Wireless Outdoor AP/CB

User Manual

Version : 1.0

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About This Document

This document is written by EnGenius Inc. EnGenius Inc. has rights to change any of this document without notice and all rights reserved. This document can only be used for guiding the configuration setup of EnGenius products.

This document is to demonstrate the EnGenius ENH200 Wireless Access Point & Client Bridge. Please read the document carefully before setup the ENH200. If the damage is caused by the inappropriate behaviors, the repair will not be included in the warranty.

Formats

This document uses following symbols to indicate and highlight special message.

	Caution: This symbol represents the Vital message and it could be harmful for the device or settings.
	Note: This symbol represents the important message for the settings.
	Tip: This symbol represents the alternative choice that can save time or resources.

Before you start

The following equipments are essential to setup the ENH200:

1. One Computer/Notebook and internet accessible.
2. Two Ethernet Cables.
3. One EnGenius device – ENH200.

 The equipments listed above are only for setup the ENH200, you will need more equipment to connect the internet and it is depend on your internet network structure. You may refer to the chapter 2 for more information.

1 Product Overview

Thank you for using ENH200. It is a powerful, enhanced, enterprise scale product with 4+1 multi-functions Access Point, Access Point with WDS function, Client Bridge, WDS Bridge, and Client Router.

ENH200 uses the latest wireless technology 802.11n standard. It has faster transmit/receive wireless speed. ENH200 gives you a great advantage to save your time and cost to expend your network. It is also compatible with 802.11b and 802.11g.

ENH200 is easily to install almost anywhere with Power over Ethernet for quick indoor installation and regular Power by Adapter. ENH200 can manage power level control, Narrow bandwidth selection, Traffic shaping and Real-time RSSI indicator. ENH200 is fully support of security encryption including Wi-Fi Protected Access (WPA-PSK/WPA2-PSK), 64⁄128⁄152-bit WEP Encryption and IEEE 802.1x with RADIUS Accounting.

1.1 Feature

The following list describes the design of the ENH200 made possible through the power and flexibility of wireless LANs:

a) **Difficult-to-wire environments**

There are many situations where wires cannot be laid easily. Historic buildings, older buildings, open areas and across busy streets make the installation of LANs either impossible or very expensive.

b) **Temporary workgroups**

Consider situations in parks, athletic arenas, exhibition centers, disaster-recovery, temporary offices and construction sites where one wants a temporary WLAN established and removed.

c) **The ability to access real-time information**

Doctors/nurses, point-of-sale employees, and warehouse workers can access real-time information while dealing with patients, serving customers and processing information.

d) **Frequently changed environments**

Show rooms, meeting rooms, retail stores, and manufacturing sites where frequently rearrange the workplace.

e) Wireless extensions to Ethernet networks

Network managers in dynamic environments can minimize the overhead caused by moves, extensions to networks, and other changes with wireless LANs.

f) Wired LAN backup

Network managers implement wireless LANs to provide backup for mission-critical applications running on wired networks.

g) Training/Educational facilities

Training sites at corporations and students at universities use wireless connectivity to ease access to information, information exchanges, and learning.

Benefits	
High Speed Data Rate Up to 150Mbps	Capable of handling heavy data payloads such as MPEG video streaming
High Output Power up to 26 dBm	Extended excellent Range and Coverage
IEEE 802.11b/g/n Compliant	Fully Interoperable with IEEE 802.11b/IEEE 802.11g/IEEE 802.11n compliant devices
4+1 Multi-Function	Users can use different mode in various environment
Point-to-point, Point-to-multipoint Wireless Connectivity	Let users transfer data between two buildings or multiple buildings
Channel Bandwidth Selection	Using different bandwidth to reach varied distance
Support RSSI Indicator (CB mode)	Users can select the best signal to connect with AP easily
Power-over-Ethernet	Flexible Access Point locations and cost savings. ENH200 must uses the adapter provided in the package.
Support Multi-SSID function (4 SSID) in AP mode	Allow clients to access different networks through a single access point and assign different policies and functions for each SSID by manager
WPA2/WPA/ WEP/ IEEE 802.1x support	Fully support all types of security types.
MAC address filtering in AP mode	Ensures secure network connection
PPPoE/PPTP function support (AP Router/CR mode)	Easy to access internet via ISP service authentication
SNMP Remote Configuration Management	Help administrators to remotely configure or manage the Access Point easily.
QoS (WMM) support	Enhance user performance and density

1.2 Benefits

Access Point Mode	Use this feature to setup the access point's configuration information. It has support adjusting transmit power and channel. Client can access the network with different regulatory settings and automatically change to the local regulations.
Client Bridge Mode	Use this feature to connect to an Access Point and enjoy the great speed of surfing internet.
WDS Mode	Use this feature to link multiple APs in a network, All clients associated with any APs can communicate each other like an ad-hoc mode.
Client Router Mode	This feature functions completely opposite but similarly with AP Router Mode. Client Router connected to an AP wirelessly and transmit internet connection protocol through AP to access the internet.
Multiple SSIDs	ENH200 supports up to 4 SSIDs on your access point. The following options can be set to each SS to each SSID: - SSID for public or private network - Authentication is fully supported - VLAN identifier - Radius accounting identifier - Profile isolation for infrastructure network
VLAN	Specify a VLAN number for each SSID to separate the services among clients.
QoS	Use this feature to limit the incoming or outgoing throughput.
Wi-Fi Protect Access	Wi-Fi Protect Access is a standard-based interoperable security enhancement that increases the level of data protection and access control for existing and future wireless LAN system. It is compatible with IEEE 802.11i standard WPA leverages TKIP and 802.1X for authenticated key management.

1.3 Package Contents

Open the package carefully, and make sure that none of the items listed below are missing. Do not discard the packing materials, in case of return; the unit must be shipped in its original package.

- 1* Wireless Access Point / Client Bridge (ENH200)
- 1* 24V/0.6A Power Adapter
- 1* QIG
- 1* CD (User Manual)

Using other Power Adapter than the one included with ENH200 may cause damage of the device.

1.3 System Requirement

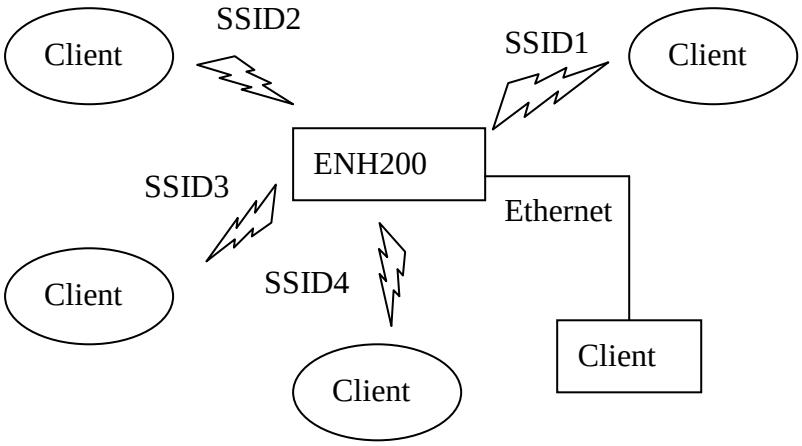
The following conditions are the minimum system requirement.

- A computer with an Ethernet interface and operating under Windows XP, Vista, 7 or Linux.
- Internet Browser that supports HTTP and JavaScript.

2 ENH200 Multi-Function Instruction Guide

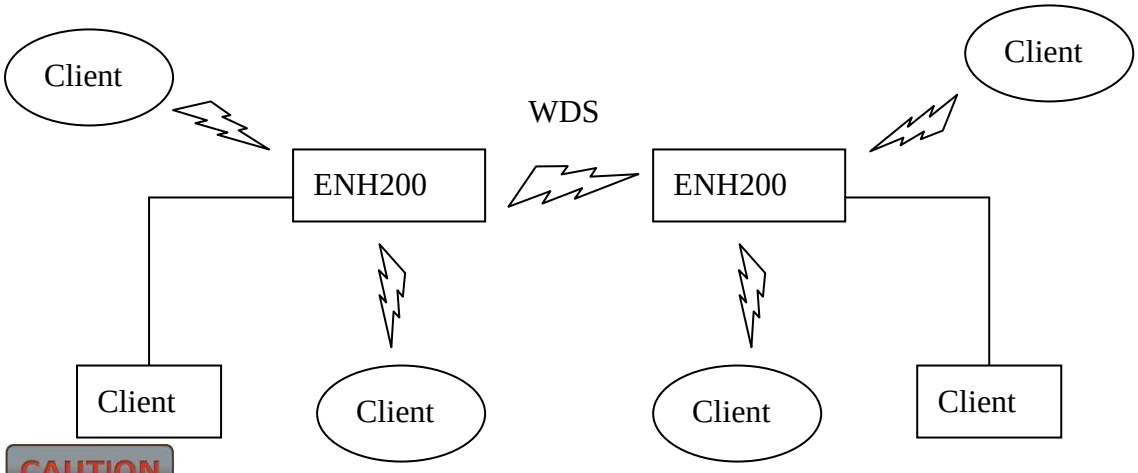
2.1 Access Point

In the Access Point Mode, ENH200 function likes a central connection for any stations or clients that support IEEE 802.11b/g/n network. Stations and Client must configure the same SSID and Security Password to associate within the range. ENH200 supports 4 different SSIDs to separate different clients at the same time.



2.2 Access Point with WDS Function

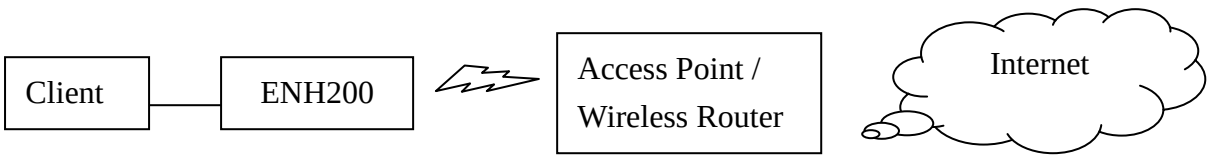
ENH200 also supports WDS function in Access Point Mode without losing AP's capabilities. Configure others Access Point's Wireless MAC Address in both Access Point devices to enlarge the wireless area by enabling WDS Link Settings. WDS function can support up to 8 different AP's MAC addresses.



