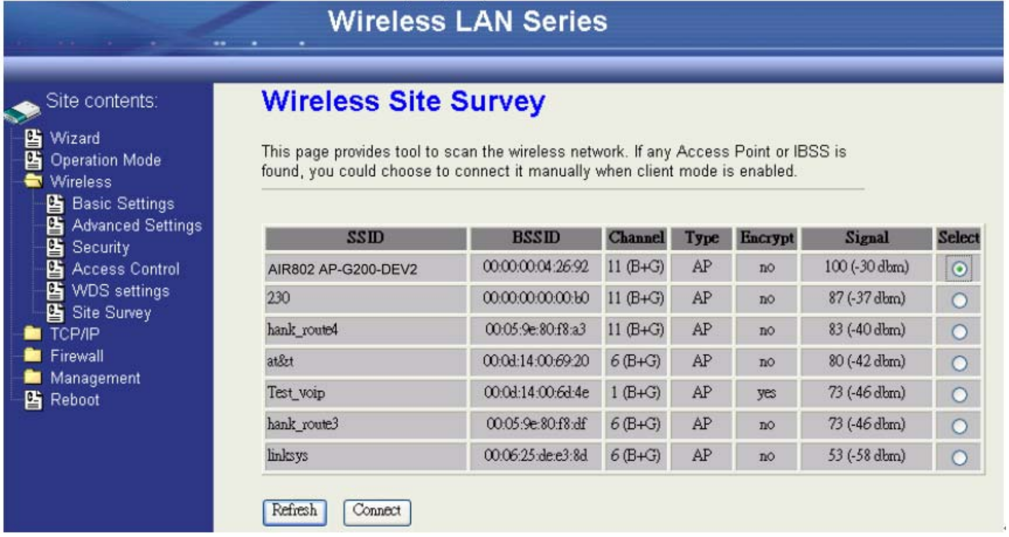
“RSSI “, please use “Site Survey” page to re-connect a AP.

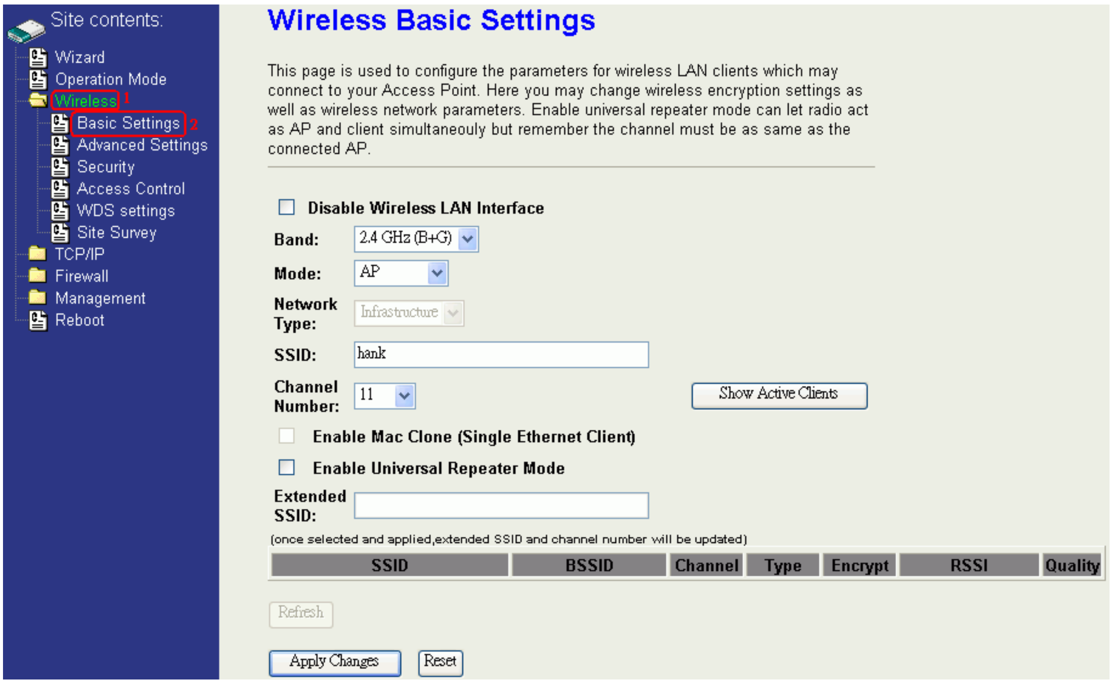


Wireless Site Survey

This page provides tool to scan the wireless network. If any Access Point or IBSS is found, you could choose to connect it manually when client mode is enabled.

SSID	BSSID	Channel	Type	Encrypt	Signal	Select
AIR802 AP-G200-DEV2	00:00:00:04:26:92	11 (B+G)	AP	no	100 (-30 dbm)	●
230	00:00:00:00:00:b0	11 (B+G)	AP	no	87 (-37 dbm)	○
hank_route4	00:05:9e:80:f8:a3	11 (B+G)	AP	no	83 (-40 dbm)	○
at&t	00:0d:14:00:69:20	6 (B+G)	AP	no	80 (-42 dbm)	○
Test_voip	00:0d:14:00:6d:4e	1 (B+G)	AP	yes	73 (-46 dbm)	○
hank_route3	00:05:9e:80:f8:df	6 (B+G)	AP	no	73 (-46 dbm)	○
linksys	00:06:25:de:e3:8d	6 (B+G)	AP	no	53 (-58 dbm)	○

Basic Settings



Wireless Basic Settings

This page is used to configure the parameters for wireless LAN clients which may connect to your Access Point. Here you may change wireless encryption settings as well as wireless network parameters. Enable universal repeater mode can let radio act as AP and client simultaneously but remember the channel must be as same as the connected AP.

☐ Disable Wireless LAN Interface

Band: 2.4 GHz (B+G)

Mode: AP

Network Type: Infrastructure

SSID: hank

Channel Number: 11

☐ Enable Mac Clone (Single Ethernet Client)

☐ Enable Universal Repeater Mode

Extended SSID:

(once selected and applied,extended SSID and channel number will be updated)

SSID	BSSID	Channel	Type	Encrypt	RSSI	Quality

Disable Wireless LAN Interface

Disable the wireless interface of device

Band:

The device supports 2.4GHz(B), 2.4GHz(G) and 2.4GHz(B+G) mixed modes.

Mode:

The radio of device supports different modes as following:

1. AP

   The radio of device acts as an Access Point to serves all wireless clients to join a wireless local network.

2. Client

   Support Infrastructure and Ad-hoc network types to act as a wireless adapter.

3. WDS

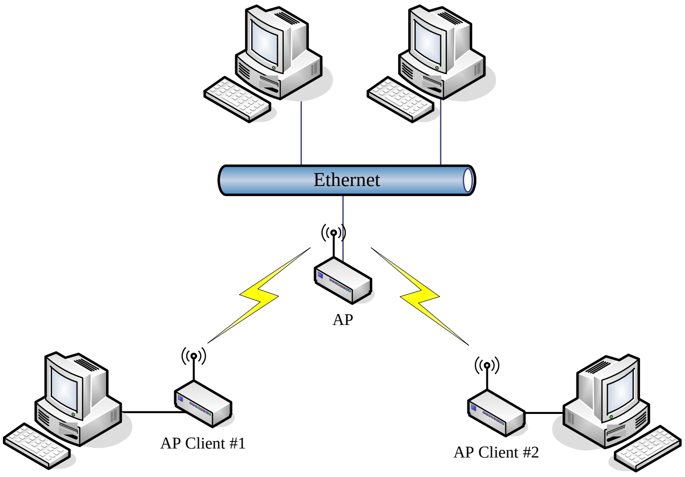
   Wireless Distribution System, this mode serves as a wireless repeater, only devices with WDS function supported can connect to it, all the wireless clients can’t survey and connect the device when the mode is selected.

4. AP+WDS

   Support both AP and WDS functions, the wireless clients and devices with WDS function supported can survey and connect to it.

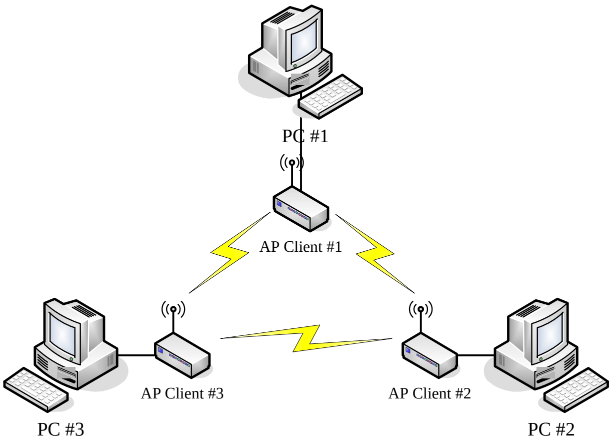
- ***Infrastructure***:

  This type requires the presence of 802.11b/g Access Point. All communication is done via the Access Point.



- ***Ad Hoc***:

  This type provides a peer-to-peer communication between wireless stations. All the communication is done from Client to Client without any Access Point involved. Ad Hoc networking must use the same SSID and channel for establishing the wireless connection.



In client mode, the device can’t support the Router mode function including Firewall and WAN settings.

SSID:

The SSID is a unique identifier that wireless networking devices use to establish and maintain wireless connectivity. Multiple access point/bridges on a network or sub-network can use the same SSID. SSIDs are case sensitive and can contain up to 32 alphanumeric characters. Do not include spaces in your SSID.

Channel Number

The following table is the available frequencies (in MHz) for the 2.4-GHz radio:

Channel No.	Frequency	Country Domain
1	2412	Americas, EMEA, Japan, and China
2	2417	Americas, EMEA, Japan, and China
3	2422	Americas, EMEA, Japan, Israel, and China

4	2427	Americas, EMEA, Japan, Israel, and China
5	2432	Americas, EMEA, Japan, Israel, and China
6	2437	Americas, EMEA, Japan, Israel, and China
7	2442	Americas, EMEA, Japan, Israel, and China
8	2447	Americas, EMEA, Japan, Israel, and China
9	2452	Americas, EMEA, Japan, Israel, and China
10	2457	Americas, EMEA, Japan, and China
11	2462	Americas, EMEA, Japan, and China
12	2467	EMEA and Japan only
13	2472	EMEA and Japan only
14	2484	Japan only

When set to “Auto”, the device will find the least-congested channel for use.

