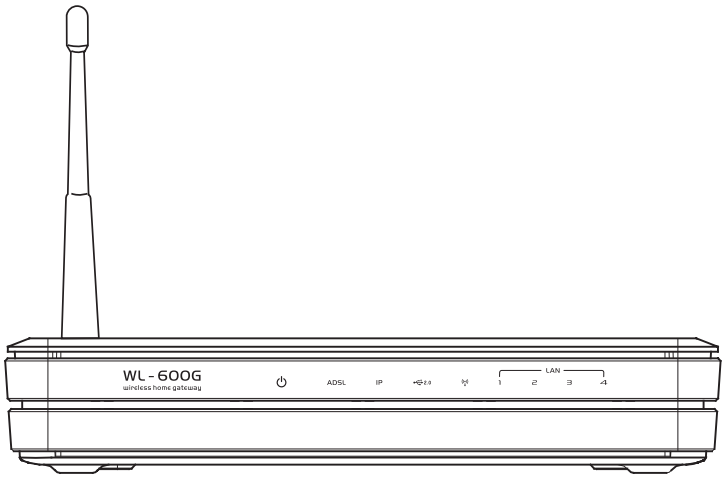
All-in-1 Wireless ADSL2/2+ Home Gateway

WL-600g



User Manual

E2458 / June 2006

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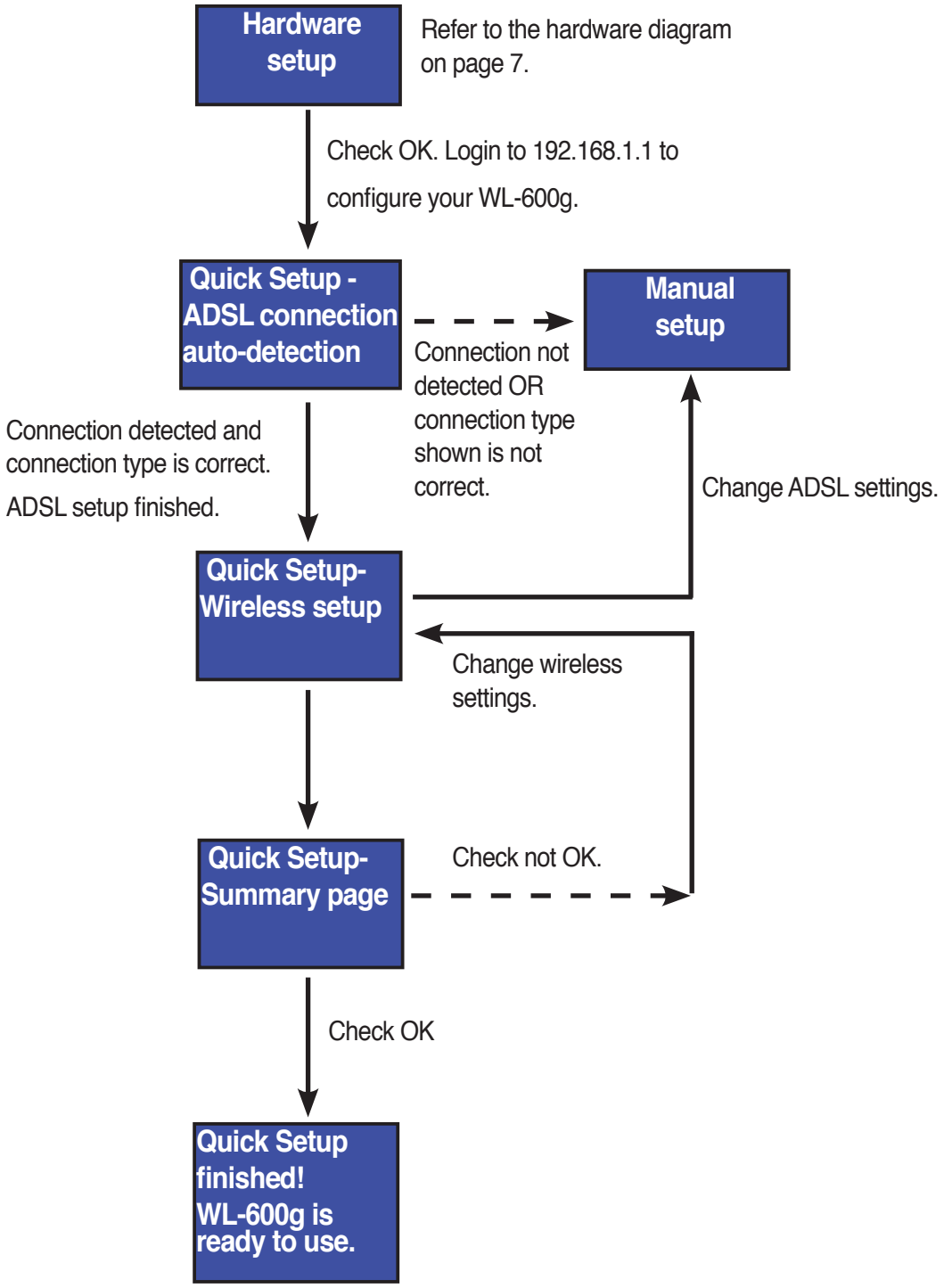
Package contents

- WL-600g Wireless ADSL2/2+ Home Gateway
- AC power adapter (type varies by region)
- Category 5 (Cat. 5) Ethernet cable
- Telephone cable
- Splitter (type varies by region)
- Support CD (with electronic user manual included)
- Quick Start Guide

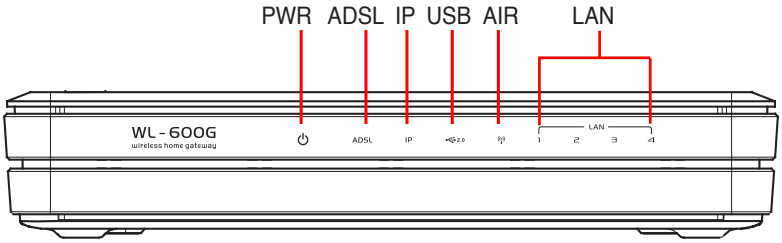
Setup Process Overview



Hardware overview

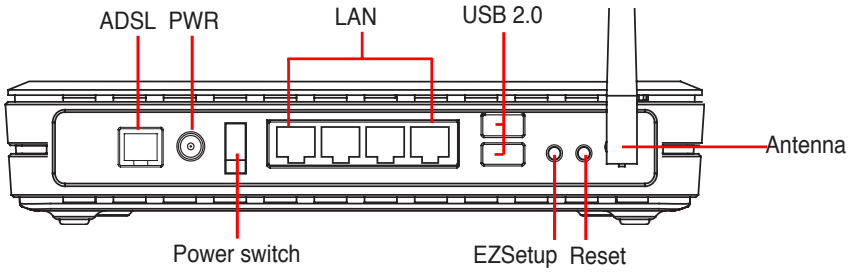
Front panel

The WL-600g Wireless ADSL2/2+ Home Gateway front panel contains LED indicators which shows the status of WL-600g.



Label	Activity	Description
PWR (Power)	ON	Power ON
	OFF	No power
	Blink	Restoring to factory default
ADSL	ON (Green)	ADSL link up
	Blink (Green)	ADSL training
	ON (Red)	ADSL link down
	OFF	ADSL is down
IP	ON (Green)	ADSL is up and the link is PPP
	ON (Red)	ADSL is up, but the link is not PPP
	OFF	ADSL is down
USB 2.0	ON	USB device detected
	OFF	No USB device detected
AIR	ON	Wireless LAN ready
	Blink	Transmiting or receiving data through wireless
	OFF	No power or wireless LAN not ready
LAN 1-4	ON	Physically connected to an Ethernet device
	Blink	Transmitting or receiving data through Ethernet cable
	OFF	No power or no physical connection

Rear panel



Viewed from left to right, the rear panel of WL-600g contains the following elements:

- ADSL port
- Power connector
- Power switch
- Four Local Area Network (LAN) ports
- USB 2.0 ports
- EZSetup button
- Reset button
- SMA antenna connector

Product features

The WL-600g Wireless ADSL 2/ 2+ Home Gateway provides the following features:

- Built-in ADSL modem
- Built-in firewall
- IEEE802.11g standard-based wireless network, backward compatible with 802.11b devices
- Easy-to-use Web-based configuration interface: Quick Setup for ADSL connection, wireless, and security configuration
- Extensive routing protocol support: RIP v1, v2
- Content-based filter
- EZSetup™ utility for ADSL connection, wireless network and security quick setup