Not every Access Point device has support WDS in Access Point Mode. It is recommended using ENH200 if you would like to use this service.

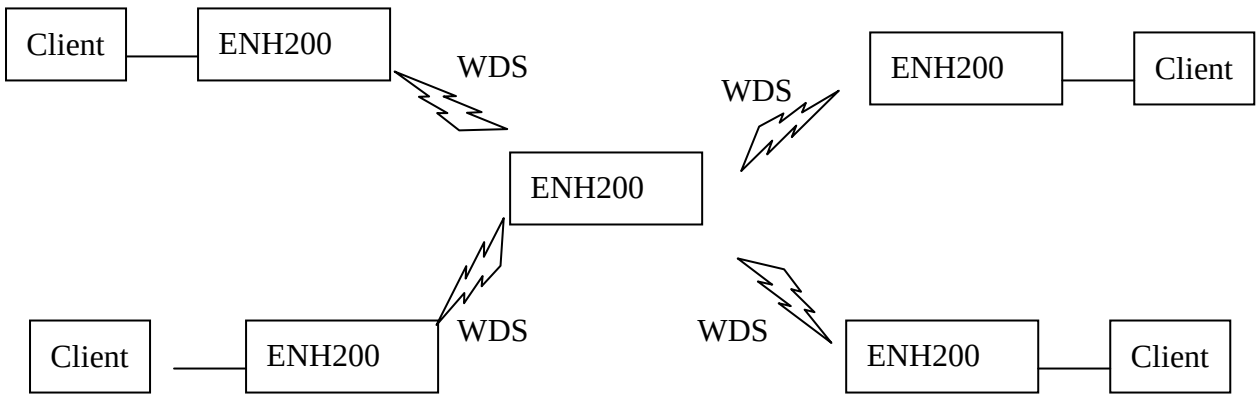
2.3 Client Bridge

In the Client Bridge Mode, the ENH200 function likes a wireless client connecting to an Access Point wirelessly and surf internet whenever you want. Using Site Survey to scan all the Access Point within the range and configure its SSID and Security Password to associate with it. Connect you station to the LAN port of the ENH200 via Ethernet.



2.4 WDS Bridge

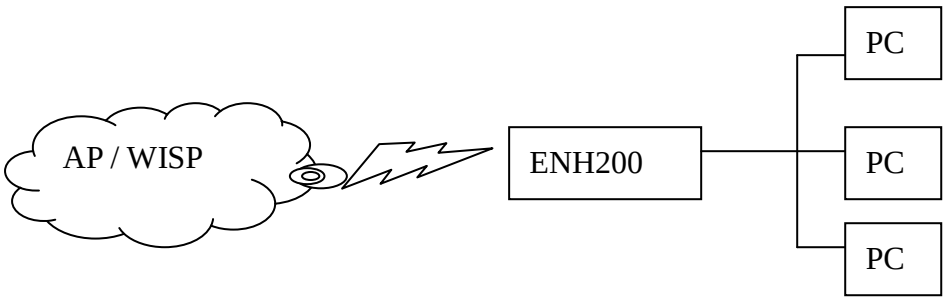
In the WDS Bridge Mode, the ENH200 can wirelessly connect different LANs by just simply configure each other's MAC Address and Security Settings. This mode is used when two wired LANs locate in small distance and want to communicate each other. The best solution is using ENH200 wirelessly connect two wired LANs. WDS Bridge Mode can establish 16 WDS links, the network diagram is like a Star.



WDS Bridge Mode is unlike Access Point. APs linked by WDS are using the same frequency channel, more APs connected together may lower throughput. Please be aware to avoid loop connection diagram, otherwise enable Spanning Tree Function.

2.7 Client Router

In the Client Router Mode, the ENH200 has DHCP Server build inside that allows many LANs automatically generate an IP address to share the same Internet. Connect an AP/WISP Wirelessly and connect to LANs via wired. Client Router Mode is act completely opposite to the AP Router Mode.



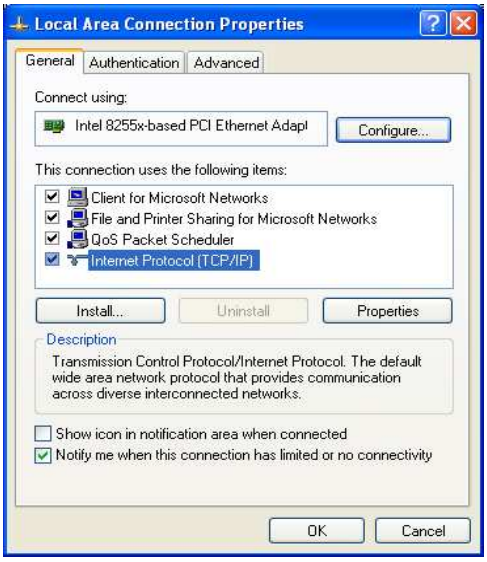
3 Computer Configuration Instruction

The default operating mode is Client Bridge. Client Bridge will not assign an IP address to the computer/notebook. Therefore, follow the steps to assign an IP address to your Ethernet card.

3.1 Assign a Static IP

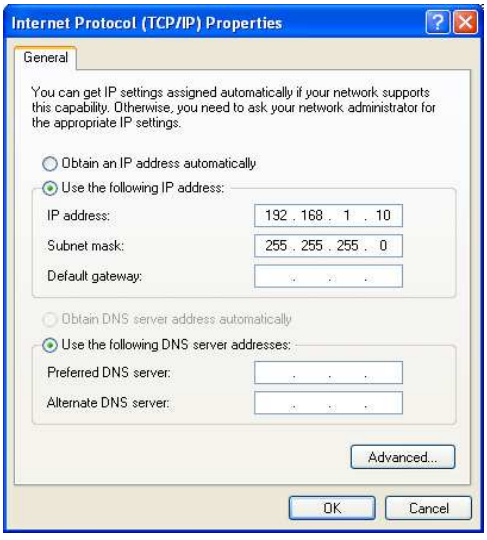
In order to configure ENH200, please follow the instruction below:

1. In the **Control Panel**, double click **Network Connections** and then double click on the connection of your **Network Interface Card (NIC)**. You will then see the following screen.



2. Select **Internet Protocol (TCP/IP)** and then click on the **Properties** button. This will allow you to configure the TCP/IP settings of your PC/Notebook

3. Select **Use the following IP address** radio button and then enter the IP address and subnet mask. Ensure that the IP address and subnet mask are on the same subnet as the device.



4. Click on the **OK** button to close this window, and then close LAN properties window.

IP Address entered in the TCP/IP Properties needs to be at the same subnet of the ENH200 IP Address. For example: ENH200's default IP Address is **192.168.1.1** so the IP Address in the TCP/IP settings could be **192.168.1.10**.

3.2 Logging Method

After complete the IP settings from last section, you can now access the web-based configuration menu.

1. Open web browser

2. Enter IP **192.168.1.1** into you address filter.

Caution: If you have changed the ENH200 LAN IP address, make sure you enter the correct IP Address.

3. After connected to the ENH200 successfully, browser will pop out a Windows Security window. Please enter the correct **Username** and **Password**.

4. The default Username and Password are both **admin**.

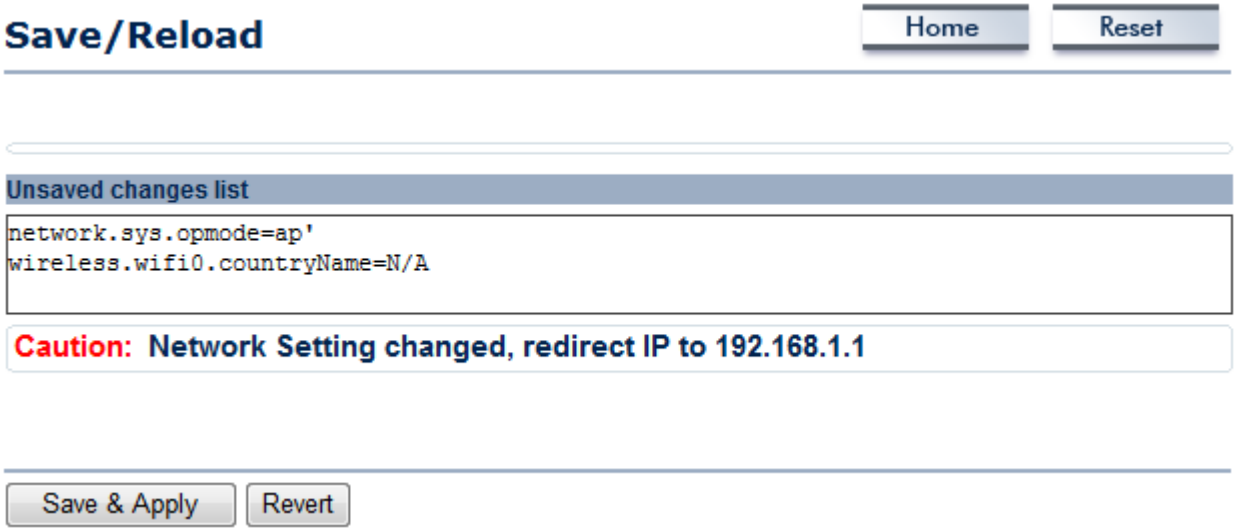
NOTE If you have changed the Username and Password, please enter your own Username and Password.

4 Status

Status section is on the navigation drop-down menu. You will then see three options: Main, Wireless Client List, System Log, WDS Link Status, Connection Status, and DHCP Client Table. Each option is described in detail below.

4.1 Save/Load

This page allows viewing the modified changes. The changes show in the Unsaved changes list table. You can decide to cancel all the changes or to compile to the new setting.



NOTE

You cannot cancel the specific settings. You can only compile all the settings or revert to the previous settings.

4.2 Main

Click on the **Main** link under the **Status** drop-down menu or click **Home** from the top-right of the webpage. The status that is displayed corresponds with the operating mode that is selected. Information such as operating mode, system up time, firmware version, serial number, kernel version and application version are displayed in the 'System' section. LAN IP address, subnet mask, and MAC address are displayed in the 'LAN' section. In the 'Wireless section, the frequency, channel is displayed. Since this device supports multiple-SSIDs, the details of each SSID, such as ESSID and its security settings are displayed.