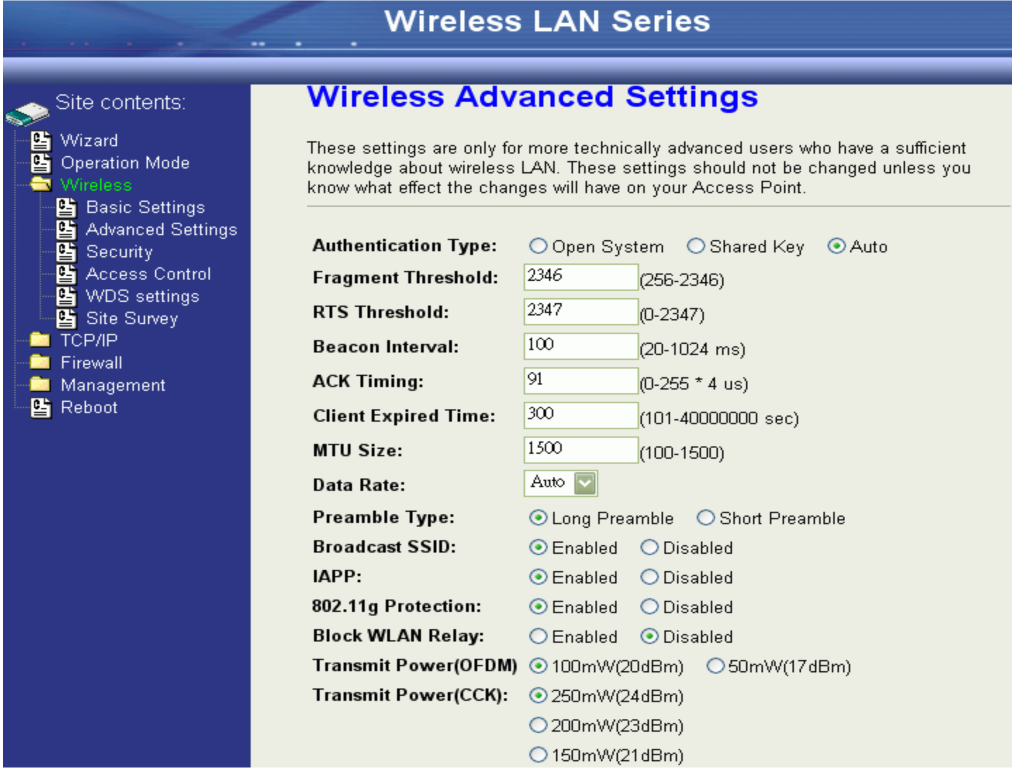
Associated Client

Show the information of active wireless client stations that connected to the device.

Advanced Settings

These settings are only for more technically advanced users who have sufficient knowledge about wireless LAN. These settings should not be changed unless you know what effect the changes will have on your device. The default setting is optimized for the normal operation. For specific application, setting configuration will required highly attention to reach optimistic condition.

Note：
Any unreasonable value change to default setting will reduce the throughput of the device.



Wireless Advanced Settings

These settings are only for more technically advanced users who have a sufficient knowledge about wireless LAN. These settings should not be changed unless you know what effect the changes will have on your Access Point.

Authentication Type:	○ Open System ○ Shared Key ● Auto
Fragment Threshold:	2346 (256-2346)
RTS Threshold:	2347 (0-2347)
Beacon Interval:	100 (20-1024 ms)
ACK Timing:	91 (0-255 * 4 us)
Client Expired Time:	300 (101-40000000 sec)
MTU Size:	1500 (100-1500)
Data Rate:	Auto
Preamble Type:	● Long Preamble ○ Short Preamble
Broadcast SSID:	● Enabled ○ Disabled
IAPP:	● Enabled ○ Disabled
802.11g Protection:	● Enabled ○ Disabled
Block WLAN Relay:	○ Enabled ● Disabled
Transmit Power(OFDM)	● 100mW(20dBm) ○ 50mW(17dBm)
Transmit Power(CCK):	● 250mW(24dBm) ○ 200mW(23dBm) ○ 150mW(21dBm)

Authentication Type

The device supports two Authentication Types “Open system” and “Shared Key”. When you select “Share Key”, you need to setup “WEP” key in “Security” page (See the next section). The default setting is “Auto”. The wireless client can associate with the device by using one of the two types.

Fragment Threshold

The fragmentation threshold determines the size at which packets are fragmented (sent as several pieces instead of as one block). Use a low setting in areas where communication is poor or where there is a great deal of radio interference. This function will help you to improve the network performance.

RTS Threshold

The RTS threshold determines the packet size at which the radio issues a request to send (RTS) before sending the packet. A low RTS Threshold setting can be useful in areas where many client devices are associating with the device, or in areas where the clients are far apart and can detect only the device and not each other. You can enter a setting ranging from 0 to 2347 bytes.

Data Rate

The standard IEEE 802.11b/11g supports 1, 2, 5.5, 11 / 6, 9, 12, 18, 24, 36, 48 and 54 Mbps data rates. You can choose the rate that the device uses for data transmission. The default value is “auto”. The device will use the highest possible selected transmission rate.

Beacon Interval

The beacon interval is the amount of time between access point beacons in mini-seconds. The default beacon interval is 100.

Broadcast SSID

Broadcasting the SSID will let your wireless clients find the device automatically. If you are building a public Wireless Network, disable this function can provide better security. Every wireless stations located within the coverage of the device must connect this device by manually configure the SSID in your client settings.

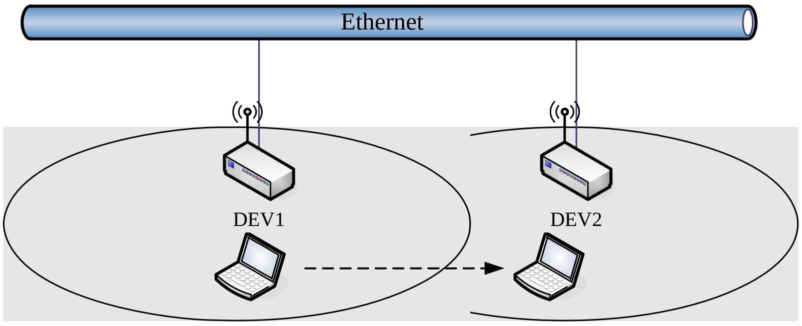
Int. Roaming

This function will let Wireless Stations roam among a network environment with multiple devices. Wireless Stations are able to switch from one device to another as they move between the coverage areas. Users can have more wireless working range. An example as the following figure

You should comply with the following instructions to roam among the wireless coverage areas.

Note： **For implementing the roaming function, the setting MUST comply the following two items.**

- All the devices must be in the same subnet network and the SSID must be the same.
- If you use the 802.1x authentication, you need to have the user profile in these devices for the roaming station.



Wireless Station moves
between the coverage areas

Block WLAN Relay (Isolate Client)

The device supports isolation function. If you are building a public Wireless Network, enable this function can provide better security. The device will block packets between wireless clients (relay). All the wireless clients connected to the device can’t see each other.

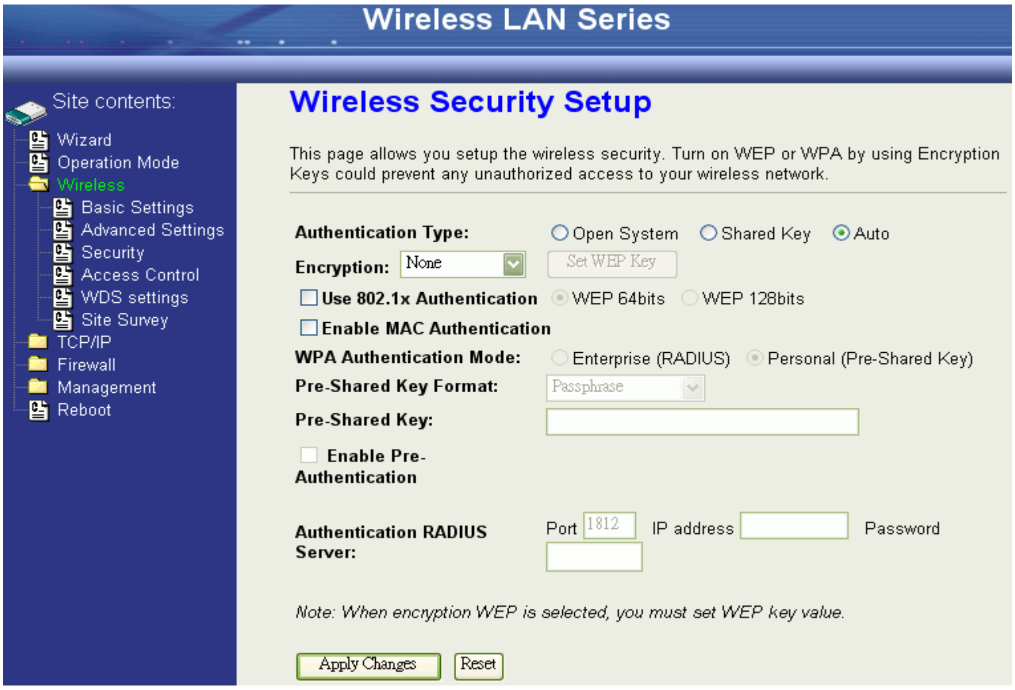
Transmit Power

The device supports four transmission output power levels 250, 200, 150 and 100mW for CCK (802.11b) mode and two transmission output power levels 100 and 50mW for OFDM (802.11g) mode. User can adjust the power level to change the coverage of the device. Every wireless stations located within the coverage of the device also needs to have the high power radio. Otherwise the wireless stations only can survey the device, but can’t establish connection with device.

Configuring Wireless Security

This device provides complete wireless security function include WEP, 802.1x, WPA-TKIP, WPA2-AES and WPA2-Mixed in different mode (see the Security Support Table).

The default security setting of the encryption function is disabled. Choose your preferred security setting depending on what security function you need.



Wireless Security Setup

This page allows you setup the wireless security. Turn on WEP or WPA by using Encryption Keys could prevent any unauthorized access to your wireless network.

Authentication Type: ○ Open System ○ Shared Key ● Auto

Encryption: None

□ Use 802.1x Authentication ● WEP 64bits ○ WEP 128bits

□ Enable MAC Authentication

WPA Authentication Mode: ○ Enterprise (RADIUS) ● Personal (Pre-Shared Key)

Pre-Shared Key Format: Passphrase

Pre-Shared Key:

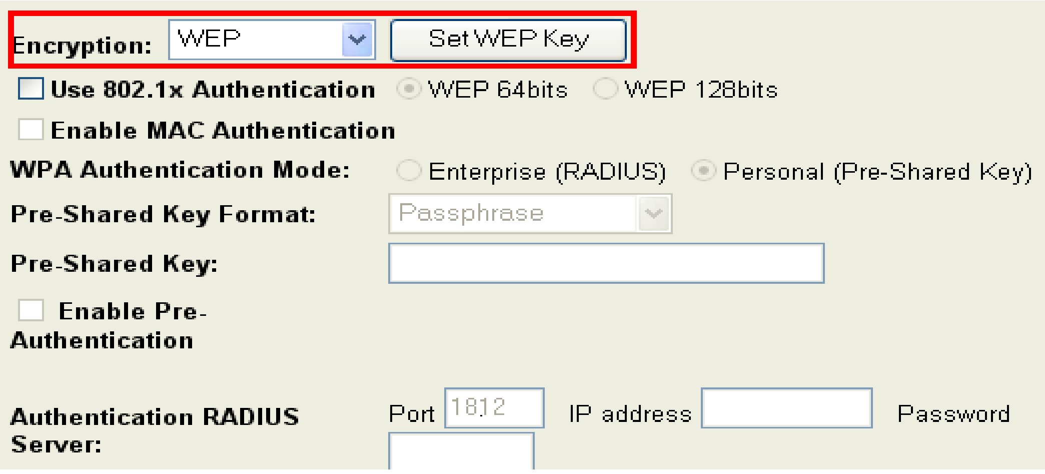
□ Enable Pre-Authentication

Authentication RADIUS Server: Port 1812 IP address Password

Note: When encryption WEP is selected, you must set WEP key value.

