

4. Access the web server by new IP address "192.168.2.203" then use "Basic Settings" page to change SSID and CHANNEL.

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 an open one for connected AP.

Disable Wireless LAN interface

Band: 2.4 GHz (G+G)

Mode: AP

Network Type: Infrastructure

SSID: DEVS

Channel Number: 5

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	Power

Apply Changes

5. Use the "Status" page to check the settings.

System

Uptime	0day:0h:52m:38s
Free Memory	11236 kB
Firmware Version	1.3.0.6.20060420
Webpage Version	1.3.0.6.20060420

Wireless Configuration

Mode	AP - Bridge
Band	2.4 GHz (G+G)
SSID	DEVS
Channel Number	5
Encryption	Disabled
BSSID	00:05:9e:80:8b:bb
Associated Clients	1
Power(OFDM/G)	22 dbm
Power(CCK/B)	22 dbm

TCP/IP Configuration

Attain IP Protocol	Fixed IP
IP Address	192.168.2.203
Subnet Mask	255.255.255.0
Default Gateway	192.168.2.203
DHCP Server	Enabled
MAC Address	00:05:9e:80:8b:bb

Configure DEV4:

1. Access the web server (http://192.168.2.254) of device from the Ethernet port.

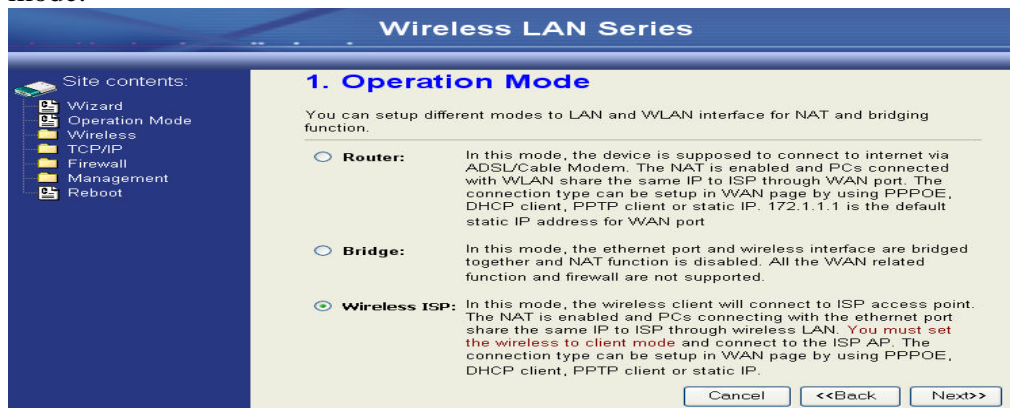
Caution

If you configure multiple devices in the same PC, since the devices have the same default IP address but different MAC addresses, it may cause you unable to access the web server of device. If the situation happens, please try to clean the ARP table of your PC by DOS command “arp -d” then you can access the web server of device using the default IP address.

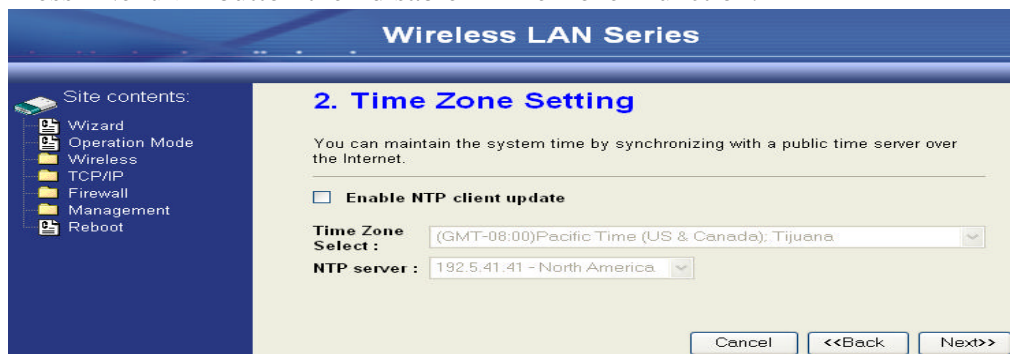
2. Use Wizard page to setup device.



