

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 to the connected AP.

☐ Disable Wireless LAN interface

Band: 2.4 GHz (G+G)

Mode: AP

Network Type: Infrastructure

SSID: DEV3

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	Encryption	RSSI	Quality
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Buttons: Apply Changes, Reset

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	DEV3
Channel Number	5
Encryption	Disabled
BSSID	00:05:9e:80:9: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:80:9:bb

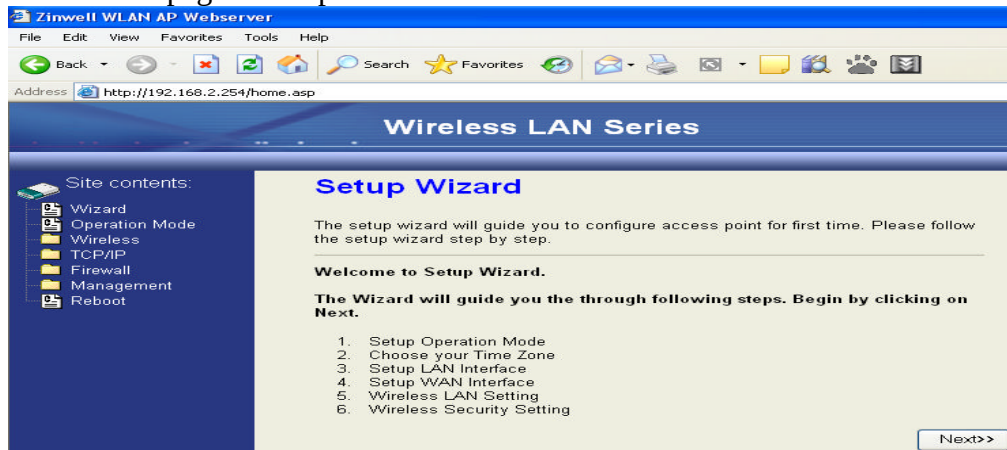
Configure DEV4:

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

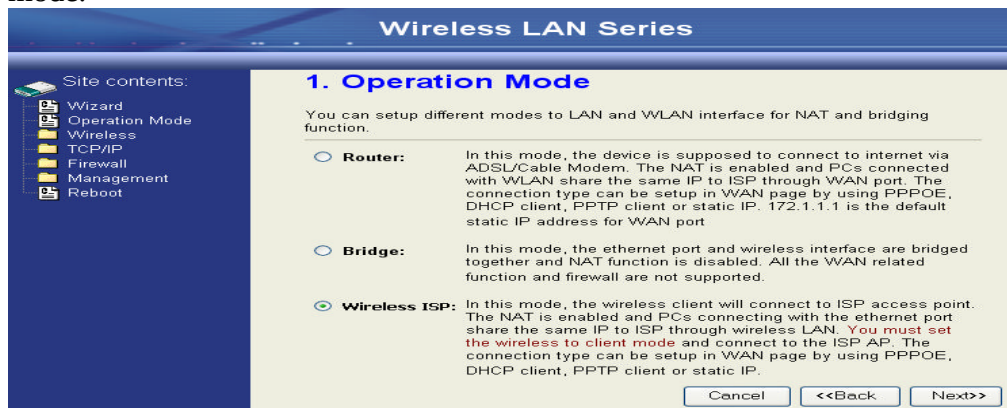
Caution

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.

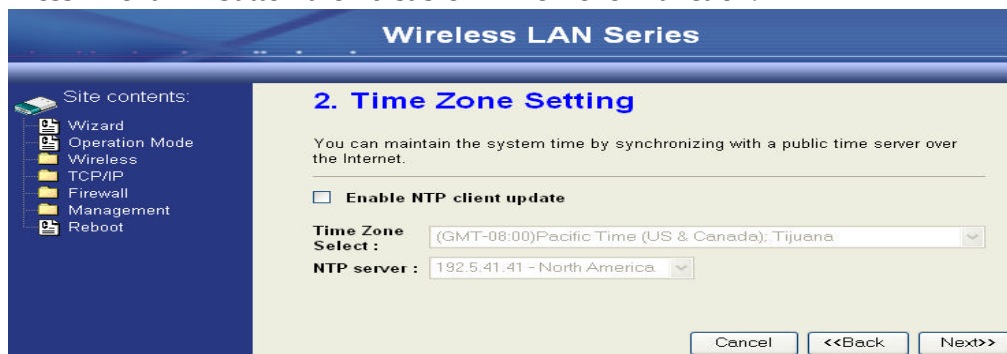
2. Use Wizard page to setup device.



