product damage. IMPORTANT: Make sure you use the power adapter that is supplied with the Router. Use of a different power adapter could damage the Router.

Figure 4-5: Connect the Power Proceed to the section at the end of this chapter, "Placement Options." Chapter 4: Connecting the Wireless-G Router for 3G/UMTS Broadband Hardware Installation for Connection to Your Broadband Modem 12 Wireless-G Router for 3G/UMTS Broadband Hardware Installation for Connection to Another Router Before you install the Wireless-G Router for 3G/UMTS Broadband, change the default IP address of the other router. This is mandatory because both routers may be set to the same IP address by default. If you do not change the other router's default IP address, then you may not be able to set up the Router. Make sure the Router is NOT connected to your network. Then follow these instructions: 1. To access the other router's Web-based Utility, launch your web browser, and enter the other router's default IP address, 192.168.1.1, in the Address field.

Then press Enter. 2. To log in, leave the User Name field blank. Enter the password (the default is admin). Click the OK button. 3. The first screen that appears will display the Setup tab. In the Network Setup section, there is a setting called Local IP Address, which is set to 192.168.1.

1. Change this to 192.168.2.1.

4.



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Click the Save Settings button to save your change, and then exit the Web-based Utility. 5. Power down your network devices. 6. Locate an optimum location for the Router. The best place for the Router is usually at the center of your wireless network, with line of sight to all of your mobile stations. 7. Attach the antenna and fix its direction. Try to place the Router in a position that will best cover your wireless network. Normally, the higher you place the antenna, the better the performance will be. 8. Connect a standard Ethernet network cable to the Router's Internet port. Then, connect the other end of the Ethernet cable to one of the numbered Ethernet ports on your other router. Router NOTE: Steps 1-4 are instructions for a typical Linksys router; however, if you are using a nonLinksys router, refer to the other router's documentation for instructions on how to change its local IP address to 192.

168.2.1. Broadband Modem Internet Wireless-G Router for 3G/UMTS Broadband Multiple PCs Figure 4-6: Diagram for Connection to Another Router Figure 4-7: Connect Another Router Chapter 4: Connecting the Wireless-G Router for 3G/UMTS Broadband Hardware Installation for Connection to Another Router 13 Wireless-G Router for 3G/UMTS Broadband 9. Decide which network computers or Ethernet devices you want to connect to the Router. Disconnect the selected computers or devices from the other router, and then connect them to the Router's numbered ports using standard Ethernet network cabling. Figure 4-8: Connect Your Computer 10. Connect the power adapter to the Router's Power port, and plug the other end into an electrical outlet. Only use the power adapter supplied with the Router. Use of a different adapter may result in product damage.

IMPORTANT: Make sure you use the power adapter that is supplied with the Router. Use of a different power adapter could damage the Router. Figure 4-9: Connect the Power Proceed to the next section, "Placement Options." Chapter 4: Connecting the Wireless-G Router for 3G/UMTS Broadband Hardware Installation for Connection to Another Router 14 Wireless-G Router for 3G/UMTS Broadband Placement Options There are three ways to place the Router.

The first way is to place it horizontally on a surface, so it sits on its four rubber feet.

The second way is to stand the Router vertically on a surface. The third way is to mount it on a wall. The second and third options are explained in further detail below. Stand Option 1. Line up the center of the Router's stand with the center of the Router's labeled edge.

2. Insert the Router into the stand. To set up the Router, proceed to "Chapter 5: Configuring the Wireless-G Router for 3G/UMTS Broadband." Figure 4-10: Stand Attached to the Router Chapter 4: Connecting the Wireless-G Router for 3G/UMTS Broadband Placement Options 15 Wireless-G Router for 3G/UMTS Broadband Wall-Mount Option The Router has four wall-mount slots on its bottom panel. The distance between two adjacent slots is 68 mm (2,68 inches). Before you begin, make sure you have two screws that are size #4--this indicates a diameter measurement of 2,845 mm (0,112 inches). 1. Determine where you want to mount the Router. 2. Drill two holes into the wall.

Make sure adjacent holes are 68 mm (2,68 inches) apart. 3. Insert a screw into each hole, and leave 5 mm (0,2 inches) of its head exposed. 4. Maneuver the Router so the top wall-mount slots line up with the two screws. 5. Place the wall-mount slots over the screws and slide the Router down until the screws fit snugly into the wallmount slots. To set up the Router, proceed to "Chapter 5: Configuring the Wireless-G Router for 3G/UMTS Broadband." 68 mm (2,68 inches) Figure 4-11: Measurement between Wall-Mount Slots Chapter 4: Connecting the Wireless-G Router for 3G/UMTS Broadband Placement Options 16 Wireless-G Router for 3G/UMTS Broadband Chapter 5: Configuring the Wireless-G Router for 3G/UMTS Broadband Overview Use the Web-based Utility to configure the Router. This chapter will describe each web page in the Utility and each page's key functions.

