

Wireless 802.11g AP

User's Manual

Version 1.0

Federal Communication Commission Interference Statement

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 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.

FCC Caution: To assure continued compliance, any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

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.

IMPORTANT NOTE:

FCC Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Pakedge declares that WAPC11g (FCC ID: SLY-WAPC11G) is limited in CH1~CH11 for 2.4GHz by specified firmware controlled in U.S.A.

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1. Introduction

Thank you for purchasing your AP Wireless 802.11g AP.

This user guide will assist you with the installation procedure.

The package you have received should contain the following items:

- AP Wireless 802.11g AP
- Quick Installation Guide
- Power Supply / Cord
- Ethernet Cable
- CD

Note: if anything is missing, please contact your vendor

2. Safety Notification

Your Wireless AP should be placed in a safe and secure location. To ensure proper operation, please keep the unit away from water and other damaging elements. Please read the user manual thoroughly before you install the device. The device should only be repaired by authorized and qualified personnel.

- Please do not try to open or repair the device by yourself.
- Do not place the device in a damp or humid location, i.e. a bathroom.
- The device should be placed in a sheltered and non-slip location within a temperature range of +5 to +40 Celsius degree.
- Please do not expose the device to direct sunlight or other heat sources. The housing and electronic components may be damaged by direct sunlight or heat sources.

3. Hardware Installation

Front Panel

The front panel provides LED's for device status. Refer to the following table for the meaning of each feature.

LED	STATUS	Description
POWER	Off	No power
	Green On	1. Power on 2. Reset to default 3. Firmware upgrade (first 1 minute)
	Green Blink	1. System up 2. Power on 3. Firmware upgrade
LINK	Off	No Ethernet link detected
	Green On	10/100Mbps Fast Ethernet link detected.
	Green Blink	Indicates data traffic on the 10/100 Mbps LAN
ACT	Green Blink	Indicates the device is linking or active data through wireless links

Side Panel

The side panel features 1 LAN ports and Reset button. Refer to the following table for the meaning of each feature.

Power (DC 5v)	Used to connect to the power outlet. Only use the power adapter provided with the device. Use of an unauthorized power adapter may cause damage to your device and violate your warranty.
Reset	Press the Reset Button for approximate ten seconds, all configurations will set to factory default settings.
LAN	The RJ-45 Ethernet port used to connect your PC, hub, switch or Ethernet network.

AP Default Settings

The default settings are shown following.

User	
Password	
AP IP Address	192.168.1.250
AP Subnet Mask	255.255.255.0
RF ESSID	ap11g
11g RF Channel	6
Mode	11b+g
Encryption	Disabled

4. Web Management Settings

TURN ON POWER SUPPLY

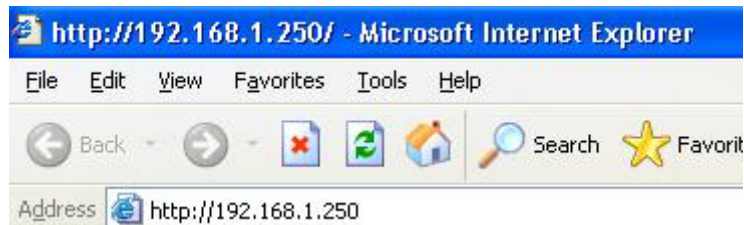
Quick power cycle can caused system corruption. When power on, be careful not to shut down in about 5 seconds, because data is writing to the flash.

START UP & LOGIN

Before Starting

The default IP address setting for the unit is a class C IP address (192.168.1.250/ 255.255.255.0). Please make sure that the current workstation is following the class C IP address range, from 192.168.1.1 to 192.168.1.254 if you would like to do any configuration by this workstation.

In order to configure the Wireless 11g AP, you must use your web browser and manually input **http://192.168.1.250** into the Address box and press Enter on explorer. The Main Page will appear.



Once you have logged-in this unit, it is a good idea to enable the password protection to ensure a secure protection to the Wireless 11g AP. The Security Settings section described later in this manual describes how to change the password.

Once you have input the correct password and logged-in, the screen will change to the Setup page screen.

4.1 Configuration

MAKE CORRECT NETWORK SETTINGS OF YOUR COMPUTER

To change the configuration, use Internet Explorer (IE) or Netscape Communicator to connect the WEB management **192.168.1.250**.

Settings Summary

This section contains the AP's basic settings information.

Identity

This section contains the AP's current firmware version. Also It can allow user to define the identity information for this unit if there are many same type units locate at one network.

The screenshot displays the web management interface of a Wireless Access Point. The top header features the '54Mbps 2.4 Wireless-G' logo on the left and the title 'Wireless Access Point' on the right. Below the title are navigation links: 'Configuration', 'Status', 'Diagnostic', 'Home', and 'Help'. The left sidebar contains a menu with categories: 'Configuration' (with sub-items 'Settings summary' and 'Identity'), 'Local Area Network' (with sub-items 'Network setup' and 'DHCP Server'), 'Wireless' (with sub-items 'Wireless settings' and 'WDS Links'), 'Security' (with sub-items 'Wireless security' and 'Unauthorized configuration'), and 'Location Based' (with sub-item 'Location based setting'). The main content area is titled 'Settings Summary' and lists the following configuration details:

Access Point properties	
SSID (internal radio):	ap11g
Local Area Network (LAN):	
IP Address:	192.168.1.250
DHCP Server:	Disabled
Wireless settings	
Wireless security	None
Access Control	Any client

4.2 Local Area Network

Network setup (Local Area Network)

This is the AP's IP Address and Subnet Mask as seen on the internal LAN. The default value is 192.168.1.250 for IP Address and 255.255.255.0 for Subnet Mask.

