Pocket Wireless Router

(WL-530g for 802.11g/b wireless clients)

User's Manual

E1700b / Sep 2004

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Federal Communications Commission Statement

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- This device may not cause harmful interference, and
- This device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a class B digital device, pursuant to Part 15 of the Federal Communications Commission (FCC) rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

WARNING! The use of a shielded-type power cord is required in order to meet FCC emission limits and to prevent interference to the nearby radio and television reception. It is essential that only the supplied power cord be used. Use only shielded cables to connect I/O devices to this equipment. You are cautioned that changes or modifications not expressly approved by the party responsible for compliance could void your authority to operate the equipment.

Reprinted from the Code of Federal Regulations #47, part 15.193, 1993. Washington DC: Office of the Federal Register, National Archives and Records Administration, U.S. Government Printing Office.

Canadian Department of Communications

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

This Class B digital apparatus complies with Canadian ICES-003. Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

FCC Radio Frequency Exposure Caution Statement

In order to maintain compliance with the FCC RF exposure guidelines, this equipment should be installed and operated with minimum distance 20 cm between the radiator and your body. Use only with supplied antenna. Unauthorized antenna, modification, or attachments could damage the transmitter and may violate FCC regulations. Any changes of modifications not expressly approved by the grantee of this device could void the users authority to operate the equipment.

Installation and use of this Wireless LAN device must be in strict accordance with the instructions included in the user documentation provided with the product. Any changes or modifications (including the antennas) made to this device that are not expressly approved by the manufacturer may void the user's authority to operate the equipment. The manufacturer is not responsible for any radio or television interference caused by unauthorized modification of this device, or the substitution or attachment of connecting cables and equipment other than manufacturer specified. It is the responsibility of the user to correct any interference caused by such unauthorized modification, substitution or attachment. Manufacturer and its authorized resellers or distributors will assume no liability for any damage or violation of government regulations arising from failing to comply with these guidelines.

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1. Introduction

Overview

Thank you for purchasing the ASUS Pocket Wireless Router. The ASUS Pocket Wireless Router, WL-530g, complies with IEEE 802.11g and 802.11b standards. The 802.11g is as extension to 802.11b (used in majority of wireless LANs today) that broadens 802.11b's data rates to 54 Mbps within the 2.4 GHz band using OFDM (orthogonal frequency division multiplexing) technology. The 802.11g allows backward compatibility with 802.11b devices but only at 11 Mbps or lower, depending on the range and presence of obstructions. Wireless LANs are complementary extensions to existing wired LANs, offering complete mobility while maintaining continuous network connectivity to both corporate and home Intranets.
They add a new level of convenience for LAN users. PC users stay connected to the network anywhere throughout a building without being bound by a LAN wires. This is accomplished through the use of Access Point functionality of ASUS Pocket Wireless Routers. ASUS Pocket Wireless Router with built-in Internet gateway capability, allows your family to share a broadband Modem and one ISP account simultaneously from different rooms without wires! ASUS Wireless products can keep you connected anywhere, any time.

System Requirements

To begin using the ASUS Pock et Wireless Router, you must have the following minimum requirements:

- ADSL/Cable Modem and Broadband Internet Account.
- An Ethernet (10Base-T or 10/100Base-TX) adapter for wired client
- At least one 802.11g (54Mbps) or one 802.11b (11Mbps) wireless adapter for wireless mobile clients
- TCP/IP and an Internet browser installed

The Product Package

Each ASUS Pocket Wireless Router comes with:

- One ASUS Pocket Wireless Router
- One ASUS Pocket Wireless Router Quick Start Guide
- One power adapter (5 Volts DC, 2 Amp)
- One support CD (utilities and user's manual)
- One RJ-45 Ethernet cable (straight-through)

Features

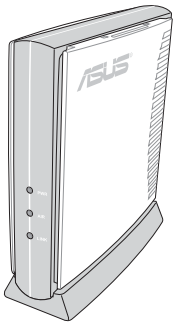
The WL-530g Wireless Router features include:

- **Wireless Connectivity And Protect Compatibility.** WL-530g Wireless Router enables fastest 54Mbps IEEE 802.11g wireless transmission and keep compatibility with existing IEEE 802.11b devices. WL-530g Wireless Router complies with IEEE 802.11b standard.
- **Secure wireless connectivity.** The integrated Wireless Access Point with WPA authentication and encryption functionality allows the wireless router to link a broadband Internet connection to your local network of 802.11g or/and 802.11b wireless mobile clients securely. The ASUS Pocket Wireless Router is firmware upgradable to support WPA.
- **Multiple local network ports.** Four 10/100Base-T Ethernet ports, offering either a connection to a hub or switch on the local wired network or a direct connection to multiple Ethernet-enabled computers. Build-in DHCP server allows the Wireless Router to provide IP addresses to clients on your local network automatically.
- **Broadband port.** The Broadband port connects the Wireless Router to your cable/DSL modem. Static IP, dynamically IP and PPPoE (PPP over Ethernet) connection to Internet are supported.
- **Shared Internet access.** All computers on the local network can access the Internet through the Wireless Router, using only a single external IP address.
- **Firewall protection.** The wireless router use of NAT (Network Address Translation) provides firewall protection for your local network.
- **Children Protection.** The wireless router allows you to block the Internet access within a predefined time interval and to block the WWW access with specific keywords in URL within a predefined time interval.
- **Easy setup and management.** Use your web browser from any computer on the local network to configure the ASUS Pocket Wireless Router.

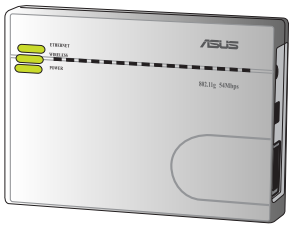
The ASUS Wireless Family

The ASUS Wireless family contains a several wireless network solutions for 802.11g & 802.11b wireless local area networks in the home or office.

Access Point or Client

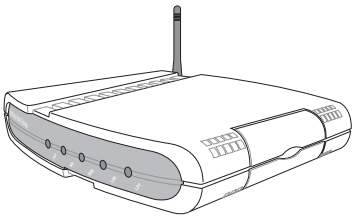


The **ASUS WLAN 802.11g Access Point (WL-300g)** creates a wireless network using the IEEE 802.11g and 802.11b wireless standards.

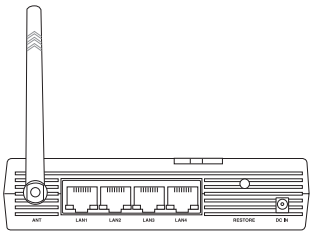


The **ASUS 3 in 1 Pocket Access Point (WL-330g)** creates a wireless network using the IEEE 802.11g/b wireless standards.

Access Point & Router

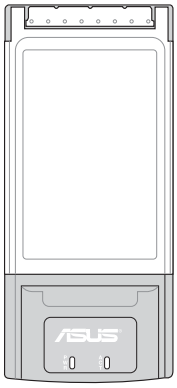


The **ASUS WLAN Gateway (WL-500g)** creates a wireless network using the IEEE 802.11g/b wireless standards and allows sharing a single Internet connection.



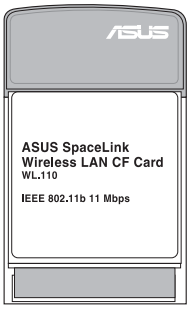
The **ASUS WLAN 802.11g Pocket Router (WL-530g)** creates a wireless network using the IEEE 802.11g and 802.11b wireless standards and allows sharing a single Internet connection.

PCMCIA Client



The **ASUS WLAN PC Card (WL-107g)** is a wireless LAN adapter that fits into a PCMCIA Type II slot in a Notebook PC and creates a wireless network using the IEEE 802.11g/b wireless standards.

Compact Flash (CF) Client



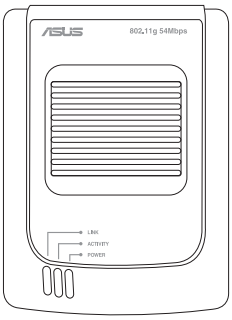
The **ASUS 802.11b Wireless CF Card (WL-110)** is a IEEE 802.11b wireless LAN adapter that fits into a Compact Flash Type II slot in a Portable Digital Assistant (PDA).

(The illustrations are not to scale.)

PCI Client

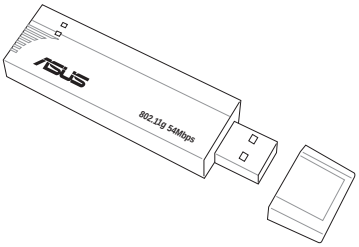
The **ASUS WLAN PCI Card (WL-138g)** is a wireless LAN adapter that fits into a standard PCI slot in a desktop PC and creates a wireless network using the IEEE 802.11g/b wireless standards.

USB Access Point or Client



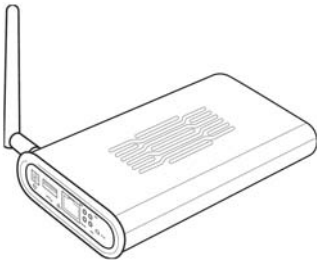
The **ASUS USB Wireless LAN Adapter (WL-160g)** creates a wireless network using the IEEE 802.11g/b wireless standards and connects to any computer using USB2.0 connectivity.

USB Client



The **ASUS USB Wireless LAN Adapter (WL-167g)** is thumb-sized and creates a wireless network using the IEEE 802.11g/b wireless standards and connects to any computer using USB2.0 connectivity.

Access Point & File Server



The **ASUS WLAN 802.11g Access Point (WL-HDD)** creates a wireless network using the IEEE 802.11g and 802.11b wireless standards. Also serves as a file server (wireless network attached storage).

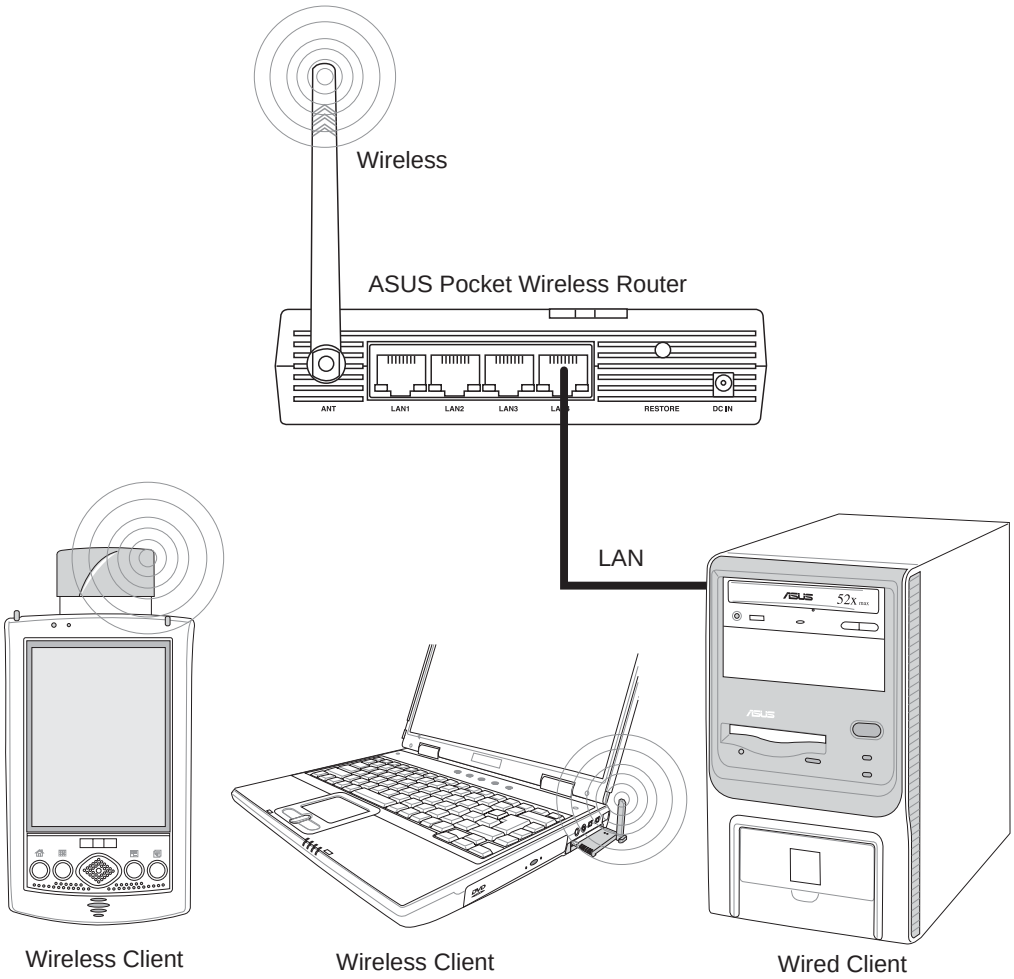
(The illustrations are not to scale.)

Network Topology

The settings that you need to perform will vary depending on the role that your ASUS Pocket Wireless Router will play.