3. Press “Next>>” button then set the “Operation Mode” to “Wireless ISP” mode.



4. Press “Next>>” button then disable “Time Zone” function.



5. Press “Next>>” button then set the IP address of LAN interface.

The screenshot shows the 'Wireless LAN Series' configuration interface. On the left is a 'Site contents' menu with options: Wizard, Operation Mode, Wireless, TCP/IP, Firewall, Management, and Reboot. The main area is titled '3. LAN Interface Setup'. It contains a text box explaining that this page is used to configure parameters for a local area network, including IP address and subnet mask, and notes that a DHCP server should not be present. Below the text are two input fields: 'IP Address' with the value '192.168.3.1' and 'Subnet Mask' with the value '255.255.255.0'. At the bottom right are three buttons: 'Cancel', '<<Back', and 'Next>>'.

6. Press “Next>>” button then select the “DHCP Client” for “WAN Access Type”.

The screenshot shows the 'Wireless LAN Series' configuration interface. On the left is a 'Site contents' menu with options: Wizard, Operation Mode, Wireless, TCP/IP, Firewall, Management, and Reboot. The main area is titled '4. WAN Interface Setup'. It contains a text box explaining that this page is used to configure parameters for an Internet network, including WAN Access Type. Below the text is a dropdown menu for 'WAN Access Type' with 'DHCP Client' selected. At the bottom right are three buttons: 'Cancel', '<<Back', and 'Next>>'.

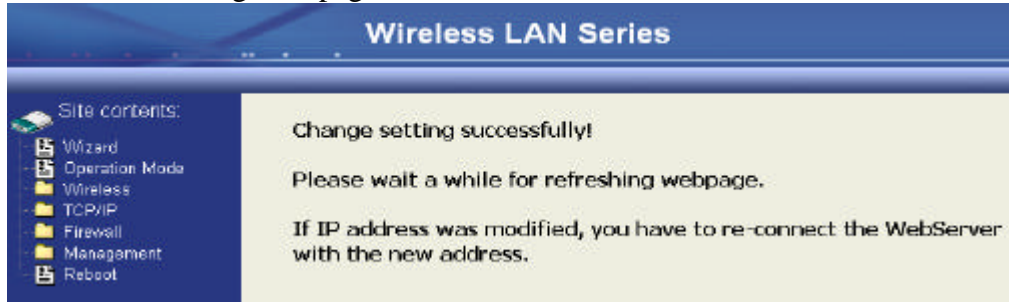
7. Press “Next>>” button then select the “Client” for “mode” and change the SSID to “DEV4”.

The screenshot shows the 'Wireless LAN Series' configuration interface. On the left is a 'Site contents' menu with options: Wizard, Operation Mode, Wireless, TCP/IP, Firewall, Management, and Reboot. The main area is titled '5. Wireless Basic Settings'. It contains a text box explaining that this page is used to configure parameters for wireless LAN clients, including mode and SSID. Below the text are several settings: 'Band' set to '2.4 GHz (B+G)', 'Mode' set to 'Client', 'Network Type' set to 'Infrastructure', and 'SSID' set to 'DEV4'. There is also a 'Channel Number' dropdown set to '5' and an unchecked checkbox for 'Enable Mac Clone (Single Ethernet Client)'. At the bottom right are three buttons: 'Cancel', '<<Back', and 'Next>>'.