The screenshot displays the configuration interface of a Wireless Access Point. The top header includes the '54Mbps 2.4 Wireless-G' logo and the title 'Wireless Access Point'. Below the header, there are navigation links for 'Configuration', 'Status', and 'Diagnostic', along with 'Home' and 'Help' buttons. The left sidebar contains a menu with categories: 'Configuration' (with sub-items 'Settings summary' and 'Identity'), 'Local Area Network' (with sub-items 'Network setup' and 'DHCP Server'), 'Wireless' (with sub-items 'Wireless settings' and 'WDS Links'), 'Security' (with sub-items 'Wireless security' and 'Unauthorized configuration'), and 'Location Based' (with sub-item 'Location Based setting'). The main content area is titled 'Local Area Network (LAN)' and features a 'Primary Address Selection' section. This section has two radio buttons: 'Dynamic' and 'Static IP', with 'Static IP' being selected. Below the radio buttons are three input fields: 'IP Address' with the value '192.168.1.250', 'Subnet mask' with the value '255.255.255.0', and 'Gateway' with the value '0.0.0.0'. At the bottom right of the form are 'Cancel' and 'Apply' buttons.

Primary Address Selection	
☐ Dynamic	
☒ Static IP	
IP Address	192.168.1.250
Subnet mask	255.255.255.0
Gateway	0.0.0.0

DHCP Server Settings

The DHCP Server section allows you to configure the settings for the AP's Dynamic Host Configuration Protocol (DHCP) server function. The AP can be used as a DHCP server for your network. A DHCP server automatically assigns an IP address to each computer on your network. If you choose to enable the AP's DHCP server option, you must configure your entire network PCs to connect to a DHCP server, the AP.

If you disable the AP's DHCP server function, you must configure the IP Address, Subnet Mask, and DNS for each network computer (note that each IP Address must be unique).

Global Settings: Select the **Enable** option to enable the AP's DHCP server option.

If you already have a DHCP server on your network or you do not want a DHCP server, then select **Disable** from the options.

If you enable the DHCP server function, you have to enter a numerical value for the DHCP server starting and ending addresses. Then the DHCP server will follow this range to assign IP address for each DHCP clients.

If your DHCP clients must route to other network or with internet service, then the Gateway IP address will be necessary.

Reservations : If some of network hosts would like to be assigned one fixed IP address by this DHCP server, please enable the Reservations and add reservation record with MAC address and preferred IP address.

DNS settings : The Domain Name System (DNS) is how the Internet translates domain or website names into Internet addresses or URLs. Your ISP will provide you with at least one DNS Server IP Address. If you wish to utilize another DNS, please add static DNS IP Address to DHCP server.



4.3 Wireless

Wireless settings

This page contains settings for the identification and radio channel use of the Access Point:

Regulatory Domain: this is the organization that certifies the Access Point for use in your country. It determines which radio channels can be used to transmit and receive signals.

IAPP : IAPP can be defined to allow the new AP to obtain the authentication information from the old AP and send a new EAPOL-Key message to the STA with a new set of WEP keys. An IAPP should also transfer to the new AP enough of the RADIUS server account information for the new AP to continue the same account records rather than start a new account record.

SSID : only Access Points and clients that share this SSID are able to communicate with each other. Your networking client allows you to choose to which network you connect. The network names you see there are SSIDs.

Band : select the policy for internal radio. There are 3 types of band setting, the default mode is Mixed.

Radio Channel : select the appropriate channel from the list provided to correspond with your network settings. You shall assign a different channel for each AP to avoid signal interference.

PRISM Nitro : this mode can improve performance slightly but will break downward compatibility with some older products.

Current Tx Power Level: this setting allows to adjust output power of this unit. Set value to “1” will tune the power to Maximum level.

Broadcast SSID : this setting is related with SSID for whether it can be broadcasted by wireless or not.

Enable L2 Isolation: enable this setting will reject clients to communicate between themselves by this AP.

Transmission Rates: The rate of data transmission should be set depending on the speed of your wireless network. You can select from a range of transmission speeds, or you can select **AUTO** to have the AP automatically use the fastest possible data rate.

Preamble Type : select the head length of the packet. There are 2 types can be supported, long and short.



Wireless Access Point

[Configuration](#)
[Status](#)
[Reboot](#)

Configure router

- Settings configuration
- Router

Local Area Network

- Network Setup
- LAN Setup

Wireless

- Wireless configuration
- WDS Setup

Security

- Firewall configuration
- Access Control
- Port Forwarding

Advanced Settings

- Advanced router settings

Wireless Settings

Radio settings:

Regulation Domain:

RTS Disabled

MFP:

☐ (available when using a RADIUS server)

Advanced radio

Wireless network name (SSID):

ADT113

Band:

2.4 GHz/5GHz/60GHz

[Change profile](#)

Radio Channel:

6

Power Mode:

High Power

Channel To Power Level:

1

Broadcast SSID:

☒

Enable L2 Isolation:

☐

Advanced Wireless

Transmission Rate:

Auto

Frame Type:

802.11n

WDS Links

This mode allows the AP to keep the AP function role and at the same time performing a communication with other 802.11g AP to establish and extend your Wireless Network coverage. Please select the checkbox to enable AP on the WDS list to perform WDS application or enter the Remote Access Point's MAC address to enable this feature.