Hardware connections

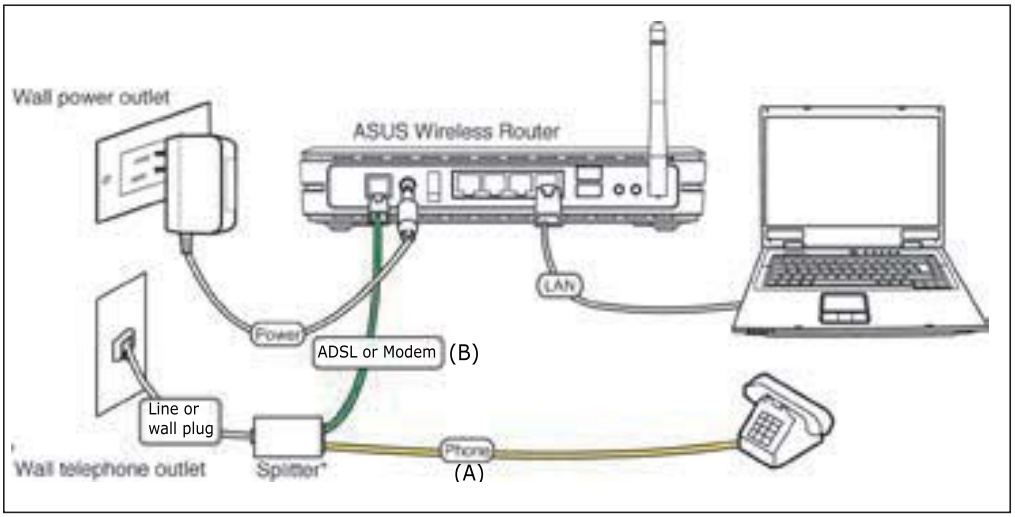
ADSL connection

Use the ADSL splitter supplied in the package to split ADSL signal and telephone service. First connect the splitter to the wall telephone outlet either by just plugging your splitter onto the outlet or by inserting the line connector into the outlet. Then connect your ASUS WL-600g to the ADSL or mode port of the splitter with the telephone cable supplied in the package. Use another telephone cable to connect your telephone to the phone port of the ADSL splitter.

The format of the connector on the supplied splitter (line or plug) may differ by region.

Ethernet connection

Use Category 5 (CAT5) Ethernet cable to build up your wired LAN connections. The ASUS WL-600g Wireless ADSL2/ 2+ Home Gateway is a Fast Ethernet device that provides 100Mbps network connection. To ensure the connection quality, use CAT5 Ethernet cable to connect your network devices, such as desktop computers and network printers.



Splitter *: The name or the location of the ports on the supplied splitter may vary by region.

Wireless connection

To access Internet via wireless connection, you need to install an IEEE802.11b/g wireless adapter on your computer, such as ASUS WL-167g, WL-100gE, WL-100gD, WL-169gE, and WL-106gM.

Connecting to the Internet

Before you start

Before you start, you need to:

- make sure the cable connections are correct and WL-600g is powered ON;
- acquire an active Internet service, such as an ADSL account.

We recommend using wired connection for initial configuration, which may help avoid possible setup problems due to wireless uncertainty. Use a CAT5 cable to connect an Ethernet-enabled computer to a LAN port of WL-600g.

Preparing your WAN

Depending on your ISP's requirements, you may need to acquire some of the information listed below to set up Internet connection on WL-600g.

- Vitual Path Identifier (VPI)
- Virtual Channel Identifier (VCI)
- Host name
- Domain name
- ISP login user name and password
- ISP Domain Name System (DNS) server address
- Static IP address (For static IP users)

Preparing your LAN

To use the WL-600g Wireless ADSL2/2+ Home Gateway on your network, you need to install a network interface card (NIC) or an IEEE802.11b/g wireless network card to your computer.

LAN configuration requirement

For initial configuration, we recommend you to connect a computer to one of the LAN port of WL-600g and configure the TCP/IP settings of your computer. The default IP settings of WL-600g are:

IP address: 192.168.1.1

Subnet mask: 255.255.255.0

DHCP server: enabled

To access WL-600g, you must set your computer in the same subnet with the ADSL router. You can make the computer accept a dynamic IP address assigned by the DHCP server of WL-600g, or manually set up IP address for your computer.

Getting dynamic IP address

Open **Control Panel** -> **Local Area Network Connection**, double-click **Local Connection** icon, then double-click **Internet Protocol (TCP/IP).** Select **Obtain an IP address automatically** and **Obtain DNS server address automatically**, then click **OK.**

Assigning IP address manually

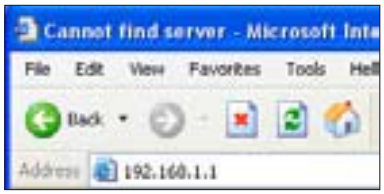
Open **Control Panel** -> **Local Area Network Connection**, double-click **Local Connection** icon, then double-click **Internet Protocol (TCP/IP)**. Follow the descriptions below to setup the TCP/IP on your computer.

- IP address: 192.168.1.xxx (xxx can be any number between 2 and 254, make sure the IP address is not used by other device)
- Subnet Mask: 255.255.255.0
- Gateway: 192.168.1.1
- DNS: 192.168.1.1

Login to the Web configuration interface

To change the ADSL and wireless settings, you need to login to the Web configuration interface.

1. Type 192.168.1.1 (default IP address of WL-600g) into the address box of the Web browser and press **Enter**.



2. A login window appears. The default username is **admin,** password is **admin** (in lower case).

3. When logged in, you can see the home page of WL-600g Web configuration interface. To setup the router, refer to Quick Setup in the next section. To setup the advanced functions, refer to the following chapters for detailed information.

Quick setup

Login to the WL-600g configuration page

1. Input **192.168.1.1** into the address box of your Web browser and press **Enter**.
2. A login window appears for user name and password. The default username is **admin**, password is **admin** (in lower case).
3. After logging in, you can see the WL-600g configuration page.

ADSL setup

With Quick setup, you need to set up the ADSL link first then the wireless setup.

1. By default, the **Quick Setup** page pops up. The Quick Setup Wizard automatically detects your ADSL connection type.

2. If ADSL connection is detected, the next page shows your ISP connection type (PPPoE, PPPoA or MER).

If your ADSL connection is not detected, click **Manual Setting** to manually set up WL-600g. Refer to Page 11-13 for manual setting instructions.

-- If it shows your connection type is PPPoE or PPPoA

For **dynamic IP** users, input your user name and password then click **Next**.

For **static IP** users, check **Use Static IP Address**, input your IP address, then click **Next**.

Click **Next** to save the ADSL information to WL-600g.

If your actual connection is not PPPoE or PPPoA, click **Manual Setting** to manually set up WL-600g. Refer to Page 11-13 for manual setting instructions.

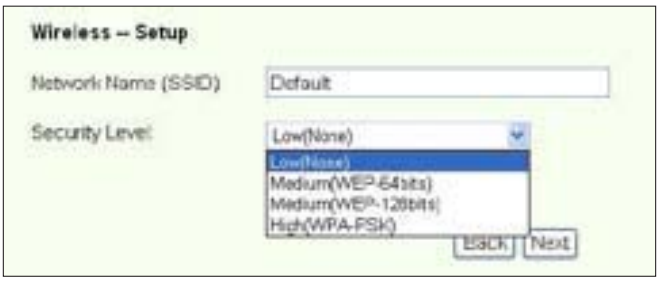
-- If it shows your connection type is MER (DHCP)

Click **Next** if your connection type is MER (DHCP).

If your actual connection is not MER(DHCP), click **Manual Setting** to manually set up WL-600g. Refer to Page 11-13 for manual setting instructions.

Wireless setup

1. Choose a **Security Level**. For detailed security information, refer to Page 21-22.



2. Input a key in the **Key** field. The number of digit for the key depends on the security level you choose.

3. The summary page then shows up. If the information displayed is correct, click **Save/Reboot** to finish the setup. Otherwise, click **Back** to modify the settings.

4. Setup complete! Wait for about 60 seconds to reboot. The Web page will refresh to show device information after reboot.

Manual Setup

If you encounter any difficulty configuring your ADSL connection with Quick Setup, click **Manual Setting** to manually set up your WL-600g.

ADSL Setup

1. Select your **Country** and **ISP** and click **Next**.

2. If your country and ISP are not on the list, select **Not list**, key in your VPI and VCI values and click **Next**. You may ask your ISP for VPI/VCI values.

3. Select your connection type and click **Next**. You can get the connection type from your ISP.

-- If your connection type is PPPoA or PPPoE

For **dynamic IP** users, input your PPP user name, password, and service name then click **Next**.

For **static IP** users, check **Use Static IP Address** then key in your IP address, then click **Next**.