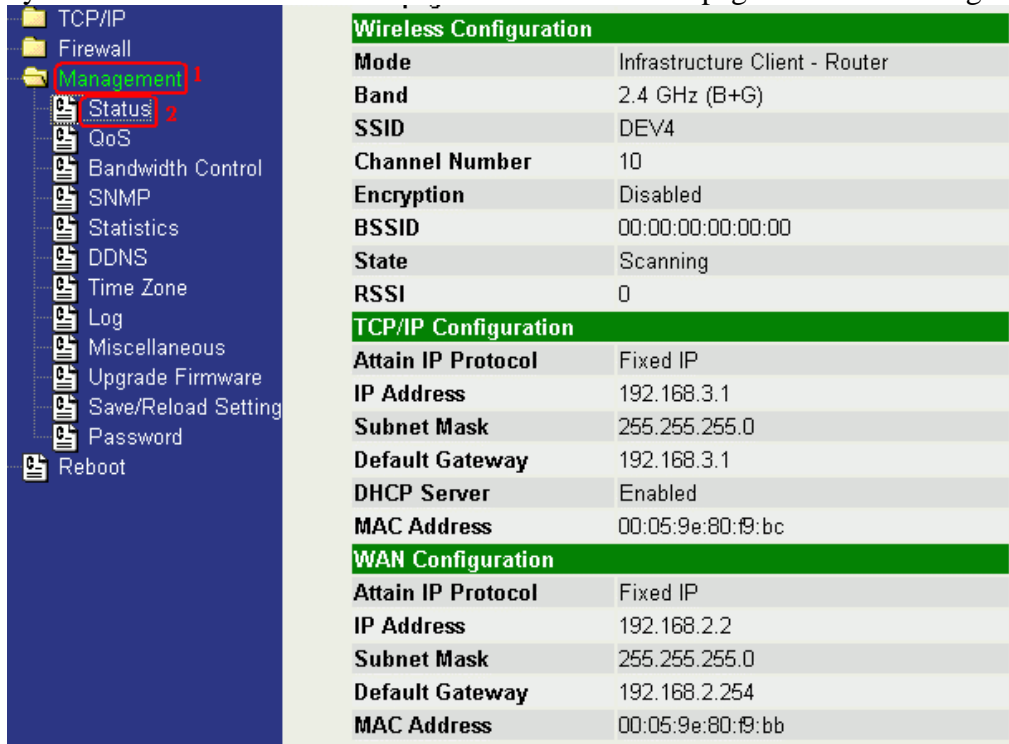
8. Press “Next>>” button then select “None” for “Encryption” then press “Finished” button.

The screenshot shows the 'Wireless LAN Series' configuration interface. On the left is a 'Site contents' menu with options: Wizard, Operation Mode, Wireless, TCP/IP, Firewall, Management, and Reboot. The main area is titled '6. Wireless Security Setup'. It contains a text box explaining that this page allows setting up wireless security, such as WEP or WPA. Below the text is a dropdown menu for 'Encryption' with 'None' selected. At the bottom right are three buttons: 'Cancel', '<<Back', and 'Finished'.

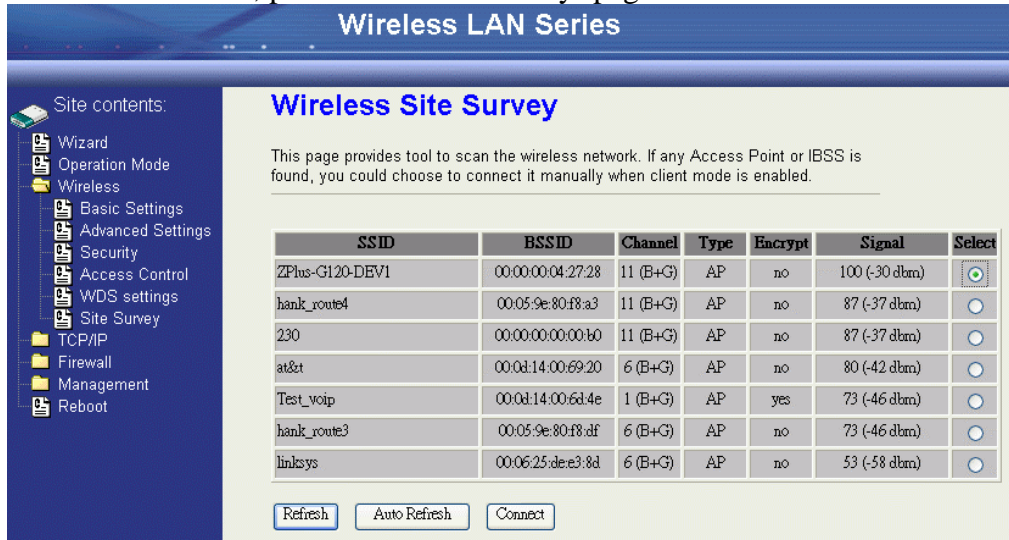
- Wait for refreshing web page.