The utility can be accessed via your web browser through use of a computer connected to the Router. For a basic network setup, most users will use these two screens of the Utility: · Basic Setup. On the Basic Setup screen, enter the settings provided by your Internet Service Provider (ISP). · Management. Click the Administration tab and then the Management tab.

The Router's default password is admin. To secure the Router, change the Password from its default. There are seven main tabs: Setup, Wireless, Security, Access Restrictions, Applications & Gaming, Administration, and Status. Additional tabs will be available after you click one of the main tabs. To access the Web-based Utility, launch Internet Explorer or Netscape Navigator, and enter the Router's default IP address, 192.

168.1.1, in the Address field. Then press Enter. A password request page will appear. Leave the User Name field blank. The first time you open the Web-based Utility, use the default password admin. (You can set a new password from the Administration tab's Management screen.) Then click the OK button. Figure 5-1: Password Screen Chapter 6: Configuring the Wireless-G Router for 3G/UMTS Broadband Overview 17 Wireless-G Router for 3G/UMTS Broadband The Setup Tab - Basic Setup The first screen that appears displays the Basic Setup tab, which lets you change the Router's general settings.

3G/UMTS Setup Configure the HSDPA/3G/UMTS and/or GPRS settings for the Router in this section. Mobile Connection. This button enables you to connect to and disconnect from the HSDPA/3G/UMTS or GPRS network through the Web-based Utility (you can also connect and disconnect using the hardware button on the Router). It will also indicate the status of the Router's HSDPA/3G/UMTS or GPRS connection. Service. Select HSDPA/3G/UMTS Preferred (recommended) if you want the Router to connect to a HSDPA/3G/UMTS signal when available. If the HSDPA/3G/UMTS signal is not available, then Router will use a GPRS connection. If the Router is having problems maintaining a connection, you can select HSDPA/3G/UMTS Only or GPRS Only. Then the Router will be able to connect to only one type of signal. Mobile Network Bearer.

@@Network Name. @@Signal Strength. Internet Setup The Internet Setup section configures the Router to your Internet connection. Most of this information can be obtained through your ISP. Internet Connection Type Choose the type of Internet connection your ISP provides from the drop-down menu. · DHCP. By default, the Router's Internet Connection Type is set to Automatic Configuration - DHCP, which should be kept only if your ISP supports DHCP or you are connecting through a dynamic IP address. Figure 5-2: Setup Tab - Basic Setup Figure 5-3: DHCP Connection Type Chapter 6: Configuring the Wireless-G Router for 3G/UMTS Broadband The Setup Tab - Basic Setup 18 Wireless-G Router for 3G/UMTS Broadband · Static IP.



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If you are required to use a permanent IP address to connect to the Internet, select Static IP. Internet IP Address.

This is the Router's IP address, when seen from the Internet. Your ISP will provide you with the IP Address you need to specify here. Subnet Mask. This is the Router's Subnet Mask, as seen by users on the Internet (including your ISP). Your ISP will provide you with the Subnet Mask. Gateway. Your ISP will provide you with the Gateway Address, which is the ISP server's IP address. DNS. Your ISP will provide you with at least one DNS (Domain Name System) Server IP Address. · PPPoE.

Some DSL-based ISPs use PPPoE (Point-to-Point Protocol over Ethernet) to establish Internet connections. If you are connected to the Internet through a DSL line, check with your ISP to see if they use PPPoE. If they do, you will have to enable PPPoE. User Name and Password. Enter the User Name and Password provided by your ISP. Connect on Demand: Max Idle Time. You can configure the Router to cut the Internet connection after it has been inactive for a specified period of time (Max Idle Time). If your Internet connection has been terminated due to inactivity, Connect on Demand enables the Router to automatically re-establish your connection as soon as you attempt to access the Internet again. If you wish to activate Connect on Demand, click the radio button. In the Max Idle Time field, enter the number of minutes you want to have elapsed before your Internet connection terminates.

Keep Alive Option: Redial Period. If you select this option, the Router will periodically check your Internet connection. If you are disconnected, then the Router will automatically re-establish your connection. To use this option, click the radio button next to Keep Alive. In the Redial Period field, you specify how often you want the Router to check the Internet connection.

The default Redial Period is 30 seconds. · PPTP. Point-to-Point Tunneling Protocol (PPTP) is a service that applies to connections in Europe only. Internet IP Address. This is the Router's IP address, as seen from the Internet.