Main Home Reset

System Information

Device Name	ENH200
Ethernet WAN MAC Address	00:02:6F:34:56:78
Ethernet LAN MAC Address	00:02:6F:34:56:78
Wireless MAC Address	00:02:6F:34:56:78
Country	N/A
Current Time	Tue Oct 19 11:40:42 UTC 2010
Firmware Version	0.9.0.1 build-101019 (5b39146d)
Management VLAN ID	Untagged

LAN Settings

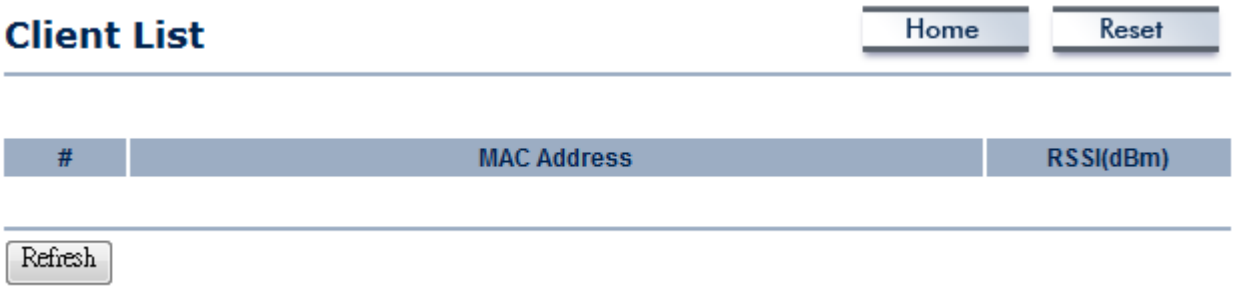
IP Address	192.168.1.1
Subnet Mask	255.255.255.0
Default Gateway	192.168.1.1
Primary DNS	0.0.0.0
Secondary DNS	0.0.0.0
DHCP Client	Disabled

Current Wireless Settings

Operation Mode	Access Point
Wireless Mode	IEEE 802.11b/g/n mixed
Channel Bandwidth	40 MHz
Frequency/Channel	2.442 GHz (Channel 7)
Profile Isolation	No
Profile Settings (SSID/Security/VID)	1 EnGenius1/None/1 2 N/A 3 N/A 4 N/A
Spanning Tree Protocol	Disabled
Distance	3 Km

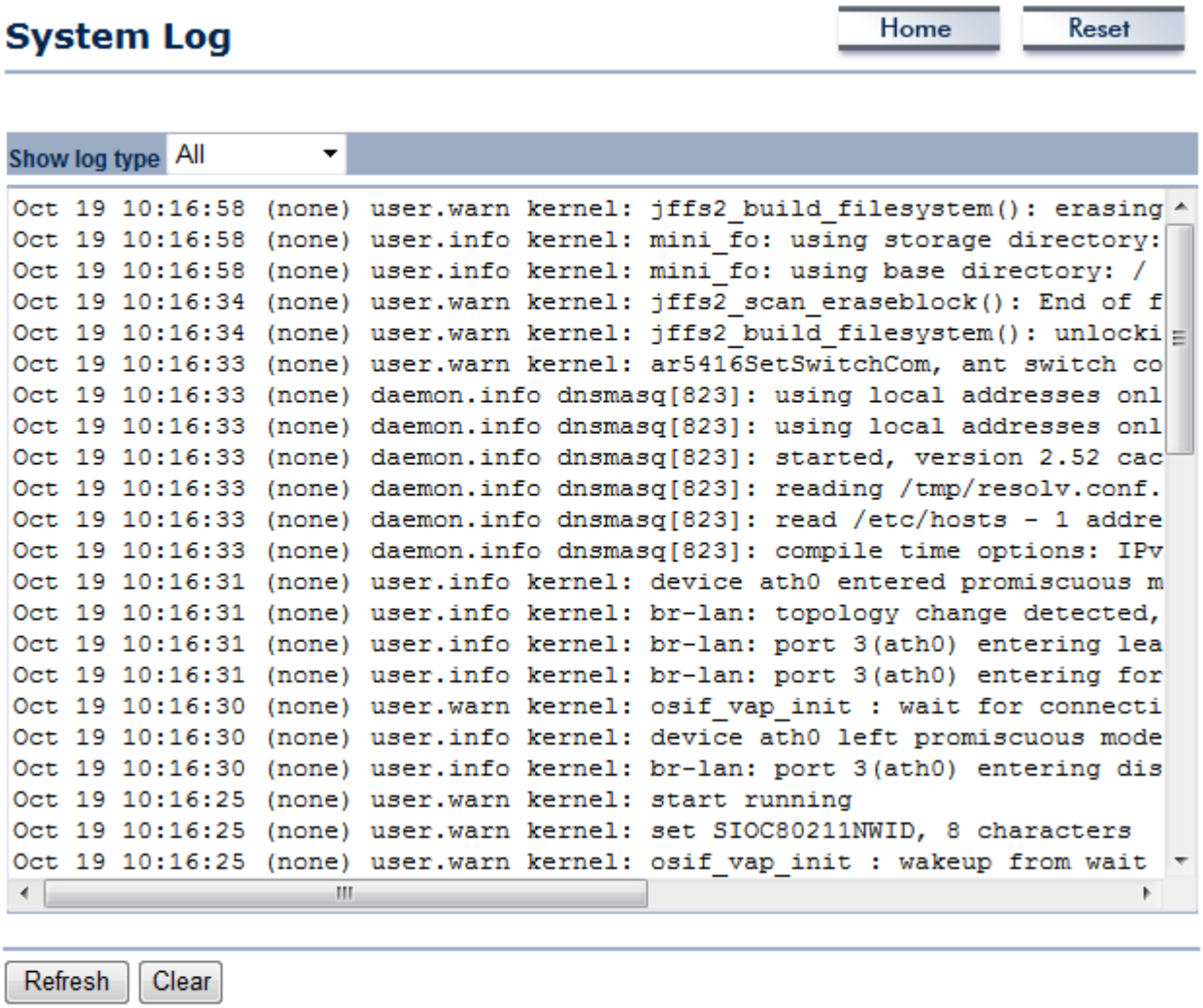
4.3 Wireless Client List

Click on the **Wireless Client List** link under the **Status** drop-down menu. This page displays the list of Clients that are associated to the ENH200.
The MAC addresses and signal strength for each client is displayed. Click on the **Refresh** button to refresh the client list



4.4 System Log

Click on the **System Log** link under the **Status** drop-down menu. The device automatically logs (records) events of possible interest in its internal memory. If there is not enough internal memory for all events, logs of older events are deleted, but logs of the latest events are retained.



4.5 Connection Status

Click on the **Connection Status** link under the **Status** drop-down menu. This page displays the current status of the network, including network type, SSID, BSSID, connection status, wireless mode, current channel, security, data rate, noise level and signal strength.

Wireless

Network Type	Client Router
SSID	EnGenius
BSSID	N/A
Connection Status	N/A
Wireless Mode	N/A
Current Channel	N/A
Security	N/A
Tx Data Rate(Mbps)	N/A
Current noise level	N/A
Signal strength	N/A

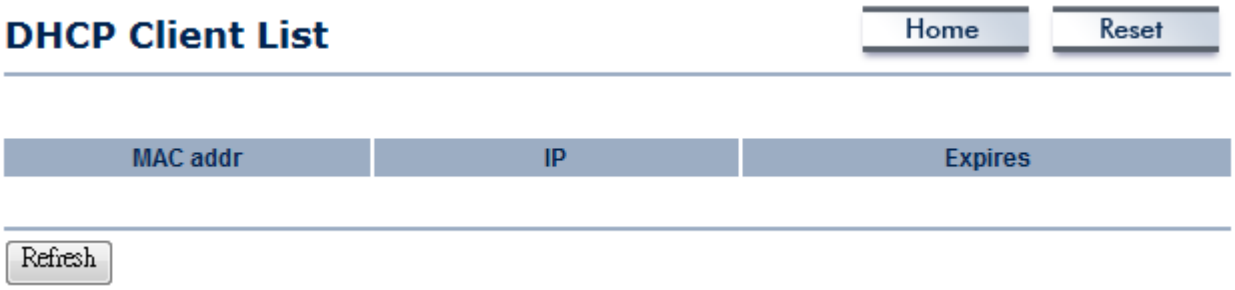
WAN

MAC Address	00:02:6f:75:9f:a8
Connection Type	Static IP
Connection Status	Down
IP Address	
IP Subnet Mask	0.0.0.0

Refresh

4.6 DHCP Client Table

Click on the **DHCP Client List** link under the **Status** drop-down menu. This page displays the list of Clients that are associated to the ENH200 through DHCP.
The MAC addresses and signal strength for each client is displayed. Click on the **Refresh** button to refresh the client list.



5 System

5.1 Switching Operation Mode

The ENH200 supports 4+1 operation modes: Access Point, Client Bridge, WDS Bridge, and Client Router. In order to switching between the operating modes, please go to System -> Operation mode.

Click **System Properties** under System Section to begin.