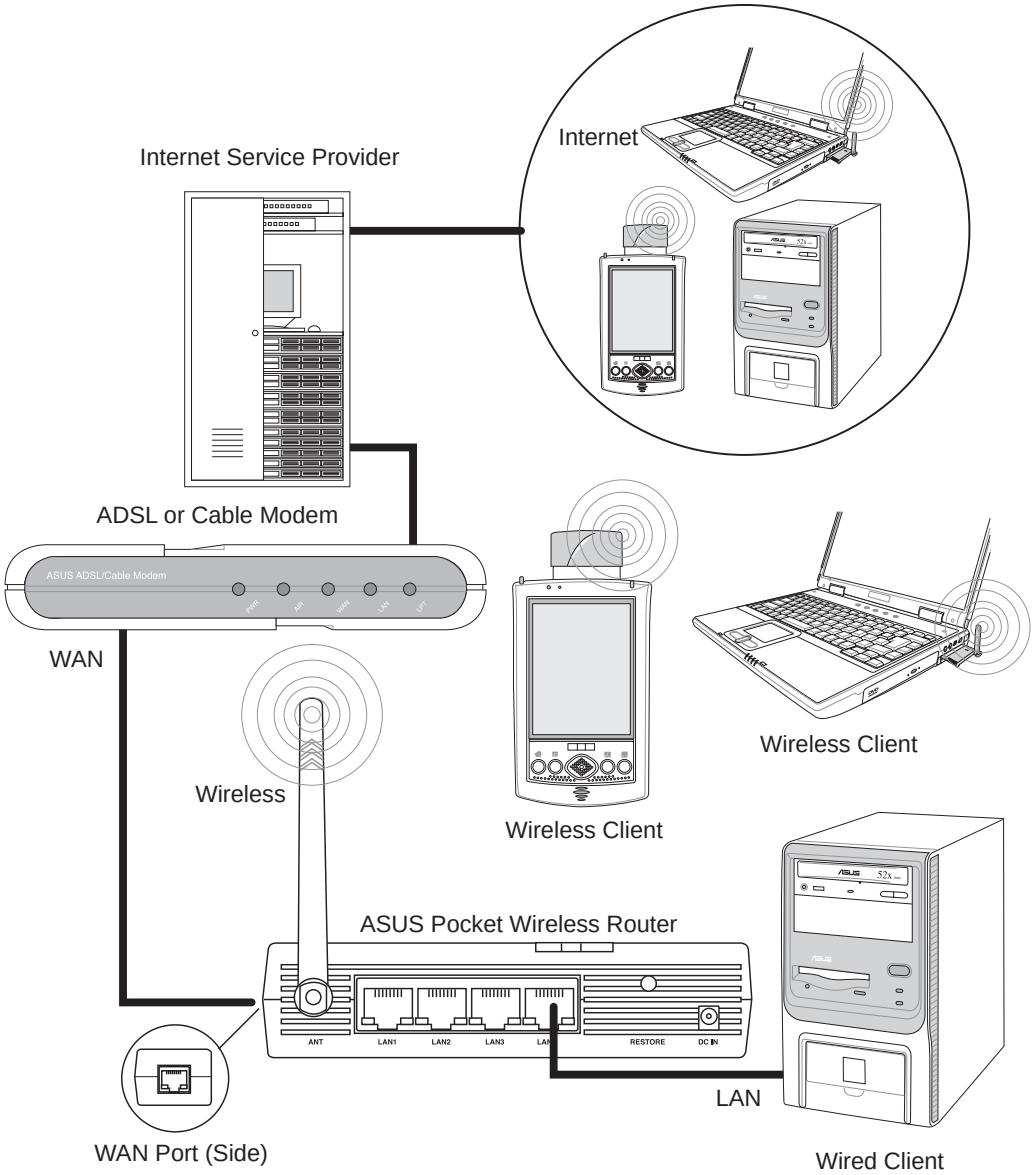
Network Backbone

No software setting is necessary in the ASUS Pocket Wireless Router.



In this topology, the wireless router connects your wired and wireless devices together to form a local area network (LAN), as shown. To connect a computer (or other device) to the ASUS Pocket Wireless Router, you need a network cable (UTP-Cat5) with one end connected to one of the LAN ports on the back of the ASUS Pocket Wireless Router and the other in the 10/100 LAN port on that device. For wireless connections, wireless mobile clients must comply with the IEEE 802.11b standard.

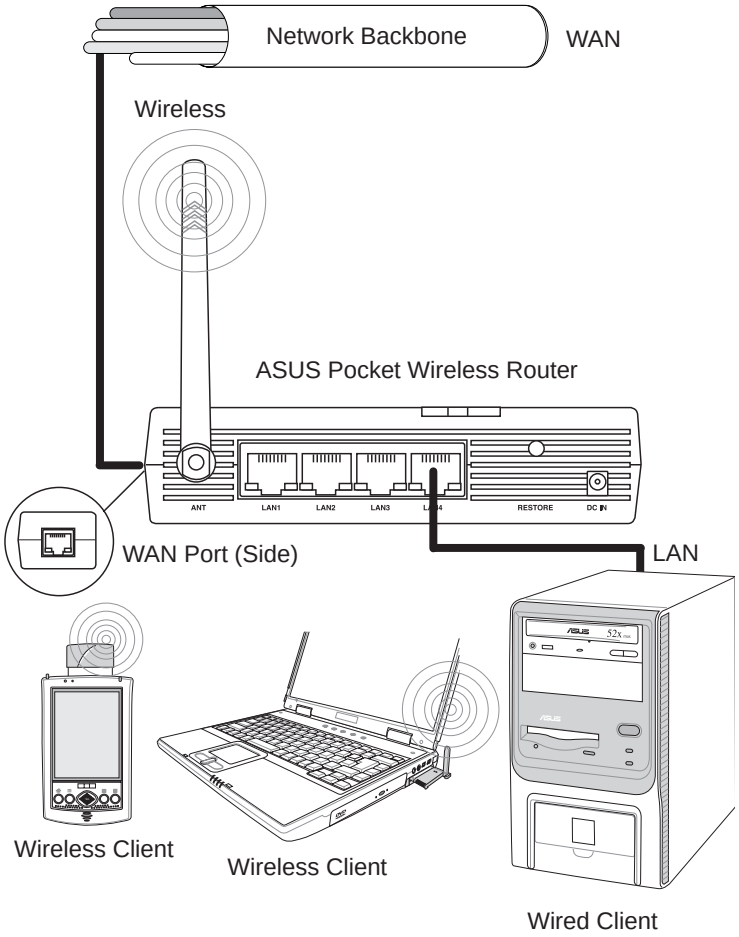
Agent to an ISP



In this topology, the wireless router is not only a backbone of your LAN but also an agent to your Internet Service Provider (ISP). You may use an ADSL or Cable modem to communicate with your ISP. Connect the LAN port on the modem with the WAN port at the back of the ASUS Pocket Wireless Router using a network cable as shown above.

Note: You also need to make sure that other connections on the ADSL or Cable modem are correct.

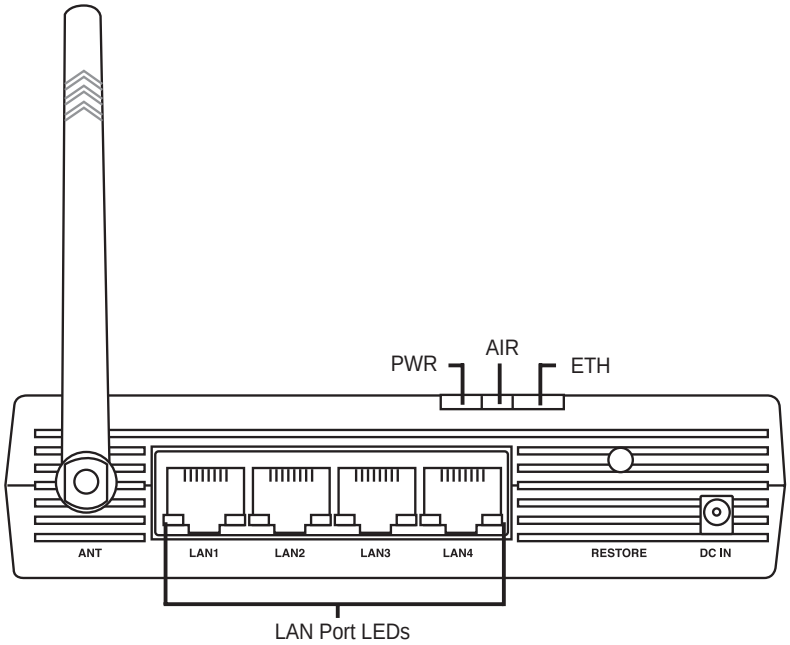
Agent to Another Network



In this topology, the wireless router is an agent between your LAN and another network. Use a network cable with one end connected to the WAN port on the wireless router and the other to the other network as shown above.

LED Indicators

The LEDs on the front of the ASUS Pocket Wireless Router display the status of the ASUS Pocket Wireless Router.



PWR (Power)

Off	No power
On	System ready
Flashing	Firmware upgrade failed

AIR (Wireless Network)

Off	No power
On	Wireless system ready
Flashing	Transmitting or receiving data (wireless)

ETH (Ethernet)

Off	No power
On	Has physical connection to an Ethernet network
Flashing Slow:	Link is not active or cable not attached
Flashing	Transmitting or receiving data (through Ethernet wire)

LAN 1-4 (Local Area Network)

Off	No power
On	Has physical connection to an Ethernet network
Flashing	Transmitting or receiving data (through Ethernet wire)

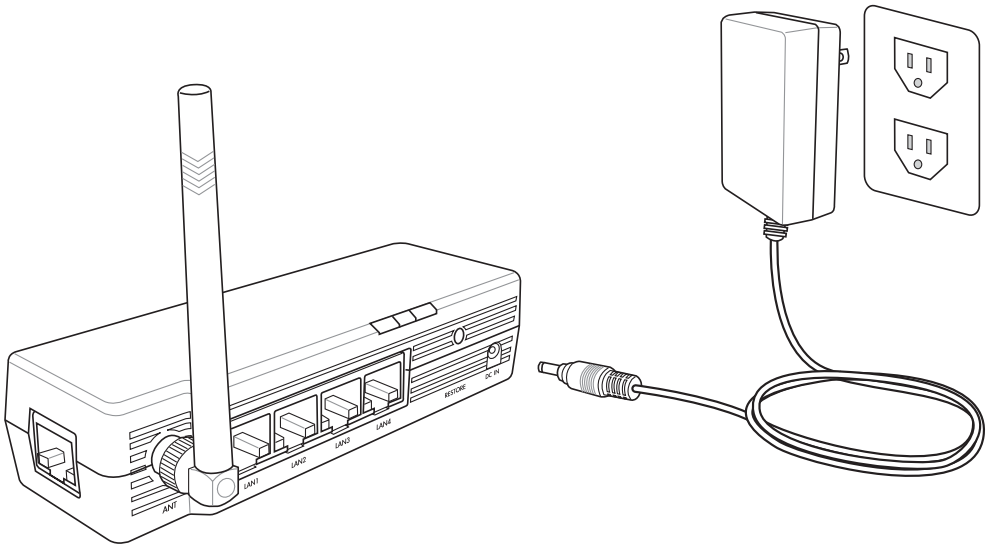
2. Installation Procedure

Follow these steps to install the ASUS Pocket Wireless Router.

1. Determine the best location for the ASUS Pocket Wireless Router. Keep in mind the following considerations:
   - The length of the Ethernet cable that connects the ASUS Pocket Wireless Router to the network must not exceed 100 meters.
   - Try to place the ASUS Pocket Wireless Router on a flat, sturdy surface as far from the ground as possible, such as on top of a desk or book-case, keeping clear of obstructions and away from direct sunlight.
   - Try to centrally locate the ASUS Pocket Wireless Router so that it will pro-vide coverage to all of the wireless mobile devices in the area. Orientating the antenna vertically should provide the best reception.
   - Use only the power supply that came with this unit. Other power supplies may fit but the voltage and power may not be compatible.
2. Wall mounting or vertical standing is also possible.

Warning: It is the responsibility of the installer and users of the ASUS Pocket Wireless Router to guarantee that the antenna is oper-ated at least 20 centimeters from any person. This is necessary to insure that the product is operated in accordance with the RF Guide-lines for Human Exposure which have been adopted by the Federal Communications Commission.

4. **LAN Connection:** Attach one end of an RJ-45 Ethernet cable to the ASUS Pocket Wireless Router's LAN port (any one of the four) and attach the other end to the RJ-45 Ethernet cable to your desktop computer.
5. **Power Connection:** The ASUS Pocket Wireless Router requires power from an external power supply. The ASUS Pocket Wireless Router ships with a UL listed, Class 2 power supply (5V, 2A). Attach one end of the DC power adapter to the back of the ASUS Pocket Wireless Router and the other end to a power outlet. The Power LED on the front of the ASUS Pocket Wireless Router will light up when the unit is powered ON. In addition, the green LAN or WAN LEDs will turn ON to indicate that the ASUS Pocket Wireless Router has a physical Ethernet network connection.



Warning: Use the ASUS Pocket Wireless Router only with the power adapter supplied in the product package. Using another power supply may damage the ASUS Pocket Wireless Router.

3. Software Configuration

Configuring the ASUS Pocket Wireless Router

The ASUS Pocket Wireless Router can be configured to meet various usage scenarios. Some of the factory default settings may suit your usage; however, others may need changing. Prior to using the ASUS Pocket Wireless Router, you must check the basic settings to guarantee it will work in your environment. Configuring the ASUS Pocket Wireless Router is done through a web browser. You need a Notebook PC or desktop PC connected to the ASUS Pocket Wireless Router (either directly or through a hub) and running a web browser as a configuration terminal. The connection can be wired or wireless. For the wireless connection, you need an IEEE 802.11g/b compatible device, e.g. ASUS WLAN Card, installed in your Notebook PC. You should also disable WEP and set the SSID to “default” for your wireless LAN device. If you want to configure the ASUS Pocket Wireless Router or want to access the Internet through the ASUS Pocket Wireless Router, TCP/IP settings must be correct. Normally, the TCP/IP setting should be on the IP subnet of the ASUS Pocket Wireless Router.

Note: Before rebooting your computer, the ASUS Pocket Wireless Router should be switched ON and in ready state.