Your ISP will provide you with the IP Address you need to specify here. Subnet Mask. This is the Router's Subnet Mask, as seen by users on the Internet (including your ISP). Your ISP will provide you with the Subnet Mask. Gateway. Your ISP will provide you with the Gateway Address. Figure 5-6: PPTP Connection Type User Name and Password. Enter the User Name and Password provided by your ISP. Figure 5-4: Static IP Connection Type Static IP address: a fixed address assigned to a computer or device connected to a network. Figure 5-5: PPPoE Connection Type Chapter 6: Configuring the Wireless-G Router for 3G/UMTS Broadband The Setup Tab - Basic Setup 19 Wireless-G Router for 3G/UMTS Broadband Connect on Demand: Max Idle Time.

You can configure the Router to cut the Internet connection after it has been inactive for a specified period of time (Max Idle Time). If your Internet connection has been terminated due to inactivity, Connect on Demand enables the Router to automatically re-establish your connection as soon as you attempt to access the Internet again. If you wish to activate Connect on Demand, click the radio button. In the Max Idle Time field, enter the number of minutes you want to have elapsed before your Internet connection terminates. Keep Alive Option: Redial Period. If you select this option, the Router will periodically check your Internet connection. If you are disconnected, then the Router will automatically re-establish your connection. To use this option, click the radio button next to Keep Alive. In the Redial Period field, you specify how often you want the Router to check the Internet connection. The default Redial Period is 30 seconds.

· Telstra. Telstra is a service that applies to connections in Australia only. If your ISP uses HeartBeat Signal (HBS), then select Telstra. User Name and Password. Enter the User Name and Password provided by your ISP.

Heart Beat Server. This is the IP address that the Router has, when seen from the Internet. Your ISP will provide you with the IP Address you need to specify here. Connect on Demand: Max Idle Time. You can configure the Router to cut the Internet connection after it has been inactive for a specified period of time (Max Idle Time).

If your Internet connection has been terminated due to inactivity, Connect on Demand enables the Router to automatically re-establish your connection as soon as you attempt to access the Internet again. If you wish to activate Connect on Demand, click the radio button. In the Max Idle Time field, enter the number of minutes you want to have elapsed before your Internet connection terminates. Keep Alive Option: Redial Period. If you select this option, the Router will periodically check your Internet connection. If you are disconnected, then the Router will automatically re-establish your connection. To use this option, click the radio button next to Keep Alive. In the Redial Period field, you specify how often you want the Router to check the Internet connection. The default Redial Period is 30 seconds. · L2TP.

Layer 2 Tunneling Protocol (L2TP) is a service that tunnels Point-to-Point Protocol (PPP) across the Internet. It is used mostly in European countries. Server IP Address. Enter the IP address of your ISP's server. This is provided by your ISP. User Name and Password. Enter the User Name and Password provided by your ISP. Connect on Demand: Max Idle Time. You can configure the Router to cut the Internet connection after it has been inactive for a specified period of time (Max Idle Time). If your Internet connection has been terminated due to inactivity, Connect on Demand enables the Router to automatically re-establish your connection as Chapter 6: Configuring the Wireless-G Router for 3G/UMTS Broadband The Setup Tab - Basic Setup Figure 5-7: Telstra Connection Type Figure 5-8: L2TP Connection Type 20 Wireless-G Router for 3G/UMTS Broadband soon as you attempt to access the Internet again.

If you wish to activate Connect on Demand, click the radio button. In the Max Idle Time field, enter the number of minutes you want to have elapsed before your Internet connection terminates. Keep Alive Option: Redial Period. If you select this option, the Router will periodically check your Internet connection. If you are disconnected, then the Router will automatically re-establish your connection.

To use this option, click the radio button next to Keep Alive. In the Redial Period field, you specify how often you want the Router to check the Internet connection. The default Redial Period is 30 seconds. Optional Settings Some of these settings may be required by your ISP. Verify with your ISP before making any changes.

Router Name. In this field, you can type a name of up to 39 characters to represent the Router. Host Name and Domain Name. These fields allow you to supply a host and domain name for the Router. Some ISPs, usually cable ISPs, require these names as identification.



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You may have to check with your ISP to see if your broadband Internet service has been configured with a host and domain name. In most cases, leaving these fields blank will work. MTU. MTU is the Maximum Transmission Unit. It specifies the largest packet size permitted for Internet transmission.

The default setting, Manual, allows you to enter the largest packet size that will be transmitted. The recommended size, entered in the Size field, is 1492. You should leave this value in the 1200 to 1500 range. To have the Router select the best MTU for your Internet connection, select Auto. Figure 5-9: Optional Settings Network Setup The Network Setup section changes the settings on the network connected to the Router's Ethernet ports. Wireless setup is performed through the Wireless tab. Router IP This displays both the Router's IP Address and Subnet Mask as seen by your network. Figure 5-10: Router IP Chapter 6: Configuring the Wireless-G Router for 3G/UMTS Broadband The Setup Tab - Basic Setup 21 Wireless-G Router for 3G/UMTS Broadband DHCP Server Settings The Router can be used as a Dynamic Host Configuration Protocol (DHCP) server for your network. A DHCP server automatically assigns an IP address to each computer on your network. Select the mode you want the Router to use for its DHCP server function.