-- If your connection type is MER

For **dynamic IP** users, check **Obtain an IP address automatically**, **Obtain default gateway automatically**, and **Obtain DNS server address automatically**, then click **Next**.

For **static IP** users, check **Use the following IP Address**, **Use the following default gateway**, and **Use the following DNS server address**, then input the addresses in correspondent fields.

-- If your connection type is IPoA

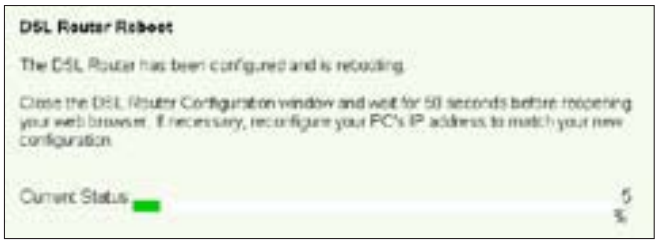
Static IP user only. Input the WAN IP address assigned by your ISP, then click **Next**.

Wireless Setup

1. Designate an SSID (network name) for WL-600g. Choose the security level then input a key. The number of digit of your key depends on the security level you choose. Refer to the note on the web page. When finished, click **Next**.

2. This page provides a summary of WL-600g WAN and wirelss configuration. Click **Save/Reboot** to save and activate your configuration.

3. Setup complete! WL-600g reboots in about 50 seconds. The green bar shows the current rebooting status. After reboot, the web page will automatically refresh to display the settings.



EZSetup

ASUS WL-600g Wireless ADSL2/2+ Home Gateway provides an easy-to-use setup utility -- EZSetup. With this utility, you can wirelessly setup your Internet connection, wireless LAN with just several clicks.

Installing ASUS utility

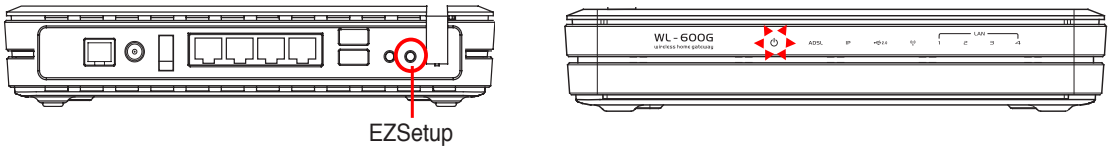
To use ASUS EZSetup for WL-600g configuration, you must install the ASUS utilities from the support CD included in your package. Insert the CD into your optical drive and autorun the installation program. If autorun is disabled on your computer, double-click **SETUP.EXE** in the root directory of the CD.

Setup WL-600g using EZSetup

1. Before using this utility, make sure that your hardware connections are all set. Click **Start -> Program -> ASUS Utility -> WL-600g Wireless Router -> EZSetup Wizard** to start EZSetup. Click **Next**.

2. Click **EZSetup**.

3. Push the red EZSetup button on the rear panel of WL-600g for over 3 seconds until the PWR LED is blinking.



4. Click **EZSetup** button.

5. The system generates the SSID and Network key automatically. The network key is a 128-bit WEP key by default. You can accept the settings, or assign SSID and keys to your own need. Click **Next** to save the wireless settings.

6. Next, EZSetup will guide you to complete the Internet connection settings. Check **Configure ISP settings** then click **Next** to continue.

7. The system detects your Internet connection type. The progress may take several seconds.

If your ADSL connection is successfully detected by WL-600g, skip to Step 8. If your ADSL connection can not be detected, you need follow Step 8 and manually set up your ADSL connection.

8. Select your country and ISP then click **Next**.

If your country or ISP are not on the list, select **Not listed** for both country and ISP fields. Then select **Connection type** and fill in VPI and VCI. You can get VPI/VCI values from your ISP.

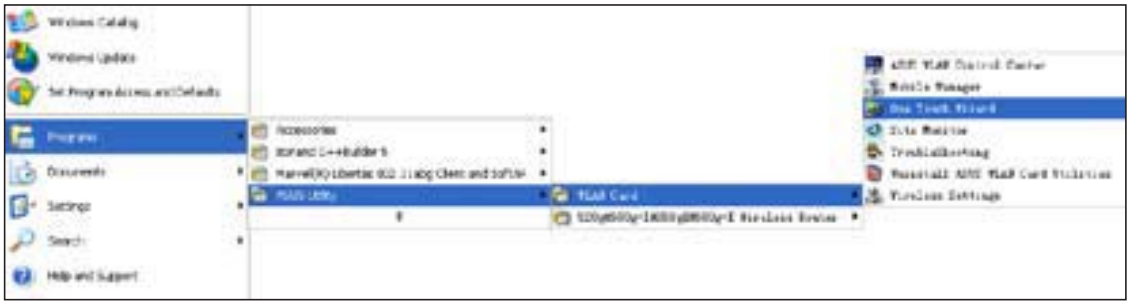
9. Input your ISP account username and password then click **Next**.

10. Setup complete! This page shows the wireless network setting parameters. You can either save it or print it out for future reference. Click **Finish** to quit EZSetup.

Connecting WL-600g with ASUS WLAN Card

Configuring ASUS WLAN Card with One Touch Wizard™

We recommend you use ASUS WLAN card (WL-100gD, WL-100gE, Wl-107g, WL-167g, WL-169gE) for better wireless connection. If you have installed ASUS wireless card together with its utilities and drives on your PC, click **Start -> All Programs -> ASUS Utility-> WLAN Card -> One Touch Wizard** to launch the One Touch Wizard utility.



1. Select **Connect to an existing wireless LAN (Station)** radio button and click **Next to continue**.

2. One Touch Wizard searches and displays the available APs in the **Available Networks** list. Select WL-600g and press **Next** to continue.

3. Set the authentication and encryption of your WLAN card the same with those at WL-600g. Click **Next** to continue.

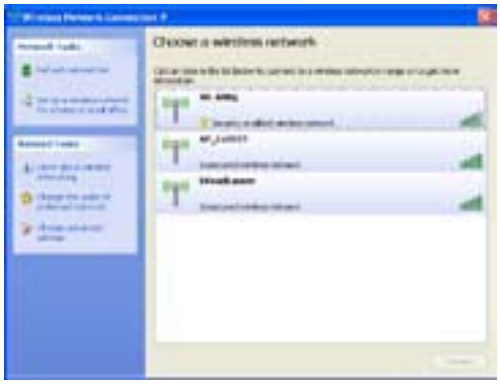
4. It takes several seconds for the wireless card to associate with WL-600g. Press **Next** to setup TCP/IP.

5. Setup the IP address of the WLAN Card according to your network condition. After the setup is completed, click **Finish** to exit the **One Touch Wizard**.

Configuring WLAN card with Windows® WZC service

You can also use Windows® Wireless Zero Configuration service to set up the wireless connection with WL-600g.

1. Double-click the wireless network icon on the task bar to view available networks. Select your wireless router and click **Connect**.



2. Input the key you have set on the WL-600g and click **Connect**. The connection is completed within several seconds.

Wireless settings

This chapter describes how to configure the wireless features of your ASUS WL-600g ADSL Wireless Router.

Setting up SSID

SSID stands for Service Set Identifier, also known as the name of a wireless network. To connect a wireless router, or to form a wireless bridge system, all wireless routers or APs or clients must have the same SSID.To setup SSID:

1. Click **Wireless -> Basic** in the left side menu to open the configuration page.

2. Select **Enable Wireless** checkbox.
3. You can hide WL-600g from wireless scanning by selecting **Hide Access Point**, but wireless clients still can connect to WL-600g by specifying correct SSID.
4. Define the SSID for WL-600g. The default SSID is **Default**.
5. Press **Save/Apply** to save and activate the settings.

Setting up wireless security

To protect your wireless network, you need to setup a security mechanism at both WL-600g and the wireless clients.

Network authentication

Network authentication uses certain types of mechanism to identify authenticated wireless clients. WL-600g supports the following authentication methods:

Open: This option disables authentication protection for your wireless network. Under the Open mode, any IEEE802.11b/g wireless client can connect to your wireless network.

Shared: Shared means using the same WEP keys for authentication and encryption.

802.1X: 802.1X uses RADIUS (Remote Access Dial-Up User Service) server to authenticate wireless clients with a username and password. It can authenticate user with different levels of access right.

WPA: WPA stands for WiFi-Protected Access. WPA provides two security modes for Home/SOHO user and enterprise network. The former solution adopts Pre-Shared Key for authentication, and the latter uses the existing 802.1X RADIUS server in the enterprise network to process the authentication requests.