Connecting to the ASUS Pocket Wireless Router

Wired Connection

One RJ-45 cable is supplied with the ASUS Pocket Wireless Router. Auto crossover function is designed into the ASUS Pocket Wireless Router so you can use either a straight-through or a crossover Ethernet cable. Plug one end of the cable into the WAN port on the rear of the ASUS Pocket Wireless Router and the other end into the Ethernet port of your ADSL or Cable modem.

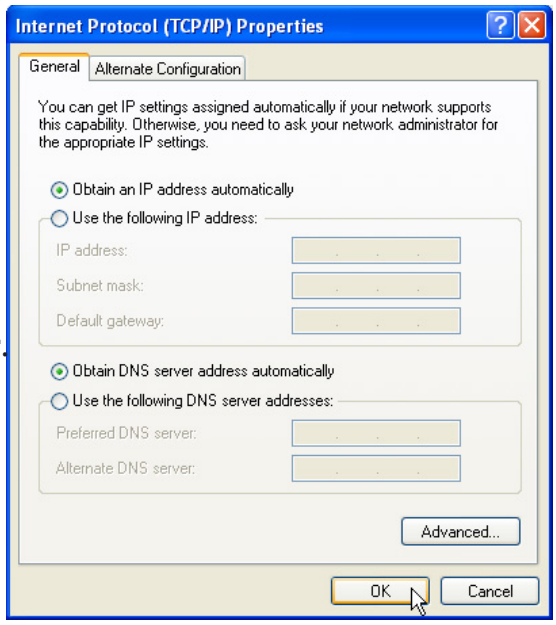
Wireless-Connection

Refer to your wireless adapter user’s manual on associating with the ASUS Pocket Pocket Wireless Router. The default SSID of the ASUS Pocket Wireless Router is "default" (lower case), encryption is disabled and open system authentication is used.

Setting IP address for Wired or Wireless Connection

Get IP Automatically

The ASUS Pocket Wireless Router incorporates a DHCP server so the easiest method is to set your PC to get its IP address automatically and reboot your computer. So the correct IP address, gateway, DNS (Domain Name System Server) can be obtained from the ASUS Pocket Wireless Router.



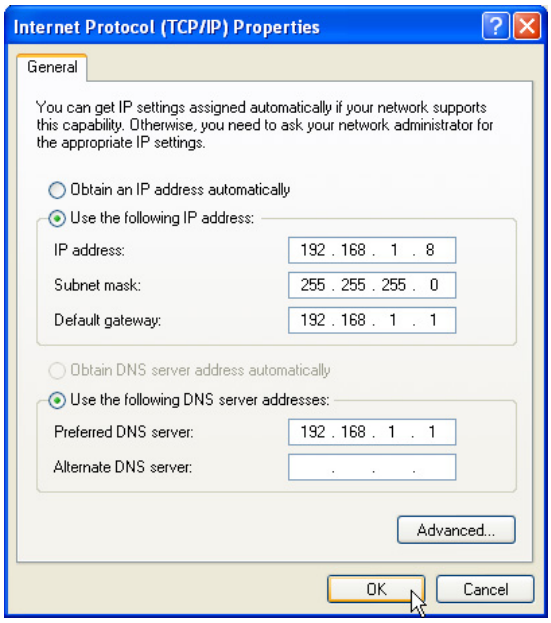
Note: The Wireless Router will act as a router and provide IP address only when the physical connection of WAN port exists. You must connect the WAN port on the ASUS Pocket Wireless Router with the Ethernet port on your ADSL or Cable modem with a network cable. Before rebooting your PC, the ASUS Pocket Wireless Router should be switched ON and in the ready state.

Setting IP Manually

If you want to set your IP address manually, the following default settings of the ASUS Pocket Wireless Router should be known:

- IP address 192.168.1.1
- Subnet Mask 255.255.255.0.

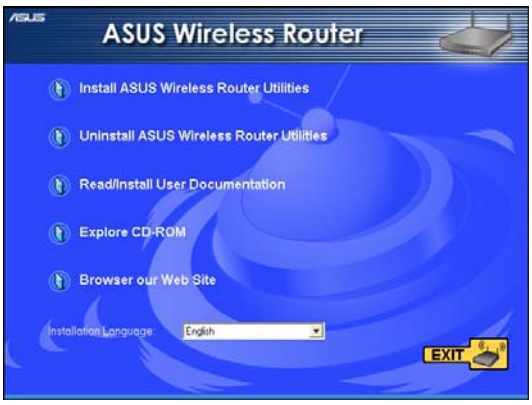
If you set your computer's IP manually, it needs to be on the same segment. For example:



- IP address 192.168.1.xxx (xxx can be any number between 2 and 254 that is not used by another device)
- Subnet Mask 255.255.255.0 (same as the ASUS Pocket Wireless Router)
- Gateway 192.168.1.1 (this is the ASUS Pocket Wireless Router)
- DNS 192.168.1.1 (ASUS Pocket Wireless Router IP address or your own).

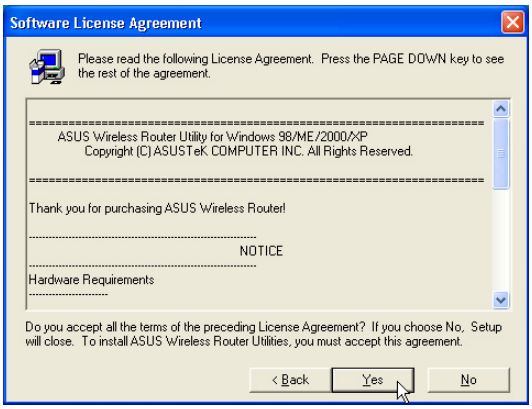
Installing the ASUS Pocket Wireless Router Utilities

Follow these steps to install the ASUS Pocket Wireless Router Utilities in Microsoft Windows. Insert the support CD provided with the ASUS Pocket Wireless Router and the menu will appear. (Double-click **setup.exe** if your autorun has been disabled.)

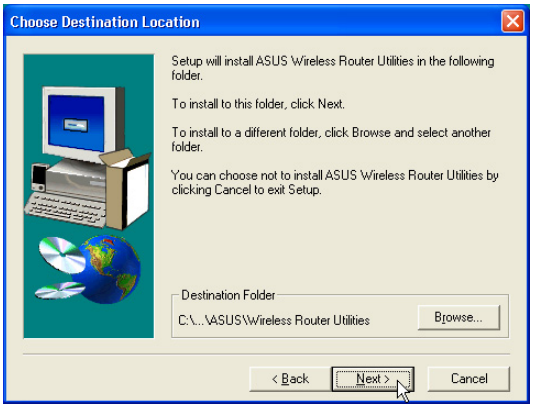


(1) Insert the support CD and the autorun will show. Double-click **setup.exe** if your autorun has been disabled.

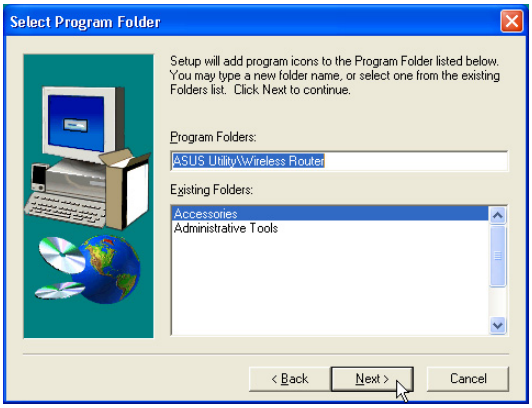
(2) Click **Next** after reading the welcome screen.



(3) Click **Yes** after reading the license agreement.



(4) Click **Next** to accept the default destination folder or enter another.



(5) Click **Next** to accept the default program folder or enter another.

(6) Click **Finish** when setup is complete.

Note: By default, the Wireless Router will act as a router and provide an IP address only when a physical connection on the WAN port exists. You must connect the Wireless Router's WAN port with your ADSL or Cable modem using a network cable.

Note: Before rebooting your PC, the ASUS Pocket Wireless Router should be switched ON and in the ready state.

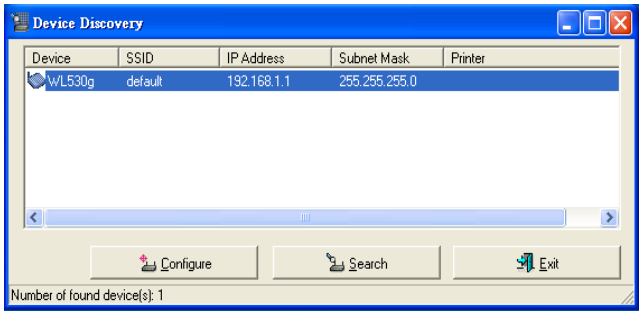
Using the Wireless Router for the First Time

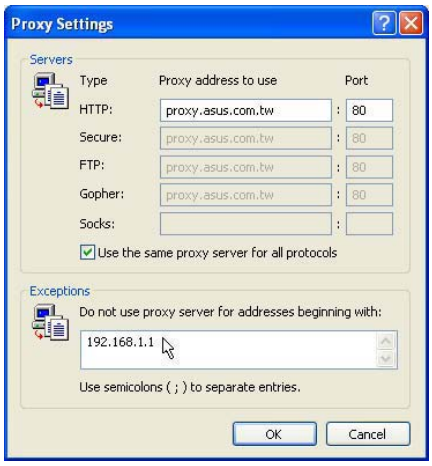
1. ASUS Pocket Wireless Router Utilities

Run **Device Discovery** from "ASUS Utility" in Windows Start Programs.

2. Connect to the ASUS WLAN Web Manager

Run the ASUS WLAN **Device Discovery** from the **Start** menu and click **Config** when the device is found.





Add **192.168.1.1** in the Exceptions box if you are using a proxy server.

If your computer's IP is not on the same subnet as the ASUS Pocket Wireless Router (192.168.1.X), you will be asked to change it. The IP address can be any number from 2 to 254 that is not used by another device. Gateway is not required.

Note: Using a proxy server for your LAN requires that you set an exception for the ASUS Pocket Wireless Router or else connection will fail.

Enter Address or Name Manually

You can also open your PC's web browser and enter the name or the default IP address of the ASUS Pocket Wireless Router:

WL-530g

http://my.router or **http://my.WL530g** or **http://192.168.1.1**

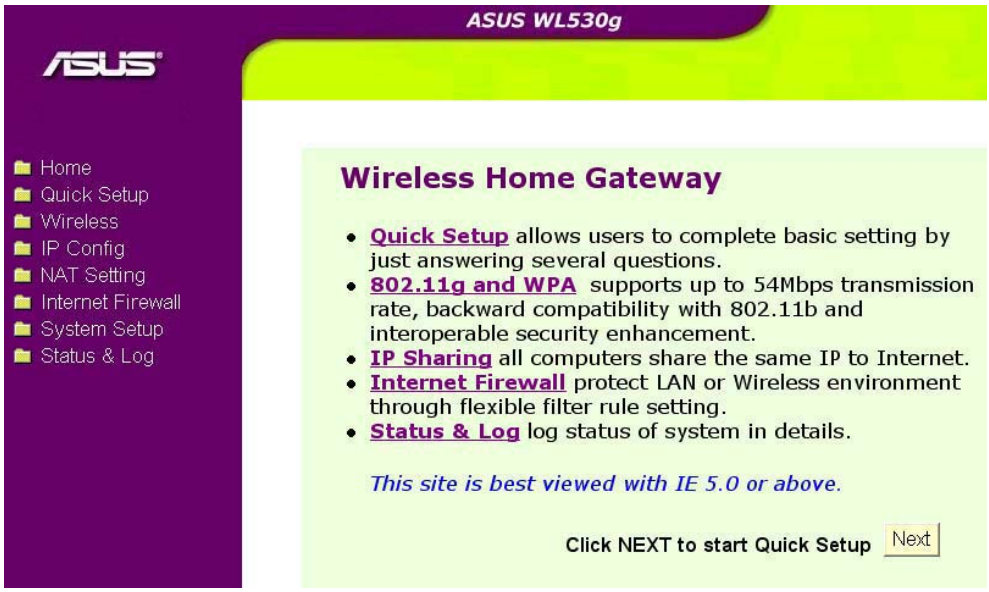
User Name & Password

Once connected, a window will ask for the User name and Password in order to log in. The factory default values are "**admin**" and "**admin**".

Note: If you cannot find any the ASUS Pocket Wireless Routers due to a problem in the IP settings, push and hold the "Restore" button over five seconds to restore factory default settings.

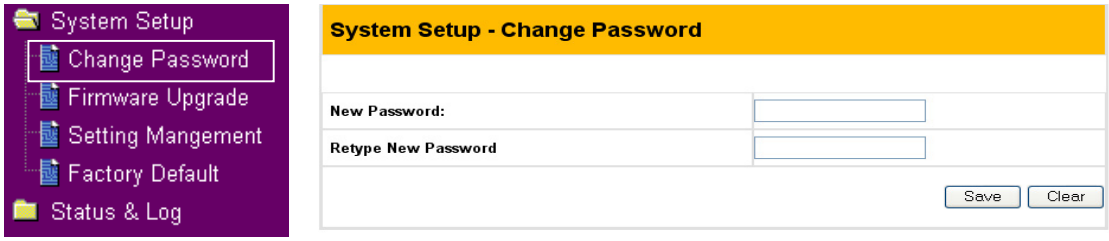
Home Page

After logging in, you will see the ASUS Pock et Wireless Router home page.