If you are not sure which mode to select, keep the default, Mode 1 - Fixed configuration (Default). Mode 1 - Fixed configuration (Default). In this mode, the Router will advertise itself as the DNS server for the clients (computers) to use. The clients will contact the Router for DNS, and its DNS caching server will resolve the addresses for them. This mode is recommended for networks whose UMTS upstream DNS servers change on a connection-by-connection basis, such as networks in the UK.

Mode 2- Network Supplied. Via DHCP, the Router will advertise the DNS and WINS servers it is using. This mode may be suitable for networks whose DNS servers have static addresses. Mode 3- Manual configuration. You can designate the settings advertised to the clients via DHCP.

Complete the Static DNS and WINS fields that will appear. You can specify up to three DNS servers and up to two WINS servers. Make sure these values do not depend on the Router's static settings. Figure 5-11: DHCP Server Settings Network Address Server Settings (DHCP) The settings allow you to configure the Router's DHCP server function. If you choose to enable the Router's DHCP server option, you must configure all of your network PCs to connect to a DHCP server (the Router), and make sure there is no other DHCP server on your network. DHCP Server. DHCP is enabled by factory default. If you already have a DHCP server on your network, or you don't want a DHCP server, then click the Disable radio button (no other DHCP features will be available).

Starting IP Address. Enter a value for the DHCP server to start with when issuing IP addresses.

Because the Router's default IP address is 192.168.1.1, the Starting IP Address must be 192.168.1.2 or greater, but smaller than 192.168.1.253.

The default Starting IP Address is 192.168.1.100. Maximum Number of DHCP Users.

Enter the maximum number of PCs that you want the DHCP server to assign IP addresses to. This number cannot be greater than 253. The default is 50.

Client Lease Time. The Client Lease Time is the amount of time a network user will be allowed connection to the Router with their current dynamic IP address.

Enter the amount of time, in minutes, that the user will be "leased" this dynamic IP address. After the time is up, the user will be automatically assigned a new dynamic IP address. The default is 0 minutes, which means one day. Figure 5-12: Network Address Server Settings Chapter 6: Configuring the Wireless-G Router for 3G/UMTS Broadband The Setup Tab - Basic Setup 22 Wireless-G Router for 3G/UMTS Broadband Static DNS (1-3). The Domain Name System (DNS) is how the Internet translates domain or website names into Internet addresses or URLs. Your ISP will provide you with at least one DNS Server IP Address. If you wish to use another, type that IP Address in one of these fields. You can type up to three DNS Server IP Addresses here. The Router will use these for quicker access to functioning DNS servers. WINS.

The Windows Internet Naming Service (WINS) manages each PC's interaction with the Internet. If you use a WINS server, enter that server's IP Address here.

Otherwise, leave this blank. Time Setting Change the time zone in which your network functions from this pull-down menu. Click the checkbox to have the Router automatically adjust the clock for daylight savings time. Figure 5-13: Time Setting Change these settings as described here, and click the Save Settings button to apply your changes or Cancel Changes to cancel your changes. Chapter 6: Configuring the Wireless-G Router for 3G/UMTS Broadband The Setup Tab - Basic Setup 23 Wireless-G Router for 3G/UMTS Broadband The Setup Tab - 3G/UMTS Network On this screen, you can configure mobile network settings and view mobile status information for the Router. Some of these settings will be automatically configured by the Router and, in most cases, do not need to be changed unless you are instructed to do so. Mobile Network Settings Auto Connect. If this feature is enabled, the Router will automatically connect to the default HSDPA/3G/UMTS or GPRS network when it powers on.

The default is Disable. Connect on Demand: Max Idle Time. You can configure the Router to cut the Internet connection after it has been inactive for a specified period of time (Max Idle Time). If your Internet connection has been terminated due to inactivity, Connect on Demand enables the Router to automatically re-establish your connection as soon as you attempt to access the Internet again. If you wish to activate Connect on Demand, click the radio button.

In the Max Idle Time field, enter the number of minutes you want to have elapsed before your Internet connection terminates. Keep Alive Option: Redial Period. If you select this option, the Router will periodically check your Internet connection. If you are disconnected, then the Router will automatically re-establish your connection. To use this option, click the radio button next to Keep Alive.