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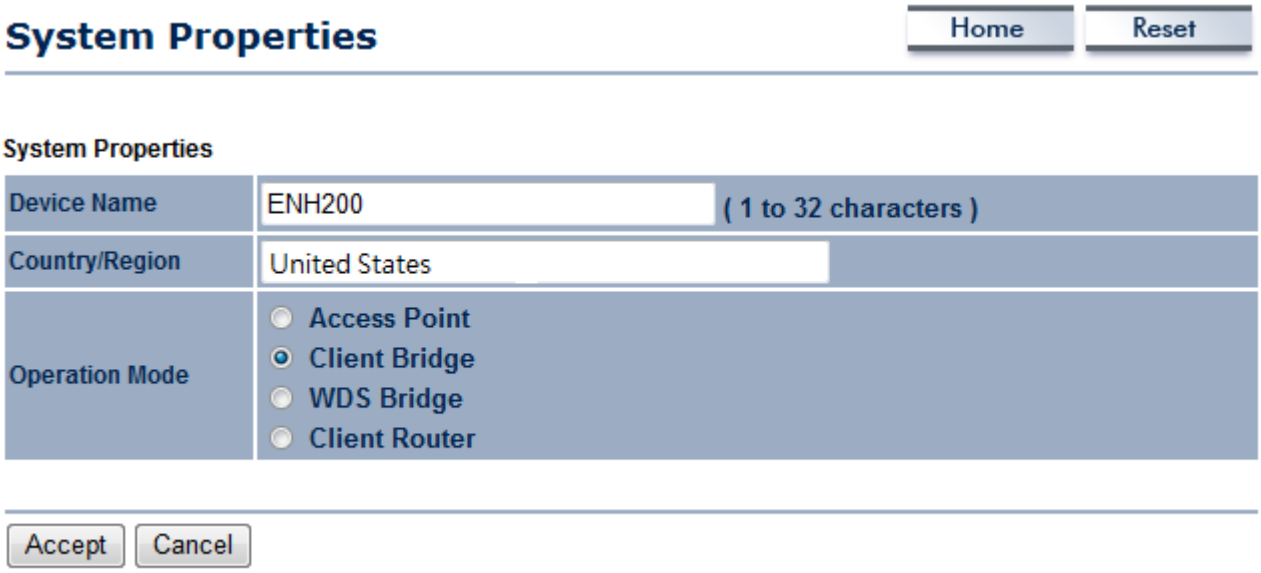


Device Name: Specify a name for the device. It is not the broadcast SSID. It will be shown in SNMP management.
Country/Region: United States
Operation Mode: Select an operation mode via **Radio Button**.

Click **Accept** to confirm the changes.

Accept does not compile the changes, you must go to Status -> Save/Load to apply the new settings. Please refer to the chapter 4.1 for more detail.

If you would like to use Access Point with WDS Function mode, please select Access Point Mode and

then enable WDS function in the Wireless Network section.

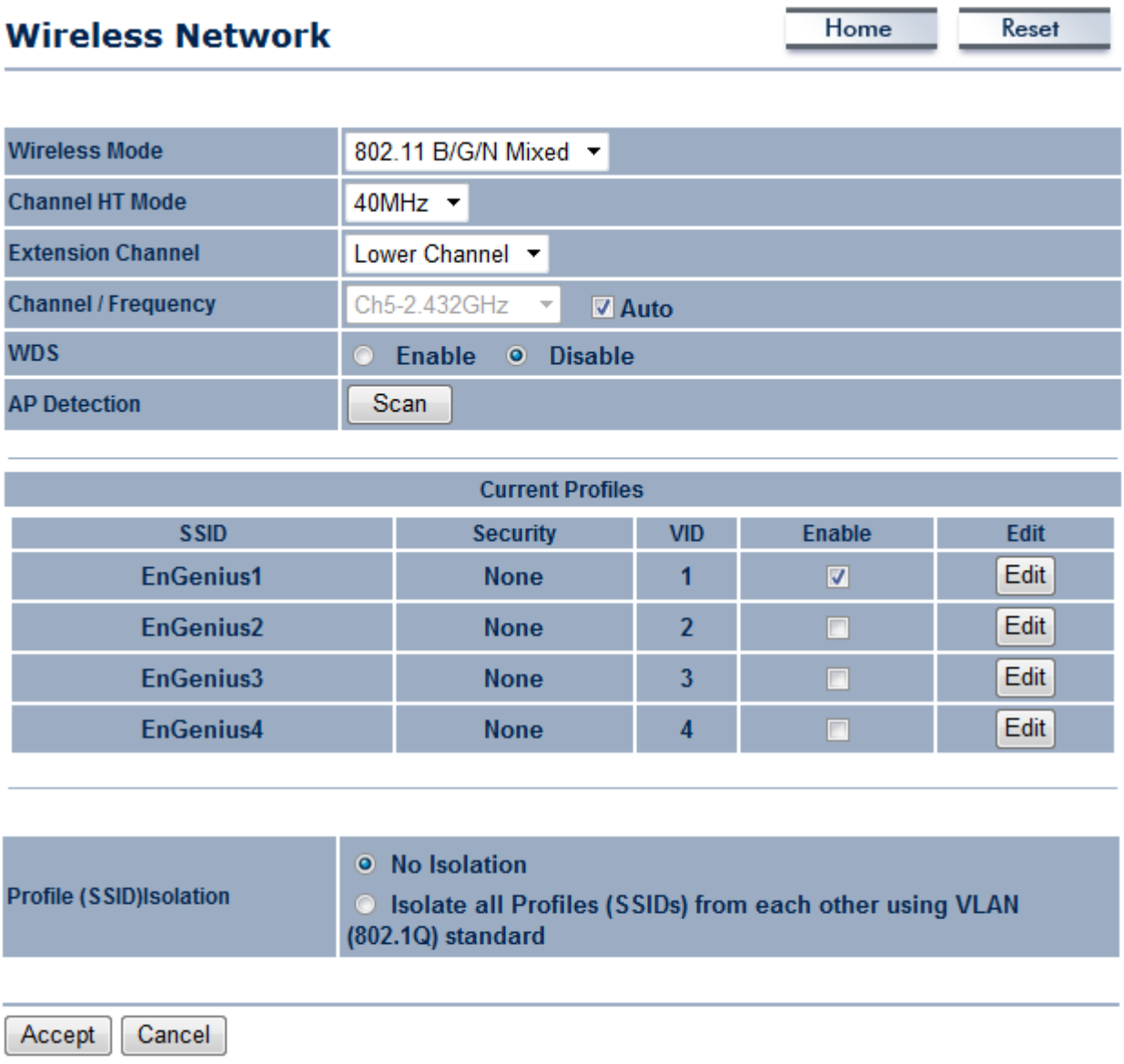
6 Wireless Configuration

This section will guide you through all the wireless settings. Please read the instruction carefully. Inappropriate setting could lower the performance or affect the network structure. Before you continue, please make sure you have chosen the correct operating mode.

6.1 Wireless Settings

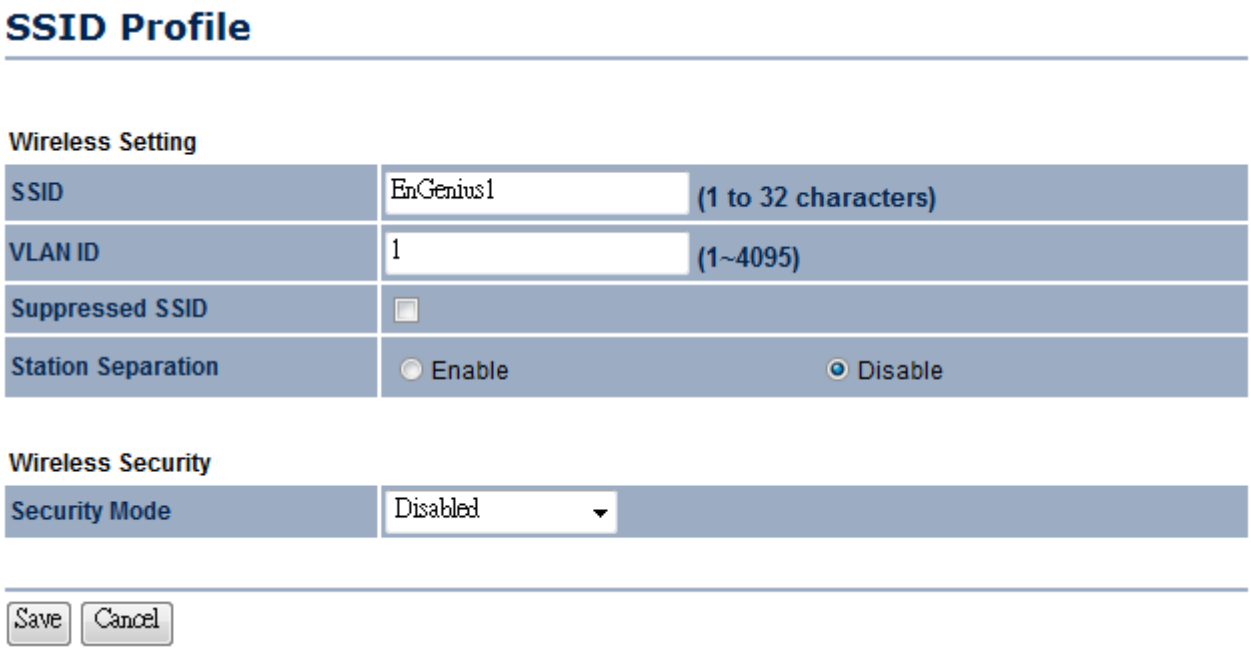
This section is the basic wireless settings. Please read the description carefully and check the steps on chapter 10 in case you need more detail information.