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 '3. LAN Interface Setup' page. On the left is a 'Site contents' sidebar with a tree view containing: Wizard, Operation Mode, Wireless, TCP/IP, Firewall, Management, and Reboot. The main area has a title '3. LAN Interface Setup' and a description: '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. The DHCP Server will be up and running, please make sure there is no another DHCP Server in your network when the device is in Bridge/Client Modes.' Below this, there 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 '4. WAN Interface Setup' page. The 'Site contents' sidebar is the same as in the previous screenshot. The main area has a title '4. WAN Interface Setup' and a description: '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, PPPoE or PPTP by click the item value of WAN Access type.' Below this, there is a dropdown menu for 'WAN Access Type:' with 'DHCP Client' selected. At the bottom right are three buttons: 'Cancel', '<<Back', and 'Next>>'.

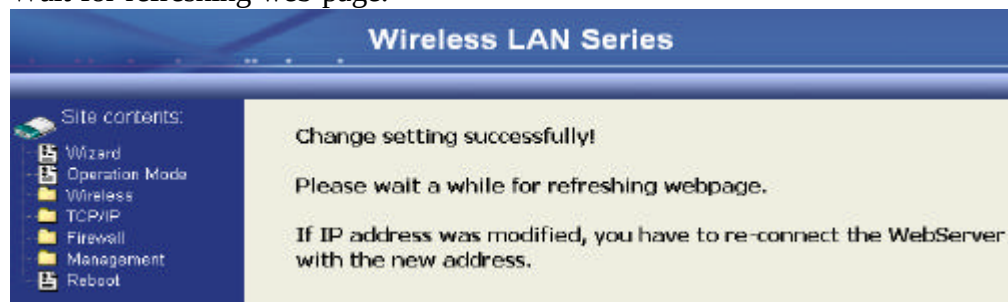
7. Press “Next>>” button then select the “Client” for “mode” and change the SSID to “DEV4”.

The screenshot shows the '5. Wireless Basic Settings' page. The 'Site contents' sidebar is the same. The main area has a title '5. Wireless Basic Settings' and a description: 'This page is used to configure the parameters for wireless LAN clients which may connect to your Access Point. If you want to use Wireless ISP mode, please choose the Client Mode.' Below this, there are several settings: 'Band:' with a dropdown set to '2.4 GHz (B+G)', 'Mode:' with a dropdown set to 'Client', 'Network Type:' with a dropdown set to 'Infrastructure', 'SSID:' with a text box containing 'DEV4', and 'Channel Number:' with a dropdown set to '5'. There is also an unchecked checkbox labeled 'Enable Mac Clone (Single Ethernet Client)'. At the bottom right are three buttons: 'Cancel', '<<Back', and 'Next>>'.