WEP Encryption Setting

Wired Equivalent Privacy (WEP) is implemented in this device to prevent unauthorized access to your wireless network. The WEP setting must be as same as each client in your wireless network. For more secure data transmission, you can change encryption type to "WEP" and click the "Set WEP Key" button to open the "Wireless WEP Key setup" page.



Encryption: WEP

□ Use 802.1x Authentication ● WEP 64bits ○ WEP 128bits

□ Enable MAC Authentication

WPA Authentication Mode: ○ Enterprise (RADIUS) ● Personal (Pre-Shared Key)

Pre-Shared Key Format: Passphrase

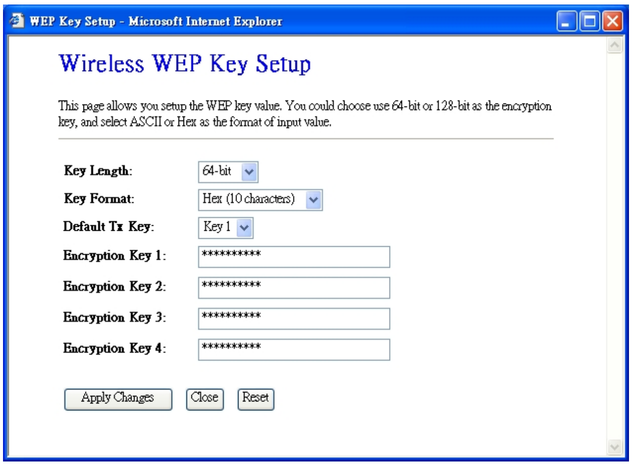
Pre-Shared Key:

□ Enable Pre-Authentication

Authentication RADIUS Server: Port 1812 IP address Password

When you decide to use the WEP encryption to secure your WLAN, please refer to the following setting of the WEP encryption:

- 64-bit WEP Encryption：64-bit WEP keys are as same as the encryption method of 40-bit WEP. You can input 10 hexadecimal digits (0~9, a~f or A~F) or 5 ACSII chars.
- 128-bit WEP Encryption：128-bit WEP keys are as same as the encryption method of 104-bit WEP. You can input 26 hexadecimal digits (0~9, a~f or A~F) or 10 ACSII chars.
- The Default Tx Key field decides which of the four keys you want to use in your WLAN environment.



Wireless WEP Key Setup

This page allows you setup the WEP key value. You could choose use 64-bit or 128-bit as the encryption key, and select ASCII or Hex as the format of input value.

Key Length: 64-bit

Key Format: Hex (10 characters)

Default Tx Key: Key 1

Encryption Key 1: **********

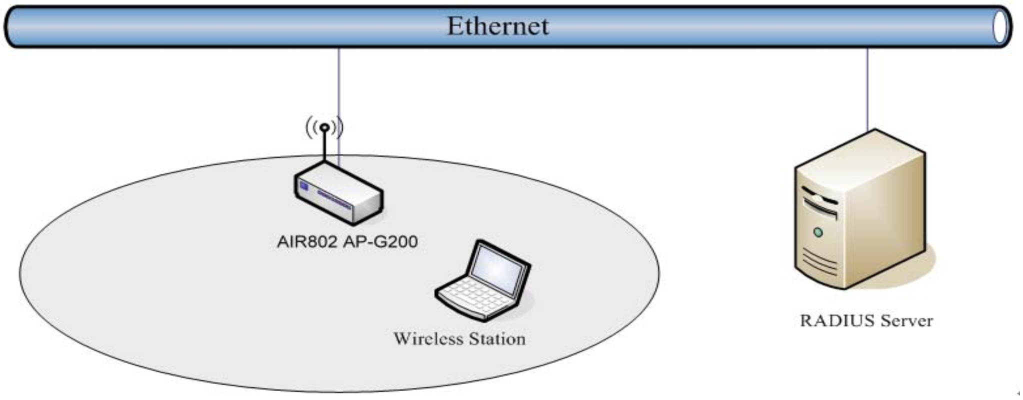
Encryption Key 2: **********

Encryption Key 3: **********

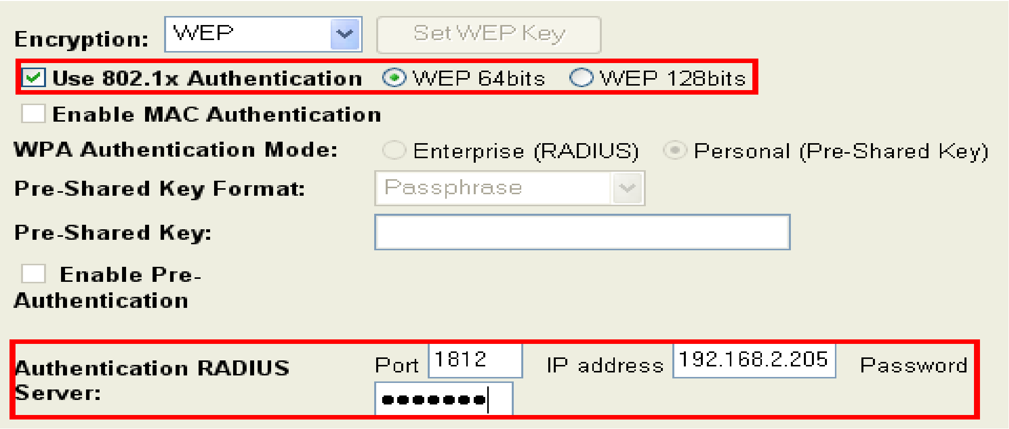
Encryption Key 4: **********

WEP Encryption with 802.1x Setting

The device supports external RADIUS Server that can secure networks against unauthorized access. If you use the WEP encryption, you can also use the RADIUS server to check the admission of the users. By this way every user must use a valid account before accessing the Wireless LAN and requires a RADIUS or other authentication server on the network. An example is shown as following.



You should choose WEP 64 or 128 bit encryption to fit with your network environment first. Then add user accounts and the target device to the RADIUS server. In the device , you need to specify the IP address、Password (Shared Secret) and Port number of the target RADIUS server.



Encryption: WEP Set WEP Key

☑ Use 802.1x Authentication ● WEP 64bits ○ WEP 128bits

□ Enable MAC Authentication

WPA Authentication Mode: ○ Enterprise (RADIUS) ● Personal (Pre-Shared Key)

Pre-Shared Key Format: Passphrase

Pre-Shared Key:

□ Enable Pre-Authentication

Authentication RADIUS Server: Port 1812 IP address 192.168.2.205 Password ••••••••

WPA Encryption Setting

WPA feature provides a high level of assurance for end-users and administrators that their data will remain private and access to their network restricted to authorized users. You can choose the WPA encryption and select the Authentication Mode.

WPA Authentication Mode

This device supports two WPA modes. For personal user, you can use the Pre-shared Key to enhance your security setting. This mode requires only an access point and client station that supports WPA-PSK. For Enterprise, authentication is achieved via WPA RADIUS Server. You need a RADIUS or other authentication server on the network.

- **Enterprise (RADIUS):**

  When WPA Authentication mode is Enterprise (RADIUS), you have to add user accounts and the target device to the RADIUS Server. In the device , you need to specify the IP address、Password (Shared Secret) and Port number of the target RADIUS server.

- **Pre-Share Key:**

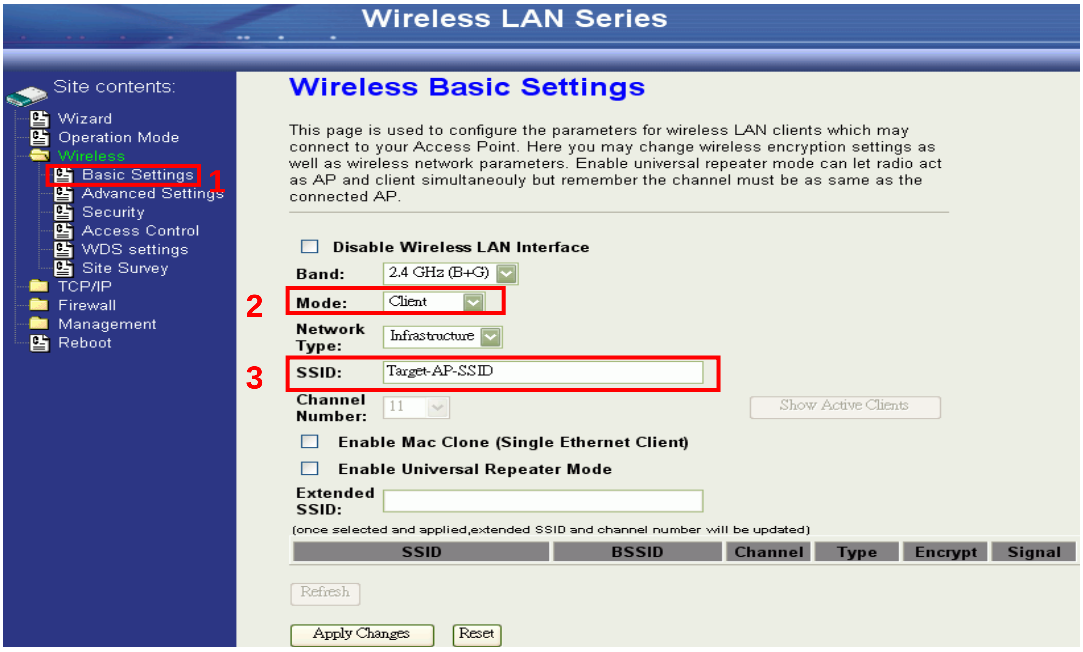
  This mode requires only an access point and client station that supports WPA-PSK. The WPA-PSK settings include Key Format, Length and Value. They must be as same as each wireless client in your wireless network. When Key format is Passphrase, the key value should have 8~63 ACSII chars. When Key format is Hex, the key value should have 64 hexadecimal digits (0~9, a~f or A~F).

Configuring as WLAN Client Adapter

This device can be configured as a wireless Ethernet adapter. In this mode, the device can connect to the other wireless stations (Ad-Hoc network type) or Access Point (Infrastructure network type) and you don't need to install any driver.

Quick start to configure

Step 1. In "Basic Settings" page, change the Mode to "Client" mode. And key in the SSID of the AP you want to connect then press "Apply Changes" button to apply the change.



Wireless Basic Settings

This page is used to configure the parameters for wireless LAN clients which may connect to your Access Point. Here you may change wireless encryption settings as well as wireless network parameters. Enable universal repeater mode can let radio act as AP and client simultaneouly but remember the channel must be as same as the connected AP.