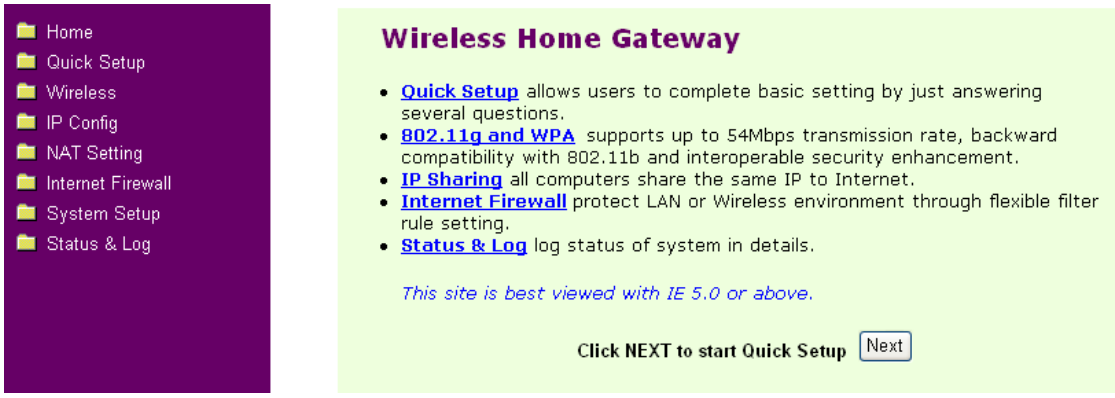


Important: After entering information on any page, click the "Apply" button [Apply]. If you click any other link, you will be directed to another page and lose your new settings.

3. Set your own password

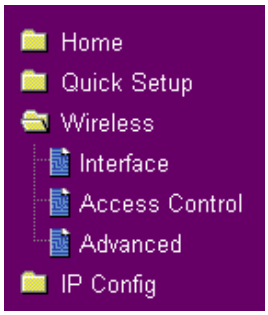


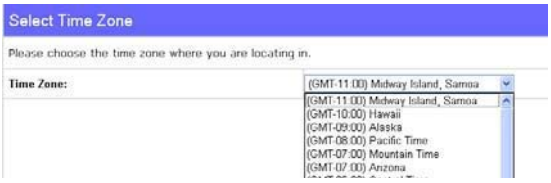
4. Use Quick Install



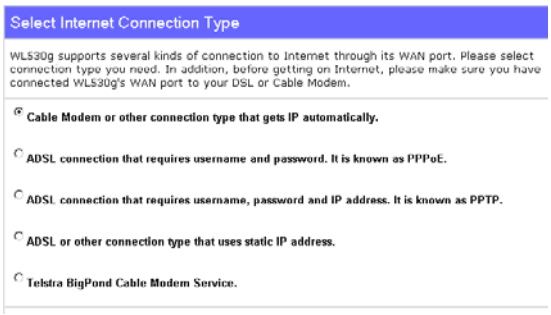
Quick Setup

To start quick setup, click **Next** to enter the "Quick Setup" page. Follow the instructions to setup the ASUS Pocket Wireless Router.

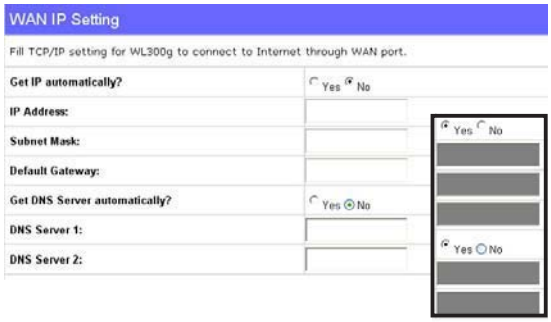




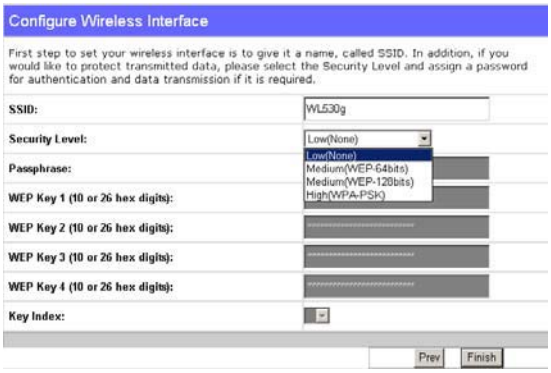
Select your time zone or the closest region. Click **Next** to continue.

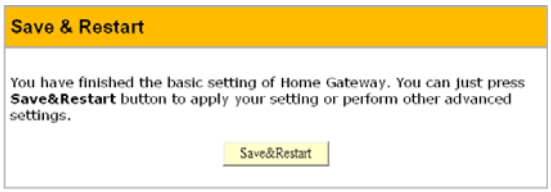


Select the connection type. Click **Next** to continue.



Select "No" to enter the information manually. "Yes" will disable the field. Click **Next** to continue.





To set up your wireless interface, you must first give it an SSID (Service Set Identifier). The SSID is a unique identifier attached to packets sent over WLANs. This identifier emulates a password when a wireless device attempts communication on the WLAN. Because an SSID distinguishes WLANs from each other, access points and wireless devices trying to connect to a WLAN must use the same SSID.

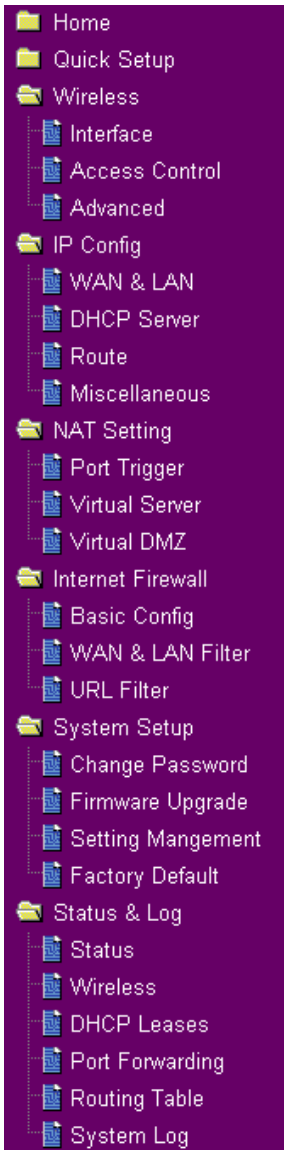
Quick Setup (Cont.)

Also, if you want to protect transmitted data, select a middle or high Security Level.

Medium : allows only those users with the same WEP key to connect to this access point and to transmit data using 64bits or 128bits WEP key encryption.

High: allows only those users with the same WPA pre-shared key to connect to this access point and to transmit data using TKIP encryption.

Click **Finish** to continue. You are prompted to save the settings. Click **Save&Restart** to save the settings to the ASUS Pocket Wireless Router and enable the new settings.

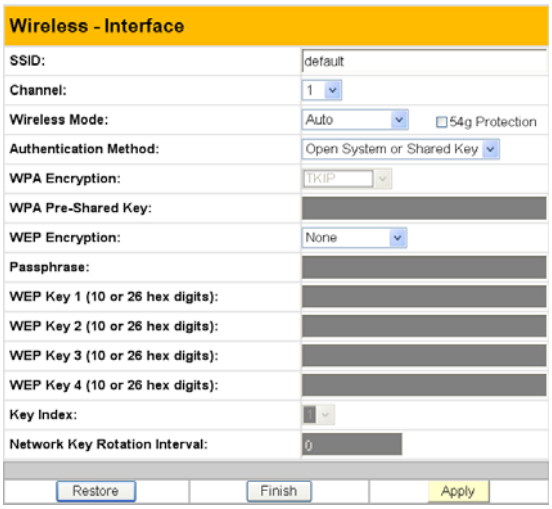


To adjust other settings, click an item on the menu to reveal a submenu and follow the instructions to setup the ASUS Pocket Wireless Router. Tips are given when you move your cursor over each item.

Wireless

Click an item on the menu to reveal a submenu. Follow the instructions to set up the ASUS Pocket Wireless Router. Tips are displayed when you move your cursor over an item.

Interface



SSID

The SSID is an identification string of up to 32 ASCII characters that differentiate one ASUS Wireless Router AP or Access Point from other manufacturers. The SSID is also referred to as the "ESSID" or "Extended Service Set ID." You can use the default SSID and radio channel unless more than one ASUS Wireless Router or Access Point is deployed in the same area. In that case, you should use a different SSID and radio channel for each ASUS Wireless Router or Access Point. All ASUS Wireless Routers and ASUS 802.11g/802.11b WLAN client adapters must have the same SSID to allow a wireless mobile client to roam between the ASUS Wireless Routers . By default, the SSID is set to "default".

Channel

The 802.11g and 802.11b specifications supports up to 14 overlapping channels for radio communication. To minimize interference, configure each ASUS 802.11g AP to be non-overlapping; select Auto from the Channel drop-down list to enable the system to select a clear channel during boot up as your operating channel.

Ensure that ASUS Wireless Routers sharing the same channel (or channels which are close in number) are as far away from each other as possible, based on the results of your site survey of the facility. There is a site survey utility on the ASUS Pocket Wireless Router setup CD.

Wireless (Cont.)

Wireless Mode

This field indicates the 802.11g interface mode. Selecting “Auto” allows 802.11g and 802.11b clients to connect to the ASUS Pocket Wireless Router. Selecting “54g Only” maximizes performance, but prevents 802.11b clients from connecting to the ASUS Pocket Wireless Router. If "54g protecion" is checked, G-Mode protection of 11g traffic is enabled automatically in the presence of 11b traffic.

Authentication Method

This field enables you to set different authentication methods which determine different encryption schemes. The relationship between Authentication Method, Encryption, Passphrase and WEP Keys is listed in the following table. If all your clients support WPA, using “WPA-PSK” is recommended for better security.

WPA Encryption

When “WPA-PSK” authentication method is used, the newly proposed TKIP (Temporal Key Integrity Protocol) encryption schemes are applied.

TKIP: TKIP uses an encryption algorithm, which is more stringent than the WEP algorithm and also uses existing WLAN calculation facilities to perform encryption operations. TKIP verifies the security configuration after the encryption keys are determined.

WPA Pre-Shared Key

Selecting “TKIP” in the WPA Encryption, this field is used as a password to begin the encryption process. Note: 8 to 63 characters are required.

Wireless (Cont.)

Authentication Method	Encryption	Passphrase	WEP Key 1~4
Open or shared key	None WEP-64 bits WEP-128 bits	Not required 1~64 characters 1~64 characters	Not required 10 hex 26 hex
Shared key	WEP-64 bits WEP-128 bits	1~64 characters 1~64 characters	10 hex 26 hex
WPA-PSK ^	TKIP only *	8~63 characters	Not required

WEP Encryption

Traditional WEP encryption is applied when “Open or Shared Key”, “Shared Key” authentication methods are selected.

64/128-bit versus 40/104-bit

The following section explains low-level (64-bit) and high-level (128-bit) WEP Encryption schemes.

64-bit WEP Encryption

64-bit WEP and 40-bit WEP are the same encryption method and can interoperate in a wireless network. This level of WEP encryption uses a 40-bit (10 Hex character) encryption scheme as a secret key, which is set by the user, and a 24-bit “Initialization Vector” scheme, which is not under user control.

Together these two schemes make a 64-bit (40 + 24) encryption scheme. Some vendors refer to this level of WEP as 40-bit and others refer to this as 64-bit. ASUS WLAN products use the term 64-bit when referring to this *lower* level of encryption.

Wireless (Cont.)

128-bit WEP Encryption

104-bit WEP and 128-bit WEP are the same encryption method and can interoperate on a wireless network. This level of WEP encryption uses a 104-bit (26 Hex character) encryption scheme as a secret key which is set by the user, and a 24-bit “Initialization Vector”, which is not under user control.

Together these two schemes make a 128-bit (104 + 24) encryption scheme. Some vendors refer to this level of WEP as 104-bit and others refer to this as 128-bit. ASUS WLAN products use the term 128-bit when referring to this *higher* level of encryption.

Passphrase

Selecting “WEP-64bits” or “WEP-128bits” in the Encryption field generates four WEP keys automatically. A combination of up to 64 letters, numbers, or symbols is required. Alternatively, leave this field blank and type in four WEP keys manually.

- ¥ WEP-64bit key: 10 hexadecimal digits (0~9, a~f, and A~F)
- ¥ WEP-128bit key: 26 hexadecimal digits (0~9, a~f, and A~F)

Note: The ASUS WLAN family of products uses the same algorithm to generate WEP keys, eliminating the need for users to remember passwords and to maintain compatibility between products. However, using this method to generate WEP keys is not as secure as manual assignment.

Wireless (Cont.)

WEP Key

You can set a maximum of four WEP keys. A WEP key is either 10 or 26 hexadecimal digits (0~9, a~f, and A~F) based on whether you select 64bits or 128bits in the WEP pull-down menu. The ASUS Pocket Wireless Router and ALL of its wireless clients MUST have at least the same default key.

Key Index

The Default Key field lets you specify which of the four encryption keys you use to transmit data on your wireless LAN. As long as the ASUS Pocket Wireless Router or wireless mobile client with which you are communicating has the same key in the same position, you can use any of the keys as the default key. If the ASUS Pocket Wireless Router and ALL of its wireless clients use the same four WEP keys, select “key rotation” to maximize security. Otherwise, choose one key in common as the default key.

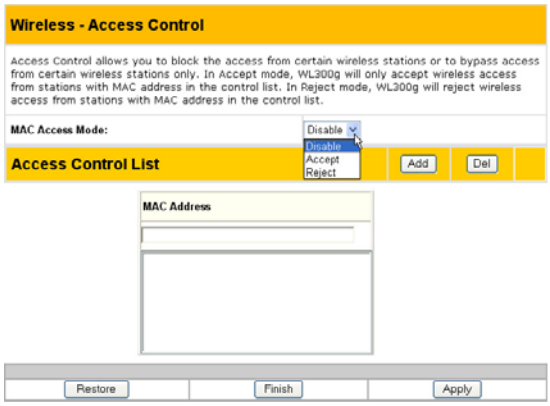
Network Rotation Key Interval

This field specifies the time interval (in seconds) after which a WPA group key is changed. Enter ‘0’ (zero) to indicate that a periodic key-change is not required.