6.1.1 Access Point Mode



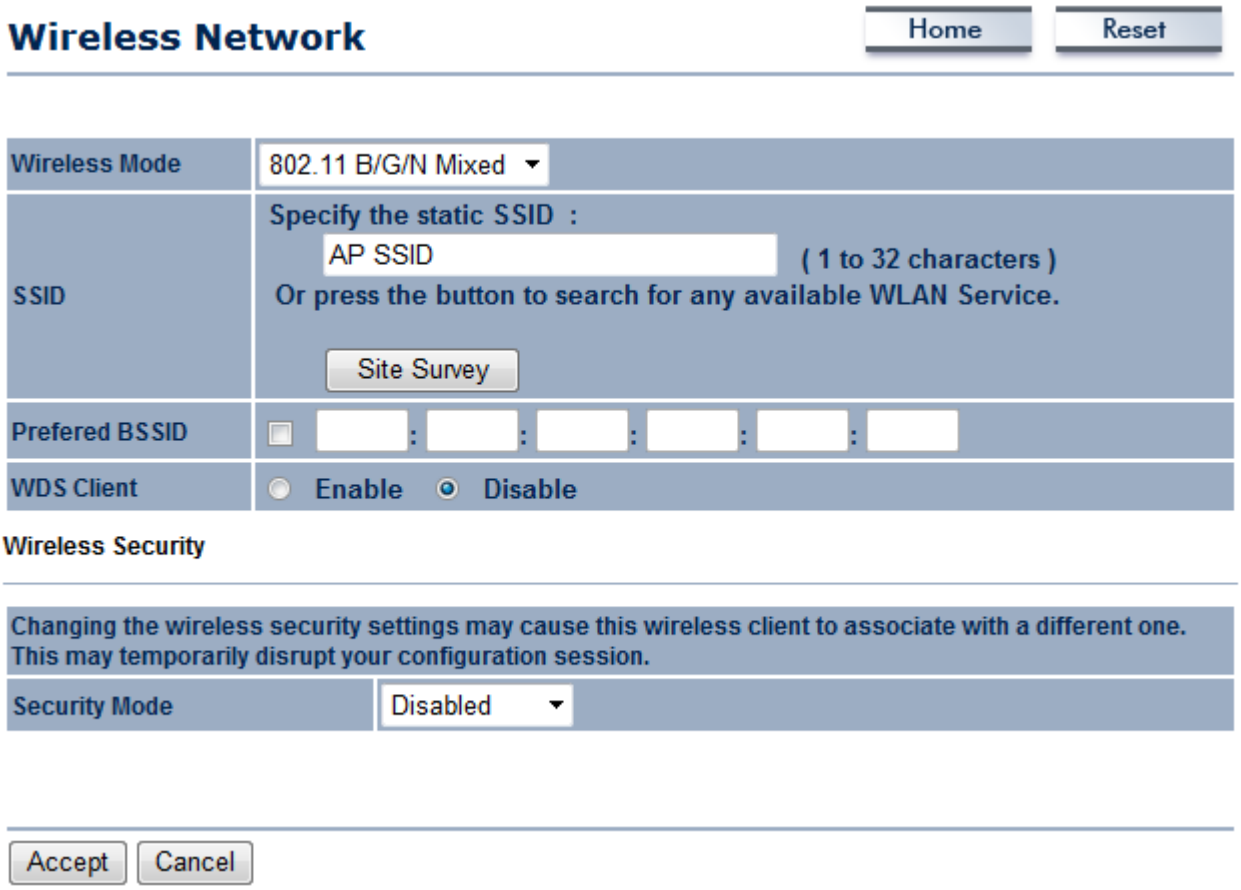
Wireless Mode	The wireless mode supports 802.11b/g/n mixed modes. It is compatible with the most common known wireless band.
Channel HT Mode	The default channel bandwidth is 40 MHz. The larger channel can provide better transmit quality and speed.
Extension Channel	Specify the upper channel or lower channel selection. It may influence the Auto channel function
Channel / Frequency	The channel availability is based on the US regulation.
Auto	Place a **Check** mark to enable Auto channel selection.
AP Detection	AP Detection can help to select a best channel by scan nearby area.
Current Profile	Configure up to four different SSIDs, it can help to divide group of clients to access the network. Press **Edit** to configure the profile and place a **Check** to enable extra SSID.
Profile Isolation	Restricted Client to communicate with different VID by Selecting the Radio button.
Accept / Cancel	Press Accept to confirm the changes or Cancel to return previous settings.

Accept does not compile the changes, you must go to Status -> Save/Load to apply the new settings. Please refer to the chapter 4.1 for more detail.



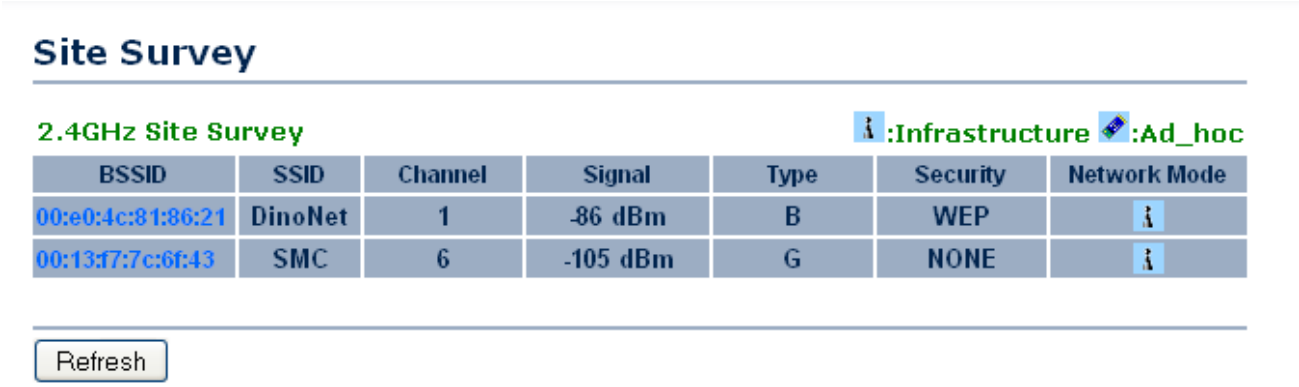
SSID	Specify the SSID for current profile.
VLAN ID	Specify the VLAN tag for current profile.
Suppressed SSID	Place a **Check** to hide the SSID. Client will not be able to see the broadcast SSID in Site Survey.
Station Separation	Select the Radio Button to allow / deny client to communicate each other.
Wireless Security	Please refer to the Wireless Security section.
Save / Cancel	Press **Save** to save the changes or **Cancel** to return previous settings.

6.1.2 Client Bridge Mode



Wireless Mode	The wireless mode supports 802.11b/g/n mixed modes. It is compatible with the most common known wireless band.
SSID	Specify the SSID if known. SSID text box will be automatically fill in when select an AP in the Site Survey.
Site Survey	Using Site Survey to scan nearby APs and then select the AP to establish the connection.
Prefer BSSID	Specify the MAC address if known. Prefer BSSID text box will be automatically fill in when select an AP in the Site Survey.
WDS Client	Place a Radio button to Enable / Disable WDS Client.
Wireless Security	Please refer to the chapter 6.2 for details.
Accept / Cancel	Press Accept to confirm the changes or Cancel to return previous settings.

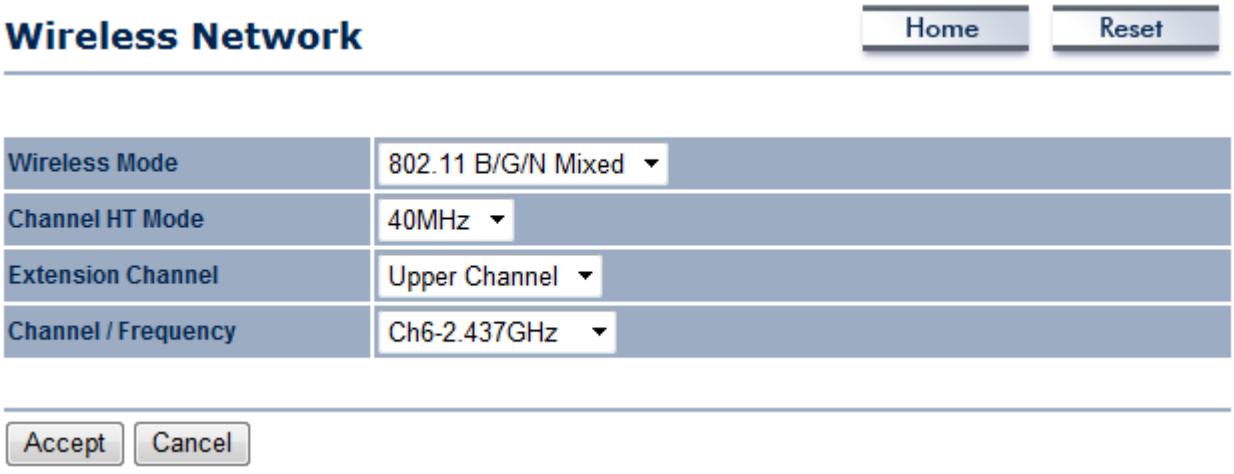
Accept does not compile the changes, you must go to Status -> Save/Load to apply the new settings. Please refer to the chapter 4.1 for more detail.



Profile	After Site Survey, webpage will display all nearby area's Access Point. Click the BSSID if you would like to connect with it.
Wireless Security	Please refer to the Wireless Security section.
Refresh	Press Refresh to scan again.

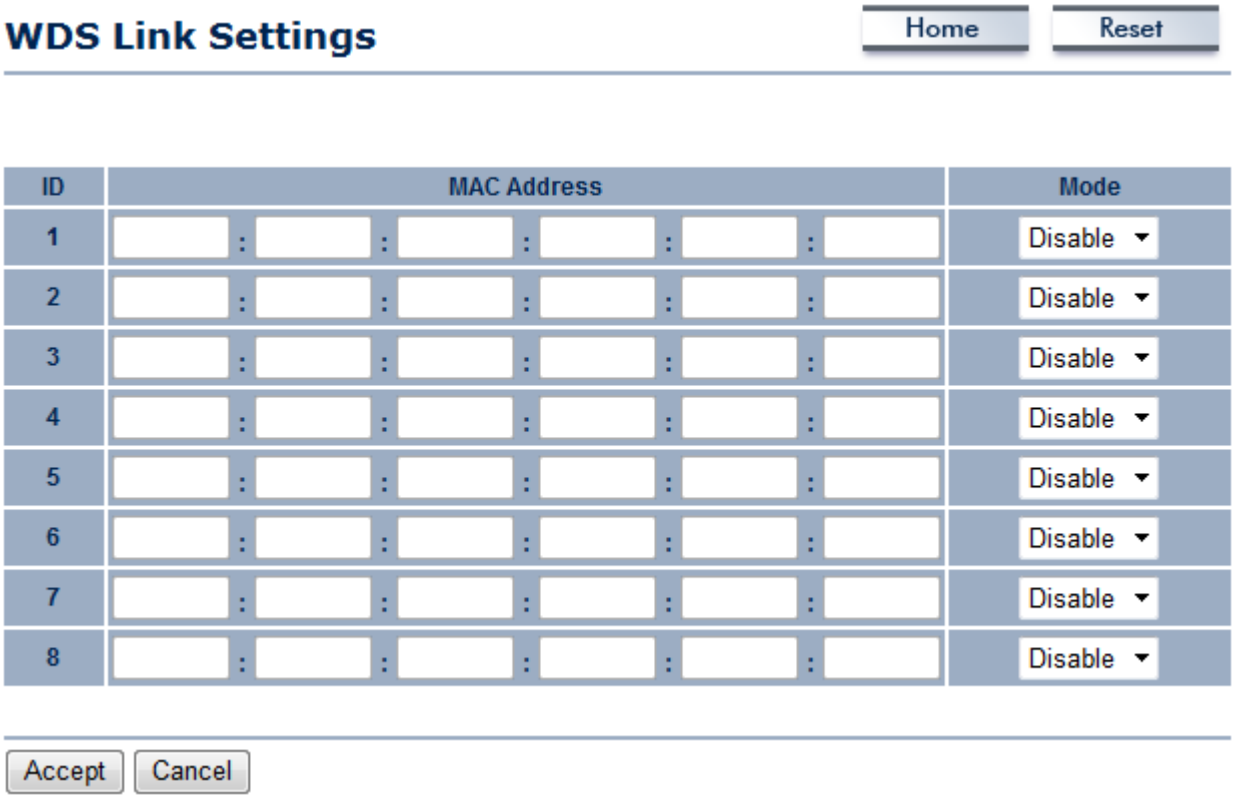
If the Access Point is suppressed its own SSID, SSID section will be blank, the SSID must be filled in manually.