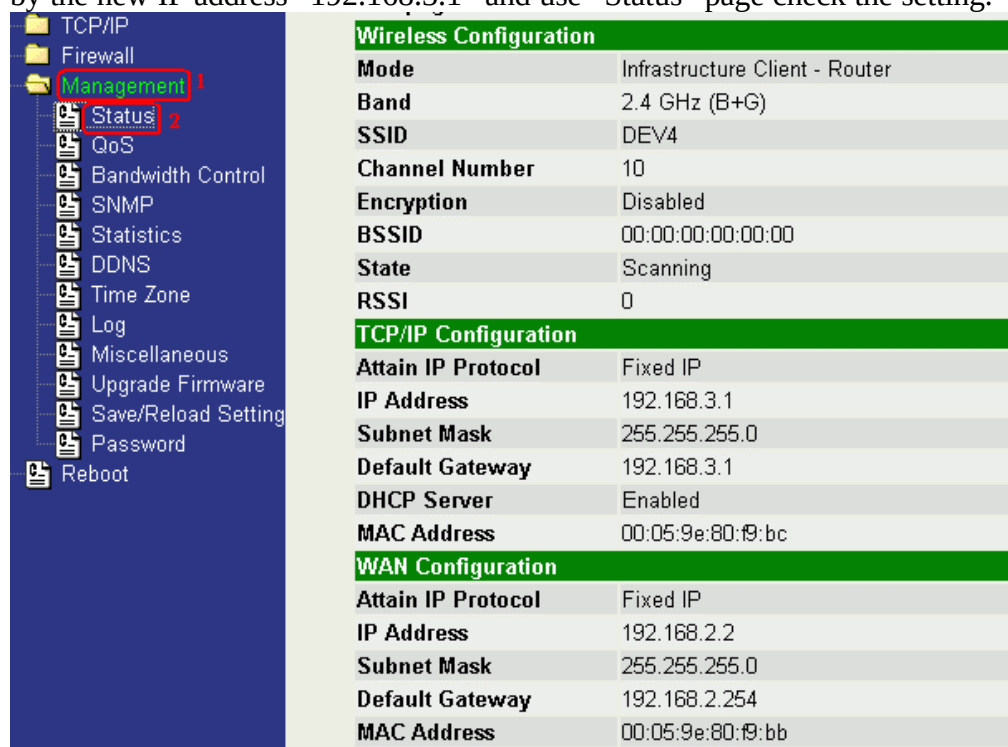
8. Press “Next>>” button then select “None” for “Encryption” then press “Finished” button.

The screenshot shows the '6. Wireless Security Setup' page. The 'Site contents' sidebar is the same. The main area has a title '6. Wireless Security Setup' and a description: '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.' Below this, there is a dropdown menu for 'Encryption:' with 'None' selected. At the bottom right are three buttons: 'Cancel', '<<Back', and 'Finished'.

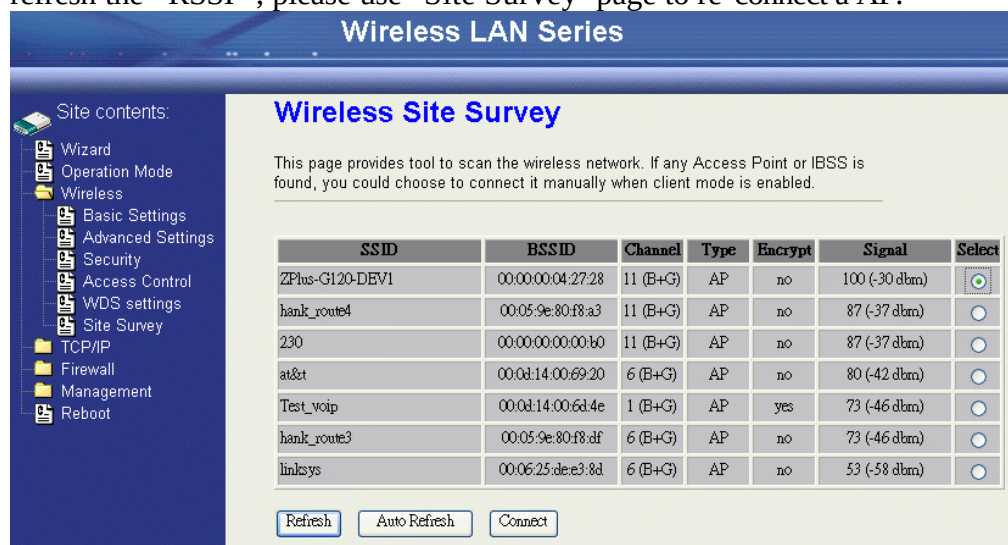
- Wait for refreshing web page.



- 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.