WPA - PSK: WPA-PSK (Pre-Shared Key) is the solution for home and SOHO users who have no 802.11X authentication server within the LAN. To setup WPA-PSK, you need to input a passphrase and let the system generate the key. Combination of letters, numbers and non-alphanumeric characters is recommended for ensuring security.

Encryption

Encryption is used to convert plain text data into unreadable codes with certain type of algorithm before capsulation for wireless transmission. WL-600g supports the following encryption methods:

WEP: WEP stands for Wired Equivalent Privacy. It uses 64 or 128-bit static keys. You can let the system generate the WEP keys by inputting a Passphrase.

TKIP: Temporal Key Integrity Protocol (TKIP) dynamically generates unique keys to encypt every data packet in a wireless session.

AES: Advanced Encryption Standard (AES) is a dependable encryption adopted in WPA2 or IEEE802.11i standard. It offers stronger protection and greatly increases the complexity of wireless encryption.

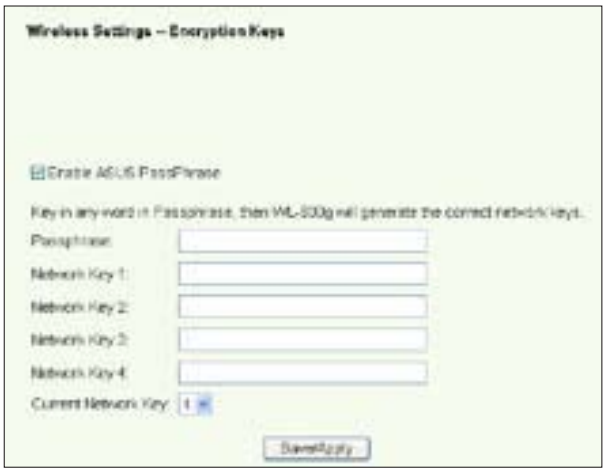
TKIP + AES: For a network where WPA clients (using TKIP encryption) and WPA2 clients (using AES encryption) co-exist. Select this option to enable both.

How to setup wireless security

Open

1. Click **Wireless -> Security** in the left side menu to open the configuration page.
2. Select **Open** in the **Network Authentication** field to disable authentication mechanism.

3. Select **Enable** in the **WEP Encryption** field to use WEP keys for data encryptions. Select 64-bit or 128-bit **Encryption Strength** for key length then click **Set Encryption Keys** button to setup the keys. If you do not want to encrypt data, select **Disable** in **WEP Encryption** and skip to Step 5.
4. After you click the **Set Encryption Keys** button, you are directed to another page to setup the keys. You can select **Enable ASUS Passphrase** and input a passphrase in the first box below, the system automatically generates four network keys for you. You can also disable ASUS Passphrase and input four keys manually. Record the passphrase (if any) and keys in your note.



5. Press **Save/Apply** to save and activate the settings.

Shared

1. Click **Wireless -> Security** in the left side menu to open the configuration page.
2. Select **Shared** in the **Network Authentication** field to use WEP authentication.

3. The WEP Encryption is fixed to **Enabled** because Shared mode use the same WEP keys for both encryption and authentication.
4. Select 64-bit or 128-bit **Encryption Strength** for key length then click **Set Encryption Keys** button to setup the keys. Refer to **Open** mode Step 4 for key configuration.
5. Press **Save/Apply** to save and activate the settings.

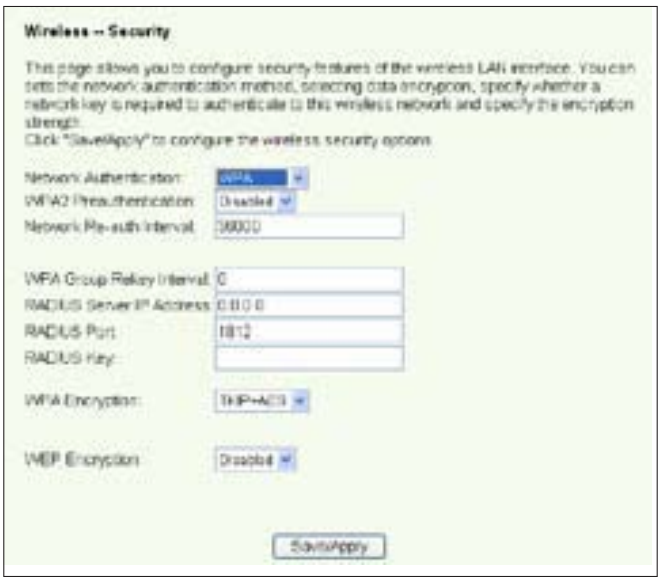
802.1X

1. Click **Wireless -> Security** in the left side menu to open the configuration page.
2. Select **802.1X** in the **Network Authentication** field to enable authentication using RADIUS server in your network.

3. Input the **RADIUS Server IP address**, **RADIUS port** (the default value is 1812), and **RADIUS Key.**
4. You can choose to enable or disable data encryption. If you want to encrypt data, select **Enable** in the **WEP Encryption field**, select 64-bit or 128-bit **Encryption Strength** for key length. Click **Set Encryption Keys** button to setup the keys.
5. Refer to **Open** mode Step 4 for key configuration.
6. Press **Save/Apply** to save and activate the settings.

WPA

1. Click **Wireless -> Security** in the left side menu to open the configuration page.
2. Select **WPA** in the **Network Authentication** field to enable RADIUS server authentication and advanced encryption methods.



3. Set the **WPA2 Preauthentication** to **Enabled** if you want to use this function.
4. The **Network Re-auth Interval** is 36000 seconds by default, you can setup this value according to your network environment.
5. Set up RADIUS server inforamtion by inputting WPA Group Rekey Interval, RADIUS server IP address, RADIUS port and RADIUS Key.
6. Set up WPA encryption methods. If there are only WPA2 clients within your network, select AES, if WPA clients only, select TKIP; if both exist, select TKIP+AES.
7. You can also enable WEP client to access your wireless network. To enable WEP clients, set **WEP Encryption** to **Enabled**. Select 64-bit or 128-bit **Encryption Strength** for key length then click **Set Encryption Keys** button to setup the keys. Refer to **Open** mode Step 4 for key configuration.
8. Press **Save/Apply** to save and activate the settings.

WPA-PSK

1. Click **Wireless -> Security** in the left side menu to open the configuration page.
2. Select **WPA-PSK** in the **Network Authentication** field.

3. Input the WPA Pre-Shared Key. The key is masked by the system. To check the key, press **Save/Apply** and wait until the page refreshes. Then click **Click here to display** link, you can see the key displayed in a separate window.
4. Setup the WPA Group Rekey Interval.
5. Set up WPA encryption methods. If there are only WPA2 clients within your network, select AES, if WPA clients only, select TKIP; if both exist, select TKIP+AES.
6. You can also enable WEP client to access your wireless network. To enable WEP clients, set **WEP Encryption** to **Enabled**. Select 64-bit or 128-bit **Encryption Strength** for key length then click **Set Encryption Keys** button to setup the keys. Refer to **Open** mode Step 4 for key configuration.
7. Press **Save/Apply** to save and activate the settings.

MAC filter

You can setup MAC filters to allow or deny wireless clients with known MAC addresses. To set up MAC filter:

1. Click **Wireless -> MAC Filter** in the left side menu to open the configuration page.
2. Select the restriction mode for the filter: select **Allow** to allow the client and deny the rest; select **Deny** to deny the client and allow the rest. By default, the filter is set to **Disable** which allows all clients. Click **Add** to create a filter.

2. Type the MAC address of the wireless client you want to allow or block.
3. Press **Save/Apply** to save and activate the settings.