6.1.3 WDS Bridge Mode



Wireless Mode	The wireless mode supports 802.11b/g/n mixed modes. It is compatible with the most common known wireless band.
Channel HT Mode	The default channel bandwidth is 40 MHz. The larger channel can provide better transmit quality and speed.
Extension Channel	Specify the upper channel or lower channel selection. It may influence the Auto channel function
Channel / Frequency	The channel availability is based on the US regulation.
Accept / Cancel	Press Accept to confirm the changes or Cancel to return previous settings.

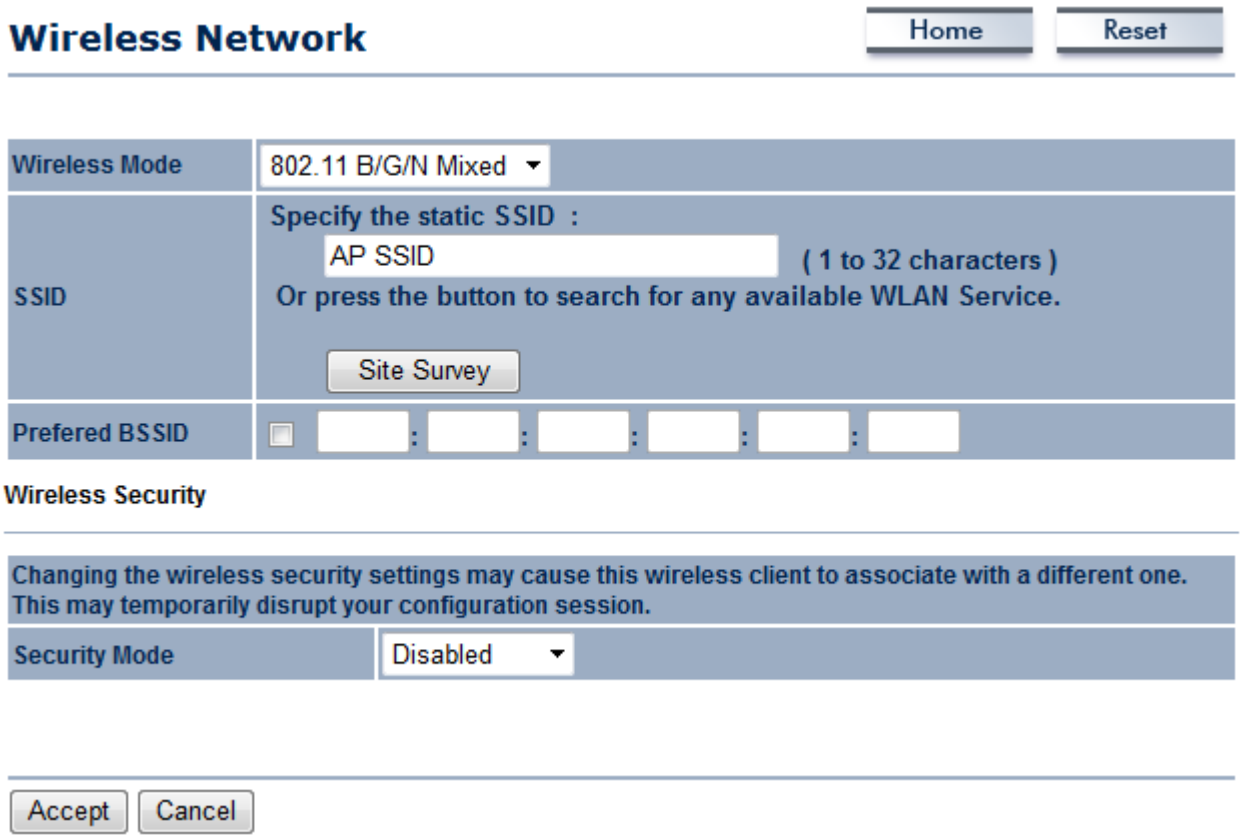
Accept does not compile the changes, you must go to Status -> Save/Load to apply the new settings. Please refer to the chapter 4.1 for more detail.



MAC Address	Enter the Access Point's MAC address that you would like to extend the wireless area into the MAC address filter.
Mode	Select Disable or Enable from the drop down list.
Accept / Cancel	Press Accept to confirm the changes or Cancel to return previous settings.

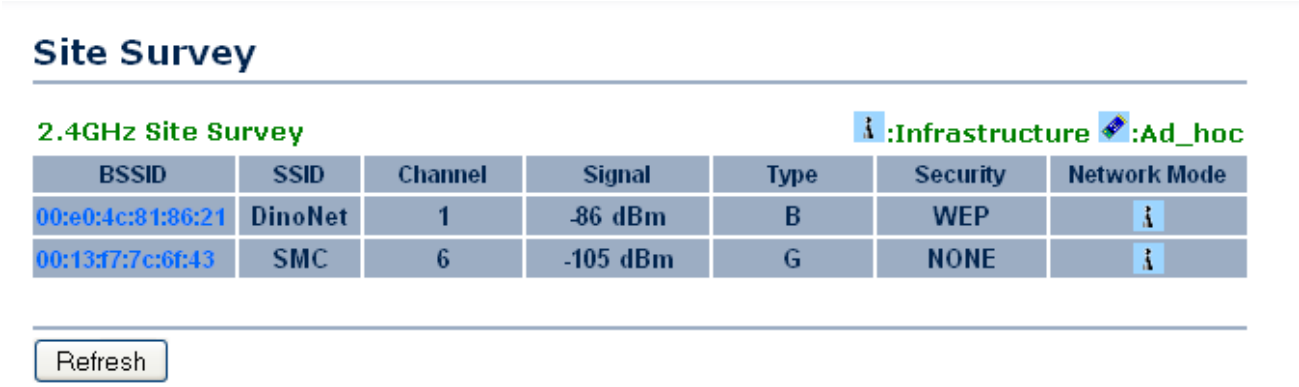
1. Accept does not compile the changes, you must go to Status -> Save/Load to apply the new settings. Please refer to the chapter 4.1 for more detail.
2. The Access Point that you would like to extend the wireless area must enter your Access Point's MAC address. Not all Access Point supports this feature.

6.1.4 Client Router Mode



Wireless Mode	The wireless mode supports 802.11b/g/n mixed modes. It is compatible with the most common known wireless band.
SSID	Specify the SSID if known. SSID text box will be automatically fill in when select an AP in the Site Survey.
Site Survey	Using Site Survey to scan nearby APs and then select the AP to establish the connection.
Prefer BSSID	Specify the MAC address if known. Prefer BSSID text box will be automatically fill in when select an AP in the Site Survey.
Wireless Security	Please refer to the chapter 6.2 for details.
Accept / Cancel	Press Accept to confirm the changes or Cancel to return previous settings.

Accept does not compile the changes, you must go to Status -> Save/Load to apply the new settings. Please refer to the chapter 4.1 for more detail.



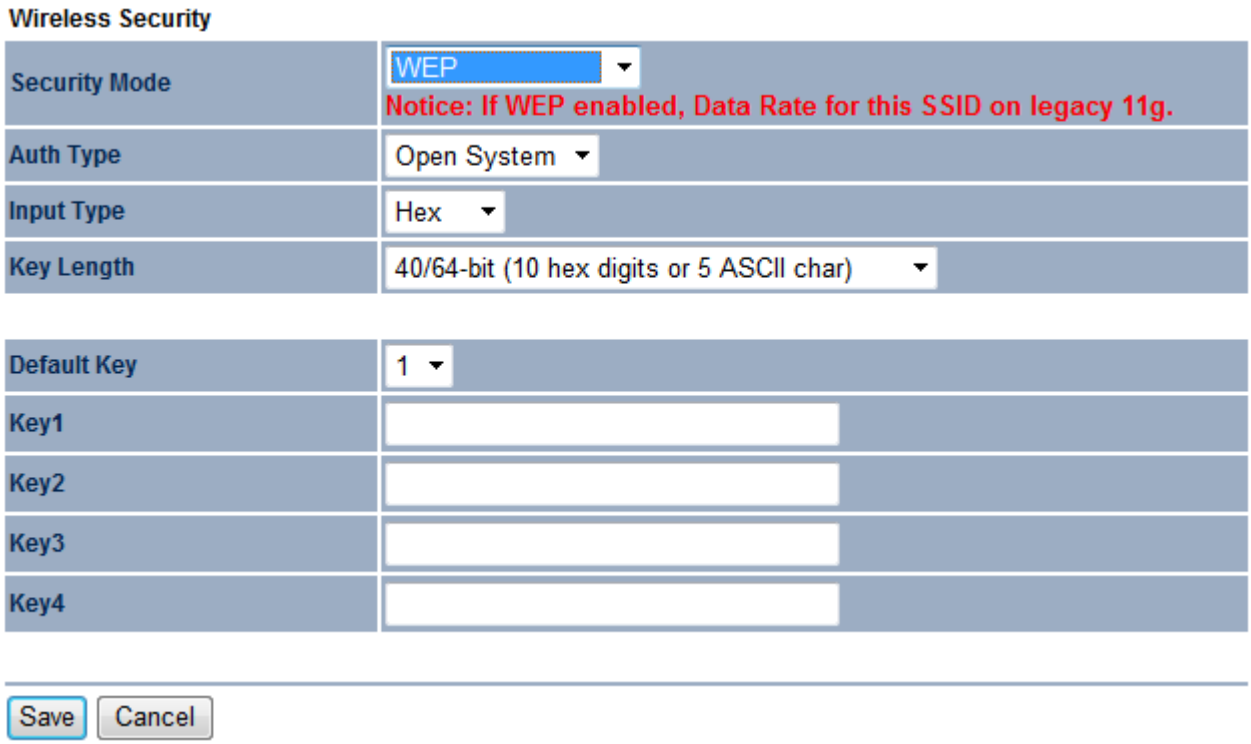
Profile	After Site Survey, webpage will display all nearby area's Access Point. Click the BSSID if you would like to connect with it.
Wireless Security	Please refer to the Wireless Security section.
Refresh	Press Refresh to scan again.