Wireless

Click an item on the menu to reveal a submenu. Follow the instructions to set up the ASUS Pocket Wireless Router. Tips are displayed when you move your cursor over an item.

Access Control



Pull down menu items:

Disable (no info required)

Accept (need to input information)

Reject (need to input information)

To add security, the ASUS Pocket Wireless Router has the ability to only associate with or not associate with wireless mobile clients that have their MAC address entered into this page.

The default setting of “Disable” will allow any wireless mobile client to connect. “Accept” will only allow those entered into this page to connect. “Reject” will prevent those entered into this page from connecting.

Adding a MAC Address

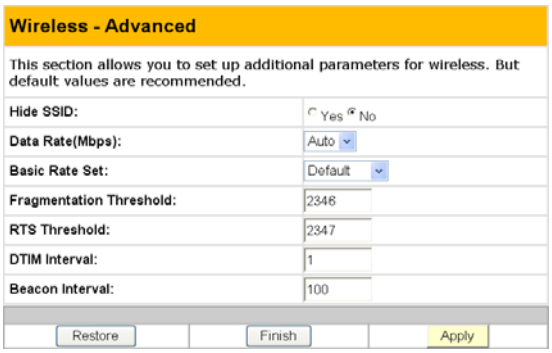
To add a MAC address, enter the 12 hexadecimal characters into the white box next to “MAC Address:” and click the **Add** button. The MAC address will be placed in the control list below. Only a total of 31 MAC addresses can be entered into this page so determine which will be the lesser; those you wish to accept or those you wish to reject and click the appropriate “MAC Access Mode”.

Note: Click the “Finish” button to save your new settings and re-start the ASUS Pocket Wireless Router or click “Save” and restart later.

Wireless

Click an item on the menu to reveal a submenu. Follow the instructions to set up the ASUS Pocket Wireless Router. Tips are displayed when you move your cursor over an item.

Advanced



Wireless - Advanced

This section allows you to set up additional parameters for wireless. But default values are recommended.

Hide SSID:	Yes No
Data Rate(Mbps):	Auto
Basic Rate Set:	Default
Fragmentation Threshold:	2346
RTS Threshold:	2347
DTIM Interval:	1
Beacon Interval:	100

Restore | Finish | Apply

This section allows you to set up additional parameters for the wireless router function. We recommend that you use the default values for all items in this window.

Hide SSID - By default, “No” is selected so that wireless mobile users can see your ASUS Pocket Wireless Router’s SSID and join. If “Yes” is selected, your ASUS Pocket Wireless Router will not show in site surveys by wireless mobile clients and they will have to manually enter your ASUS Pocket Wireless Router's SSID. If you want to restrict access to “your” ASUS Pocket Wireless Router, this is a simple way to do it but for security reasons, don’t forget to change the SSID to something other than “default”.

Data Rate (Mbps) - This field allows you to specify the transmission rate. Leave on “Auto” to maximize performance versus distance.

Basic Rate Set - This field indicates the basic rates that wireless clients must support. Use “1 & 2 Mbps” only when backward compatibility is needed for some older wireless LAN cards with a maximum bit rate of 2Mbps.

Wireless (Cont.)

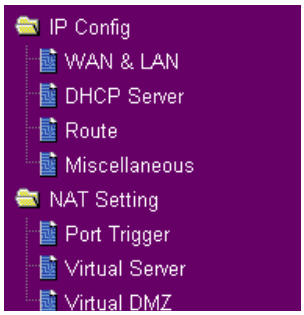
Fragmentation Threshold (256~2346) – Fragmentation is used to divide 802.11 frames into smaller pieces (fragments) that are sent separately to the destination. Enable fragmentation by setting a specific packet size threshold. If there is an excessive number of collisions on the WLAN, experiment with different fragmentation values to increase the reliability of frame transmissions. The default value (2346) is recommended for normal use.

RTS Threshold (0~2347) – The RTS/CTS (Request to Send/Clear to Send) function is used to minimize collisions among wireless stations. When RTS/CTS is enabled, the router refrains from sending a data frame until another RTS/CTS handshake is completed. Enable RTS/CTS by setting a specific packet size threshold. The default value (2347) is recommended.

DTIM Interval (1~255) – DTIM (Delivery Traffic Indication Message) is a wireless message used to inform clients in Power Saving Mode when the system should wake up to receive broadcast and multicast messages. Type the time interval in which the system will broadcast a DTIM for clients in Power Saving Mode. The default value (3) is recommended.

Beacon Interval (1~65535) – This field indicates the time interval in milliseconds that a system broadcast packet, or beacon, is sent to synchronize the wireless network. The default value (100 milliseconds) is recommended.

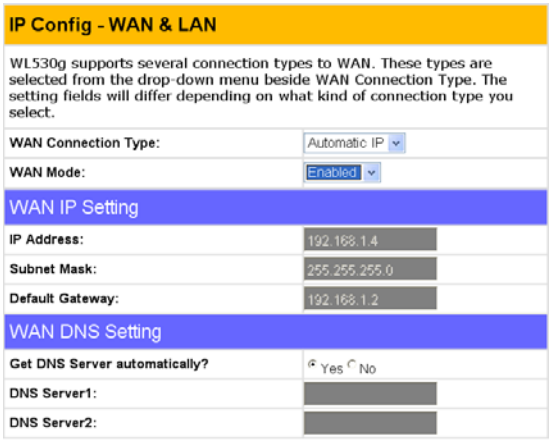
IP Config



WAN & LAN

Click an item on the menu to reveal a submenu. Follow the instructions to set up the ASUS Pocket Wireless Router. Tips are displayed when you move your cursor over an item.

WAN Connection Type



The ASUS Pocket Wireless Router supports several connection types to WAN, including Static IP, PPPoE, PPTP, Automatic IP and BigPond(Telstra). The WAN setting fields in this page will differ depending on what kind of connection type you select.

WAN Mode

Selecting Disabled, WL-530g is as an AP with 5 ports switch. Selecting Enabled, WL-530g is a Wireless Router with 4 ports switch. Selecting Auto, WL-530g becomes a Wireless Router with 4 ports switch when Ethernet cable is attached to WAN port and becomes an AP with 4 ports switch when Ethernet cable is not attached to WAN port.

WAN IP Setting

These three items are editable only when **WAN Connection Type** is set as **Static IP or PPTP**.

IP Address - This is IP address of the Wireless Router as seen on the remote network. If you leave it blank, the router will get IP address from DHCP Server automatically.

Subnet Mask - This is Subnet Mask of the Wireless Router as seen on the remote network.

Default Gateway - This is the IP address of default gateway that allows for contact between the Wireless Router and the remote network or host.

WAN DNS Settings

You can set the DNS setting with using any **WAN Connection Type** (Static IP, PPPoE, or Automatic IP).

IP Config (Cont.)

Get DNS Server automatically? - Normally this is automatic and you would answer "No" to the question about manually assigning DNS. If you are given instructions from your ISP to enter DNS addresses, select "Yes" to manually assigning DNS.

DNS Server 1/DNS Server 2 - If you are given instructions from your ISP to enter DNS addresses, select "Yes" to manually assigning DNS and enter the IP addresses here.

PPPoE or PPTP Account

These three items are editable only when **WAN Connection Type** is set as **PPPoE or PPTP**.

User Name - The name of your Internet account provided by your ISP. Some ISPs work with the entire account name along with the hosting domain (such as yourname@yourdomain.com) and others require that you enter only the account name (yourname).

Password - Enter the password for your Internet account.

Idle Disconnect Time in seconds (option) - Enter the number of seconds of inactivity to disconnect you from your ISP.

PPPoE MTU - This field is shows the Maximum Transmission Unit (MTU) of PPPoE packets.

PPPoE MRU - This field is shows the Maximum Receive Unit (MTU) of PPPoE packets.

Enable PPPoE Relay - Enable PPPoE relay allows stations in LAN to setup individual PPPoE connections that are passthrough NAT. It is also known as PPPoE multi-session.

Special Requirement from ISP

The following items may be specified by some ISPs. Check with your ISP and fill them in if required.

Host Name – Fill this in if required by your ISP.

MAC Address – Fill this in if required by you ISP.

Heart-Beat Server – Fill the server name or server IP address when you are connecting with BigPond.

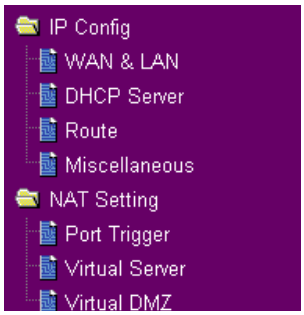
LAN IP Setting

IP Address - This is IP address of the Wireless Router as seen in your local network. The default value is 192.168.1.1.

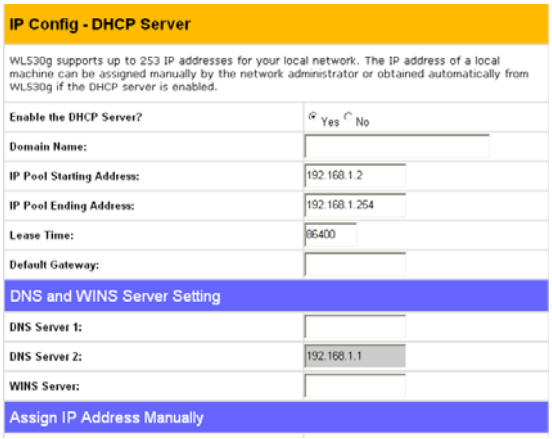
Subnet Mask - This is Subnet Mask of the Wireless Router as seen in your local network. The default value is 255.255.255.0.

IP Config (Cont.)

Click an item on the menu to reveal a submenu. Follow the instructions to set up the ASUS Pocket Wireless Router. Tips are displayed when you move your cursor over an item.



DHCP Server



DHCP (Dynamic Host Configuration Protocol) is a protocol defined for dynamically assigning IP addresses to computers in a network. Enabling the DHCP server allows the Wireless Router to assign IP address to PC or NB that is set to obtain an IP address automatically. The ASUS Pocket Wireless Router supports up to 254 IP addresses for your local network.

Enable the DHCP Server? – This field allows you to enable or disable DHCP server in the Wireless Router. The default value is “Yes”

Domain Name - This field indicates the Domain Name to provide to clients that request IP Address from DHCP Server.

IP Pool Starting Address - This field specifies the first address in the pool to be assigned by the DHCP server in your local network.

IP Pool Ending Address - This field specifies the last address in the pool to be assigned by the DHCP server in your local network.

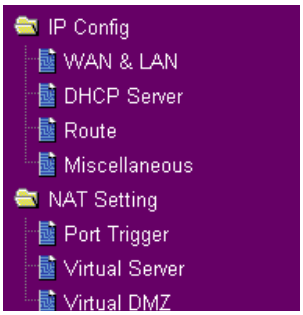
Lease Time - This field specifies the amount of connection time a network user be allowed with their current dynamic IP address.

DNS and WINS Server Setting

DNS Server 1/DNS Server 2 - This field indicates the IP address of DNS to provide to clients that request IP Address from DHCP Server. You can leave it blank, then the Wireless Router will process the DNS request.

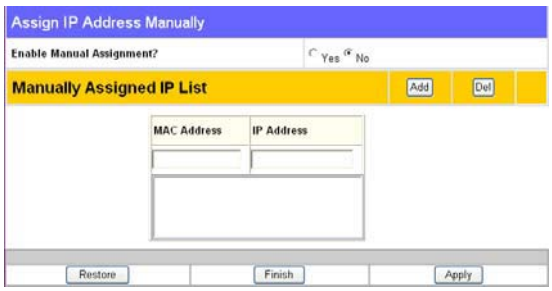
WINS Server - The Windows Internet Naming Service manages interaction of each PC with the Internet. If you use a WINS server, enter IP Address of server here.

IP Config (Cont.)



Click an item on the menu to reveal a submenu. Follow the instructions to set up the ASUS Pocket Wireless Router. Tips are displayed when you move your cursor over an item.

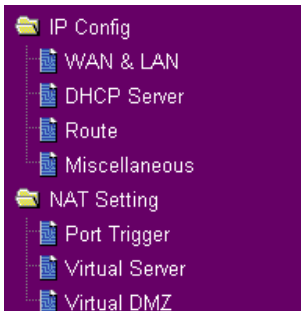
DHCP Server - Assign IP



Assign IP Address Manually

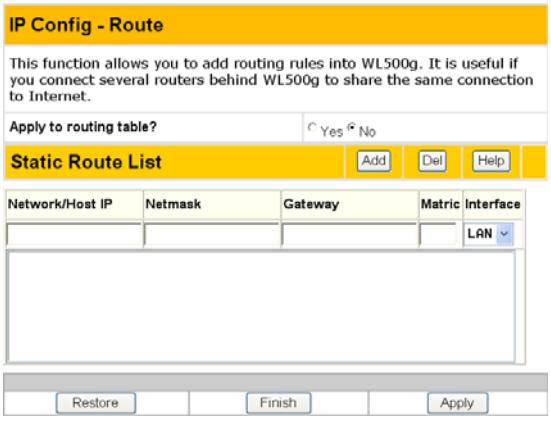
Enable Manual Assignment - Selecting "Yes" allows you to assign a static IP address to the PC that has the IP address and MAC address mapping set in the "Manually Assigned IP List".

IP Config (Cont.)



Click an item on the menu to reveal a submenu. Follow the instructions to set up the ASUS Pocket Wireless Router. Tips are displayed when you move your cursor over an item.