- Change the IP address of your PC to 192.168.3.x then access the web server by the new IP address "192.168.3.1" and use "Status" page check the setting.



- If the "State" of "Wireless Configuration" is not "Connected" or you want to refresh the "RSSI", please use "Site Survey" page to re-connect a AP.



Configure DEV5:

1. Access the web server (http://192.168.2.254) of device from the Ethernet port.

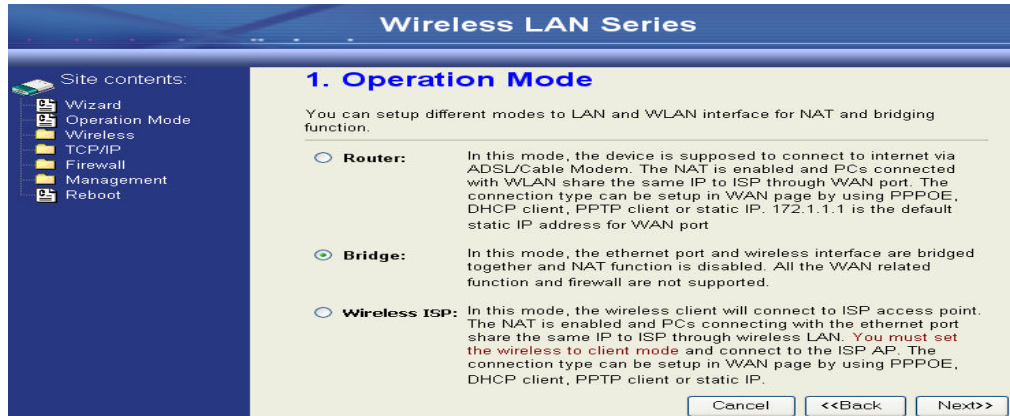
Caution

If you configure multiple devices in the same PC, since the devices have the same default IP address but different MAC addresses, it may cause you unable to access the web server of device. If the situation happens, please try to clean the ARP table of your PC by DOS command “arp -d” then you can access the web server of device using the default IP address.

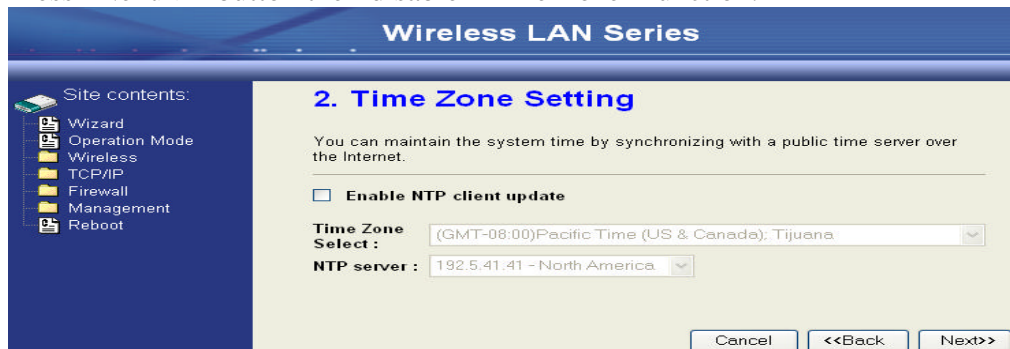
2. Use Wizard page to setup device.