If the Access Point is suppressed its own SSID, SSID section will be blank, the SSID must be filled in manually.

6.2 Wireless Security Settings

Wireless Security Settings section will guide you to the entire Security modes configuration: WEP, WPA-PSK, WPA2-PSK, WPA-PSK Mixed, WPA, WPA2, and WPA Mixed.
We strongly recommend that uses WPA2-PSK as your security settings.

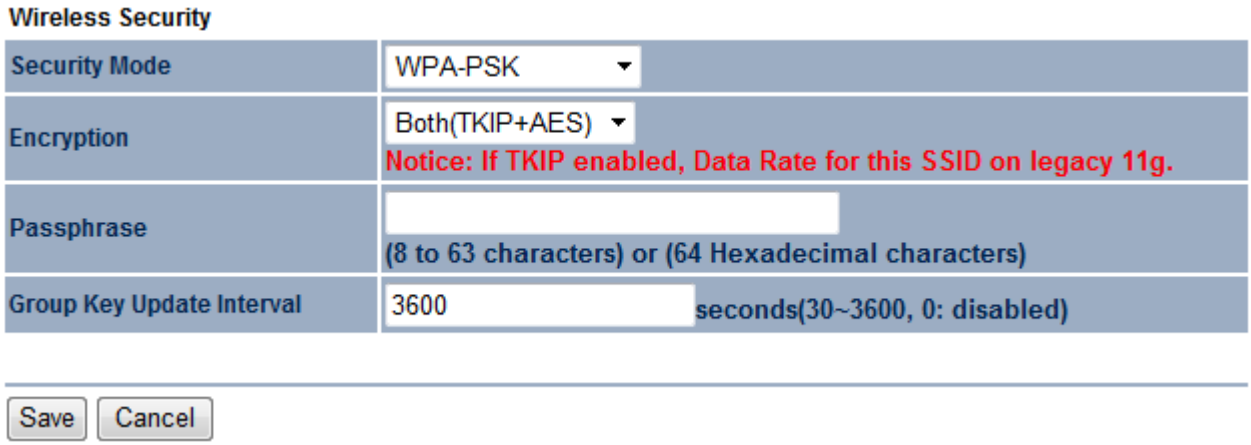
6.2.1 WEP



Security Mode	Select **WEP** from the drop down list to begin the configuration.
Auth Type	Select Auth Type in **Open System** or **Shared**.
Input Type	Select Input Type in **Hex** or **ASCII**.
Key Length	Select Key Length in 64/128/152 bit password length.
Default Key	Select the default index key for wireless security.
Key1	Specify password for security key index No.1.
Key2	Specify password for security key index No.2.
Key3	Specify password for security key index No.3.
Key4	Specify password for security key index No.4.

802.11n does not allow WEP/WPA-PSK/WPA-PSK TKIP security mode. The date rate will drop from 802.11n to 802.11g.

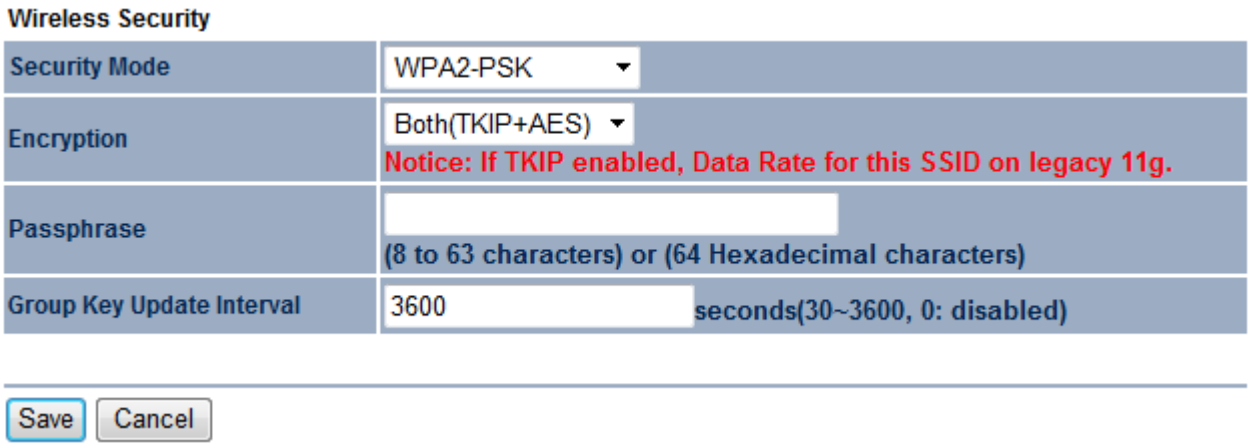
6.2.2 WPA-PSK



Security Mode	Select **WPA-PSK** from the drop down list to begin the configuration.
Encryption	Select **Both**, **TKIP** or **AES** for Encryption type.
Passphrase	Specify the security password.
Group Key Update Interval	Specify Group Key Update Interval time.

802.11n does not allow WEP/WPA-PSK/WPA-PSK TKIP security mode. The date rate will drop from 802.11n to 802.11g.

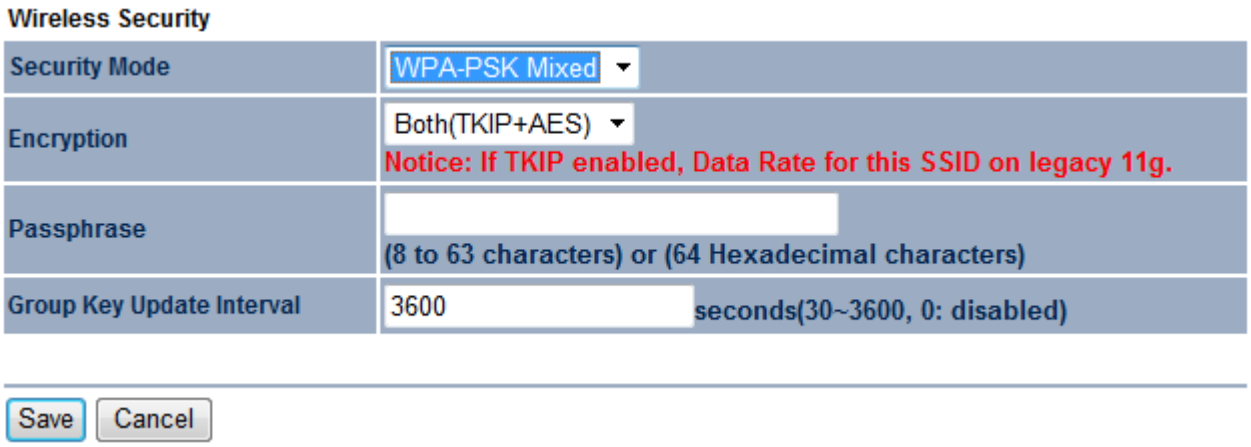
6.2.3 WPA2-PSK



Security Mode	Select **WPA2-PSK** from the drop down list to begin the configuration.
Encryption	Select **Both**, **TKIP** or **AES** for Encryption type.
Passphrase	Specify the security password.
Group Key Update Interval	Specify Group Key Update Interval time.

802.11n does not allow WEP/WPA-PSK/WPA-PSK TKIP security mode. The date rate will drop from 802.11n to 802.11g.

6.2.4 WPA-PSK Mixed

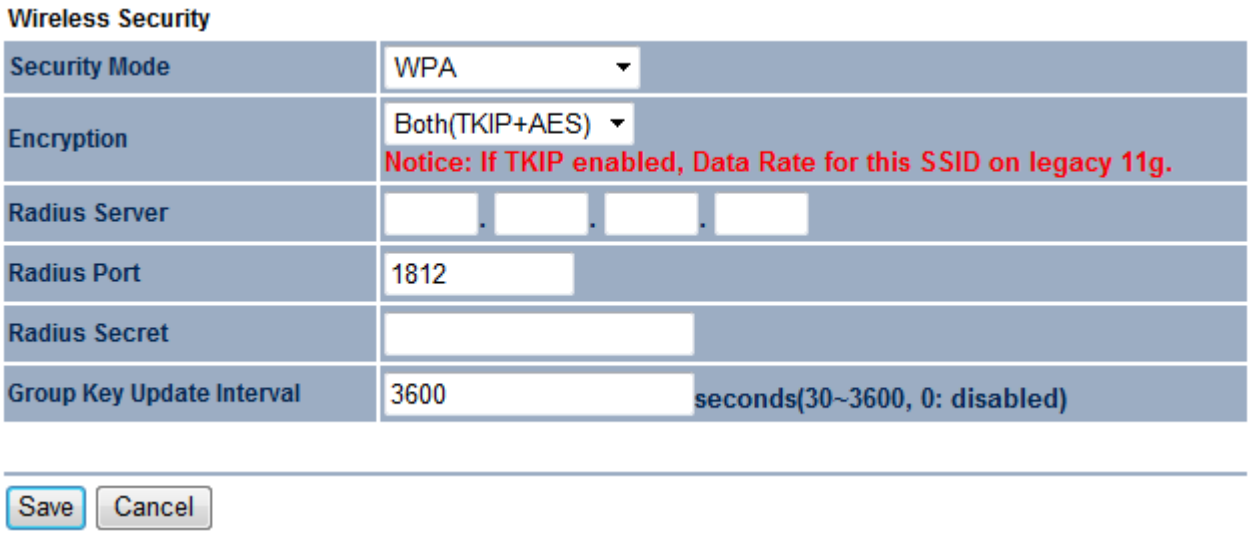


Security Mode	Select **WPA-PSK Mixed** from the drop down list to begin the configuration.
Encryption	Select **Both**, **TKIP** or **AES** for Encryption type.
Passphrase	Specify the security password.
Group Key Update Interval	Specify Group Key Update Interval time.