Wireless bridge

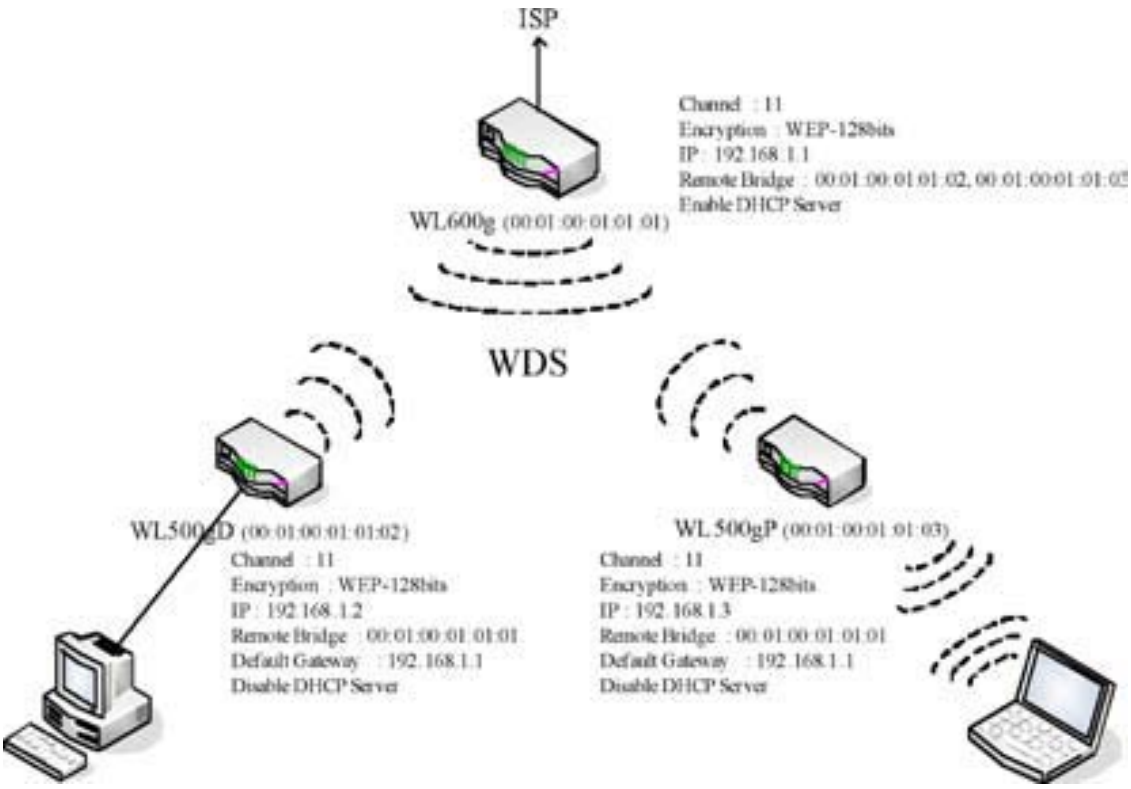
You can connect WL-600g to other wireless bridges so as to expand your wireless LAN. This function is also referred to as Wireless Distribution System (WDS).

To set up WDS, the wireless routers must meet the following requirements:

1. Using the same encryption.
2. Working on the same channel.
3. The IP addresses of all wireless bridges are within the same subnet.
4. WDS enabled.
5. For bridging wireless routers, the MAC Addresses of the uplink wireless router must be saved to the **Remote Bridge List**. For uplink wireless router, MAC addresses of all bridging router must be saved.

Example: WL-600g (wireless bridge with Internet access), WL-500gP (wireless bridge), and WL-500gD (wireless bridge). Refer to the illustration on the next page.

	WL-600g	WL-500gD	WL-500gP
SSID	ASUS	ASUS	ASUS
DHCP server	Enabled	Disabled	Disabled
LAN IP address	192.168.1.1	192.168.1.2	192.168.1.3
Authentication	Open	Open	Open
Encryption	WEP-128bit	WEP-128bit	WEP-128bit
Remote bridge	00:01:00:01:01:02 00:01:00:01:01:03	00:01:00:01:01:01	00:01:00:01:01:01
MAC address	00:01:00:01:01:01	00:01:00:01:01:02	00:01:00:01:01:03
Channel	11	11	11



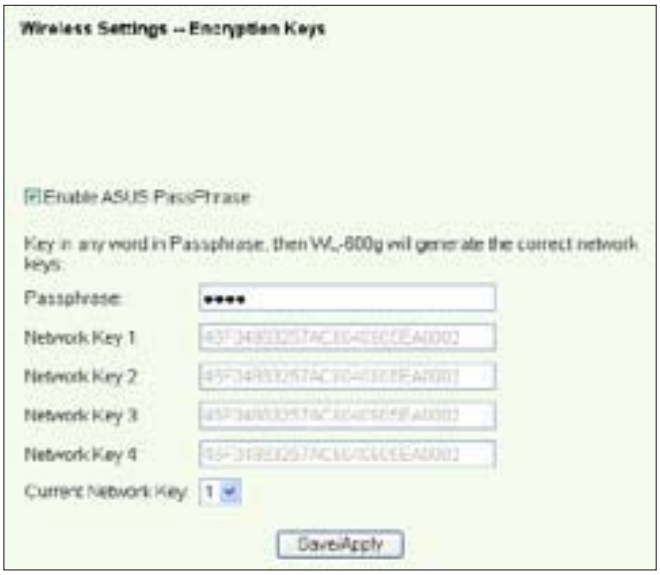
WDS setup (WL-600g)

1. Setting up encryption

If you want to use encryption function, select a **Network Authentication** mode; if not, select **Disabled**. Click **Wireless -> Security** to open the configuration page.

In this example, set authentication to **Open** and encryption to **Enabled,** select **128bit** for Encryption Strength, then click **Set Encryption Keys**.

You can check **Enable ASUS PassPhrase** and input a string in **Passphrase** field to let the system generate the Network Keys. You can also disable Passphrase and input four keys manually. When finished, click **Save/Apply**.



2. Setting up channel

Click **Wireless -> Advanced**. Set **Channel** to **11** and click **Save/Apply**.

3. Setting IP address

Click **Advanced Setup -> LAN**. Set WL-600g **IP address** to **192.168.1.1**, select **Enable DHCP Server** and set **Start IP address** to **192.168.1.4**. Click S**ave/ Reboot**.

4. Setting WDS

Click **Wireless -> Wireless Bridge**. Select **Wireless Bridge.** You can select **Enabled (Scan)** to find WL-500gD and WL-500gP. If the stations are on the list, check the checkbox and click **Save/Apply**.

If you cannot find WL-500gD by scanning, set **Bridge Restrict** to **Enable** and input the MAC address of WL-500gD and WL-500gP manually. When finished, click **Save/Apply**. WL-600g WDS setup is complete!

WDS setup (WL-500gD and WL-500gP)

Set up WL-500gD and WL-500gP according to the table on Page 26.

1. Wireless Setting

   Set WL-500gD, WL-500gP wireless channel, authentication, encryption and keys the same as WL-600g.
2. Set IP address to 192.168.1.2 (WL-500gD), 192.168.1.3 (WL-500gP)
3. Disable DHCP Server and set default gateway to 192.168.1.1,
4. WDS Setting

   • Open **Wireless -> Bridge**, set AP Mode to **Hybrid**.

   • Set **Channel** to **11**.

   • Add the MAC address of WL-600g to **Remote Bridge List**.
5. Save the settings and reboot.

Wireless advanced settings

Click **Wireless -> Advanced** to configure advanced features of the wireless router such as communication channel, data rate and WMM.

If you do not know the meaning of these items, use the default setting.

Network security

This chapter shows how to set up security defence for your local area network.

Setting up access right to WL-600g

To protect your wired and wireless LAN, we recommend setting up access protection so as to prevent WL-600g from being viewed or modified by unauthenticated users.

Service restriction

WL-600g provides a Service Control List (SCL) that can enable or disable services which are used to access the router configuration interface. You can choose allowing HTTP, ICMP from WAN, or allowing HTTP from LAN. After configuration is complete, click **Save/Apply** to activate the settings.

IP address restriction

To protect the router from being accessed by unauthenticated user in your LAN, you can restrict the access right to the hosts with certain IP addresses. Click **Management -> Access Control -> IP Addresses** to setup the IP address for the authenticated network supervisors.

Before setting up the IP address restriction, make sure addresses of authenticated hosts are static.

Password protection

WL-600g ADSL also provides three levels of access right: admin, support, and user. Account "admin" has full access to change and view configuration of the router, "support" is for ISP technician to view and keep maintenance to the router, "user" can view the router settings and statistics, as well as to update the software.

1. Click **Management -> Access Control -> Passwords** in the left side menu to setup passwords for these accounts.

2. Select the account username and fill in old password, and new password (twice). Each passwords contains up to 16 characters or digits.
3. Press **Save/Apply** to save and activate the settings.

Setting up port triggering

Some applications such as games, video conferencing, and remote access require specified ports in the firewall to be opened for remote access. You can configure the port settings by selecting an existing application or creating your custom applications.

1. Click **Advanced Setup -> NAT -> Port Triggering** in the left side menu to open the configuration page. Click **Add** to create a new rule.
2. Select the service you want to configure and let the system automatically fill in the external and internal port number and protocol type. You can also select **Custom Server** radio button to designate a certain known server.
3. Fill in trigger port (range) and protocol, open port (range) and protocol for the service if you select **Custom Server** radio button.
4. Press **Save/Apply** to save and activate the settings.