The screenshot shows the 'Wireless Access Point' configuration page. On the left is a sidebar with a '54Mbps 2.4 Wireless-G' logo and a menu with categories: Configuration (Settings summary, Identity), Local Area Network (Network setup, DHCP Server), Wireless (Wireless settings, WDS Links), Security (Wireless security, Unauthorized configuration), and Location Based (Location Based setting). The main content area is titled 'Wireless Distribution System Links' and includes instructions to select Access Points for the wireless distribution system. Below this is a table of 'WDS Links for internal radio:' with columns for Enable, Peer address, Name, SSID, Data Rates, Channel, Age, and RSSI. Three entries are listed, each with an unchecked 'Enable' checkbox. At the bottom, there is a text prompt to manually add Access Points, an 'Add WDS Link' button, and 'Cancel' and 'Apply' buttons.

Wireless Access Point

Configuration | Status | Diagnostic Home | Help

Wireless Distribution System Links

Select the following Access Points that will be used for the wireless distribution system of your wireless network.

WDS Links for internal radio:

Enable	Peer address	Name	SSID	Data Rates	Channel	Age	RSSI
☐	00:DE:AD:BE:EF:02		default-hi	802.11b	6	0	185
☐	00:0E:4E:11:22:33		default	802.11b	6	0	174
☐	00:90:4C:5F:00:2C		wlan-g-4712	802.11g	6	0	173

To manually add Access Points to your WDS Links click the button Add WDS Link.

Add WDS Link

Cancel Apply

4.4 Security

Wireless Security

The Wireless Security Setting separates 5 items setting. They are included ACL, RADIUS Server, WEP, 802.1X and WPA.

Access Control List : This function will allow administrator to have access control by enter MAC address of client stations.

RADIUS Servers : With this option you use a RADIUS server to handle access control.

RADIUS ("Remote Authentication Dial In User Service" is a standard for user authentication. The RADIUS server contains a database with users and their access rights. When a user wants to use the Access Point, the Access Point contacts the RADIUS server to see if this is permitted.

To add a RADIUS server:

1. Click Add to add a RADIUS server.
2. In the window that appears, enter the following data:
 - IP Address: the IP address of the RADIUS server.
 - UDP Port: the UDP port number of the RADIUS server.
 - Secret: the password for access to the RADIUS server.
3. Click OK. The server is now added to the list.

You can add more than one RADIUS server. The first server in the list will be used by default, the second will be used if the first is not available, etc.

To delete a RADIUS server from the list:

1. Click Delete.
2. Select the RADIUS server that you want to remove from the list.
3. Click OK. The list is updated.

Wired Equivalent Privacy (WEP) : select the check box will enable WEP function. WEP security supports 2 types encrypted format, one is Hexadecimal and the other is ASCII format.

802.1X Security : select the check box will enable 802.1X security. Please select one suitable key size and rekeying setting.

Wi-Fi Protected Access (WPA) : The WPA security pre-shared key supports TKIP algorithm. TKIP stands for Temporal Key Integrity Protocol. TKIP utilizes a stronger encryption method and incorporates Message Integrity Code (MIC) to provide protection against hackers. To use WPA Pre-Shared Key, enter a password in the WPA Shared Key field between 8 and 63 characters long. You may also enter a Group Key renewal interval time.



Unauthorized configuration

Changing the password for the AP is as easy as typing the password into the **New Password** field. Then, type it again into the Confirm password to confirm.

There is no default password when you first open the configuration pages, after you have configured these settings, you should set a new password for the AP (using the Password screen). This will increase security, protecting the AP from unauthorized changes.

Also you can lock this AP to deny any configuration changes. Once you lock this AP, only by hardware reset can unlock this device.

The screenshot displays the configuration page for a 'Wireless Access Point'. The interface includes a top header with the product logo '54Mbps 2.4 Wireless-G' and navigation links for 'Configuration', 'Status', 'Diagnostic', 'Home', and 'Help'. A left sidebar lists various configuration categories: Configuration (with sub-items 'Settings summary' and 'Identity'), Local Area Network (with 'Network setup' and 'DHCP Server'), Wireless (with 'Wireless settings' and 'WDS Links'), Security (with 'Wireless security' and 'Unauthorized configuration'), and Location Based (with 'Location based setting'). The main content area is titled 'Security Against Unauthorized Configuration' and contains two sections. The first section, 'Change password', instructs the user to 'Set the password needed to access and configure your Access Point.' and provides input fields for 'New password:' (with a '(3-16 characters)' hint) and 'Confirm password:'. A 'Change password...' button is located to the right of these fields. The second section, 'Lock Access Point', explains that locking the device 'denies configuration changes to it' and that a 'physical access' is required to unlock it. A 'Lock Access Point' button is positioned to the right of this section.

Wireless Access Point

Configuration | Status | Diagnostic Home | Help

Security Against Unauthorized Configuration

Change password
Set the password needed to access and configure your Access Point.

New password: (3-16 characters)

Confirm password:

Change password...

Lock Access Point
Lock the Access Point to deny configuration changes to it. You need to have physical access to the Access Point to unlock it.

Lock Access Point

4.5 Location Base Service

Every time a client associated or disassociated to the Access Point, the AP can send a trap to the Location base Server.

If you enable Location base service, please enter the IP address of the Location base server who will process these traps.

Also the Community String is necessary for Location base server authentication before accept these traps.

The screenshot displays the configuration page for a Wireless Access Point. The interface includes a top header with the '54Mbps 2.4 Wireless-G' logo and navigation links for 'Configuration', 'Status', 'Diagnostic', 'Home', and 'Help'. A left sidebar lists various configuration categories: Configuration (with sub-items 'Settings summary' and 'Identity'), Local Area Network (with 'Network setup' and 'DHCP Server'), Wireless (with 'Wireless settings' and 'WDS Links'), Security (with 'Wireless security' and 'Unauthorized configuration'), and Location Based (with 'Location Based setting'). The main content area is titled 'Location Base Settings' and features a 'Send Trap to Server' section. This section has two radio buttons: 'Disable' (selected) and 'Enable'. Below these are two text input fields: 'Server IP' with the value '0.0.0.0' and 'Community' with the value 'public'. At the bottom right of the form are 'Cancel' and 'Apply' buttons.