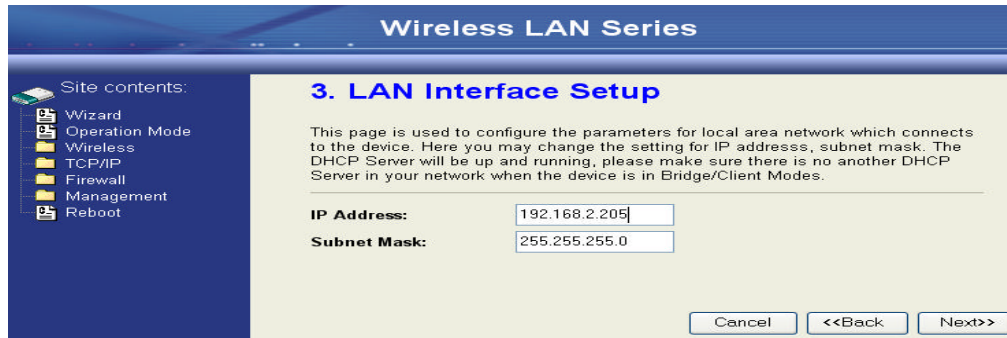
3. Press “Next>>” button then set the “Operation Mode” to “Wireless ISP” mode.



4. Press “Next>>” button then disable “Time Zone” function.



5. Press “Next>>” button then set the IP address of LAN interface.



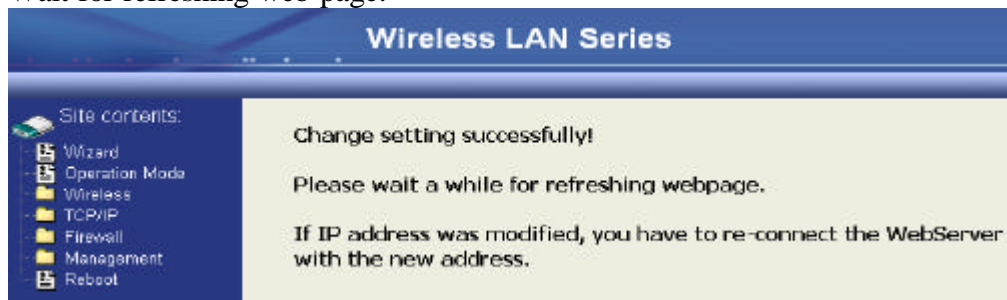
6. Press “Next>>” button then select the “Client” for “mode” and change the SSID to “DEV5”.



7. Press “Next>>” button then select “None” for “Encryption” then press “Finished” button.



8. Wait for refreshing web page.



9. Access the web server by the new IP address “192.168.2.205” and use “LAN Interface” page to disable DHCP Server.

Wireless LAN Series

Site contents:

- Wizard
- Operation Mode
- Wireless
- TCP/IP**
- LAN Interface
- WAN Interface
- Route
- Firewall
- Management
- Reboot

LAN Interface Setup

This page is used to configure the parameters for local area network which connects to the device. Here you may change the setting for IP Address, Subnet Mask, DHCP, etc..

IP Address:

Subnet Mask:

Default Gateway:

DHCP:

DHCP Client Range: -

802.1d Spanning Tree:

Clone MAC Address:

MTU Size:

10. Wait for refreshing webpage.

Wireless LAN Series

Site contents:

- Wizard
- Operation Mode
- Wireless
- TCP/IP**
- LAN Interface
- WAN Interface
- Route
- Firewall
- Management
- Reboot

Change setting successfully!

Please wait a while for refreshing webpage.

If IP address was modified, you have to re-connect the WebServer with the new address.