Setting up virtual server

Virtual server allows directing WAN incoming traffic to hosts or servers using private IP addresses within a LAN. With virtual server, the router checks the port number of the packets sent to the WAN interface, translates the port numbers into private IP address, and redirects the packets to the corresponding internal hosts and servers. WL-600g supports up to 32 virtual server entries. To set up virtual server:

1. Click **Advanced Setup -> NAT -> Virtual Server** in the left side menu to open the configuration page. Click **Add** to create a new rule.
2. Select the service you want to configure and let the system automatically fill in the external and internal port number and protocol type. You can also select **Custom Server** radio button to designate a certain known server.
3. Fill in external port (range), internal port (range), and protocol for the service if you select **Custom Server** radio button.
4. Fill the **Server IP Address** box with the network address of the host or server within your LAN.
5. Press **Save/Apply** to save and activate the settings.

Setting up DMZ host

The function of DMZ is similar to that of virtual server. The difference between virtual server and DMZ is that DMZ opens all ports to WAN while virtual server opens ports according to the demand of the enabled services. To configure DMZ host:

1. Click **Advanced Setup -> NAT -> DMZ Host** in the left side menu to open the configuration page.
2. Enter the IP address of the host to be setup as DMZ host.
3. Press **Save/Apply** to activate the settings.

Allowing SIP request through NAT

NAT checks IP header only and translate the information into private IP address. However, for applications that demand many dynamic ports for session control such as Session Initiation Protocol (SIP), traditional NAT cannot translate the address because lack of preset service ports. To enable such services while at the same time do not sacrifice network security, WL-600g introduces Application Layer Gateway (ALG) to allow SIP request going through fireware and NAT from WAN. To configure ALG:

1. Click **Advanced Setup -> NAT -> ALG** in the left side menu to open the configuration page.

2. Select **SIP Enabled** checkbox to allow SIP request, or uncheck to disable.
3. Press **Save/Apply** to save and activate the settings.

Firewall - Outgoing IP filter

By default, all outbound IP traffic is allowed. You can block certain types of IP traffic by setting up filter rules at WL-600g.

1. Click **Advanced Setup -> Security -> IP Filtering -> Outgoing** in the left side menu to open the configuration page. Click **Add** to create a new rule.

2. Define a **Filter Name** for the filter rule. Specify protocol, source IP address, subnet mask and port (range) and destination IP address, subnet mask and port (range).
3. Press **Save/Apply** to save and activate the settings.

Firewall- Incoming IP filter

By default, all incoming IP traffic is blocked. You can allow certain types of IP traffic by setting up filter rules at WL-600g.

1. Click **Advanced Setup -> Security -> IP Filtering -> Incoming** in the left side menu to open the configuration page. Click **Add** to create a new rule.

2. Define a **Filter Name** for the filter rule. Specify protocol, source IP address, subnet mask and port (range) and destination IP address, submask and port (range).
3. Select the WAN interface through which the packets enter the firewall.
4. Press **Save/Apply** to save and activate the settings.

Access time restriction

This function enables to put time restriction on Internet access by setting up blocking time table. To configure the access time restriction:

1. Click **Advanced Setup -> Security -> Parental Control** in the left side menu to open the configuration page. Click **Add** to create a new rule.

2. Fill in the username to whom you want to apply the restriction.
3. Fill in the MAC address of the restricted host. If you are accessing this configuration at the computer of restricted host, select Browser's MAC Address radio button. The system automatically detects the MAC address of the configuration console. If you want to configure hosts other than the console computer, enter the MAC address manually.

> To get the MAC address of a host, click **Start** menu on the desktop of the host, select **Run**, type **cmd** into the box and press **OK**, then type command **ipconfig /all** and press enter. You can find the MAC address displayed as **Physical Address**.

4. Select the days of a week to which the rule shall apply.
5. Fill time into the **Start Blocking Time** and **End Blocking Time** box to set up block time.
6. Press **Save/Apply** to save and activate the settings.

Advanced settings

This chapter shows how to configure other advanced router features of WL-600g.

WAN

Click Advanced Setup -> WAN in the left side menu to enter the WAN setup page. This page allows you to edit the WAN settings.

LAN

1. Click **Advanced Setup -> LAN** in the left side menu to enter the **Local Area Network (LAN) Setup** page. This page allows to change the IP address and subnet mask of the router, enables or disables UPnP, IGMP snooping and DHCP server.

The default settings are:

- IP Address: 192.168.1.1
- Subnet mask: 255.255.255.0
- Enable UPnP: Yes
- Enable IGMP Snooping: No
- Enable DHCP Server: Yes

  Start IP Address: 192.168.1.2
  End IP Address: 192.168.1.254
  Lease Time (hour): 24

DHCP server is enabled by default. You can define which addresses to be assigned to the LAN computers by DHCP server.

2. Press **Save** to save the configurations and go on setting up other features. If all settings are complete, press **Save/ Reboot** to apply the settings and reboot WL-600g.

Setting up DNS server

Domain Name System (DNS) server is used to translate IP addresses into easy-to-remember domain names, such as www.asus.com, and vice versa.

Click A**dvanced Setup -> DNS -> DNS Server** to open the DNS server configuration page. By default, the DNS server is set to automatically accept the DNS server assigned by ISP. If your ISP specifies certain DNS server addresses, uncheck **Enable Automatic Assigned DNS** checkbox and type the DNS addresses into the **Primary DNS server** box and **Secondary DNS server** box (if any). Click **Save** to save the settings.

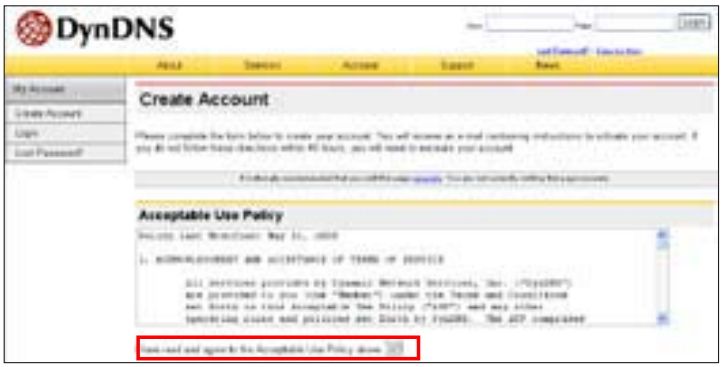
Setting up dynamic DNS

Hosts using dynamic IP addresses can associate with a domain name via Dynamic DNS (DDNS). To use DDNS function, you need to first register at a dynamic DNS service provider, such as DDNS, to get a valid account.

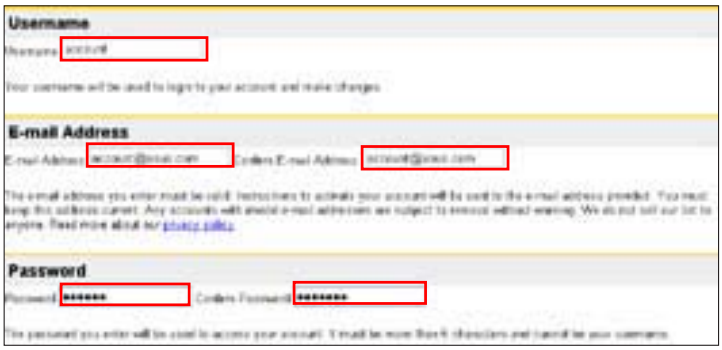
DDNS acount request procedures

1. Type **www.DynDNS.org** to the address box of your Web browser and press **Enter**.

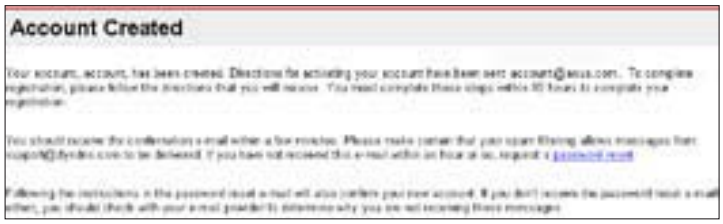
   Read the policy and select "**I have read...**".



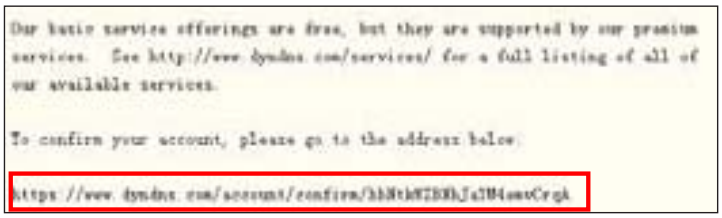
2. Enter your user name, e-mail address, password, then click **Create Account**.



3. A message prompts out asking you to check your mailbox for the activation letter. Open your mailbox and read the mail.