Location Base Settings	
Send Trap to Server	
☒ Disable	
☐ Enable	
Server IP	0.0.0.0
Community	public
Cancel Apply	

4.6 Status Overview

In this section, we provide a series of statistics about this AP. User can check each status via this page. For example, if you would like to check how many clients already associated on this AP, you may click the link on left site “Wireless clients” for detail. For other detail information, please tip other links for reference.



54Mbps
2.4
Wireless-G

Statistics/Usage

- Settings summary
- Interface statistics
- Wireless statistics
- Event reporting

Clients

- DHCP Clients
- Wireless clients
- Access Points
- WDS links

Wireless Access Point

Configuration | Status | Diagnostic

Home | Help

Status Overview

Access Point activity:

Uptime: 14:56:22

	internal radio	expansion card radio
Wireless Clients:	0	0
WDS Links:	0	0
Packets sent:	8810927	0
Packets received:	56887	0

Event reporting

Last log: 01m 01d 14:53:47

Highest priority: Info

4.7 Diagnostic

This function provides one simple diagnostic method for check if the LAN connection that want to connect is exist or not.

Please fill in one IP address with same subnet to AP then click apply. Normally it will take several seconds for reply like below screen.

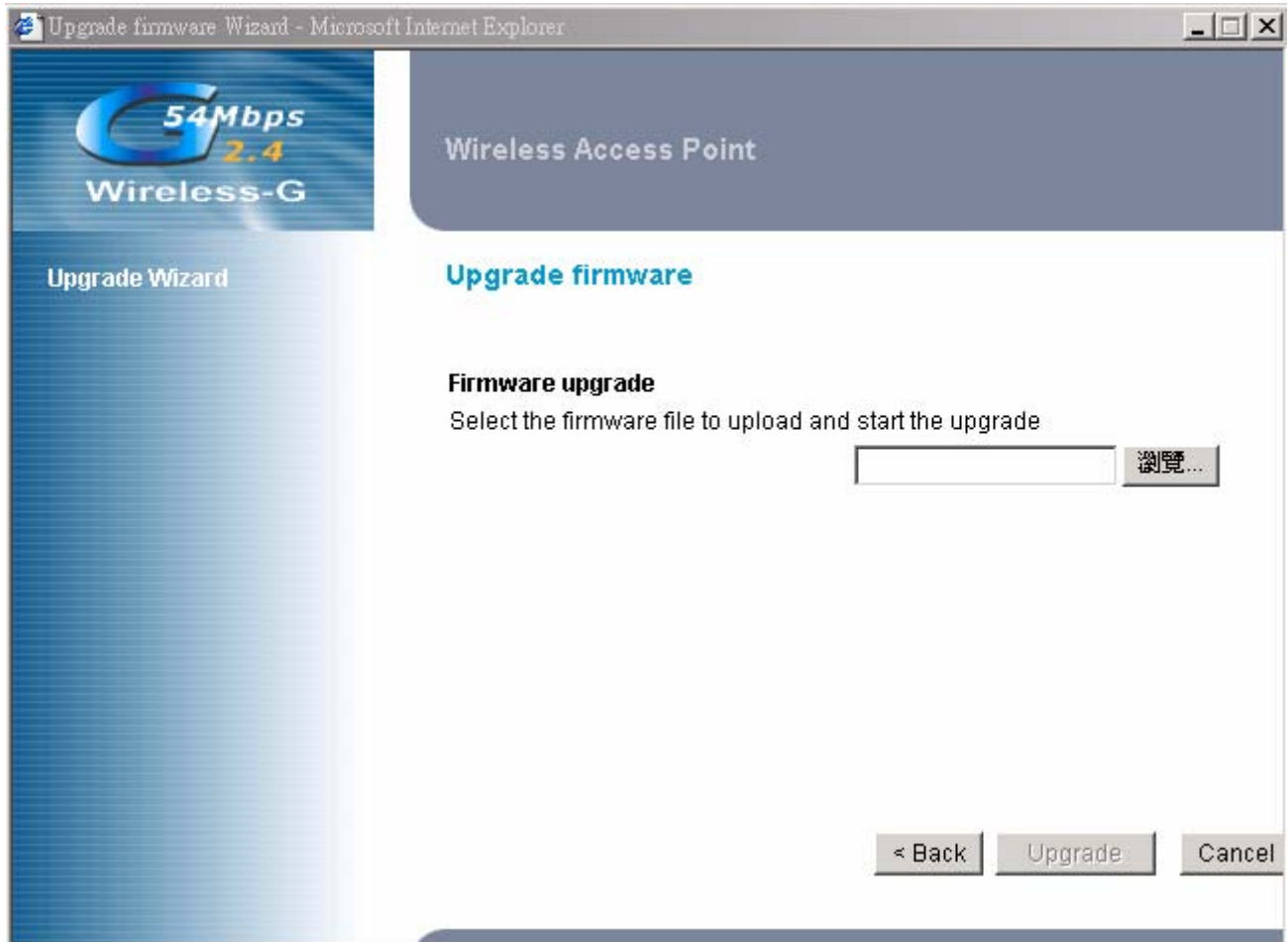
The screenshot shows the 'Wireless Access Point' configuration page. The left sidebar has a 'Diagnostic' menu with a 'ping test' option. The main content area is titled 'Ping Diagnostic'. It features an 'IP Address' input field containing '192.168.1.119'. To the right of the input field are 'Cancel' and 'Apply' buttons. Below the input field, the results of the ping test are displayed in a monospaced font:

```
PING 192.168.1.119 (192.168.1.119): 56 data bytes
64 bytes from 192.168.1.119: icmp_seq=0 ttl=128 time=0.0 ms
64 bytes from 192.168.1.119: icmp_seq=1 ttl=128 time=0.0 ms
64 bytes from 192.168.1.119: icmp_seq=2 ttl=128 time=0.0 ms
64 bytes from 192.168.1.119: icmp_seq=3 ttl=128 time=0.0 ms

--- 192.168.1.119 ping statistics ---
4 packets transmitted, 4 packets received, 0% packet loss
round-trip min/avg/max = 0.0/0.0/0.0 ms
```