Static Route



A route is a possible path from a given host to another host or destination. If you append one or more routers behind the ASUS Pocket Wireless Router to share the came connection to Internet, you need to insert predefined rules of route, called static route, into the ASUS Pocket Wireless Router. Then the ASUS Pocket Wireless Router could know which router the packets from Internet with different destination IP address can deliver to.

Apply to routing table? – Selecting "Yes" applies all those rules in Static Route List into routing table.

Static Route List

Network/Host IP –It stands for the destination IP address of network or host. So it could be an IP address, such as 192.168.1.1 or a range of IP address, such as 192.168.0.0 or 192.0.0.0. If a packet with destination IP address that match to this field or within the range of this field, it will route to the device set in Gateway field.

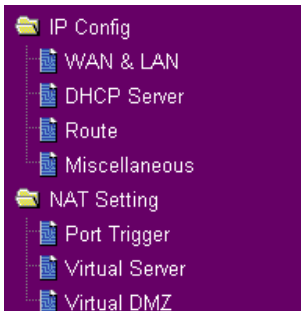
Netmask – It stands for the netmask of an added network route.

Gateway - This field stands for the IP address of gateway where packets are routed. The specified gateway must be reachable first. It means you have to set up a static route to the gateway beforehand.

Metric - Metric is a value of distance for the network and used to decide the priority of route rules.

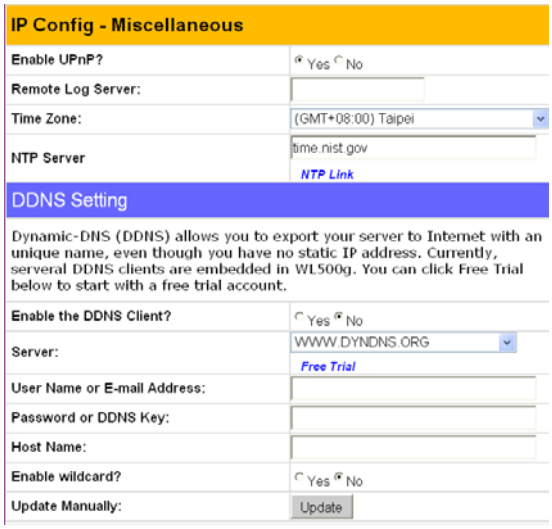
Interface - This field decide which network interface this routing rule is applied to.

IP Config (Cont.)



Click an item on the menu to reveal a submenu. Follow the instructions to set up the ASUS Pocket Wireless Router. Tips are displayed when you move your cursor over an item.

Miscellaneous



Enable UPnP – Selecting "Yes" to enable UPnP, it will allow your Wireless Router to be found automatically by systems, such as Windows XP. And it allows these systems to automatically configure the Wireless Router for various Internet applications, such as gaming and video conferencing.

Remote Log Server – This feature allows you to assign a remote server to record log messages of the Wireless Router. If you leave it blank, system will record up to 1024 messages on the Wireless Router only.

Time Zone – This field indicates time zone where you are locating in.

NTP Server – NTP Server is a time server on the Internet that allows the Wireless Router to synchronize its system time to. You can keep the default IP address or set to the IP address of an NTP server that you prefer.

DDNS Setting

Dynamic - DNS (DDNS) allows user to export host name to Internet through DDNS service provider. Each time the ASUS Pocket Wireless Router connect to Internet and get an IP address from ISP, this function will update your IP address to DDNS service provider automatically, so that any user on Internet can access the ASUS Wireless or servers behind it through a predefined name registered in DDNS service provider.

Enable the DDNS Client? – Selecting "Yes" to enable DDNS update, then each time your IP address to WAN is changed, the information will be updated to DDNS service provider automatically.

IP Config (Cont.)

Server – Currently, clients connect to DynDNS or TZO are embedded in the Wireless Router. You can click Free Trial link behind this field to start with a free trial account.

User Name or E-Mail Address – This field is used as an identity to log in Dynamic-DNS service.

Password or DDNS Key –This field is used as a password to log in Dynamic-DNS service.

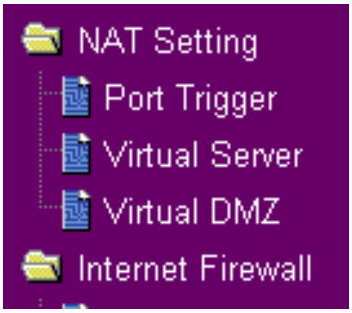
Host Name –This field represents the Host Name you register to Dynamic-DNS service and expect to export to the world.

Enable wildcard? – This field determines if domain name with wildcard is also redirected to your IP address.

Update Manually –This button allows you to update DDNS database manually. It is available only when automatic DDNS update failed. You can get current status of DDNS update from System Log.

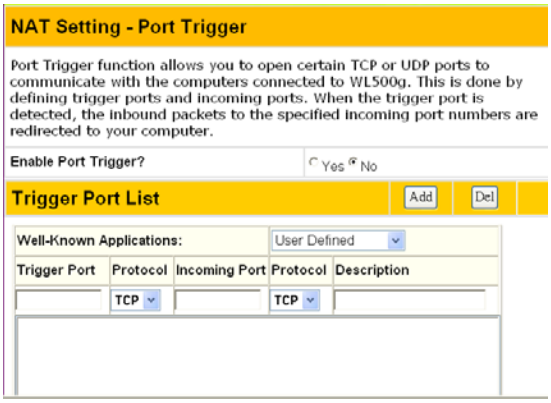
Note: Currently, clients connected to DynDNS or TZO are embedded in ASUS Pocket Wireless Router. You can click Free Trial link behind each DDNS service provider to start with a free trial account.

NAT Setting



Click this item on the menu to reveal a sub menu. Follow the instructions to setup the ASUS Pocket wireless router. Tips are given when you move your cursor over each item.

Port Trigger



This function allows you to open certain TCP or UDP ports to communicate with the computers connected to the WL-530g. This is done by defining trigger ports and incoming ports. When the trigger port is detected, the inbound packets to the specified incoming port numbers are redirected to your computer.

Enable Port Trigger? - Selecting "Yes" applies all the rules in the Port Trigger List to the Wireless Router.

Port Trigger List

Trigger Port - This field allows you to enter the port or port range of outing packets that will trigger port redirect.

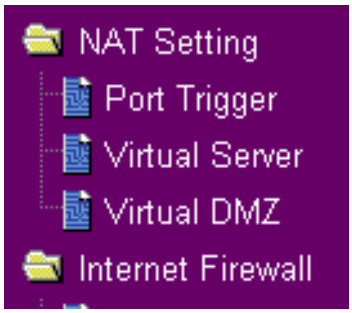
Protocol - This field allows you to select the protocol of outgoing packets.

Incoming Port - This field allows you to enter the port or port range of incoming packets that will be redirected to your computer.

Protocol - This field allows you to select the protocol of incoming packets.

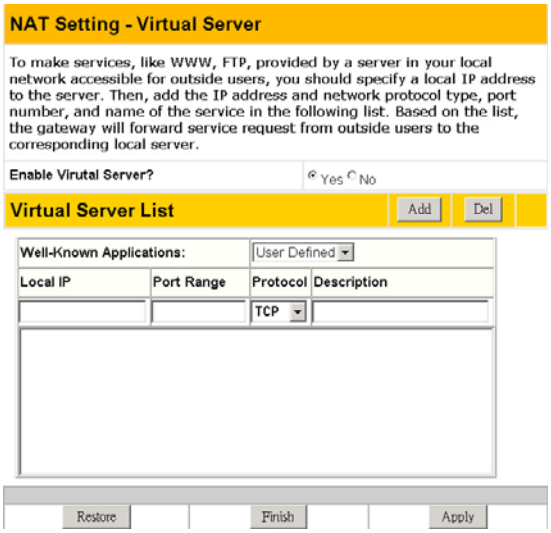
Description - This field keeps information on what the rule is used for.

NAT Setting (Cont.)



Click this item on the menu to reveal a sub menu. Follow the instructions to setup the ASUS Pocket wireless router. Tips are given when you move your cursor over each item.

Virtual Server



To make services, like WWW, FTP, provided by a server in your local network accessible for outside users, you should specify a local IP address to the server. Then, add the IP address and network protocol type, port number, and name of the service in the following list. Based on the list, the gateway will forward service request from outside users to the corresponding local server.

Enable Virtual Server?– Selecting "Yes" applies all those rules in Virtual Server List into the Wireless Router.

Virtual Server List

Local IP – This field stands for the destination IP address that you like to redirect the matched packet to.

Port Range– This field stands for a port number or a range of ports. Once the destination port of incoming packets matches the port or within the port range, the incoming packets will be redirect to IP address specified in **Local IP.**

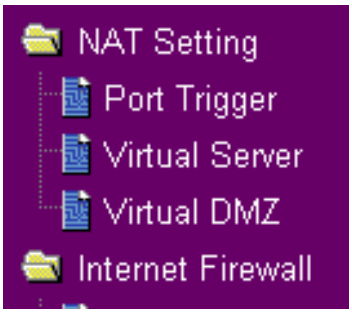
Protocol– This field stands for protocol of incoming packets.

Description –This field allows you to record what this rule is used for.

Virtual Server vs. DDNS

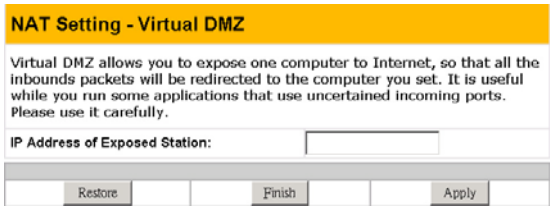
Cooperating with DDNS, your can expose your server to Internet with a unique name, even through dynamic WAN IP address is applied.

NAT Setting (Cont.)



Click an item on the menu to reveal a submenu. Follow the instructions to set up the ASUS Pocket Wireless Router. Tips are displayed when you move your cursor over an item.

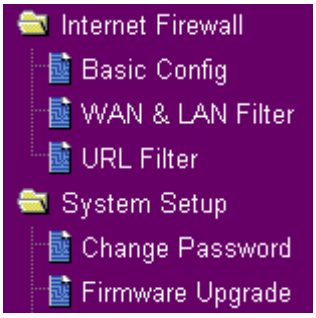
Virtual DMZ



Virtual DMZ allows you to expose one computer to Internet, so that all inbound packets will be redirected to the computer you set. It is useful while you run some applications that use uncertain incoming ports. Please use it carefully.

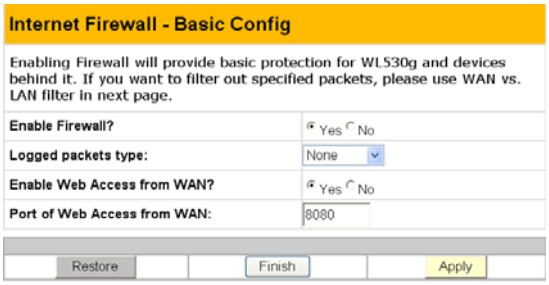
IP Address of Exposed Station – This field stands for the IP address of the computer that you want to expose to Internet.

Internet Firewall (Cont.)



Click an item on the menu to reveal a submenu. Follow the instructions to set up the ASUS Pocket Wireless Router. Tips are displayed when you move your cursor over an item.

Basic Config



Enable Firewall? – Selecting "Yes" enables firewall to apply general SPI rules. And the following options work only when firewall is enabled.

Logged Packet Type – This field indicates what kind of packets between WAN and LAN will be logged.

Enable Web Access from WAN – This field allows you to specify the port used to access Web server of the ASUS Pocket Wireless Router from Internet. The default value is 8080. If you know the WAN IP address of the Wireless Router, open your web browser and enter the IP address. For example:

http://140.113.201.1:8080

If you enable the DDNS with an account, please open your web browser and enter the host name registered in DDNS service provider. For example:

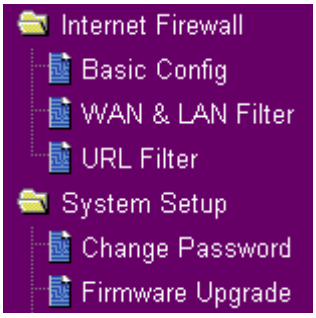
http://wl530g.homelinux.org:8080

Note: The default web browser port 80, is reserved for the Web server within your local network.

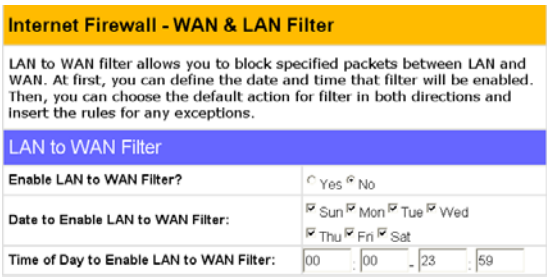
Port of Web Access from WAN - This field allows you to specify the port used to access the Web server of the ASUS Pocket Wireless Router from the Internet. The default value is 8080.

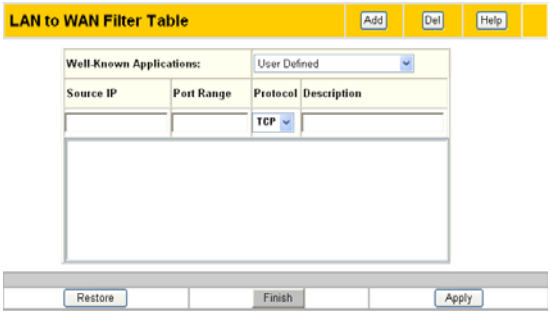
Internet Firewall

Click an item on the menu to reveal a submenu. Follow the instructions to set up the ASUS Pocket Wireless Router. Tips are displayed when you move your cursor over an item.