In the Redial Period field, you specify how often you want the Router to check the Internet connection. The default Redial Period is 30 seconds. Disconnect if idle for. If you want to disconnect the Router from the HSDPA/3G/UMTS or GPRS network if no data has been sent or received from the mobile network for a specific period of time, then enter the number of minutes you want to specify in the field provided. Figure 5-14: Setup Tab - 3G/UMTS PAP or CHAP Authentication. Select the authentication type used by your service provider: PAP or CHAP. If you do not know which type to use, select Auto. Figure 5-15:

Setup Tab - PAP or CHAP APN Configuration Configure how the Router will select its Access Point Name (APN) or network.



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Complete the APN Name, User Name, Password, DNS Supplied by Network, and DNS 1-2 fields as needed. APN Name.

The APN (Access Point Name) Name is automatically entered by the Router. Do not change this setting unless told to do so by either the technical support of your mobile service provider or Linksys, or the IT manager of your company. If you have access to a private APN, you can enter its name here. Chapter 6: Configuring the Wireless-G Router for 3G/UMTS Broadband The Setup Tab - 3G/UMTS Network 24 Wireless-G Router for 3G/UMTS Broadband User Name. The User Name is automatically entered by the Router. Do not change this setting unless told to do so by either the technical support of your mobile service provider or Linksys, or the IT manager of your company. If you have access to a private APN, you can enter the new User Name here. Password. The Password is automatically entered by the Router. Do not change this setting unless told to do so by either the technical support of your mobile service provider or Linksys, or the IT manager of your company.

If you have access to a private APN, you can enter the new Password here. DNS Supplied by Network. If the network automatically supplies the DNS address(es), click the checkbox. If you need to specify the DNS address(es), remove the checkmark, and enter the DNS address(es) in the DNS 1-2 fields. DNS 1-2.

Enter the DNS address(es) you want the Router to use. PIN Code. If required, enter the PIN code of your SIM card. The code will be stored here for future reference by the Router, and you will not have to re-enter this unless you change SIM cards. Figure 5-16: APN Configuration Mobile Network Status This section indicates whether the Router is using a mobile network bearer or a HSDPA/3G/UMTS or GPRS network.

Mobile Network Bearer. @@Network Name. @@@@Signal Strength. @@Connection Time. @@Current Session Usage. 3G/UMTS Card Status Card Model. Displayed here is the model number of your mobile card. Card Revision. This is the revision number of your mobile card. Card Firmware.

This is the firmware version of your mobile card. Chapter 6: Configuring the Wireless-G Router for 3G/UMTS Broadband The Setup Tab - 3G/UMTS Network 25 Wireless-G Router for 3G/UMTS Broadband IMSI. IMSI (International Mobile Subscriber Identity) is a fixed identification number and is read automatically from the mobile card. To update the screen with the latest status information, click the Refresh button. Change these settings as described here, and click the Save Settings button to apply your changes or Cancel Changes to cancel your changes. Chapter 6: Configuring the Wireless-G Router for 3G/UMTS Broadband The Setup Tab - 3G/UMTS Network 26 Wireless-G Router for 3G/UMTS Broadband The Setup Tab - DDNS The Router offers a Dynamic Domain Name System (DDNS) feature. DDNS lets you assign a fixed host and domain name to a dynamic Internet IP address. It is useful when you are hosting your own website, FTP server, or other server behind the Router. Before you can use this feature, you need to sign up for DDNS service with a DDNS service provider, www.dyndns.org or www.TZO.com. DynDNS.org DDNS Service.

From this pull-down menu, enter the DDNS service with which you have membership. User Name. Enter the User Name for your DDNS account Password. Enter the Password for your DDNS account. Host Name.

The is the DDNS URL assigned by the DDNS service. Internet IP Address. This is the Router's current IP Address as seen on the Internet. Status. This displays the status of the DDNS connection. User Name, Password, and Host Name. Enter the User Name, Password, and Host Name of the account you set up with DynDNS.org. Internet IP Address. The Gateway's current Internet IP Address is displayed here.

Because it is dynamic, it will change. Status. The status of the DDNS service connection is displayed here. Figure 5-17: Setup Tab - DDNS (DynDNS.org) TZO.com E-mail Address, Password, and Domain Name. Enter the E-mail Address, Password, and Domain Name of the account you set up with TZO. Internet IP Address. The Gateway's current Internet IP Address is displayed here. Because it is dynamic, this will change.

Status. The status of the DDNS service connection is displayed here. Change these settings as described here, and click the Save Settings button to apply your changes or Cancel Changes to cancel your changes. Chapter 6: Configuring the Wireless-G Router for 3G/UMTS Broadband The Setup Tab - DDNS Figure 5-18: Setup Tab - DDNS (TZO.org) 27 Wireless-G Router for 3G/UMTS Broadband The Setup Tab - MAC Address Clone A MAC address is a 12-digit code assigned to a unique piece of hardware for identification.