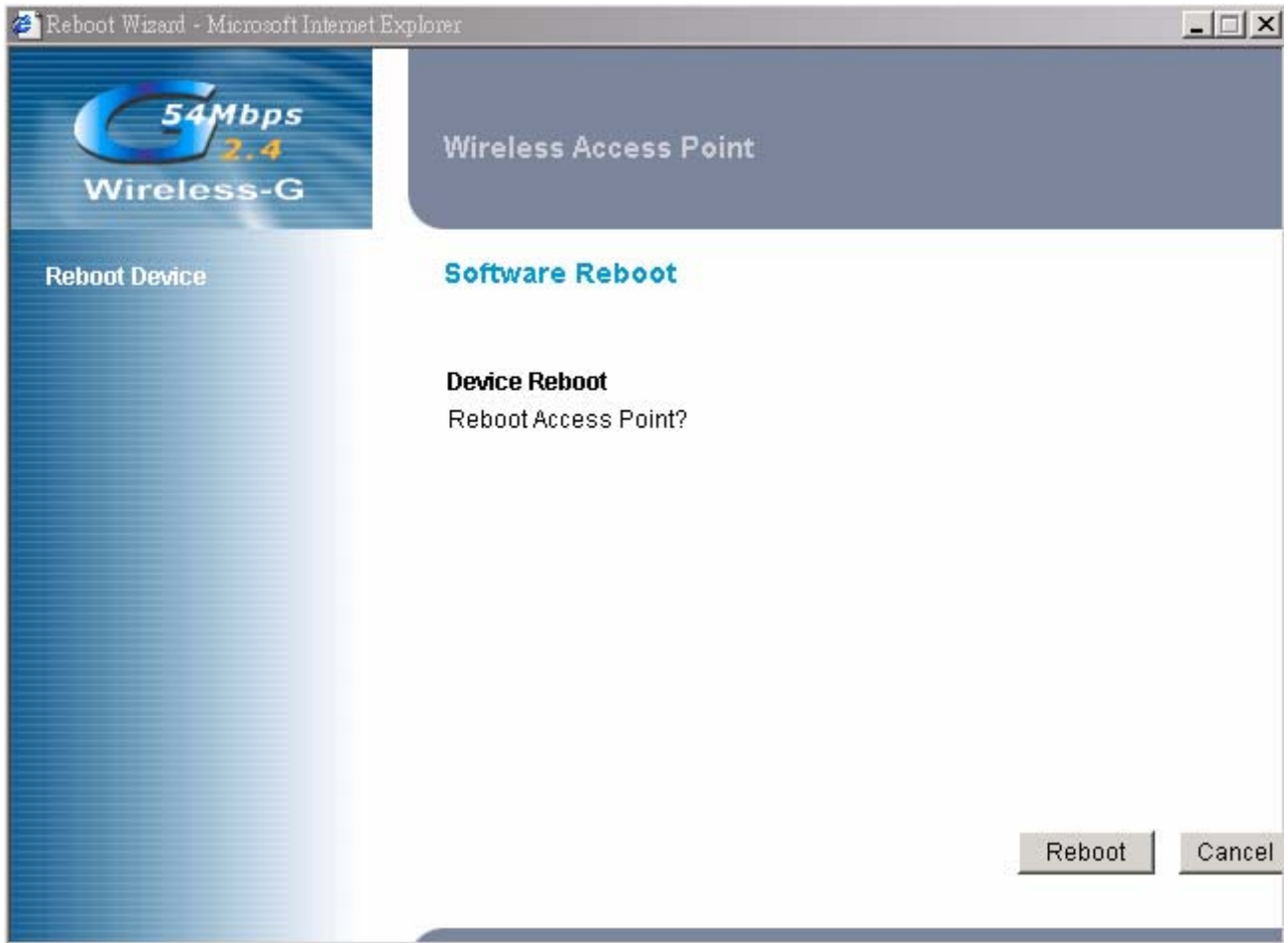
4.8 Upgrade Firmware

Click the **Upgrade** button to load new firmware onto the AP. If the AP is not experiencing difficulties, then there is no need to download a more recent firmware version, unless that version has a new feature that you want to use.