LAN & WAN Filter





LAN to WAN Filter

LAN & WAN filter allows you to block specified packets between LAN and WAN. At first, you can define the date and time that filter will be enabled. Then, you can choose the default action for filter in both directions and insert the rules for any exceptions.

Date to Enable LAN to WAN Filter – This field defines the dates that LAN to WAN filter will be enabled.

Time of Day to Enable LAN to WAN Filter – This field defines the time interval that LAN to WAN filter will be enabled.

Packets (LAN to WAN) not specified will be – This field defines those LAN to WAN packets which are not specified in LAN to WAN Filter Table will be accepted or dropped.

Filtered ICMP (LAN to WAN) packet types – This field defines a list of LAN to WAN ICMP packets type that will be filtered. For example, if you would like to filter Echo (type 8) and Echo Reply (type 0) ICMP packets, you need to enter a string with numbers separated by blank, such as, "0 5".

Internet Firewall (Cont.)

LAN to WAN Filter Table

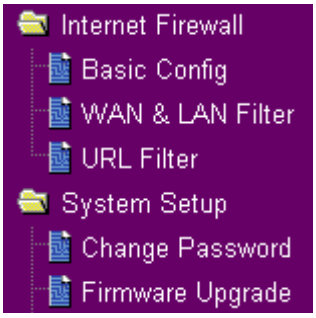
Source/Destination IP Address - For source or destination IP address, you can input a specific IP address, such as "192.168.122.1", or IP addresses within one subnet, such as "192.168.123.*", or "192.168.*.*", or all IP addresses as "*".

Source/Destination Port or Port Range - For source or destination port range, you can input a specific port, such as "95", or ports within a range, such as "103:315", ">100", or "<65535".

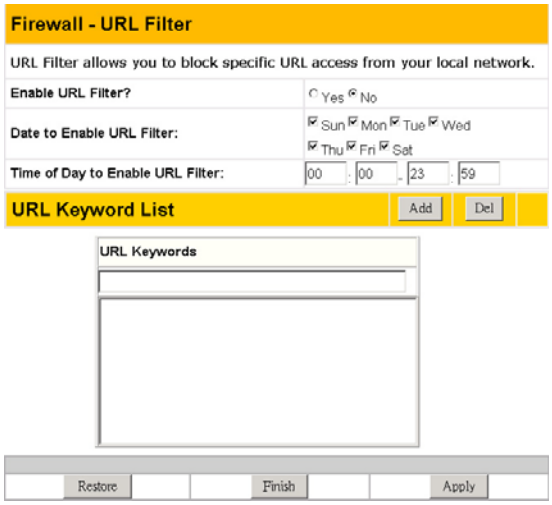
Protocol – This field indicates the protocol type of packets this rule like to filer.

Internet Firewall (Cont.)

Click an item on the menu to reveal a submenu. Follow the instructions to set up the ASUS Pocket Wireless Router. Tips are displayed when you move your cursor over an item.



URL Filter



URL Filter allows you to block specific URL access from your local network.

Enable URL Filter? – Selecting "Yes" enables URL Filter and applies rules in URL Keyword List into the Wireless Router.

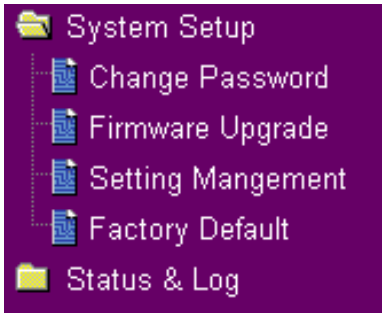
Date to Enable URL Filter– This field defines the dates that URL filter will be enabled..

Time of Day to Enable URL Filter This field defines the time interval that URL filter will be enabled.

URL Keyword List

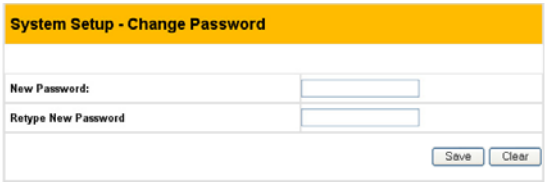
URL Keyword – If the URL filter is enabled and URL access contains the keyword specified in the URL Keyword List, the DNS mapping of this URL would be blocked.

System Setup



Click this item on the menu to reveal a sub menu. Follow the instructions to setup the ASUS Pocket Wireless Router. Tips are given when you move your cursor over each item.

Change Password

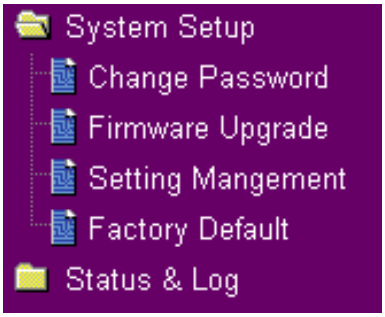


This page will allow you to change the default password "admin" (lower case) to any password of you choice. You can enter any usable characters between 1-16 characters long (cannot be left blank). Click **Save** button to save your new password. If you forget the ASUS Pocket Wireless Router's password, you can reset the ASUS Pocket Wieless Router to its factory settings (see troubleshooting).

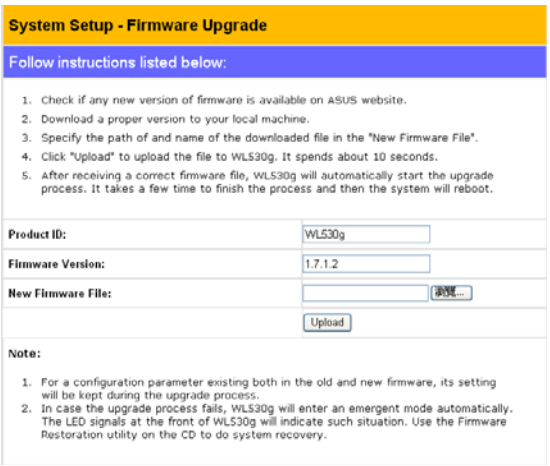
Note: The password is case sensitive.

System Setup (Cont.)

Click this item on the menu to reveal a sub menu. Follow the instructions to setup the ASUS Pocket Wireless Router. Tips are given when you move your cursor over each item.



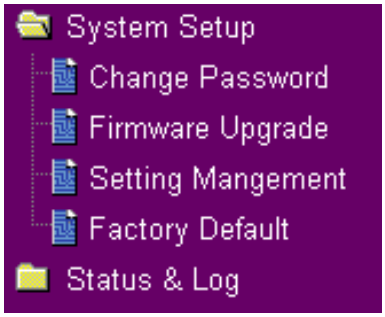
Firmware Upgrade



This page reports the Flash Code (Firmware) version installed in the ASUS Pocket Wireless Router. Periodically, a new Flash Code is available for the ASUS Pocket Wireless Routers on ASUS's Web site. You can update the ASUS Pocket Wireless Router's Flash Code using the Firmware Upgrade page under the Advanced Setup menu of the Web Manager. If you are experiencing a problem with your ASUS WLAN equipment, a Technical Support representative may ask you to give your device's Flash Code (Firmware) version.

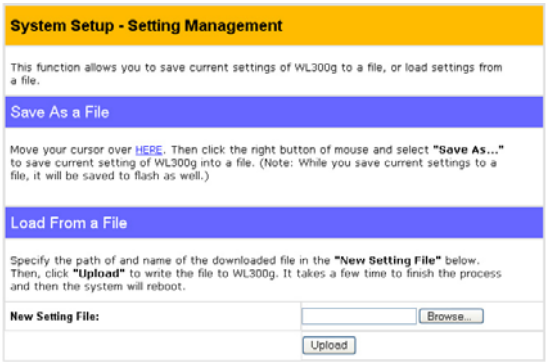
Note: The firmware upgrade takes approximately 60 to 90 seconds. When the firmware upgrade is completed, you will be directed to the home page.

System Setup



Click this item on the menu to reveal a sub menu. Follow the instructions to setup the ASUS Pocket Wireless Router. Tips are given when you move your cursor over each item.

Setting Management



This function allows you to save current settings to a file, or load settings from a file.

Save As a File

Move your cursor over the **HERE** link on the web page. Then click the right button of mouse and select **Save As...** to save current setting into a file.

Note: When current settings are saved to file, it will be saved to flash as well.

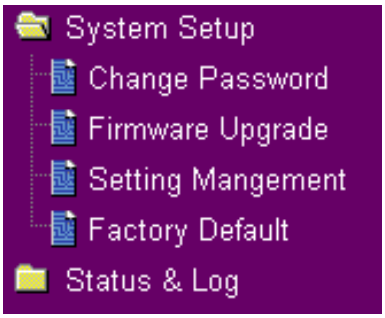
Load From a File

Specify the path of and name of the downloaded file in the **New Setting File** below. Then, click **Upload** to write the file to. It takes a few time to finish the process and then the system will reboot.

New Setting File

Click **Browse** to locate the file.

System Setup



Click this item on the menu to reveal a sub menu. Follow the instructions to setup the ASUS Pocket Wireless Router. Tips are given when you move your cursor over each item.

Factory Default

Restoring Factory Default Settings

Web Manager

You can reset all settings to their factory defaults through the web manager using the "Factory Default" page in "Advanced Setup". Click the **Restore** button and wait about 30 seconds before trying to access the ASUS Pocket Wireless Router.

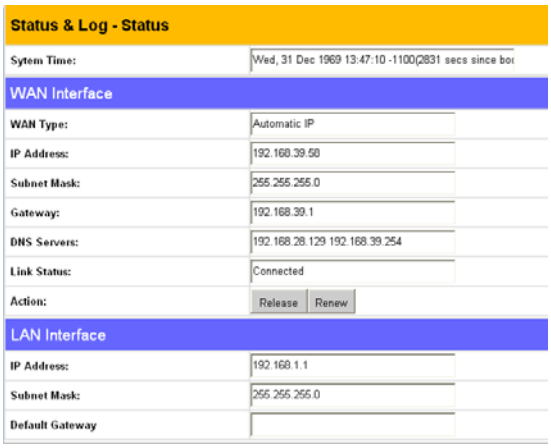
Hardware

You can reset all settings to their factory defaults manually by pushing the "Restore" button in a hole on the back of the ASUS Pocket Wireless Router while it is ON. Use a pen or straightened paper clip to hold the "Restore" button depressed over 5 seconds until the power LED on the front of the ASUS Pocket Wireless Router starts blinking.

Note: You will be notified when factory default settings are restored while using the web manager.

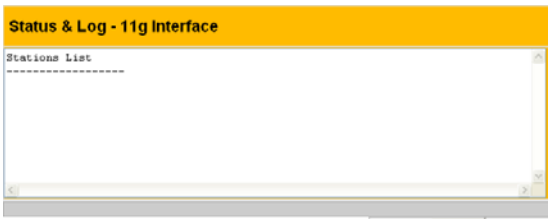
Status & Log

The Status & Log pages give you all the necessary information for monitoring the Wireless Router's condition.



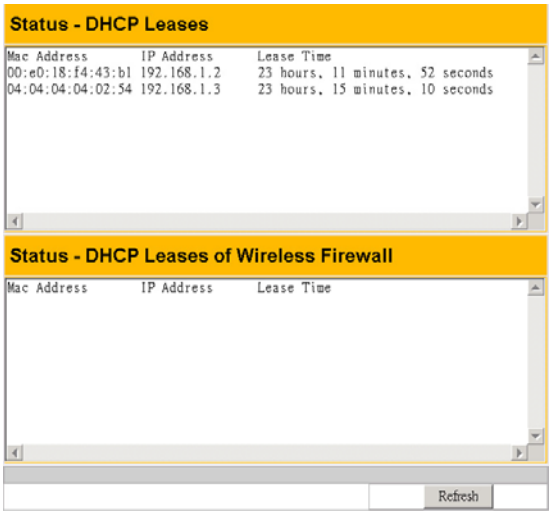
Status

System information for WAN, LAN, and Printer are displayed on this page. The buttons for WAN interface allow you to release or renew the IP address if your WAN Connection Type is set as Automatic IP. The button for Printer Server is used to remove printing jobs manually.



Wireless

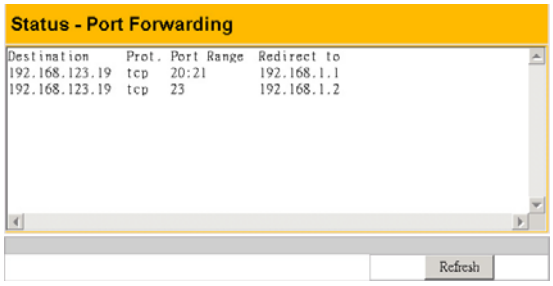
Wireless clients, who connect to the Wireless Router, are displayed on this page. You can use buttons for radio control to manually disable or enable the wireless function.



DHCP Leases

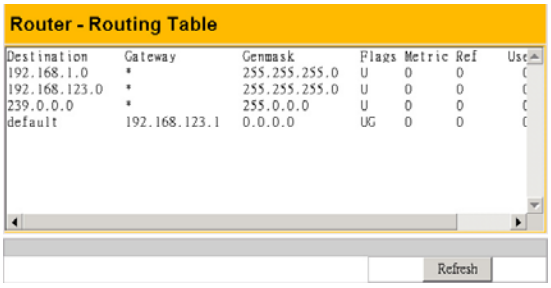
Clients who request IP from DHCP server of your local area network or DHCP server in you're your wireless network behind Wireless Firewall are displayed in this page.

Status & Log (Cont.)