☐ Disable Wireless LAN Interface

Band: 2.4 GHz (B+G)

Mode: Client

Network Type: Infrastructure

SSID: Target-AP-SSID

Channel Number: 11

☐ Enable Mac Clone (Single Ethernet Client)

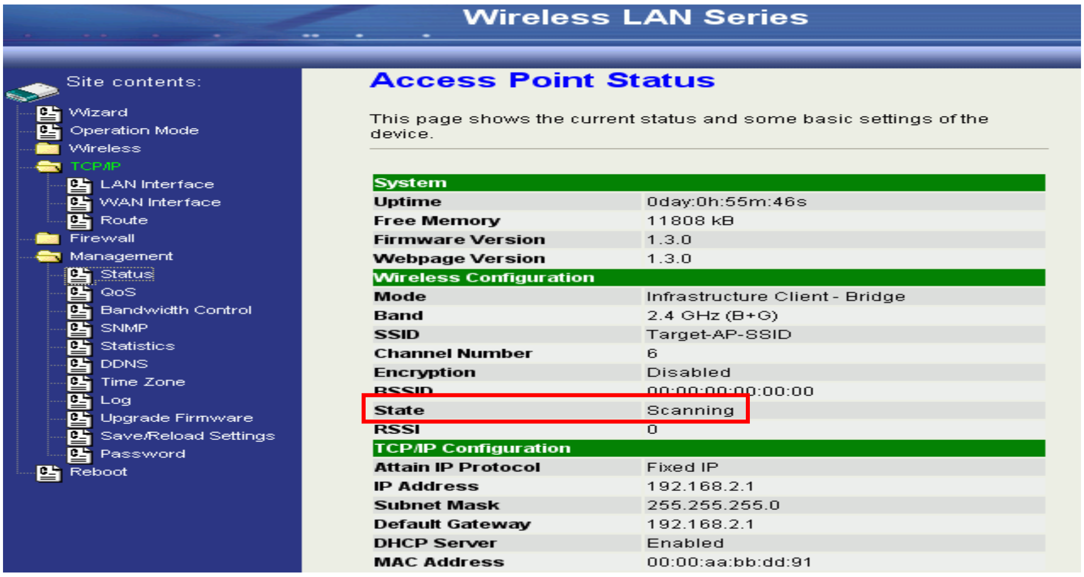
☐ Enable Universal Repeater Mode

Extended SSID:

(once selected and applied,extended SSID and channel number will be updated)

SSID	BSSID	Channel	Type	Encrypt	Signal

Step 2. Check the status of connection in "Status" web page



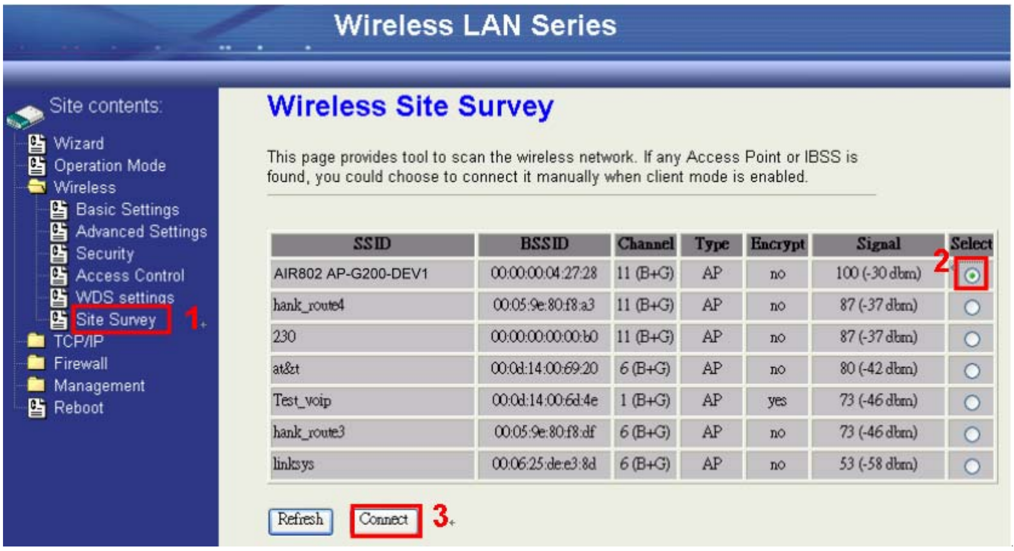
Access Point Status

This page shows the current status and some basic settings of the device.

System	
Uptime	0day:0h:55m:46s
Free Memory	11808 kB
Firmware Version	1.3.0
Webpage Version	1.3.0
Wireless Configuration	
Mode	Infrastructure Client - Bridge
Band	2.4 GHz (B+G)
SSID	Target-AP-SSID
Channel Number	6
Encryption	Disabled
BSSID	00:00:00:00:00:00
State	Scanning
RSSI	0
TCP/IP Configuration	
Attain IP Protocol	Fixed IP
IP Address	192.168.2.1
Subnet Mask	255.255.255.0
Default Gateway	192.168.2.1
DHCP Server	Enabled
MAC Address	00:00:aa:bb:dd:91

The alternative way to configure as following:

Step 1. In "Wireless Site Survey" page, select one of the SSIDs you want to connect and then press “Connect” button to establish the link.



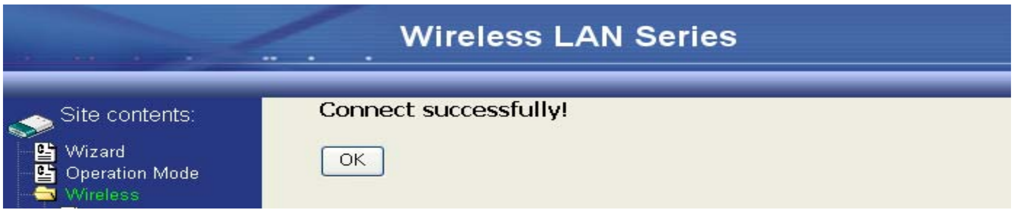
Wireless Site Survey

This page provides tool to scan the wireless network. If any Access Point or IBSS is found, you could choose to connect it manually when client mode is enabled.

SSID	BSSID	Channel	Type	Encrypt	Signal	Select
AIR802 AP-G200-DEV1	00:00:00:04:27:28	11 (B+G)	AP	no	100 (-30 dbm)	●
hank_route4	00:05:9e:80:f8:a3	11 (B+G)	AP	no	87 (-37 dbm)	○
230	00:00:00:00:00:b0	11 (B+G)	AP	no	87 (-37 dbm)	○
at&t	00:0d:14:00:69:20	6 (B+G)	AP	no	80 (-42 dbm)	○
Test_voip	00:0d:14:00:6d:4e	1 (B+G)	AP	yes	73 (-46 dbm)	○
hank_route3	00:05:9e:80:f8:df	6 (B+G)	AP	no	73 (-46 dbm)	○
linksys	00:06:25:de:e3:8d	6 (B+G)	AP	no	53 (-58 dbm)	○

Refresh Connect

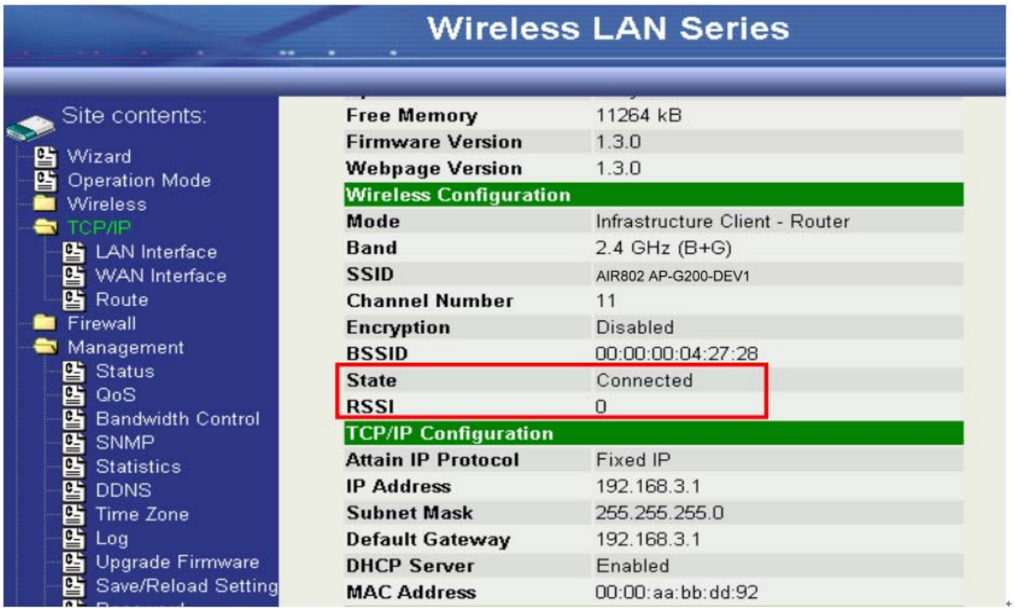
Step 2. If the linking is established successfully. It will show the message “Connect successfully”. Then press “OK”.



Connect successfully!

OK

Step 3. Then you can check the linking information in “Status” page.



Free Memory	11264 kB
Firmware Version	1.3.0
Webpage Version	1.3.0
Wireless Configuration	
Mode	Infrastructure Client - Router
Band	2.4 GHz (B+G)
SSID	AIR802 AP-G200-DEV1
Channel Number	11
Encryption	Disabled
BSSID	00:00:00:04:27:28
State	Connected
RSSI	0
TCP/IP Configuration	
Attain IP Protocol	Fixed IP
IP Address	192.168.3.1
Subnet Mask	255.255.255.0
Default Gateway	192.168.3.1
DHCP Server	Enabled
MAC Address	00:00:aa:bb:dd:92

Note ：

If the available network requires authentication and data encryption, you need to setup the authentication and encryption before step1 and all the settings must be as same as the Access Point or Station. About the detail authentication and data encryption settings, please refer the security section.

Authentication Type

In client mode, the device also supports two Authentication Types “Open system” and “Shared Key”. Although the default setting is “Auto”, not every Access Points can support “Auto” mode. If the authentication type on the Access Point is knew by user, we suggest to set the authentication type as same as the Access Point.

Data Encryption

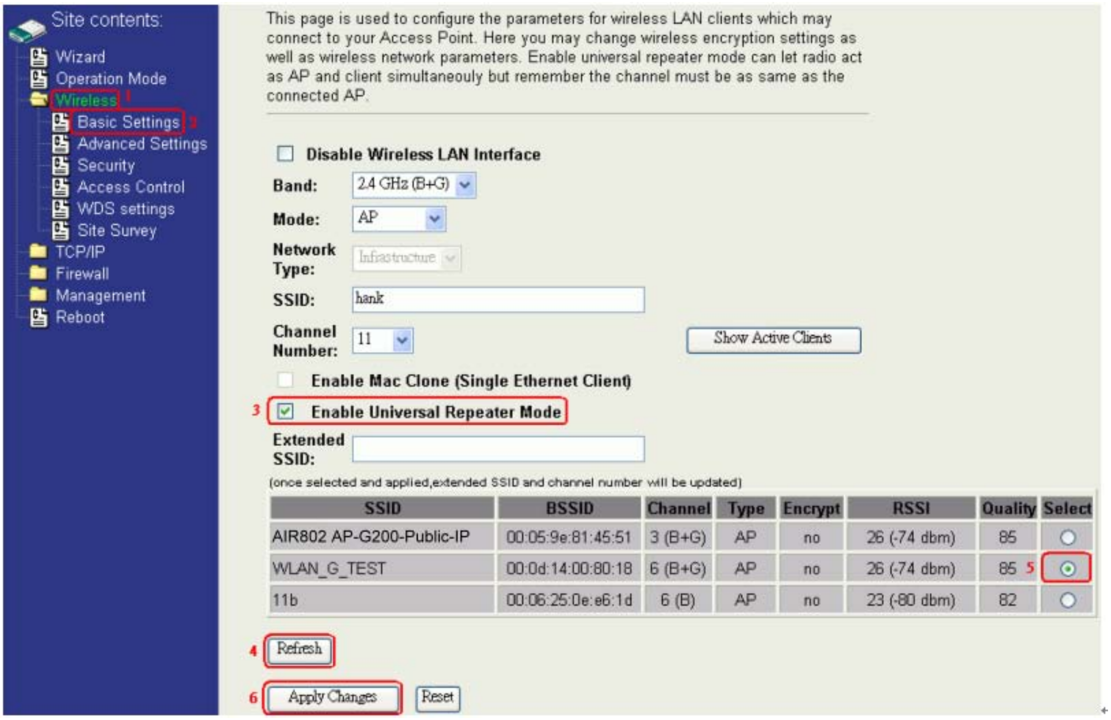
In client mode, the device supports WEP and WPA Personal/Enterprise except WPA2 mixed mode data encryption. About the detail data encryption settings, please refer the security section.