Some ISPs will require you to register a MAC address in order to access the Internet. If you do not wish to re-register the MAC address with your ISP, you may assign the MAC address you have currently registered with your ISP to the Router with the MAC Address Clone feature. MAC Clone Enable/Disable. To have the MAC Address cloned, click the radio button beside Enable. User Defined Entry.

Enter the MAC Address registered with your ISP here. Clone Your PC's MAC. Clicking this button will clone the MAC address. Change these settings as described here, and click the Save Settings button to apply your changes or Cancel Changes to cancel your changes. Figure 5-19: Setup Tab - MAC Address Clone Chapter 6: Configuring the Wireless-G Router for 3G/UMTS Broadband The Setup Tab - MAC Address Clone 28 Wireless-G Router for 3G/UMTS Broadband The Setup Tab - Advanced Routing This tab is used to set up the Router's advanced functions. Operating Mode allows you to select the type(s) of advanced functions you use. Dynamic Routing will automatically adjust how packets travel on your network. Static Routing sets up a fixed route to another network destination. Advanced Routing Operating Mode. Select the mode in which this Router will function.

If this Router is hosting your network's connection to the Internet, select Gateway. If another Router exists on your network, select Router. When Router is chosen, Dynamic Routing will be enabled. Dynamic Routing RIP. Dynamic Routing enables the Router to automatically adjust to physical changes in the network's layout and exchange routing tables with the other router(s). The Router determines the network packets' route based on the fewest number of hops between the source and the destination. This feature is Disabled by default. From the dropdown menu, you can also select LAN & Wireless, which performs dynamic routing over your Ethernet and wireless networks. You can also select WAN, which performs dynamic routing with data coming from the Internet.

Finally, selecting Both enables dynamic routing for both networks, as well as data from the Internet.

Figure 5-20: Setup Tab - Advanced Routing (Gateway) Static Routing Select set number. To set up a static route between the Router and another network, select a number from the Static Routing drop-down list.



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(A static route is a pre-determined pathway that network information must travel to reach a specific host or network.) Enter the information described below to set up a new static route. (Click the Delete This Entry button to delete a static route.

) Enter Route Name. Enter a name for the Route here, using a maximum of 25 alphanumeric characters. Destination LAN IP. The Destination LAN IP is the address of the remote network or host to which you want to assign a static route. Subnet Mask.

The Subnet Mask determines which portion of a Destination LAN IP address is the network portion, and which portion is the host portion. Default Gateway. This is the IP address of the gateway device that allows for contact between the Router and the remote network or host. Figure 5-21: Setup Tab - Advanced Routing (Router) Chapter 6: Configuring the Wireless-G Router for 3G/UMTS Broadband The Setup Tab - Advanced Routing 29 Wireless-G Router for 3G/UMTS Broadband Interface. This interface tells you whether the Destination IP Address is on the LAN & Wireless (Ethernet and wireless networks), the WAN (Internet), or Loopback (a dummy network in which one PC acts like a network-- necessary for certain software programs). Click the Show Routing Table button to view the Static Routes you've already set up. Change these settings as described here, and click the Save Settings button to apply your changes or Cancel Changes to cancel your changes. The Wireless Tab - Basic Wireless Settings The basic settings for wireless networking are set on this screen. Wireless Network Wireless Network Mode. From this drop-down menu, you can select the wireless standards running on your network.

If you have both 802.11g and 802.11b devices in your network, keep the default setting, Mixed. If you have only 802.11g devices, select G-Only. If you have only 802.11b devices, select B-Only. If you do not have any 802.11g and 802.11b devices in your network, select Disable.

Wireless Network Name (SSID). The SSID is the network name shared among all devices in a wireless network. The SSID must be identical for all devices in the wireless network. It is case-sensitive and must not exceed 32 characters (use any of the characters on the keyboard). Make sure this setting is the same for all devices in your wireless network.

For added security, you should change the default SSID (linksys) to a unique name. Wireless Channel. Select the appropriate channel from the list provided to correspond with your network settings. All devices in your wireless network must be broadcast on the same channel in order to function correctly. Wireless SSID Broadcast.

When wireless clients survey the local area for wireless networks to associate with, they will detect the SSID broadcast by the Router. To broadcast the Router's SSID, keep the default setting, Enable. If you do not want to broadcast the Router's SSID, then select Disable. Change these settings as described here, and click the Save Settings button to apply your changes or Cancel Changes to cancel your changes. Figure 5-22: Wireless Tab - Basic Wireless Settings Chapter 6: Configuring the Wireless-G Router for 3G/UMTS Broadband The Wireless Tab - Basic Wireless Settings 30 Wireless-G Router for 3G/UMTS Broadband The Wireless Tab - Wireless Security The Wireless Security settings configure the security of your wireless network. There are four wireless security mode options supported by the Router: WPA Personal, WPA2 Personal, WPA Enterprise (also known as WPARADIUS), WPA2 Enterprise, RADIUS, and WEP. (WPA stands for Wi-Fi Protected Access, which is a security standard stronger than WEP encryption. WEP stands for Wired Equivalent Privacy, while RADIUS stands for Remote Authentication Dial-In User Service.) These four are briefly discussed here. For detailed instructions on configuring wireless security for the Router, turn to "Appendix B: Wireless Security.