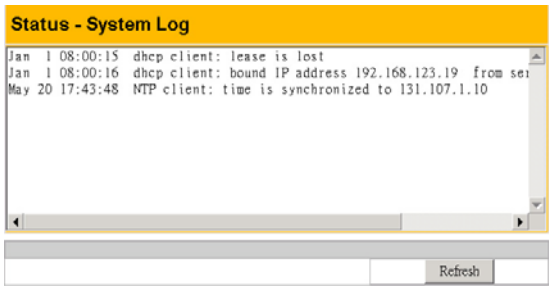
Port Forwarding

Information of port forwarding rules, which are added by Port Mapping, Virtual Server, Virtual DMZ or UPnP, are displayed in this page.



Routing Table

Static routing rules or dynamic routing rules updated by RIP are displayed in this page.



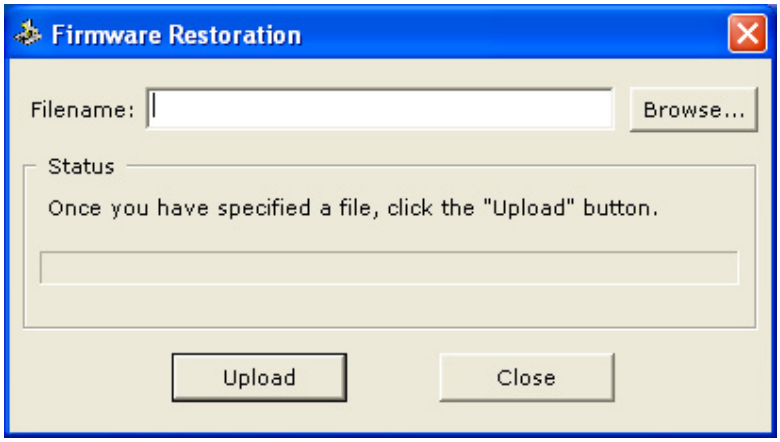
System Log

The last 1024 system log entries are recorded in this page.

Firmware Restoration

This utility will automatically search out failed ASUS Pocket Wireless Router and upload a firmware that you specify. The process takes about 3 to 4 minutes and during this process the PWR, AIR, and WAN LEDs will remain lit while the LAN LED will flash slowly.

The Firmware Restoration utility is an emergency rescue tool to restore a ASUS Pocket Wireless Router which has failed during a previous firmware upload. A failed firmware upgrade will cause the ASUS Pocket Wireless Router to enter a failure mode, waiting for the user to use the Firmware Restoration utility to find and upload a new firmware. This is not a firmware upgrade utility and cannot be used on a working ASUS Pocket Wireless Router. Normal firmware upgrades must be done through the web manager.



Using a Hub

If you have problems upload a firmware while using a network hub, try connecting your computer directly to the LAN port. Either 10Base-T or 100Base-TX connections will work.

4. Wireless Performance

This section provides the user with ideas for how to improve the performance of a ASUS Wireless network.

Site Topography

For optimal performance, locate wireless mobile clients and the ASUS Wireless Routers away from transformers, heavy-duty motors, fluorescent lights, microwave ovens, refrigerators, and other industrial equipment. Signal loss can occur when metal, concrete, walls or floors block transmission. Locate the ASUS Wireless Routers in open areas or add the ASUS Wireless Routers as needed to improve coverage.

Microwave ovens operate in the same frequency band as the ASUS Pocket Wireless Router. Therefore, if you use a microwave within range of the ASUS Pocket Wireless Router you may notice network performanc degradation. However, both your microwave and your the ASUS Pocket Wireless Router will continue to function.

Site Surveys

A site survey (utility provided with the WLAN PC card and CF card) analyzes the installation environment and provides users with recommendations for equipment and its placement. The optimum placement differs for each model.

Range

Every environment is unique with different obstacles, barriers, materials, etc. and, therefore, it is difficult to determine the exact range that will be achieved without testing. However, has developed some guidelines to estimate the range that users will see when the product is installed in their facility, but there are no hard and fast specifications.

Radio signals may reflect off of some obstacles or be absorbed by others depending on their construction. For example, with two 802.11b radios, you may achieve up to 1000' in open space outdoors where two devices have a line of sight, meaning they see each other with no obstacles. However, the same two units may only achieve up to 300' of range when used indoors.

The IEEE 802.11b specification supports four data rates: 11 Mbps, 5.5 Mbps, 2 Mbps, and 1 Mbps. Operation at 1 Mbps provides greater range than operation at 11 Mbps. The ASUS Wireless Router will automatically adjust the data rate to maintain a usable radio connection.

Therefore, a client that is close to the ASUS Pocket Wireless Router may operate at 11 Mbps while a client that is on the fringe of coverage may operate at 1 Mbps. As mentioned earlier, you can configure the data rates that the ASUS Pocket Wireless Router will use. Note that if you limit the range of data rates available to the ASUS Pocket Wireless Router, you may reduce the effective wireless range of the ASUS Wireless products.

Troubleshooting

The ASUS Pocket Wireless Router is designed to be very easy to install and operate. However, if you experience difficulties, use the information in this chapter to help diagnose and solve problems. If you cannot resolve a problem, contact Technical Support, as listed on the front of this manual.

Common Problems and Solutions

Problem

ASUS Pocket Wireless Router does not power up:

Solution

- Check for faulty the ASUS Pocket Wireless Router power supply by measuring the output voltage with an electrical test meter.
- Check failed AC supply (power outlet)

Problem

Cannot communicate with the ASUS Pocket Wireless Router through a wired network connection.

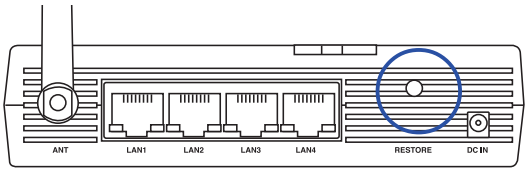
Solution

- Verify network configuration by ensuring that there are no duplicate IP addresses. Power down the device in question and ping the assigned IP address of the device. Ensure no other device responds to that address.
- Check that the cables used have proper pin outs and connectors or use another LAN cable.

Problem

The ASUS Pocket Wireless Router Web Manager still cannot find or connect to the ASUS Pocket Wireless Router after verifying the IP address and LAN cable, changes cannot be made, or password is lost.

Solution



In case the ASUS Pocket Wireless Router is inaccessible, you can restore the ASUS Pocket Wireless Router's factory default settings. Use a straightened paper clip to press the button located in the hole labeled "Reset" on the back of the ASUS Pocket Wireless Router and keep it depressed over 5 seconds. The LEDs will flash when reset is successful.

Reset to Defaults

The following are factory default values. These values will be present when you first receive your the ASUS Pocket Wireless Router, if you push the reset button on the back of the ASUS Pocket Wireless Router over 5 seconds, or if you click the "restore" button on the "Factory Default" page under "Advanced Setup".

Name	Default Value
User Name	admin
Password	admin
Enable DHCP	Yes
IP Address	192.168.1.1
Subnet Mask	255.255.255.0
DNS Server 1	192.168.1.1
DNS Server 2	(blank)
SSID	default
Domain Name	(blank)

Problem

My 802.11b PC Card will not associate with the ASUS Pocket Wireless Router.

Solution

Follow these steps:

1. Try to bring the devices closer together; the PC Card may be out of range of the ASUS Pocket Wireless Router.
2. Confirm that the ASUS Pocket Wireless Router and PC Card have the same SSID.
3. Confirm that the ASUS Pocket Wireless Router and PC Card have the same Encryption settings, if enabled.
4. Confirm that the ASUS Pocket Wireless Router's Air and Link LEDs are solid green.
5. Confirm that the authorization table includes or excludes the MAC address of the WLAN PC card if "Wireless Access Control" is enabled.

Problem

The throughput seems slow.

Solution

To achieve maximum throughput, verify that your antennas are well-placed, not behind metal, and do not have too many obstacles between them. If you move the client closer to the ASUS Pocket Wireless Router and throughput increases, you may want to consider adding a second the ASUS Pocket Wireless Router and implementing roaming.

- Check antenna, connectors and cabling.
- Verify network traffic does not exceed 37% of bandwidth.
- Check to see that the wired network does not exceed 10 broadcast messages per second.
- Verify wired network topology and configuration.

Problem

I cannot find the ASUS Wireless Routers using the ASUS Pocket Wireless Router Discovery.

Solution

To configure the ASUS Pocket Wireless Router through a wireless LAN card, your computer must be in the same subnet of the ASUS Pocket Wireless Router. You cannot find the ASUS Pocket Wireless Routers with subnet different from your computer within the same gateway. You must change your computer to the same subnet as the ASUS Pocket Wireless Router. The factory default subnet of the ASUS Pocket Wireless Router is "192.168.1.1".

Note: In Windows NT/2000/XP, you must log in with Administrator privileges so that all functions of the ASUS Pocket Wireless Router Manager can function correctly. If you do not log in as a member of the Administrator group, you cannot change IP settings but can still run the Discovery utility if the original IP setting is correct.

Problem

How do I upgrade the firmware on the ASUS Pocket Wireless Router?

Solution

Periodically, a new Flash Code is available for ASUS Wireless Routers on the Web site at **http://www.asus.com**. Update the ASUS Wireless Router's Flash Code using the Firmware Upgrade option on the System Setup menu of the Web manager.

Glossary

Access Point - An access point is a device that allows wireless clients to connect to other wireless clients and it acts as a bridge between wireless clients and a wired Ethernet network.

Broadband - A type of data transmission in which a single medium (such as cable) carries several channels of data at once.

Channel - Wireless access points allows you to choose different radio channels in the wireless spectrum. A wireless LAN device operates within the 2.4 GHz spectrum and a channel is within a FCC specified range, similar to any radio channel.

Client - A client is the desktop or mobile PC that is connected to your network.

Device name - Also known as DHCP client ID or network name. Sometimes provided by an ISP when using DHCP to assign addresses.

DHCP (Dynamic Host Configuration Protocol) - This protocol allows a computer (or many computers on your network) to be automatically assigned a single IP address from a DHCP server.

DNS Server Address (Domain Name System) - DNS allows Internet host computers to have a domain name and one or more IP addresses. A DNS server keeps a database of host computers and their respective domain names and IP addresses, so that when a user enters a domain name into the Internet browser, the user is sent to the proper IP address. The DNS server address used by the computers on your home network is the location of the DNS server your ISP has assigned.

DSL Modem (Digital Subscriber Line) - A DSL modem uses your existing phone lines to transmit data at high speeds.

Encryption - This provides wireless data transmissions with a level of security.

ESSID (Extended Service Set Identifier) - You must have the same ESSID entered into the gateway and each of its wireless clients. The ESSID is a unique identifier for your wireless network.

Ethernet - Ethernet networks are connected by cables and hubs, and move data around. This is a standard for computer networks.

Frame-bursting - Refers to burst mode. *Burst mode* optionally allows a station to transmit a series of frames without relinquishing control of the transmission medium.

Firewall - A firewall determines which information passes in and out of a network. NAT can create a natural firewall by hiding a local network's IP addresses from the Internet. A Firewall prevents anyone outside of your network from accessing your computer and possibly damaging or viewing your files.

Gateway - A network point that manages all the data traffic of your network, as well as to the Internet and connects one network to another.

Handshaking - handshaking refers to the signals that are transmitted between communications networks that establish a valid connection between two stations.

IEEE - The Institute of Electrical and Electronics Engineers. The IEEE sets standards for networking, including Ethernet LANs. IEEE standards ensure interoperability between systems of the same type.

IP Address (Internet Protocol) - An IP address consists of a series of four numbers separated by periods, that identifies a unique Internet computer host, allowing messages intended for that computer to be delivered to the correct destination.

ISP (Internet Service Provider) - An ISP is a business that allows individuals or businesses to connect to the Internet. Users log on to the Internet using an account with an ISP or Internet Service Provider. ISPs can serve IP addresses dynamically, or assign static (fixed) IP addresses to individual computers.

ISP Gateway Address - The ISP Gateway Address is an IP address for the Internet router. This address is only required when using a cable or DSL modem.

LAN (Local Area Network) - A LAN is a group of computers and devices connected together in a relatively small area (such as a house or an office). Your home network is considered a LAN.

MAC Address (Media Access Control) - A MAC address is the hardware address of a device connected to a network.

NAT (Network Address Translation) - NAT masks a local network's group of IP addresses from the external network, allowing a local network of computers to share a single ISP account. This process allows all of the computers on your home network to use one IP address. This will enable access to the Internet from any computer on your home network without having to purchase more IP addresses from your ISP.

PC Card - This is an Ethernet card that connects to the PCMCIA slot on your Notebook PC. This enables the computer to communicate with wireless access points.

PPP (Point-to-Point Protocol) - PPP is a protocol for communication between computers using a serial interface, typically a personal computer connected by phone line to a server.

PPPoE (Point-to-Point Protocol over Ethernet) - Point-to-Point Protocol is a method of secure data transmission. PPP using Ethernet to connect to an ISP.

Subnet Mask - A subnet mask is a set of four numbers configured like an IP address. It is used to create IP address numbers used only within a particular network.

TCP/IP (Transmission Control Protocol/Internet Protocol) - This is the standard protocol for data transmission over the Internet. Protocols used to connect hosts on the Internet.

WAN (Wide Area Network) - A system of LANs, connected together. A network that connects computers located in separate areas, (i.e., different buildings, cities, countries). The Internet is a wide area network.

WECA (Wireless Ethernet Compatibility Alliance) - An industry group that certifies cross-vender interoperability and compatibility of IEEE 802.11b wireless networking products and to promote that standard for enterprise, small business, and home environments.

WLAN (Wireless Local Area Network) - This is a group of computers and other devices connected wirelessly in a small area. A wireless network is referred to as LAN or WLAN.

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- The rp-pppoe PPPoE client implementation
- The pppd PPP daemon implementtion
- The dproxy DNS proxy implementation
- The bridge-utils package

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