4. You can find the letter in your E-mail box. Click the hyperlink.



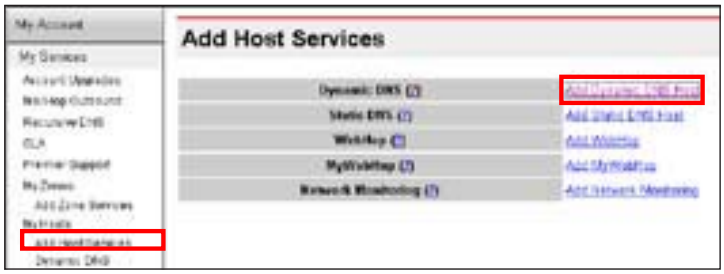
5. The link directs you to a login page. Click **login**.

6. Enter the username and password then click **Login**.

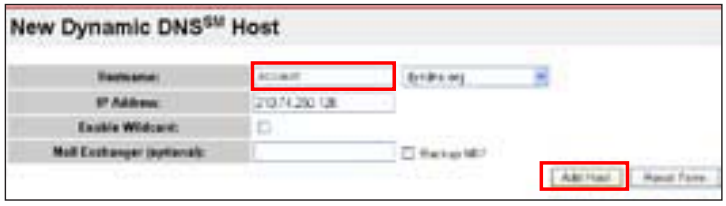
7. After logging in, you can see this welcome message.

8. Select **Services** tab.

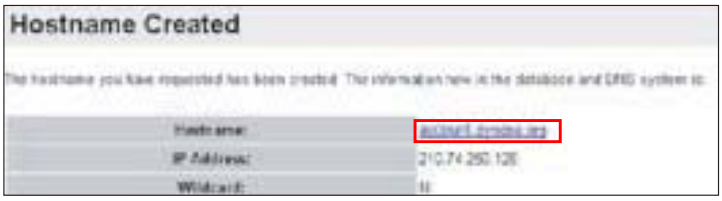
9. Click **Add Dynamic DNS Host** .



10. Enter the host name then click **Add Host**.



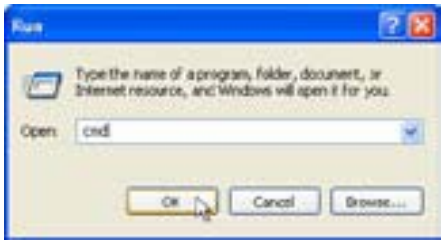
11. You can see this message when your hostname is successfully created.



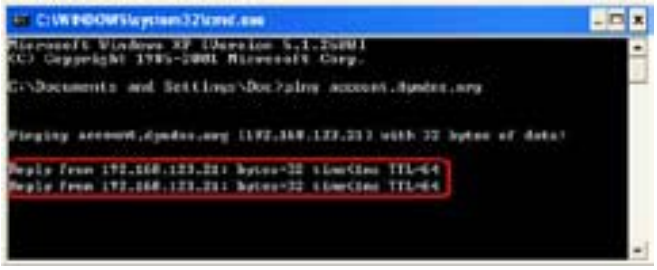
WL-600g DDNS settings

1. Click **Advanced Setup -> DNS -> Dynamic DNS** to enter the configuration page. Press Add to configure Dynamic DNS.
2. Choose your DDNS provider and fill in the hostname. The supported DDNS provider are DynDNS.org and TZO. DynDNS.org settings require username and password of your DDNS account. TZO requires registered Email address and Key.

3. Press **Save/Apply** to save and activate the settings.
4. To verify whether DDNS is working, click **Start** menu and select **Run....**Type **cmd** and click **OK** to open the CLI console.



5. Type **ping account.dyndns.org** (your DDNS domain name). If you can see the reply like what is shown in the picture, DDNS is working correctly.



Setting up default gateway

This section allows to manually setup default gateway of Internet connection.

1. Click **Advanced Setup -> Routing -> Default Gateway** to open the configuration page.

2. By default, automatic assigned default gateway is enabled, that is, the router accepts the first received gateway assignment from ISP. If your ISP specifies a gateway, uncheck **Enable Automatic Assigned Default Gateway** and enter the gateway address.
3. Press **Save/Apply** to save and activate the settings.

Setting up static route

For simple networks that have only one router, you do not need to set up static route. For more complicated network such as an enterprise network where several routers and different subnets exist, you need to configure static routes so as to direct the network traffic correctly.

1. Click **Advanced Setup -> Routing -> Static Route** to open the configuration page and view the current static route settings. Press **Add** to create a new static route.

2. The configurable settings include:
   - Destination Network: input the IP address of destination;
   - Subnet Mask: input the subnet mask of destination;
   - Use Gateway IP Address: input the gateway network address (optional);
   - User Interface: select the interface of your router to which the static route applies.
3. Press **Save/Apply** to save and activate the settings.

Setting up routing protocol - RIP

RIP stands for Rounting Information Protocol. WL-600g supports RIPv1 and RIPv2.

1. Click **Advanced Setup -> Routing -> RIP** to open the configuration page.

2. To activate RIP, select **Enabled** radio button for global RIP mode.
3. To configure an individual interface, select the desired RIP version and operation and check the **Enabled** checkbox for the interface.
4. Press **Save/Apply** to save and activate the settings.

USB applications

WL-600g offers two USB2.0 ports for setting up FTP server and sharing USB printer.

FTP server function

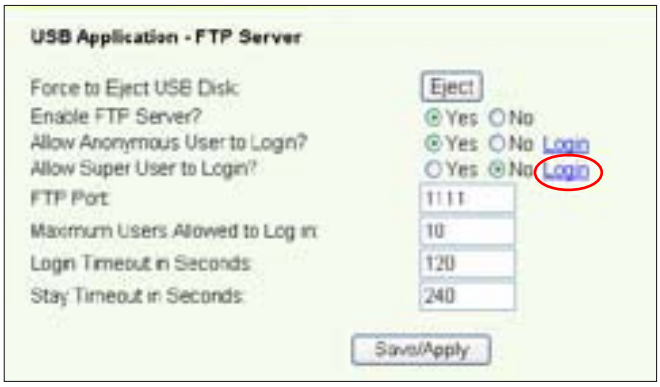
Before setup, you need to prepare a USB disk for FTP storage.

If the format of your external hard disk is **NTFS**, the FTP server can only be readable. Uploading files on the FTP server is not allowed. Besides, only Anonymous User can login. Super User can not login under NTFS FTP server.

Setting up FTP server

To setup FTP server:

1. Plug your USB storage into the USB2.0 port on the WL-600g rear panel. Then click **USB Application -> FTP Server** in the left side menu to open the configuration page.



2. Set **Enable FTP Server** to **Yes**.
3. **Allow Anonymous User to Login**: If you want to allow anonymous user to access your FTP site, select **Yes**; if you want to protect your data from unauthenticated user, select **No**.
4. **Allow Super User to Login**: Select **Yes** to allow super user to access the FTP server.
5. **FTP Port**: Set up the port number of the FTP server. For example, if the port number is set to 1111, you can access the FTP server by typing **ftp://192.168.1.1:1111** into the address box of your Web browser (192.168.1.1 is the default IP address of WL-600g).
6. **Maximum User Allowed to Login:** set up the maximum login user according to your working environment.
7. **Login Timeout in Seconds:** When login times out, the login trail is terminated.
8. **Stay Timeout in Seconds:** Timeout value for inactive connection.
9. Press **Save/Apply** to save and activate the settings.

If you use web access for Super User Login (as the red circle marks), please set **Maximum Users Allowed to Log in** to more than 1 or the message "server is busy" will pop up.

Setting up FTP account

You can set up 12 accounts for your FTP site.

1. Click **USB Application -> FTP Server -> User List** in the left side menu to open the configuration page. Click **Add** to create new FTP account.

2. Define the **Username**, **Password** for the new account. Setup the **Max. Login** to restrict the access request. Define the access right to the account.
3. Click **Apply** to save the new account.
4. Click **Save** to save and activate the settings.

Setting up FTP security

You can deny access request from certain IP address by setting up **Banned IP List**.

1. Click **USB Application -> FTP Server -> Banned IP List** in the left side menu to open the configuration page. Click **Add** to create a new rule.

2. Input the IP address of the banned host and click **Apply** to save the banned IP. Make sure the banned IP is static.
3. Click **Save** to save and activate the settings.

Your FTP site is ready. Type **ftp://192.168.1.1(:port number)** into the address box of your Web browser and press **Enter**. When prompted for login, input the username and password you have set up for FTP account and login.

Sharing USB printer

You can plug your USB printer to the USB2.0 port of WL-600g to share it within your LAN. After you plug a printer to the USB port, you can see the status of printer by clicking **USB Application -> Printer Status**.