4.9 Reboot Access Point

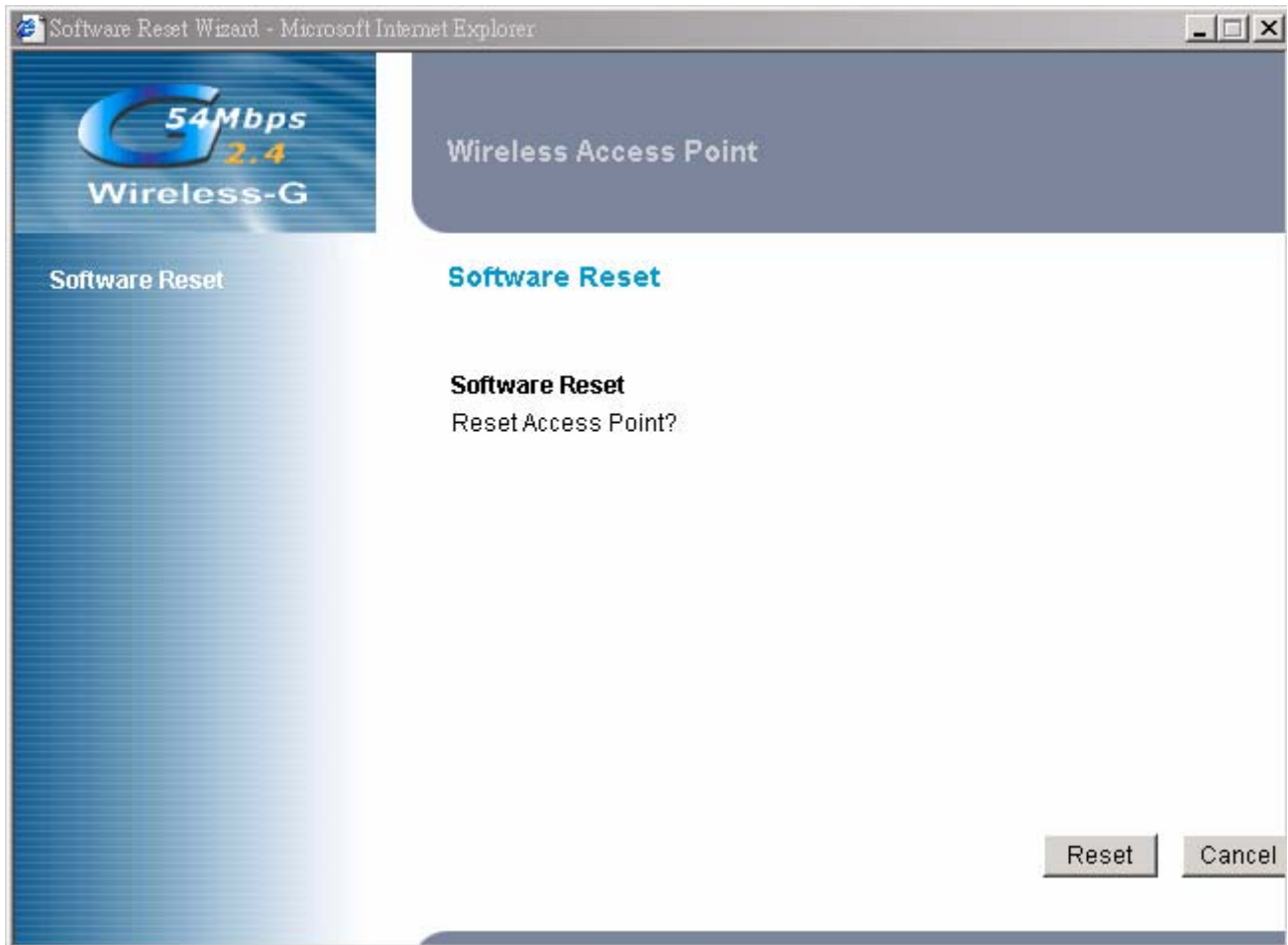
This function provides AP performing an initial action by web management. Same result could be done by power off/on this unit.



4.10 Restore Factory Defaults

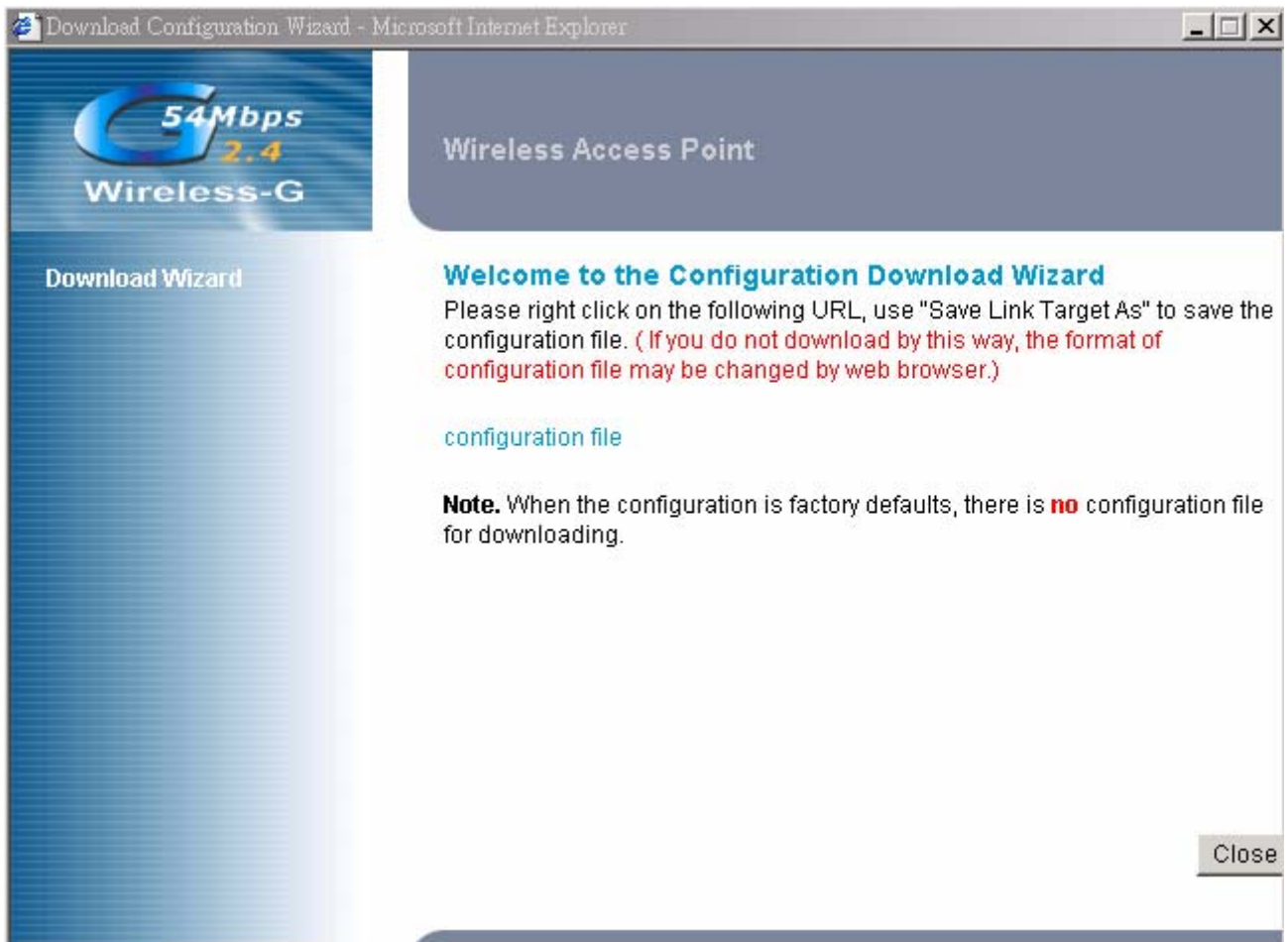
Click the **Reset** button to reset all configuration settings to factory default values.