Configuring Universal Repeater

This device can be configured as a Repeater. In this mode, the device can extend available wireless range of other AP let user can link the network that they want, Also the device working as AP and Repeater same time.

Following two ways describe how to make Universal Repeater effective.

1. Enable Universal Repeater Mode and then select a SSID in the Table that you want. Final click Apply Changes button to take effective. **(Click Refresh button to make table renew)**



This page is used to configure the parameters for wireless LAN clients which may connect to your Access Point. Here you may change wireless encryption settings as well as wireless network parameters. Enable universal repeater mode can let radio act as AP and client simultaneouly but remember the channel must be as same as the connected AP.

□ Disable Wireless LAN Interface

Band: 2.4 GHz (B+G)

Mode: AP

Network Type: Infrastructure

SSID: hank

Channel Number: 11

□ Enable Mac Clone (Single Ethernet Client)

☑ Enable Universal Repeater Mode

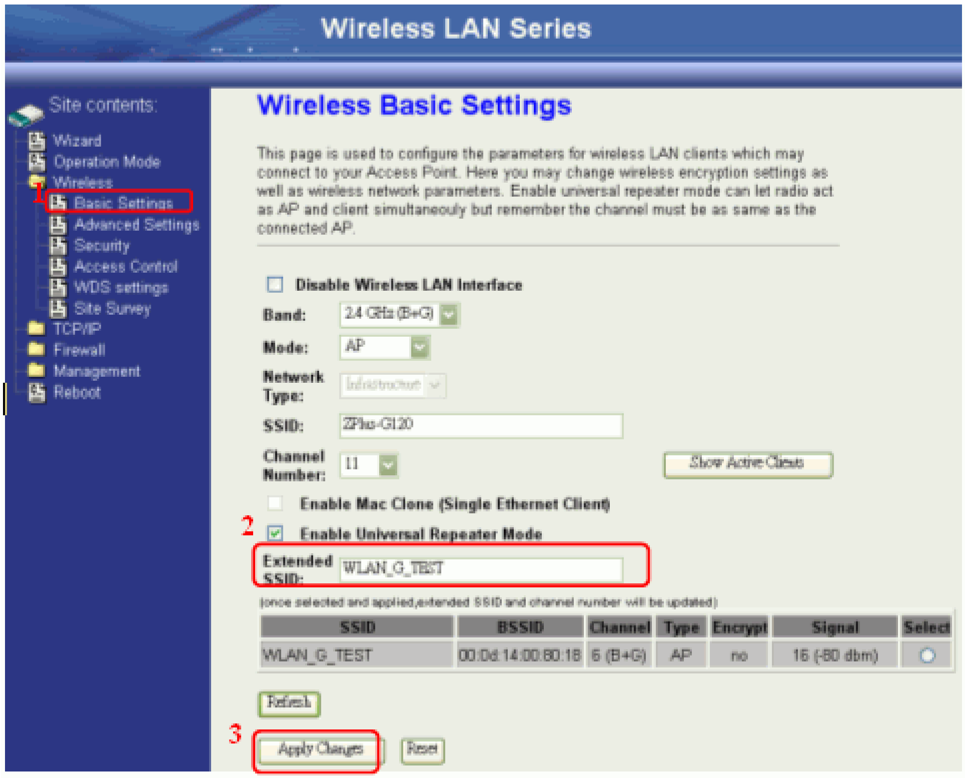
Extended SSID:

(once selected and applied,extended SSID and channel number will be updated)

SSID	BSSID	Channel	Type	Encrypt	RSSI	Quality	Select
AIR802 AP-G200-Public-IP	00:05:9e:81:45:51	3 (B+G)	AP	no	26 (-74 dbm)	85	○
WLAN_G_TEST	00:0d:14:00:80:18	6 (B+G)	AP	no	26 (-74 dbm)	85	●
11b	00:06:25:0e:e6:1d	6 (B)	AP	no	23 (-80 dbm)	82	○

Note: Under **AP、WDS and AP+WDS mode**, The Universal Repeater can take effective.

2. Enter specific SSID in the Extended SSID field and then click Apply Changes button to take effective.



Wireless Basic Settings

This page is used to configure the parameters for wireless LAN clients which may connect to your Access Point. Here you may change wireless encryption settings as well as wireless network parameters. Enable universal repeater mode can let radio act as AP and client simultaneouly but remember the channel must be as same as the connected AP.

□ **Disable Wireless LAN Interface**

Band: 2.4 GHz (B+G)

Mode: AP

Network Type: Infrastructure

SSID: ZPlus-G120

Channel Number: 11

□ **Enable Mac Clone (Single Ethernet Client)**

☑ **Enable Universal Repeater Mode**

Extended SSID: WLAN_G_TEST

(once selected and applied,extended SSID and channel number will be updated)

SSID	BSSID	Channel	Type	Encrypt	Signal	Select
WLAN_G_TEST	00:0d:14:00:80:18	6 (B+G)	AP	no	16 (-80 dbm)	○

Ch 3. Configuring WDS

Wireless Distribution System (WDS) uses wireless media to communicate with the other devices, like the Ethernet does. This function allows one or more remote LANs connect with the local LAN. To do this, you must set these devices in the same channel and set MAC address of other devices you want to communicate with in the WDS AP List and then enable the WDS.

When you decide to use the WDS to extend your WLAN, please refer the following instructions for configuration.

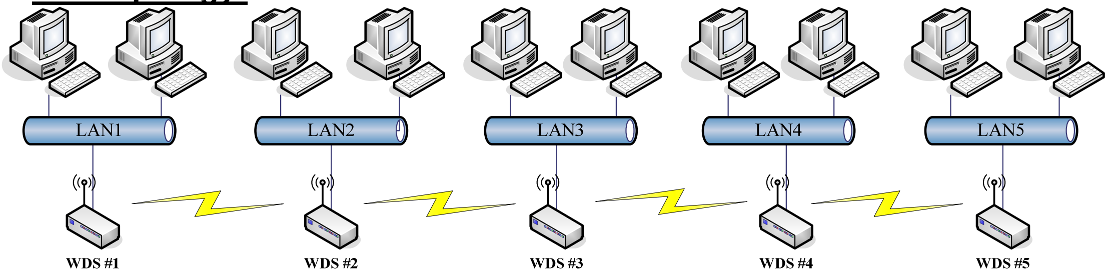
- The bridging devices by WDS must use the same radio channel.
- When the WDS function is enabled, all wireless stations can't connect the device.
- If your network topology has a loop, you need to enable the 802.1d Spanning Tree function.
- You don't need to add all MAC address of devices existed in your network to WDS AP List. WDS AP List only needs to specify the MAC address of devices you need to directly connect to.
- The bandwidth of device is limited, to add more bridging devices will split the more bandwidth to every bridging device.

WDS network topology

In this section, we will demonstrate the WDS network topologies and WDS AP List configuration. You can setup the four kinds of network topologies: bus, star, ring and mesh.

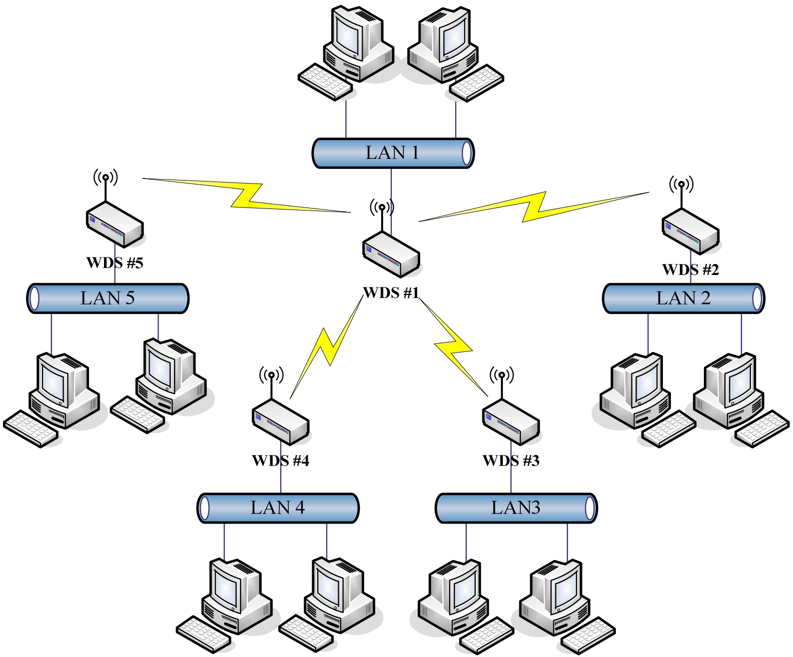
In this case, there are five devices with WDS enabled: WDS1, WDS2, WDS3, WDS4 and WDS5.