11. Use “State” page to check setting.

The screenshot shows a network management interface. On the left is a blue sidebar menu with the following items: Firewall, Management (highlighted with a red box), Status (highlighted with a red box), QoS, Bandwidth Control, SNMP, Statistics, DDNS, Time Zone, Log, Miscellaneous, Upgrade Firmware, Save/Reload Setting, Password, and Reboot. The main content area is divided into three sections:

- System:**
 - Uptime: 0day:1h:19m:38s
 - Free Memory: 11396 kB
 - Firmware Version: 1.3.0.6 20060420
 - Webpage Version: 1.3.0.6 20060420
- Wireless Configuration:**
 - Mode: Infrastructure Client - Bridge
 - Band: 2.4 GHz (B+G)
 - SSID: DEV5
 - Channel Number: 11
 - Encryption: Disabled
 - BSSID: 00:00:00:00:00:00
 - State: Scanning
 - RSSI: 0
- TCP/IP Configuration:**
 - Attain IP Protocol: Fixed IP
 - IP Address: 192.168.2.205
 - Subnet Mask: 255.255.255.0
 - Default Gateway: 192.168.2.205
 - DHCP Server: Enabled
 - MAC Address: 00:05:9e:80:f9:bb

12. If the “State” of “Wireless Configuration” is not “Connected” or you want to refresh the “RSSI “, please use “Site Survey” page to re-connect a AP.

The screenshot shows the 'Wireless LAN Series' interface. The top header is 'Wireless LAN Series'. Below it is a sub-header 'Wireless Site Survey'. The main content area contains a table of detected wireless networks. Below the table are three buttons: 'Refresh', 'Auto Refresh', and 'Connect'.

Site contents:

- Wizard
- Operation Mode
- Wireless
 - Basic Settings
 - Advanced Settings
 - Security
 - Access Control
 - WDS settings
 - Site Survey
- TCP/IP
- Firewall
- Management
- Reboot

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
ZPlus-G120-DEV1	00:00:00:04:27:28	11 (B+G)	AP	no	100 (-30 dbm)	<input checked="" type="radio"/>
hank_route4	00:05:9e:80:f8:a3	11 (B+G)	AP	no	87 (-37 dbm)	<input type="radio"/>
230	00:00:00:00:00:b0	11 (B+G)	AP	no	87 (-37 dbm)	<input type="radio"/>
at&t	00:0d:14:00:69:20	6 (B+G)	AP	no	80 (-42 dbm)	<input type="radio"/>
Test_voip	00:0d:14:00:6d:4e	1 (B+G)	AP	yes	73 (-46 dbm)	<input type="radio"/>
hank_route3	00:05:9e:80:f8:df	6 (B+G)	AP	no	73 (-46 dbm)	<input type="radio"/>
linksys	00:06:25:dce3:8d	6 (B+G)	AP	no	53 (-58 dbm)	<input type="radio"/>

Refresh Auto Refresh Connect

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 Show Active Clients

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
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Refresh Apply Changes Reset

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

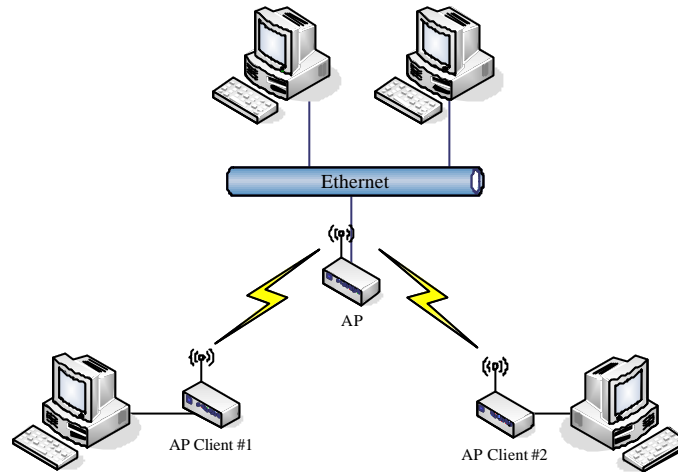
Wireless Distribution System, this mode serves as a wireless repeater, only devices with WDS function supported can connect to it, all the wireless clients can't survey and connect the device when the mode is selected.