Setting up printer client under Windows XP

Follow the steps below to install network printer on your clients.

1. Run Add Printer Wizard from **Start -> Printers and Faxes -> Add a printer**.

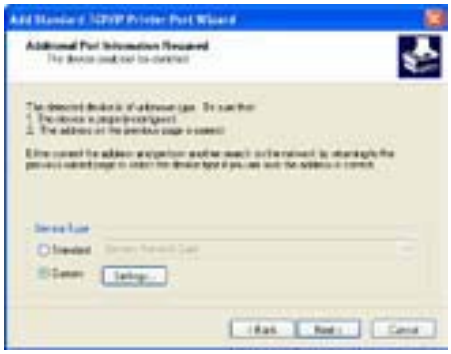
2. Select **Local printer attached to this computer** and click **Next**.

3. Select **Create a new port** and set Type of port to **Standard TCP/IP Port**, then click **Next**.

4. Click **Next** to setup TCP/IP port for accessing the network printer.

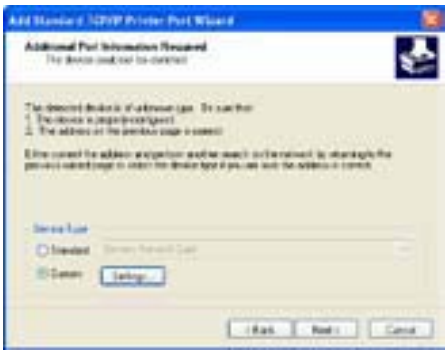
5. Input the IP address of WL-600g in the **Printer Name of IP Address** field and click **Next**.

6. Select **Custom** and click **Settings.**

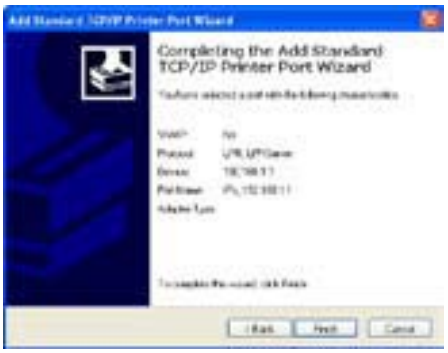


7. Set **Protocol** to **LPR** and type **LPRServer** in **Queue Name** field. Click **Next** to continue.

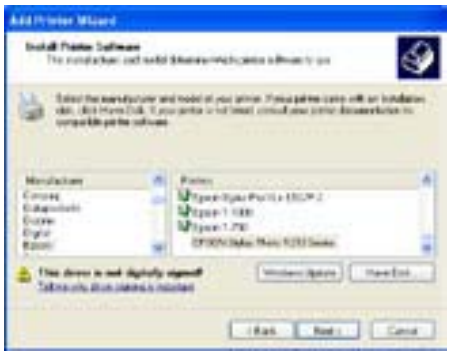
8. Press **Next** to finish standard TCP/IP port setting.



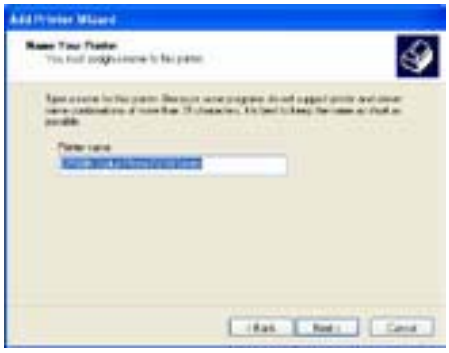
9. Press **Finish** to complete the settings and return to Add Printer Wizard.



10. Install printer driver from the vendor-model list. If your printer is not in the list, click **Have Disk** to manually assign the location of driver.



11. Click **Next** to accept the default name for the printer.



12. Select **Yes** to print a test page. Click **Next** to print.

13. The installation is complete. Click **Finish** to quit the Add Printer Wizard.

If you have already installed the printer locally on your computer, right click the printer icon and select **Property -> Port** tab to add a standard TCP/IP port. Click **Add Port** then select **Standard TCP/IP Port** and click **New Port** button. Refer to Step 5-8 for setting procedures.

If you use Windows® 98 or ME which does not support Standard TCP/IP port, you need to use Remote Port which is supported by WL-600g.

Gaming Blaster

ASUS WL-600g's "Gaming Blaster" is designed to enhance your online gaming experience. This technology provides the uninterrupted and latency-free gaming experience that online gamers expect. It intelligently optimizes network resources and automatically prioritizes network traffic to better execute time-sensitive applications including IP phone and multimedia applications.

"Gaming Blaster" on WL-600g

By default, WL-600g is set on "Gaming Blaster" mode and you can then experience the enhanced gaming power. Just **click on the Gaming Blaster icon** and you can enable or disable this function on WL-600g. From the bar chart at the bottom of the web page, you can see that the gaming application, by default, takes most of the WL-600g's network resource.

User Specified Service

Setting up online gaming priority by indicating ports and IP addresses.

You can also reserve available network traffic for your online game by indicating ports where the online gaming applications go.

1. Assign any name for the **Service Name**. For example, "**My game**".
2. Put in the IP address and its corresponding port where the application is.
3. Rank the priority (1, 2, 3, ...) of the service (application) according to your preference.
4. If you want to remove the service from the list, just check the **Remove** box.

IP phone and other A/V applications on WL-600g

If you would like to have better voice over IP and other A/V application quality, just click on the "VoIP/Video mode" icon. You can then enjoy uninterrupted VoIP quality and smooth multimedia downloading. From the bar chart at the bottom of the web page, you can see that the VoIP/Video application now takes most of WL-600g's network resource.

User Specified Service

Setting up VoIP / Video application priority by indicating ports and IP addresses.

You can also reserve available network traffic for your IP phone and A/V downloading applications by indicating ports where the applications go.

1. Assign any name for the **Service Name**. For example, "**My IP phone**".
2. Put in the IP address and its corresponding port where the application is.

3. Rank the priority (1, 2, 3, ...) of the service (application) according to your preference.
4. If you want to remove the service from the list, just check the **Remove** box.

For more information, refer to the Asus website at http://www.asus.com

Management

This chapter describes how to maintain your WL-600g wireless ADSL router.

Configuration backup

You can backup the configuration to a file and store it on your computer. Click **Management -> Settings** to open the configuration page and click the **Backup Settings** button. Click **Save** and define the destination folder. The default name for backup file is **backupsettings.conf**.

Restore settings from a backup file

You can restore the settings from a backup file when you have reset the wireless router to factory default. Click **Management -> Settings -> Update** to open the configuration page. Click **Browse** to locate the backup file on your computer, then click **Update Settings** button to proceed. When the restoring process is completed, the wireless router reboots. The whole process takes about 80 seconds.

Reset to factory default

To clear all settings and return to the factory default settings, you can press the **Reset** button on the rear panel of the wireless router for 10 seconds; or click **Management -> Settings -> Restore Default** to open the configuration page and click the **Restore Default Settings** button.

Setting up time server

You can configure the time setting so that WL-600g can always synchronize with a time server from Internet. Click **Management -> Time settings** and check **Automatically synchronize with International servers**. Select a time server from the drop-down list and set your time zone. When finished, click **Save/Apply**.

Firmware update

To update firmware, click M**anagement -> Update Software**. Click **Browse** to locate the firmware file, then click **Update Software** button to start uploading the firmware. The update process takes about two minutes.

FCC Warning Statement

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:
(1) this device may not cause harmful interference, and
(2) 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 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.

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Prohibition of Co-location

This device and its antenna(s) must not be co-located or operating in conjunction with any other antenna or transmitter

Safety Information

To maintain compliance with FCC's RF exposure guidelines, this equipment should be installed and operated with minimum distance 20cm between the radiator and your body. Use on the supplied antenna. **Use on the supplied antenna. Unauthorized antenna, modification, or attachments could damage the transmitter and may violate FCC regulations.**

Declaration of Conformity for R&TTE directive 1999/5/EC

Essential requirements – Article 3

Protection requirements for health and safety – Article 3.1a

Testing for electric safety according to EN 60950-1 has been conducted. These are considered relevant and sufficient.

Protection requirements for electromagnetic compatibility – Article 3.1b

Testing for electromagnetic compatibility according to EN 301 489-1 and EN 301 489-17 has been conducted. These are considered relevant and sufficient.

Effective use of the radio spectrum – Article 3.2

Testing for radio test suites according to EN 300 328 has been conducted. These are considered relevant and sufficient.

CE Mark Warning

This is a Class B product, in a domestic environment, this product may cause radio interference, in which case the user may be required to take adequate measures.