Bus topology:



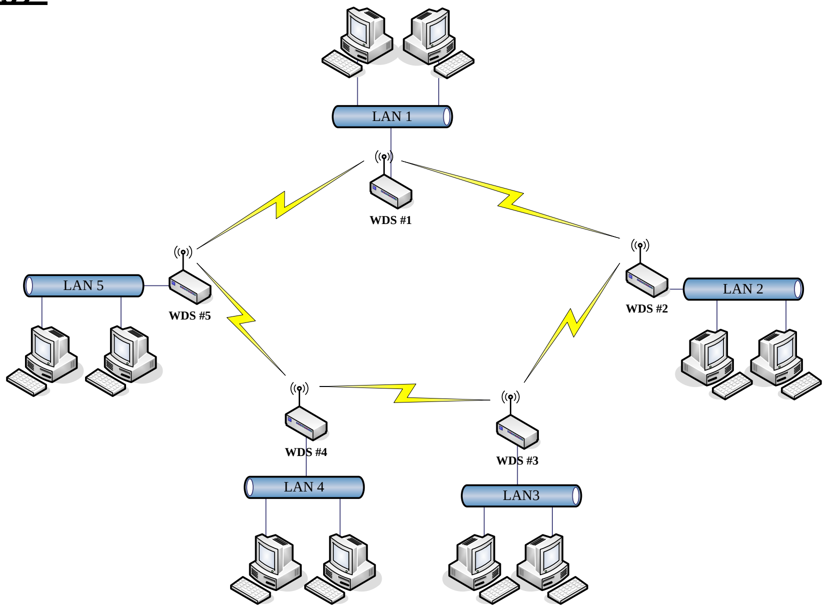
Device	Entries of WDS AP List	Spanning Tree Protocol Required
WDS1	The MAC Address of WDS2	No
WDS2	The MAC Addresses of WDS1 and WDS3	No
WDS3	The MAC Addresses of WDS2 and WDS4	No
WDS4	The MAC Addresses of WDS3 and WDS5	No
WDS5	The MAC Address of WDS4	No

Star topology:



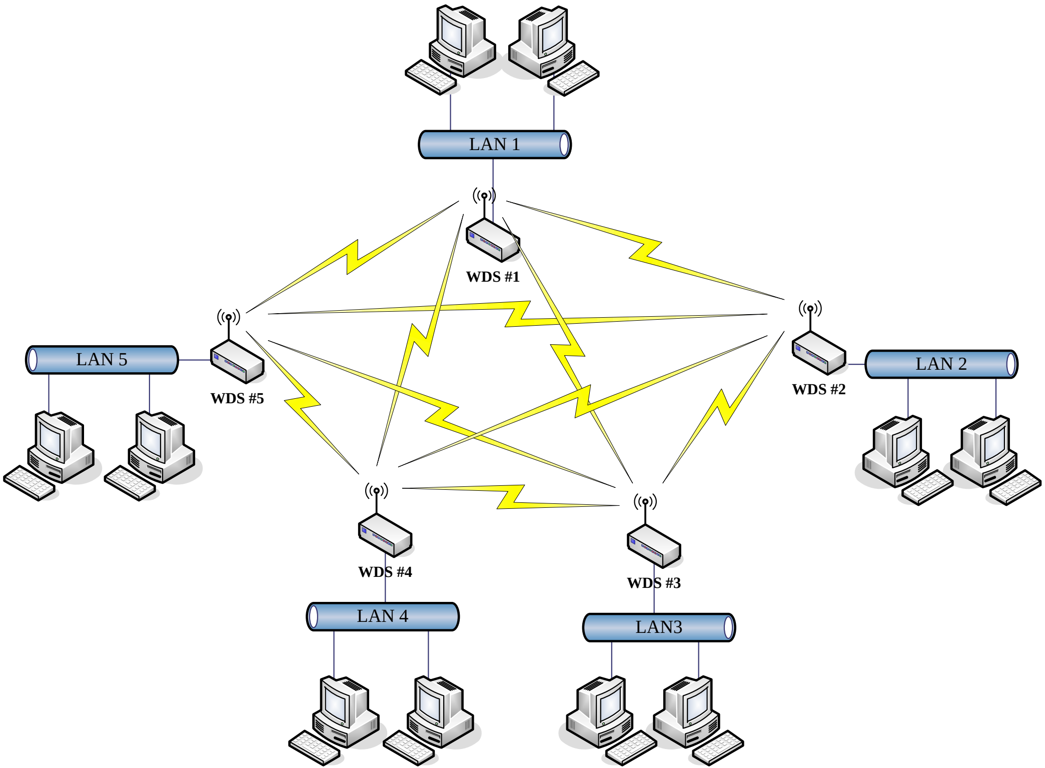
Device	Entries of WDS AP List	Spanning Tree Protocol Required
WDS1	The MAC Addresses of WDS2, WDS3, WDS4 and WDS5	No
WDS2	The MAC Address of WDS1	No
WDS3	The MAC Address of WDS1	No
WDS4	The MAC Address of WDS1	No
WDS5	The MAC Address of WDS1	No

Ring topology:



Device	Entries of WDS AP List	Spanning Tree Protocol Required
WDS1	The MAC Addresses of WDS2 and WDS5	Yes
WDS2	The MAC Addresses of WDS1 and WDS3	Yes
WDS3	The MAC Addresses of WDS2 and WDS4	Yes
WDS4	The MAC Addresses of WDS3 and WDS5	Yes
WDS5	The MAC Addresses of WDS4 and WDS1	Yes

Mesh topology：



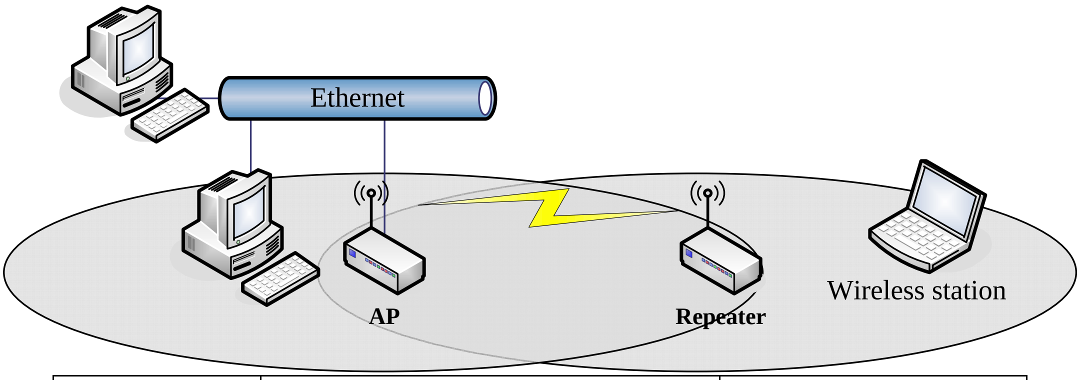
Device	Entries of WDS AP List	Spanning Tree Protocol Required
WDS1	The MAC Addresses of WDS2, WDS3, WDS4 and WDS5	Yes
WDS2	The MAC Addresses of WDS1, WDS3, WDS4 and WDS5	Yes
WDS3	The MAC Addresses of WDS1, WDS2, WDS4 and WDS5	Yes
WDS4	The MAC Addresses of WDS1, WDS2, WDS3 and WDS5	Yes
WDS5	The MAC Addresses of WDS1, WDS2, WDS3 and WDS4	Yes

WDS Application

Wireless Repeater

Wireless Repeater can be used to increase the coverage area of another device (Parent AP). Between the Parent AP and the Wireless Repeater, wireless stations can move among the coverage areas of both devices. When you decide to use the WDS as a Repeater, please refer the following instructions for configuration.

- In AP mode, enable the WDS function.
- You must set these connected devices with the same radio channel and SSID.
- Choose “WDS+AP” mode.
- Using the bus or star network topology.



Description	Entries of WDS AP List	Spanning Tree Protocol Required
Access Point	The MAC Address of Repeater	Yes
Repeater	The MAC Address of Access Point	Yes

Wireless Bridge

Wireless Bridge can establish a wireless connection between two or more Wired LANs. When you decide to use the WDS as a Wireless Bridge, please refer the following instructions for configuration.

- In AP mode, enable the WDS function.
- You must set these connected devices with the same radio channel, but you may use different SSID.
- Choose “WDS” mode for only wireless backbone extension purpose.
- You can use any network topology, please refer the WDS topology section.

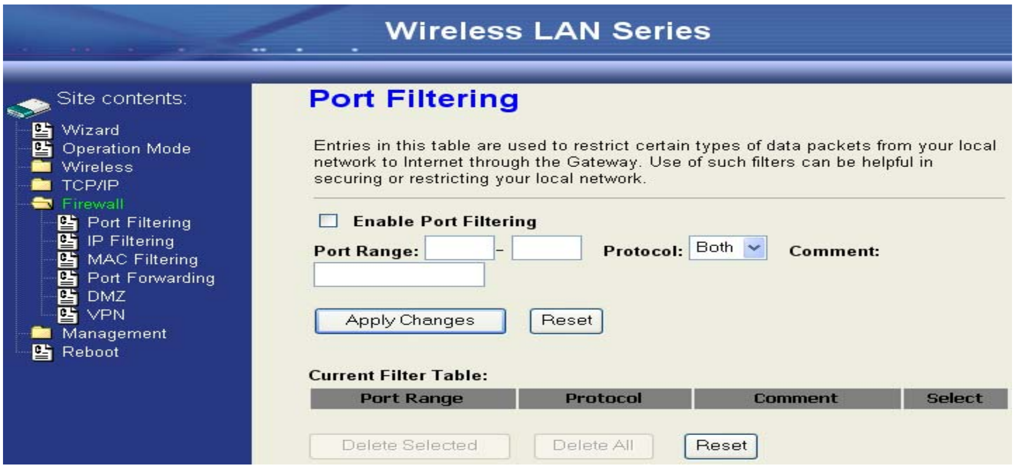
Ch 4. Advanced Configurations

Configuring LAN to WAN Firewall

Filtering function is used to block packets from LAN to WAN. The device supports three kinds of filter Port Filtering, IP Filtering and MAC Filtering. All the entries in current filter table are used to restrict certain types of packets from your local network to through the device. Use of such filters can be helpful in securing or restricting your local network.

Port Filtering

When you enable the Port Filtering function, you can specify a single port or port ranges in current filter table. Once the source port of outgoing packets match the port definition or within the port ranges in the table, the firewall will block those packets from LAN to WAN.



Port Filtering

Entries in this table are used to restrict certain types of data packets from your local network to Internet through the Gateway. Use of such filters can be helpful in securing or restricting your local network.

□ Enable Port Filtering

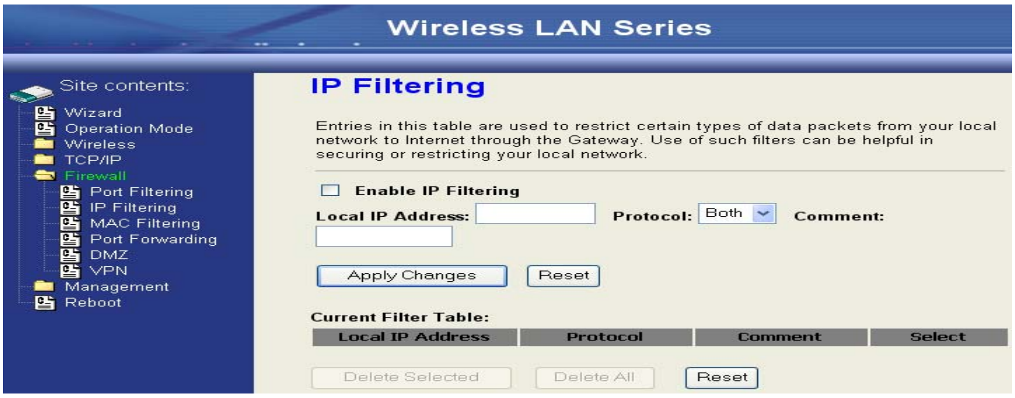
Port Range: ____ - ____ Protocol: Both Comment: ____

Current Filter Table:

Port Range	Protocol	Comment	Select

IP Filtering

When you enable the IP Filtering function, you can specify local IP Addresses in current filter table. Once the source IP address of outgoing packets match the IP Addresses in the table, the firewall will block this packet from LAN to WAN.



IP Filtering

Entries in this table are used to restrict certain types of data packets from your local network to Internet through the Gateway. Use of such filters can be helpful in securing or restricting your local network.