4. AP+WDS

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

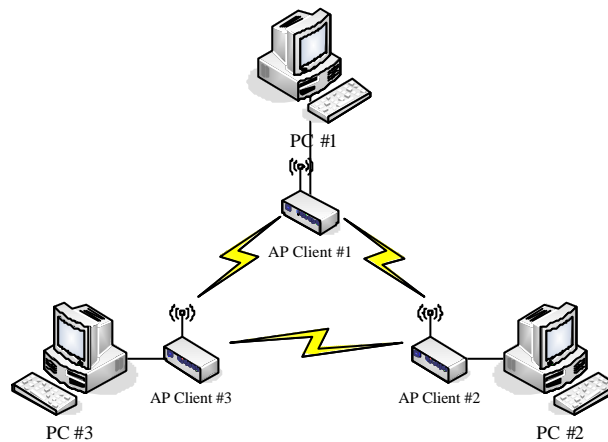
- **Infrastructure:**

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.

REMARK

Channel 1 ~ 11 by firmware disabled in U.S.A.

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.



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.

Beacon Interval

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

ACK Timing

Acknowledgement Character Timing, is the amount of time that device wait client's response. If the device does not receive the response from client after the time interval, it will resend the data and wait client's response. The default ACK timing is 91*4us. You may need to change this value due to the environment or distance. Bad environment or long distance needs more time to wait client's response.

Client Expired Time

The client expired time determines time interval the client need to re-associate with the device while client is idle. The default client expired time is 300 sec.

MTU Size

Maximum Transmission Unit, the default MTU size is 1500. You may need to change the MTU for optimal performance of your wireless LAN traffic.

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.

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.

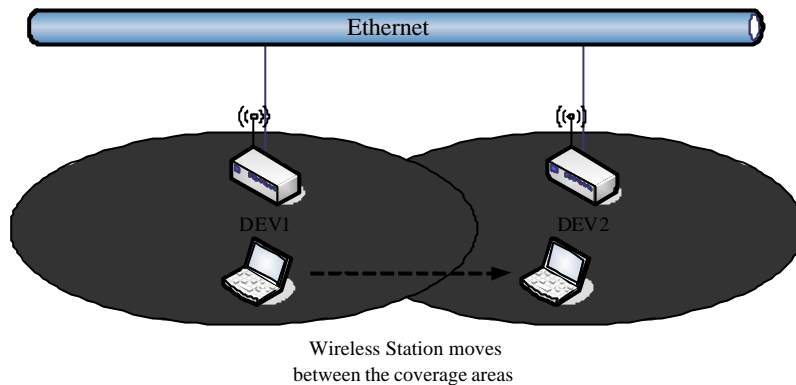
IAPP

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 is 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.
-



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 eleven transmission output power levels from 17 to 22dBm for CCK (802.11b) mode and eight transmission output power levels from 17 to 22dBm 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.

The screenshot shows the 'Wireless LAN Series' configuration interface. On the left is a navigation tree with 'Wireless' selected. The main area is titled 'Wireless Security Setup' and contains the following fields and options:

- Authentication Type:** Radio buttons for Open System, Shared Key, and Auto (selected).
- Encryption:** A dropdown menu currently set to 'None', with a 'Set WEP Key' button next to it.
- Use 802.1x Authentication:** An unchecked checkbox.
- WEP 64bits / WEP 128bits:** Radio buttons, both currently unselected.
- Enable MAC Authentication:** An unchecked checkbox.
- WPA Authentication Mode:** Radio buttons for Enterprise (RADIUS) and Personal (Pre-Shared Key) (selected).
- Pre-Shared Key Format:** A dropdown menu set to 'Passphrase'.
- Pre-Shared Key:** An empty text input field.
- Enable Pre-Authentication:** An unchecked checkbox.
- Authentication RADIUS Server:** Fields for Port (1812), IP address, and Password.

At the bottom, there are 'Apply Changes' and 'Reset' buttons. A note states: '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 the 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.

This close-up screenshot highlights the 'Encryption' dropdown menu, which is now set to 'WEP'. The 'Set WEP Key' button is also highlighted with a red box. The rest of the configuration options remain the same as in the previous screenshot.