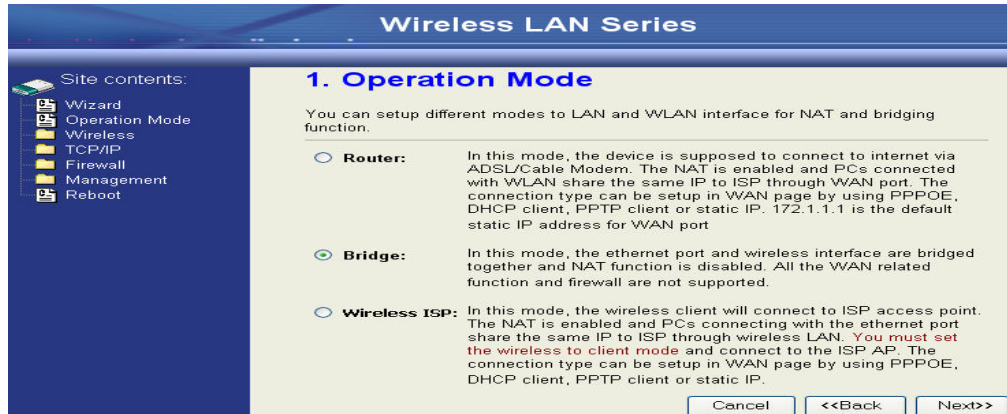
Caution

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.

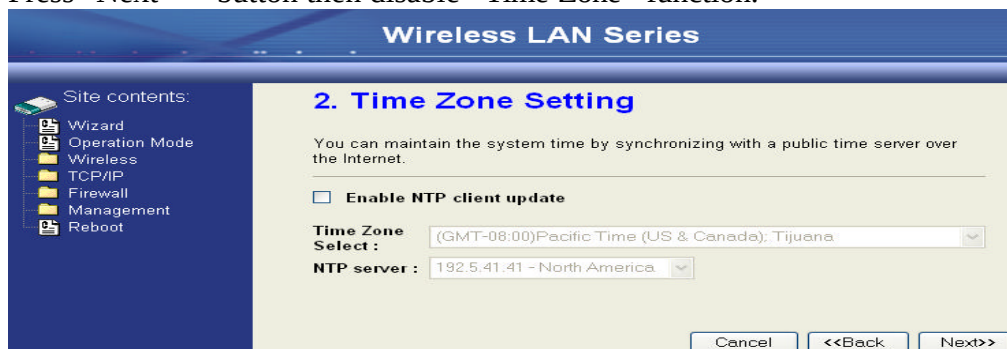
2. Use Wizard page to setup device.



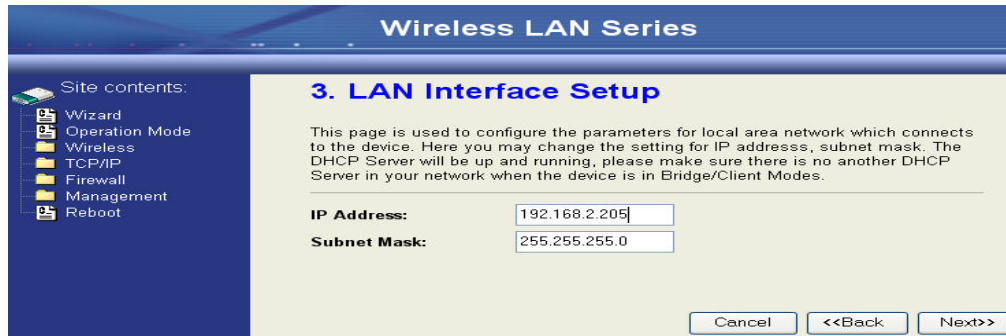
3. Press “Next>>” button then set the “Operation Mode” to “Wireless ISP” mode.



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



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



The screenshot shows the '3. LAN Interface Setup' page. On the left is a 'Site contents' menu with options: Wizard, Operation Mode, Wireless, TCP/IP, Firewall, Management, and Reboot. The main area has a title '3. LAN Interface Setup' and a description: '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. The DHCP Server will be up and running, please make sure there is no another DHCP Server in your network when the device is in Bridge/Client Modes.' Below this are two input fields: 'IP Address:' with the value '192.168.2.205' 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 “Client” for “mode” and change the SSID to “DEV5”.