□ Enable IP Filtering

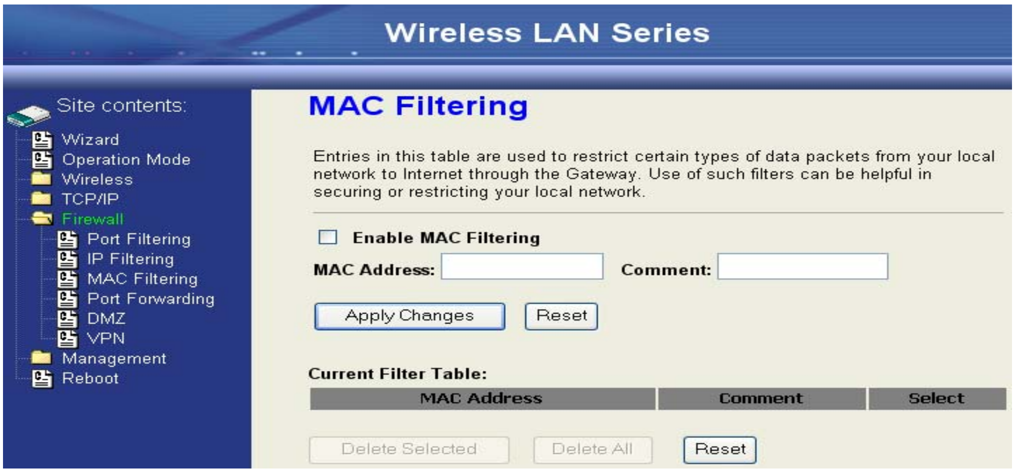
Local IP Address: ____ Protocol: Both Comment: ____

Current Filter Table:

Local IP Address	Protocol	Comment	Select

MAC Filtering

When you enable the MAC Filtering function, you can specify the MAC Addresses in current filter table. Once the source MAC Address of outgoing packets match the MAC Addresses in the table, the firewall will block this packet from LAN to WAN.



MAC Filtering

Entries in this table are used to restrict certain types of data packets from your local network to Internet through the Gateway. Use of such filters can be helpful in securing or restricting your local network.

□ Enable MAC Filtering

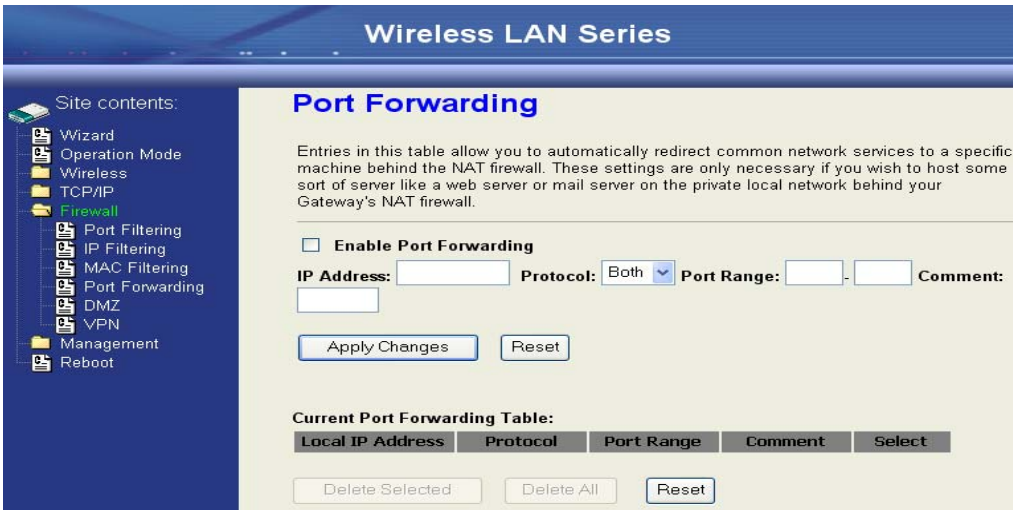
MAC Address: Comment:

Current Filter Table:

MAC Address	Comment	Select

Configuring Port Forwarding (Virtual Server)

This function allows you to automatically redirect common network services to a specific machine behind the NAT firewall. These settings are only necessary if you wish to host some sort of server like a web server or mail server on the private local network behind the device's NAT firewall.



Port Forwarding

Entries in this table allow you to automatically redirect common network services to a specific machine behind the NAT firewall. These settings are only necessary if you wish to host some sort of server like a web server or mail server on the private local network behind your Gateway's NAT firewall.

□ Enable Port Forwarding

IP Address: Protocol: Both Port Range: - Comment:

Current Port Forwarding Table:

Local IP Address	Protocol	Port Range	Comment	Select

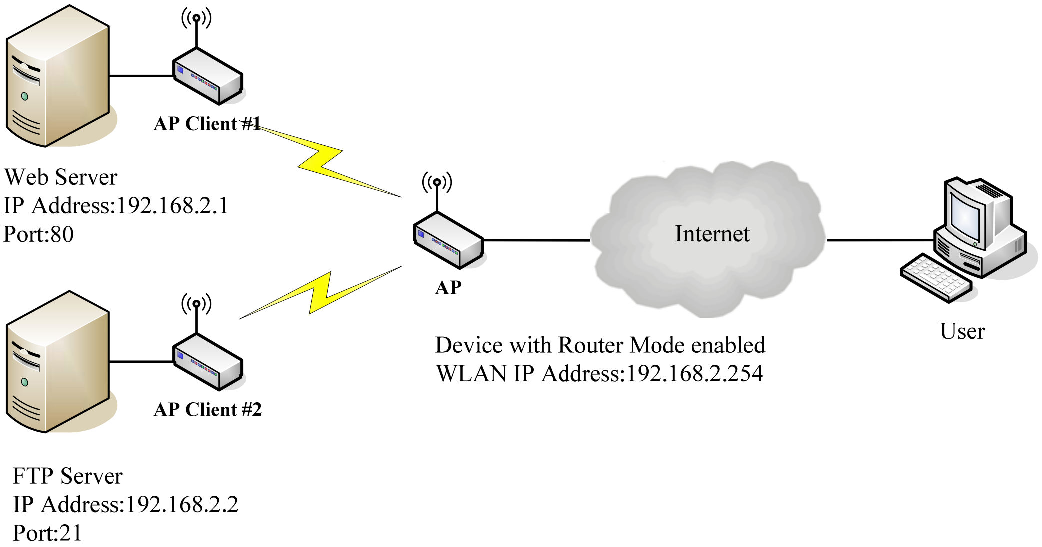
The most often used port numbers are shown in the following table.

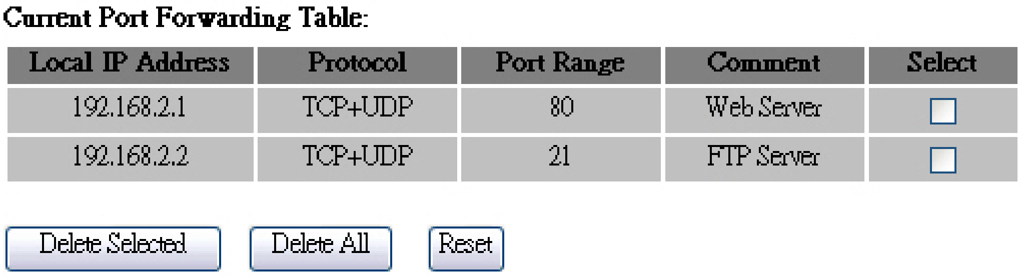
Services	Port Number
ECHO	7
FTP (File Transfer Protocol)	21
Telnet	23
SMTP (Simple Mail Transfer Protocol)	25
DNS (Domain Name System)	53
Finger	79
HTTP (Hyper Text Transfer Protocol)	80
POP3 (Post Protocol)	110
NNTP (Network News Transport Protocol)	119
SNMP (Simple Network Management Protocol)	161
SNMP trap	162

SIP (Session Initiation Protocol)	5060
PPTP (Point-to-Point Tunneling Protocol)	1723

Multiple Servers behind NAT Example:

In this case, there are two PCs in the local network accessible for outside users.

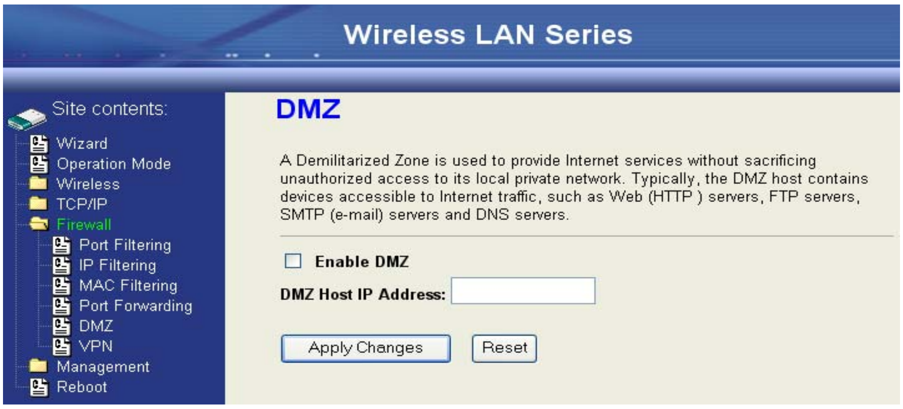



Current Port Forwarding Table:

Local IP Address	Protocol	Port Range	Comment	Select
192.168.2.1	TCP+UDP	80	Web Server	□
192.168.2.2	TCP+UDP	21	FTP Server	□

Configuring DMZ

A Demilitarized Zone is used to provide Internet services without sacrificing unauthorized access to its local private network. Typically, the DMZ host contains devices accessible to Internet traffic, such as Web (HTTP) servers, FTP servers, SMTP (e-mail) servers and DNS servers. So that all inbound packets will be redirected to the computer you set. It also is useful while you run some applications (ex. Internet game) that use uncertain incoming ports.



DMZ

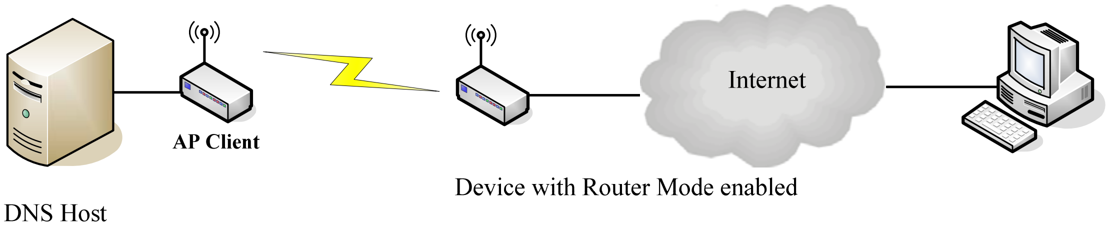
A Demilitarized Zone is used to provide Internet services without sacrificing unauthorized access to its local private network. Typically, the DMZ host contains devices accessible to Internet traffic, such as Web (HTTP) servers, FTP servers, SMTP (e-mail) servers and DNS servers.