" **IMPORTANT:** Linksys strongly recommends that you enable wireless security on your wireless network. Otherwise, unauthorised users may be able to access the Internet using your service and incur additional charges. You are liable for any and all additional charges from your service provider. Figure 5-23: Wireless Tab - Wireless Security (WPA Personal - TKIP) Wireless Security WPA Personal. WPA gives you two encryption methods, TKIP and AES, with dynamic encryption keys. Select the type of algorithm, TKIP or AES. Enter a WPA Shared Key of 8-63 characters. Then enter a Group Key Renewal period, which instructs the Router how often it should change the encryption keys. Change these settings as described here, and click the Save Settings button to apply your changes or Cancel Changes to cancel your changes. **IMPORTANT:** If you are using WPA or WPA2, always remember that each device in your wireless network **MUST** use the same WPA method and shared key, or else the network will not function properly.

Figure 5-24: Wireless Tab - Wireless Security (WPA Personal - AES) WPA2 Personal. WPA2 automatically uses TKIP + AES with dynamic encryption keys. Enter a WPA Shared Key of 8-63 characters. Then enter a Group Key Renewal period, which instructs the Router how often it should change the encryption keys. Change these settings as described here, and click the Save Settings button to apply your changes or Cancel Changes to cancel your changes.

Figure 5-25: Wireless Tab - Wireless Security (WPA2 Personal) Chapter 6: Configuring the Wireless-G Router for 3G/UMTS Broadband The Wireless Tab - Wireless Security 31 Wireless-G Router for 3G/UMTS Broadband WPA Enterprise. This option features WPA used in coordination with a RADIUS server. (This should only be used when a RADIUS server is connected to the Router.) First, select the type of WPA algorithm you want to use, TKIP or AES. Enter the RADIUS server's IP Address and port number, along with a key shared between the Router and the server.

Last, enter a Key Renewal Timeout, which instructs the Router how often it should change the encryption keys. Change these settings as described here, and click the Save Settings button to apply your changes or Cancel Changes to cancel your changes. Figure 5-26: Wireless Tab - Wireless Security (WPA Enterprise - TKIP) Figure 5-27: Wireless Tab - Wireless Security (WPA Enterprise - AES) Chapter 6: Configuring the Wireless-G Router for 3G/UMTS Broadband The Wireless Tab - Wireless Security 32 Wireless-G Router for 3G/UMTS Broadband WPA2 Enterprise. This option features WPA2 used in coordination with a RADIUS server. (This should only be used when a RADIUS server is connected to the Router.) WPA2 automatically uses TKIP + AES with dynamic encryption keys. Enter the RADIUS server's IP Address and port number, along with a key shared between the Router and the server. Last, enter a Key Renewal Timeout, which instructs the Router how often it should change the encryption keys. Change these settings as described here, and click the Save Settings button to apply your changes or Cancel Changes to cancel your changes.



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Figure 5-28: Wireless Tab - Wireless Security (WPA2 Enterprise - TKIP) Figure 5-29: Wireless Tab - Wireless Security (WPA2 Enterprise - AES) Chapter 6: Configuring the Wireless-G Router for 3G/UMTS Broadband The Wireless Tab - Wireless Security 33 Wireless-G Router for 3G/UMTS Broadband RADIUS.

This option features WEP used in coordination with a RADIUS server. (This should only be used when a RADIUS server is connected to the Router.) First, enter the RADIUS server's IP Address and port number, along with a key shared between the Router and the server. Then, select a Default Transmit Key (choose which Key to use), and a level of WEP encryption, 64 bits 10 hex digits or 128 bits 26 hex digits. Last, either generate a WEP key using the Passphrase or enter the WEP key manually. If you are using 64-bit WEP encryption, the key must be exactly 10 hexadecimal characters in length. If you are using 128-bit WEP encryption, the key must be exactly 26 hexadecimal characters in length. Valid hexadecimal characters are "0"-"9" and "A"-"F". Change these settings as described here, and click the Save Settings button to apply your changes or Cancel Changes to cancel your changes. **IMPORTANT:** If you are using WEP encryption, always remember that each device in your wireless network **MUST** use the same WEP encryption method and encryption key, or else your wireless network will not function properly.