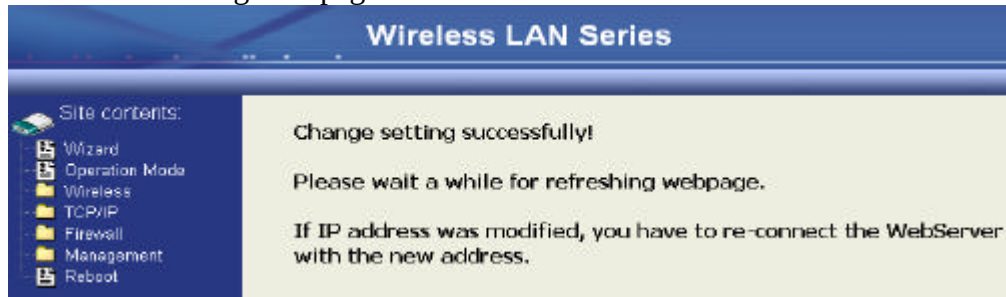
The screenshot shows the 'Wireless Basic Settings' page. The left 'Site contents' menu is the same as in the previous screenshot. The main area has a title 'Wireless Basic Settings' and a description: 'This page is used to configure the parameters for wireless LAN clients which may connect to your Access 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.' Below the description are several settings: 'Disable Wireless LAN Interface' (checkbox), 'Band:' (dropdown menu), 'Mode:' (dropdown menu with 'Client' selected and highlighted by a red box), 'Network Type:' (dropdown menu), 'SSID:' (text input field with 'DEV5' entered and highlighted by a red box), 'Channel Number:' (dropdown menu), and 'Show Active Clients' (button). There are also checkboxes for 'Enable Mac Clone (Single Ethernet Client)' and 'Enable Universal Repeater Mode', and an 'Extended SSID:' field. At the bottom, there is a table with headers: SSID, BSSID, Channel, Type, Encrypt, RSSI, and Quality. Below the table are 'Refresh', 'Apply Changes' (highlighted with a red box and a red '6'), and 'Reset' buttons.

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



The screenshot shows the '6. Wireless Security Setup' page. The left 'Site contents' menu is the same. The main area has a title '6. Wireless Security Setup' and a description: '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.' Below this is an 'Encryption:' dropdown menu with 'None' selected. At the bottom right are three buttons: 'Cancel', '<<Back', and 'Finished'.

8. Wait for refreshing web page.

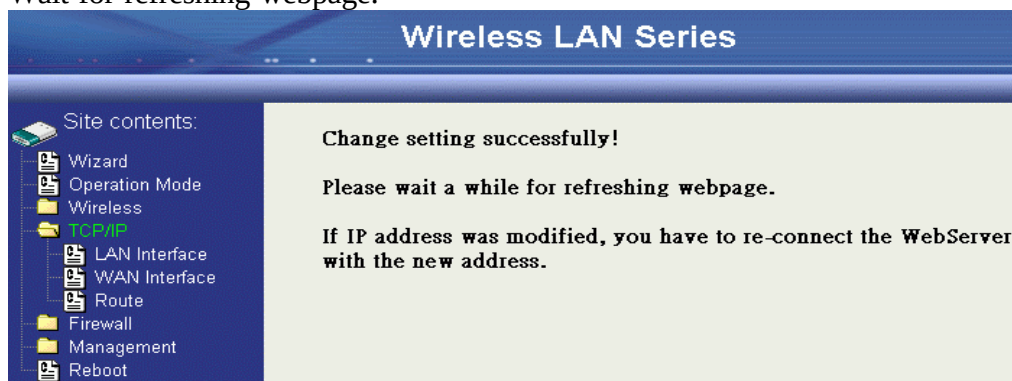


The screenshot shows a confirmation message page. The left 'Site contents' menu is the same. The main area has a title 'Wireless LAN Series' and a message: 'Change setting successfully! Please wait a while for refreshing webpage. If IP address was modified, you have to re-connect the WebServer with the new address.'

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



10. Wait for refreshing webpage.



11. Use “State” page to check setting.

Management

- Status
- QoS
- Bandwidth Control
- SNMP
- Statistics
- DDNS
- Time Zone
- Log
- Miscellaneous
- Upgrade Firmware
- Save/Reload Setting
- Password
- Reboot

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.