Note: Any settings you have saved will be lost when the default settings are restored.



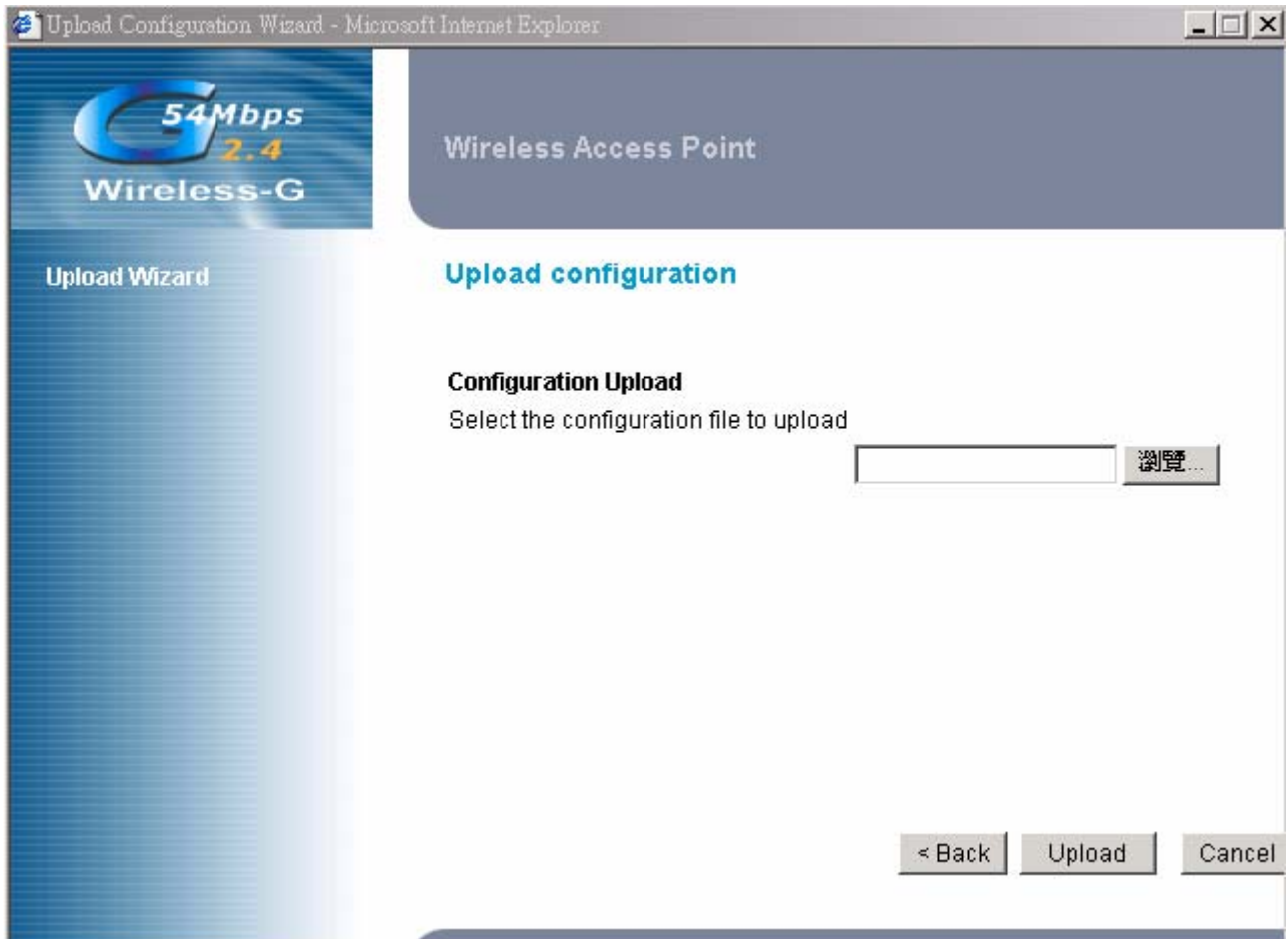
4.11 Configuration Profile Download

This function provides AP configuration download, user can save current AP settings in one profile for later restored usage. Using this way can save more time for reconfig this device again if it has been reset factory default.