Figure 5-30: Wireless Tab - Wireless Security (RADIUS) WEP. WEP is a basic encryption method, which is not as secure as WPA. To use WEP, select a Default Transmit Key (choose which Key to use), and a level of WEP encryption, 64 bits 10 hex digits or 128 bits 26 hex digits. Then either generate a WEP key using the Passphrase or enter the WEP key manually. If you are using 64-bit WEP encryption, the key must be exactly 10 hexadecimal characters in length.

If you are using 128-bit WEP encryption, the key must be exactly 26 hexadecimal characters in length. Valid hexadecimal characters are "0"-"9" and "A"-"F". Change these settings as described here, and click the Save Settings button to apply your changes or Cancel Changes to cancel your changes. For detailed instructions on configuring wireless security for the Router, turn to "Appendix B: Wireless Security." Figure 5-31: Wireless Tab - Wireless Security (WEP)

Chapter 6: Configuring the Wireless-G Router for 3G/UMTS Broadband The Wireless Tab - Wireless Security 34 Wireless-G Router for 3G/UMTS Broadband The Wireless Tab - Wireless MAC Filter Wireless access can be filtered by using the MAC addresses of the wireless devices transmitting within your network's radius.

Wireless MAC Filter Wireless MAC Filter. To filter wireless users by MAC Address, either permitting or blocking access, click Enable. If you do not wish to filter users by MAC Address, select Disable. Prevent. Clicking this button will block wireless access by MAC Address. Permit Only. Clicking this button will allow wireless access by MAC Address. Edit MAC Address Filter List. Clicking this button will open the MAC Address Filter List. On this screen, you can list users, by MAC Address, to whom you wish to provide or block access.

For easy reference, click the Wireless Client MAC List button to display a list of network users by MAC Address. To save your list of MAC addresses, click the Save Settings button to apply your changes or Cancel Changes to cancel your changes. Change these settings as described here, and click the Save Settings button to apply your changes or Cancel Changes to cancel your changes. Figure 5-32: Wireless Tab - Wireless MAC Filter Figure 5-33: MAC Address Filter List Chapter 6: Configuring the Wireless-G Router for 3G/UMTS Broadband The Wireless Tab - Wireless MAC Filter 35 Wireless-G Router for 3G/UMTS Broadband The Wireless Tab - Advanced Wireless Settings This tab is used to set up the Router's advanced wireless functions. These settings should only be adjusted by an expert administrator as incorrect settings can reduce wireless performance. Advanced Wireless Authentication Type. The default is set to Auto, which allows either Open System or Shared Key authentication to be used. With Open System authentication, the sender and the recipient do NOT use a WEP key for authentication. With Shared Key authentication, the sender and recipient use a WEP key for authentication. Basic Rate.

The Basic Rate setting is not actually one rate of transmission but a series of rates at which the Router can transmit. The Router will advertise its Basic Rate to the other wireless devices in your network, so they know which rates will be used. The Router will also advertise that it will automatically select the best rate for transmission. The default setting is Default, when the Router can transmit at all standard wireless rates (1-2Mbps, 5.5Mbps, 11Mbps, 18Mbps, and 24Mbps).

Other options are 1-2Mbps, for use with older wireless technology, and All, when the Router can transmit at all wireless rates. The Basic Rate is not the actual rate of data transmission. If you want to specify the Router's rate of data transmission, configure the Transmission Rate setting. Transmission Rate. The rate of data transmission should be set depending on the speed of your wireless network.

You can select from a range of transmission speeds, or you can select Auto to have the Router automatically use the fastest possible data rate and enable the Auto-Fallback feature. Auto-Fallback will negotiate the best possible connection speed between the Router and a wireless client. The default value is Auto. CTS Protection Mode. CTS (Clear-To-Send) Protection Mode should remain disabled unless you are having severe problems with your Wireless-G products not being able to transmit to the Router in an environment with heavy 802.11b traffic. This function boosts the Router's ability to catch all Wireless-G transmissions but will severely decrease performance. Frame Burst. Enabling this option should provide your network with greater performance, depending on the manufacturer of your wireless products. If you are not sure how to use this option, keep the default, Disable.

Beacon Interval. The default value is 100. Enter a value between 1 and 65,535 milliseconds. The Beacon Interval value indicates the frequency interval of the beacon. A beacon is a packet broadcast by the Router to synchronize the wireless network. DTIM Interval. This value, between 1 and 255, indicates the interval of the Delivery Traffic Indication Message (DTIM). A DTIM field is a countdown field informing clients of the next window for listening to broadcast and multicast messages. When the Router has buffered broadcast or multicast messages for associated clients, it Chapter 6: Configuring the Wireless-G Router for 3G/UMTS Broadband The Wireless Tab - Advanced Wireless Settings Figure 5-34: Wireless Tab - Advanced Wireless Settings 36 Wireless-G Router for 3G/UMTS Broadband sends the next DTIM with a DTIM Interval value.



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