Wireless LAN Series

Site contents:

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

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
ZPlus-G120-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:dce3:8d	6 (B+G)	AP	no	53 (-58 dbm)	☐

Refresh Auto Refresh Connect

Basic Settings

Site contents:

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

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

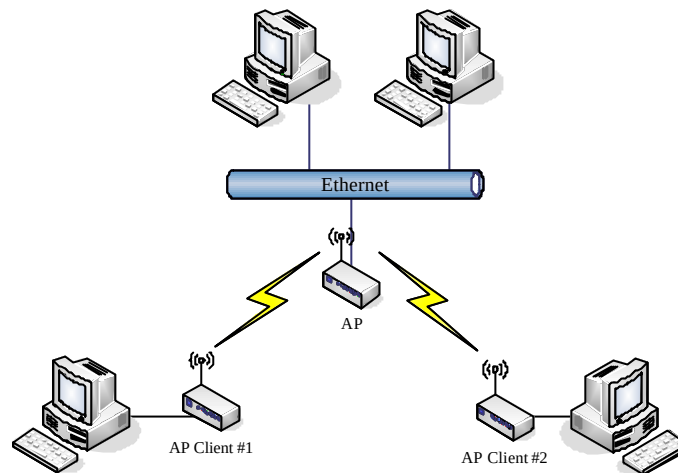
Wireless Distribution System, this mode serves as a wireless repeater, only devices with WDS function supported can connect to it, all the wireless clients can't survey and connect the device when the mode is selected.

4. AP+WDS

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

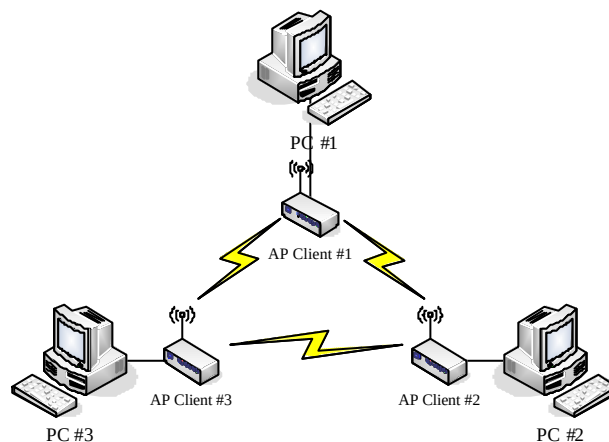
- **Infrastructure:**

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.

Wireless LAN Series

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

Turbo Mode: ☐ Enabled ☒ Disabled (auto)

Aggregation Mode: ☐ Enabled ☒ Disabled

Tx Burst Mode: ☐ Enabled ☒ Disabled

Transmit Power(OFDM) 24 dbm

Transmit Power(CCK) 27 dbm

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.

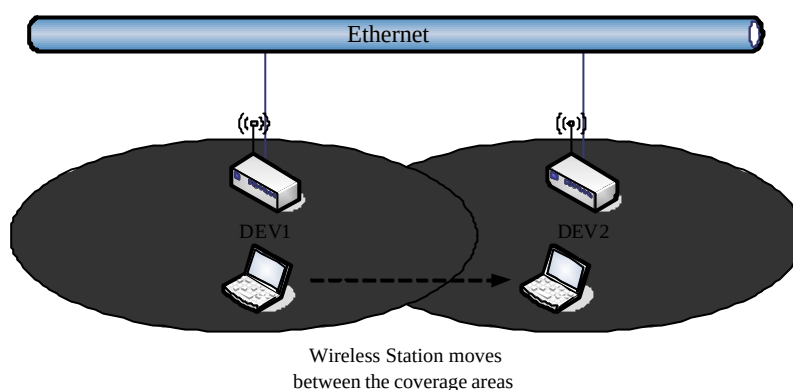
IAPP

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.

Wireless LAN Series

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:

☐ Use 802.1x Authentication ☒ WEP 64bits ☐ WEP 128bits

☐ Enable MAC Authentication

WPA Authentication Mode: ☐ Enterprise (RADIUS) ☒ Personal (Pre-Shared Key)

Pre-Shared Key Format:

Pre-Shared Key:

☐ Enable Pre-Authentication

Authentication RADIUS Server: Port 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:

☐ Use 802.1x Authentication ☒ WEP 64bits ☐ WEP 128bits

☐ Enable MAC Authentication

WPA Authentication Mode: ☐ Enterprise (RADIUS) ☒ Personal (Pre-Shared Key)

Pre-Shared Key Format:

Pre-Shared Key:

☐ Enable Pre-Authentication

Authentication RADIUS Server: Port IP address Password