□ Enable DMZ

DMZ Host IP Address:

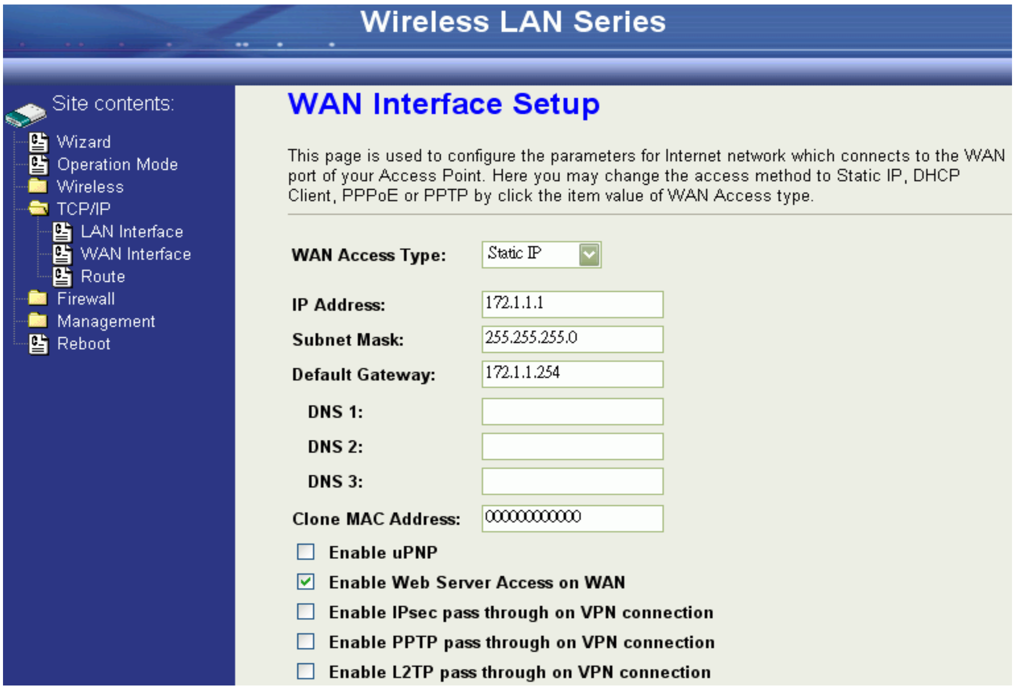
Enable DMZ: Enable the “Enable DMZ”, and then click “Apply Changes” button to save the changes.

DMZ Host IP Address: Input the IP Address of the computer that you want to expose to Internet.



Configuring WAN Interface

The device supports four kinds of IP configuration for WAN interface, including Static IP, DHCP Client, PPPoE and PPTP. You can select one of the WAN Access Types depend on your ISP required. The default WAN Access Type is “Static IP”.



WAN Interface Setup

This page is used to configure the parameters for Internet network which connects to the WAN port of your Access Point. Here you may change the access method to Static IP, DHCP Client, PPPoE or PPTP by click the item value of WAN Access type.

WAN Access Type:	Static IP
IP Address:	172.1.1.1
Subnet Mask:	255.255.255.0
Default Gateway:	172.1.1.254
DNS 1:	
DNS 2:	
DNS 3:	
Clone MAC Address:	000000000000

☐ **Enable uPNP**

☑ **Enable Web Server Access on WAN**

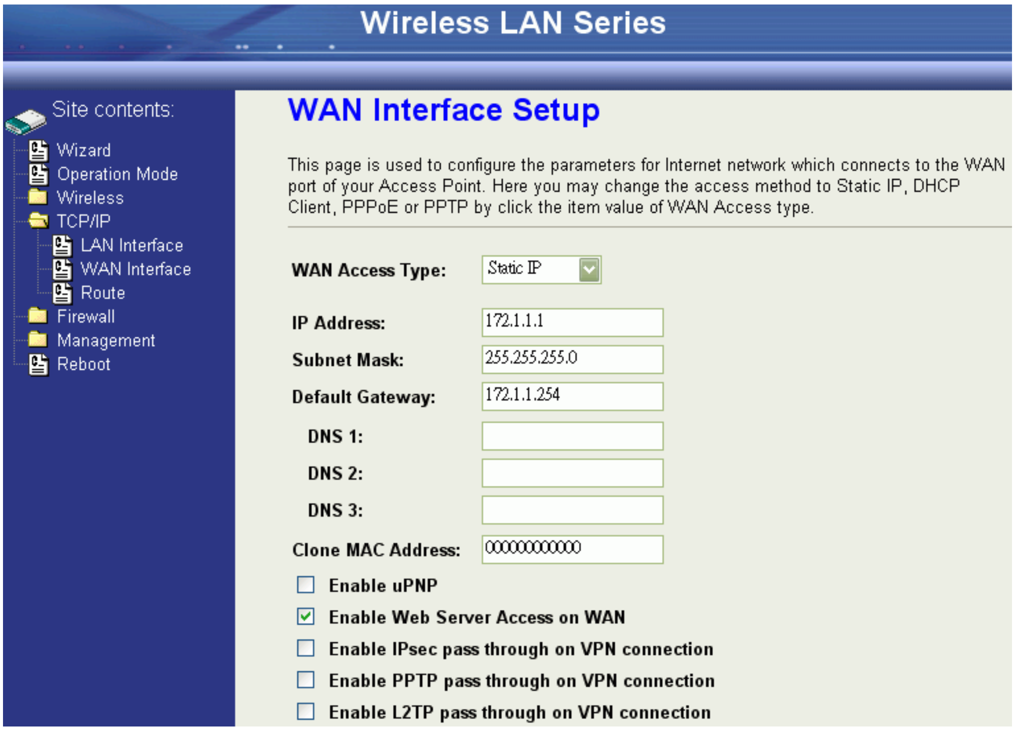
☐ **Enable IPsec pass through on VPN connection**

☐ **Enable PPTP pass through on VPN connection**

☐ **Enable L2TP pass through on VPN connection**

Static IP

You can get the IP configuration data of Static-IP from your ISP. And you will need to fill the fields of IP address, subnet mask, gateway address, and one of the DNS addresses.



WAN Interface Setup

This page is used to configure the parameters for Internet network which connects to the WAN port of your Access Point. Here you may change the access method to Static IP, DHCP Client, PPPoE or PPTP by click the item value of WAN Access type.

WAN Access Type:	Static IP
IP Address:	172.1.1.1
Subnet Mask:	255.255.255.0
Default Gateway:	172.1.1.254
DNS 1:	
DNS 2:	
DNS 3:	
Clone MAC Address:	000000000000

□ Enable uPNP

☑ Enable Web Server Access on WAN

□ Enable IPsec pass through on VPN connection

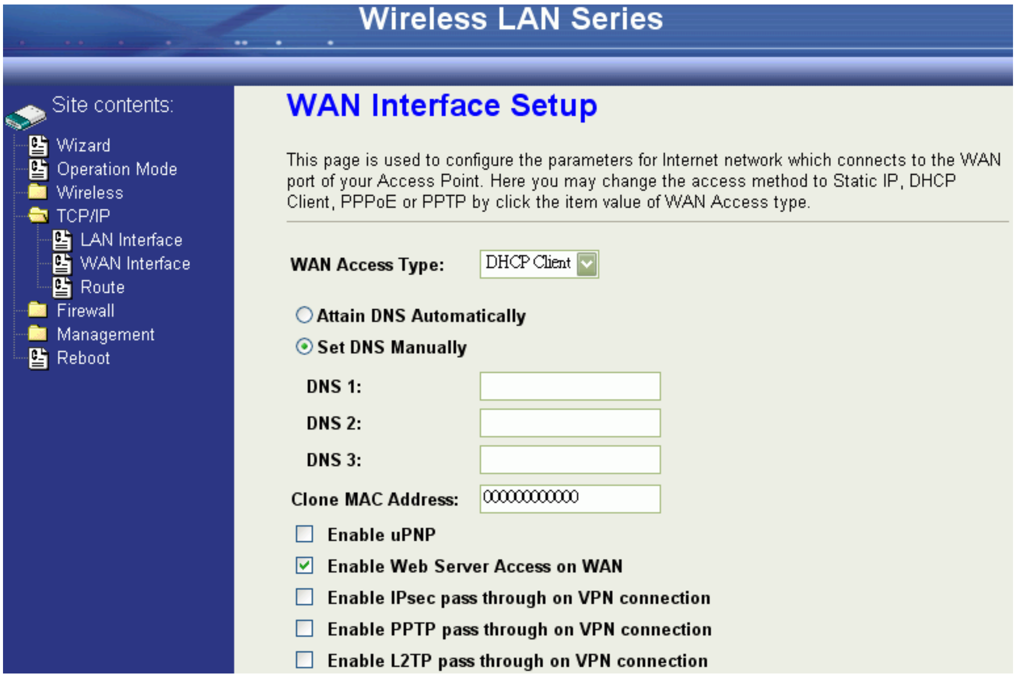
□ Enable PPTP pass through on VPN connection

□ Enable L2TP pass through on VPN connection

IP Address:	The Internet Protocol (IP) address of WAN interface provided by your ISP or MIS. The address will be your network identifier besides your local network.
Subnet Mask:	The number used to identify the IP subnet network, indicating whether the IP address can be recognized on the LAN or if it must be reached through a gateway.
Default Gateway:	The IP address of Default Gateway provided by your ISP or MIS. Default Gateway is the intermediate network device that has knowledge of the network IDs of the other networks in the Wide Area Network, so it can forward the packets to other gateways until they are delivered to the one connected to the specified destination.
DNS 1~3:	The IP addresses of DNS provided by your ISP. DNS (Domain Name Server) is used to map domain names to IP addresses. DNS maintain central lists of domain name/IP addresses and map the domain names in your Internet requests to other servers on the Internet until the specified web site is found.
Clone MAC Address:	Clone device MAC address to the specify MAC address required by your ISP
Enable uPnP:	Enable uPnP, this function allows the device to be found and configured automatically by the system. (Ex. Window XP)

DHCP Client (Dynamic IP)

All IP configuration data besides DNS will obtain from the DHCP server when DHCP-Client WAN Access Type is selected.



WAN Interface Setup

This page is used to configure the parameters for Internet network which connects to the WAN port of your Access Point. Here you may change the access method to Static IP, DHCP Client, PPPoE or PPTP by click the item value of WAN Access type.

WAN Access Type: DHCP Client

○ Attain DNS Automatically

● Set DNS Manually

DNS 1:

DNS 2:

DNS 3:

Clone MAC Address: 000000000000

□ Enable uPNP

☑ Enable Web Server Access on WAN

□ Enable IPsec pass through on VPN connection

□ Enable PPTP pass through on VPN connection

□ Enable L2TP pass through on VPN connection

DNS1~3: The IP addresses of DNS provided by your ISP.

DNS (Domain Name Server) is used to map domain names to IP addresses. DNS maintain central lists of domain name/IP addresses and map the domain names in your Internet requests to other servers on the Internet until the specified web site is found.

Clone MAC Address: Clone device MAC address to the specify MAC address required by your ISP

Enable uPnP: Enable uPnP, this function allows the device to be found and configured automatically by the system. (Ex. Window XP)

PPPoE

When the PPPoE (Point to Point Protocol over Ethernet) WAN Access Type is selected, you must fill the fields of User Name, Password provided by your ISP. The IP configuration will be done when the device successfully authenticates with your ISP.