4.12 Configuration Profile Upload

This function provides AP configuration upload, user can use profile that saved before for restore this unit.

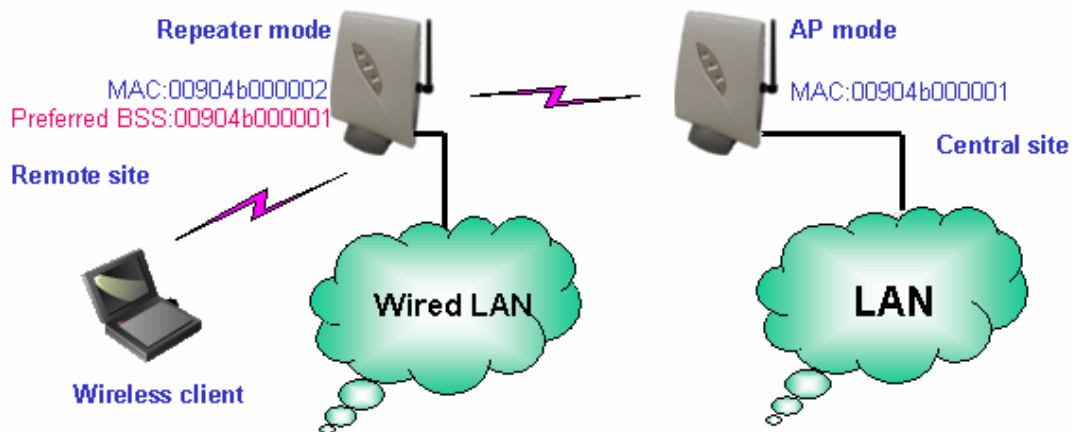


5. Appendix

WDS Links Application: Enable WDS function can perform following 2 applications

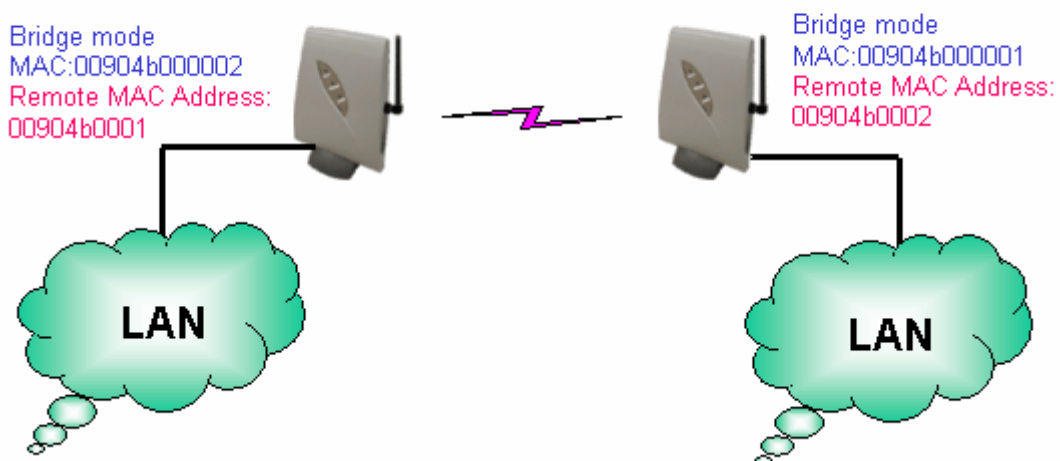
WDS (AP Repeater): This mode allows the AP to keep the AP function role and at the same time performing a communication with other 802.11g AP to establish and extend your Wireless Network cover. Please enter the Remote Access Point's MAC address to enable this feature.

Repeater Application



Wireless Bridge: This mode allows the connection of one or more remote LANs with a central LAN.

Bridge Application



6. Troubleshooting

Basic Functions

My Wireless AP will not turn on. No LED's light up.

Cause:

- The power is not connected.

Resolution:

- Connect the power adapter to your AP and plug it into the power outlet.

Note: Only use the power adapter provided with your AP. Using any other adapter may damage your AP.

LAN Connection Problems I can't access my AP.

Cause:

- The unit is not powered on.
- There is not a network connection.
- The computer you are using does not have a compatible IP Address.

Resolution:

- Make sure your AP is powered on.
- Make sure that your computer has a compatible IP Address. Be sure that the IP Address used on your computer is set to the same subnet as the AP. For example, if the AP is set to 192.168.1.250, change the IP address of your computer to 192.168.1.15 or another unique IP Address that corresponds to the 192.168.1.X subnet.

Use the Reset button located on the rear of the AP to revert to the default settings.

I can't connect to other computers on my LAN.

Cause:

- The IP Addresses of the computers are not set correctly.
- Network cables are not connected properly.
- Windows network settings are not set correctly.

Resolution:

- Make sure that each computer has a unique IP Address. And the IP must be in the same subnet as the AP.
- Make sure that the Link LED is on. If it is not, try a different network cable.
- Check each computer for correct network settings.

Wireless Troubleshooting

I can't access the Wireless AP from a wireless network card

Cause:

- Out of range.
- IP Address is not set correctly.

Resolution:

- Make sure that the Mode, SSID, Channel and encryption settings are set the same on each wireless adapter.
- Make sure that your computer is within range and free from any strong electrical devices that may cause interference.
- Check your IP Address to make sure that it is compatible with the Wireless AP.