Uses WPA-PSK Mixed can allow multiple security modes at the same time.

802.11n does not allow WEP/WPA-PSK/WPA-PSK TKIP security mode. The date rate will drop from 802.11n to 802.11g.

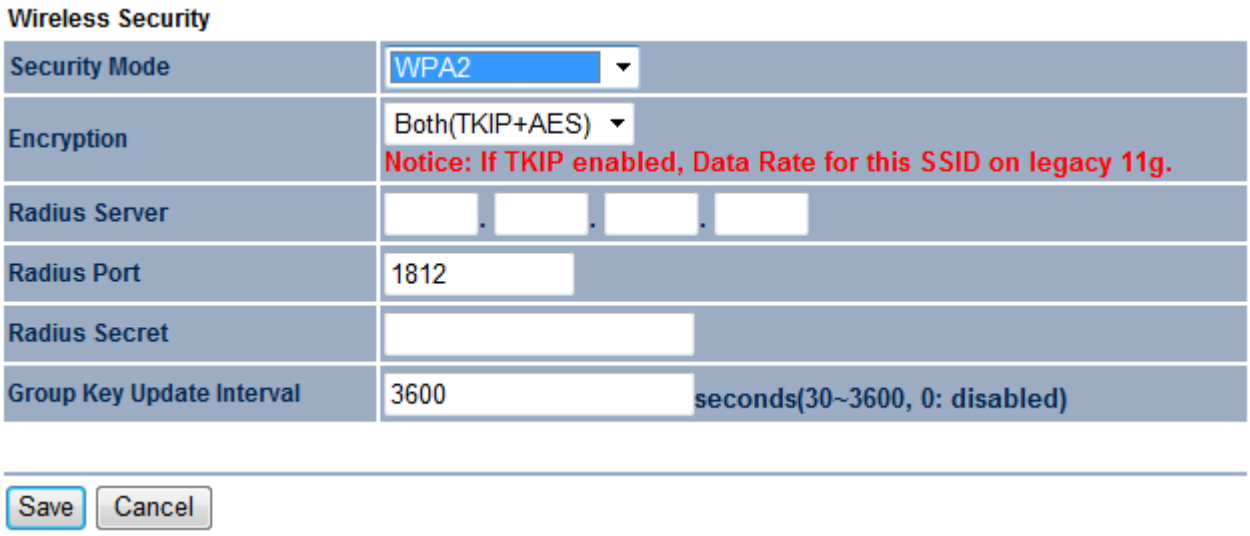
6.2.5 WPA



Security Mode	Select **WPA** from the drop down list to begin the configuration.
Encryption	Select **Both**, **TKIP** or **AES** for Encryption type.
Radius Server	Specify Radius Server IP Address.
Radius Port	Specify Radius Port number, the default port is 1812.
Radius Secret	Specify Radius Secret that is given by the Radius Server.
Group Key Update Interval	Specify Group Key Update Interval time.

802.11n does not allow WEP/WPA-PSK/WPA-PSK TKIP security mode. The date rate will drop from 802.11n to 802.11g.

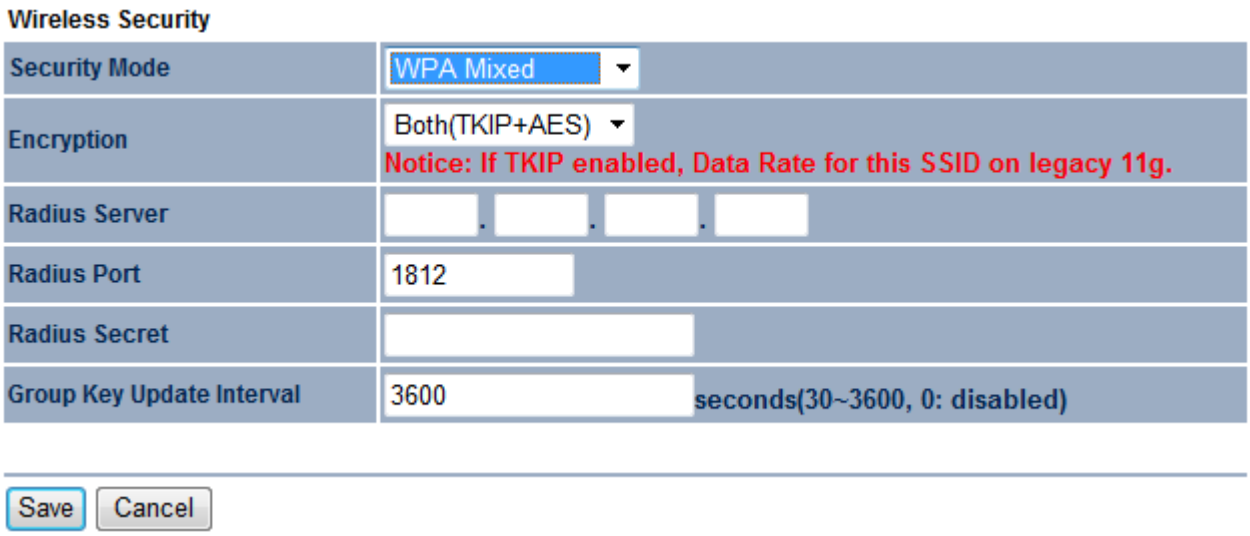
6.2.6 WPA2



Security Mode	Select **WPA2** from the drop down list to begin the configuration.
Encryption	Select **Both**, **TKIP** or **AES** for Encryption type.
Radius Server	Specify Radius Server IP Address.
Radius Port	Specify Radius Port number, the default port is 1812.
Radius Secret	Specify Radius Secret that is given by the Radius Server.
Group Key Update Interval	Specify Group Key Update Interval time.

802.11n does not allow WEP/WPA-PSK/WPA-PSK TKIP security mode. The date rate will drop from 802.11n to 802.11g.

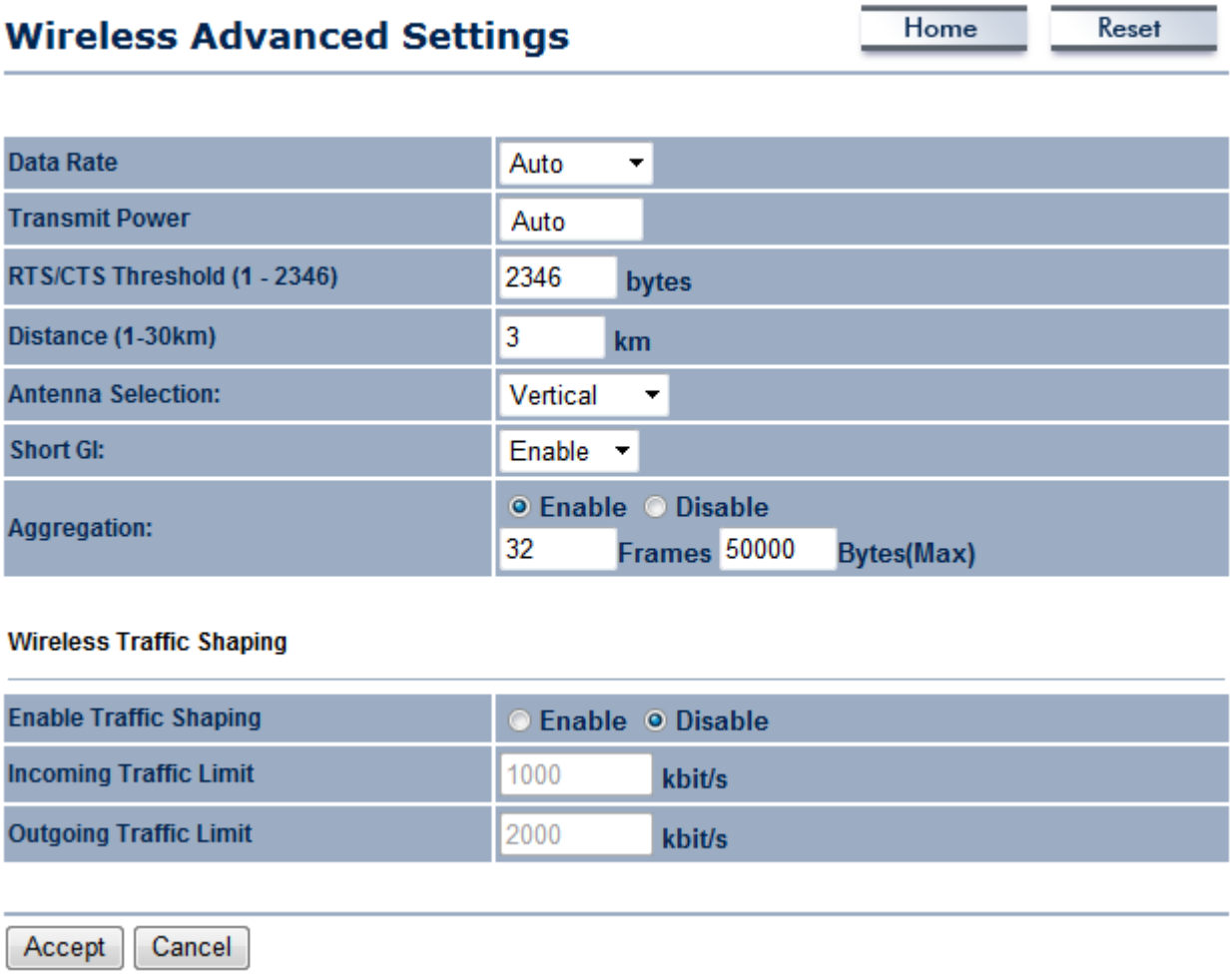
6.2.7 WPA Mixed



Security Mode	Select **WPA Mixed** from the drop down list to begin the configuration.
Encryption	Select **Both**, **TKIP** or **AES** for Encryption type.
Radius Server	Specify Radius Server IP Address.
Radius Port	Specify Radius Port number, the default port is 1812.
Radius Secret	Specify Radius Secret that is given by the Radius Server.
Group Key Update Interval	Specify Group Key Update Interval time.

802.11n does not allow WEP/WPA-PSK/WPA-PSK TKIP security mode. The date rate will drop from 802.11n to 802.11g.

6.4 Wireless Advanced Settings



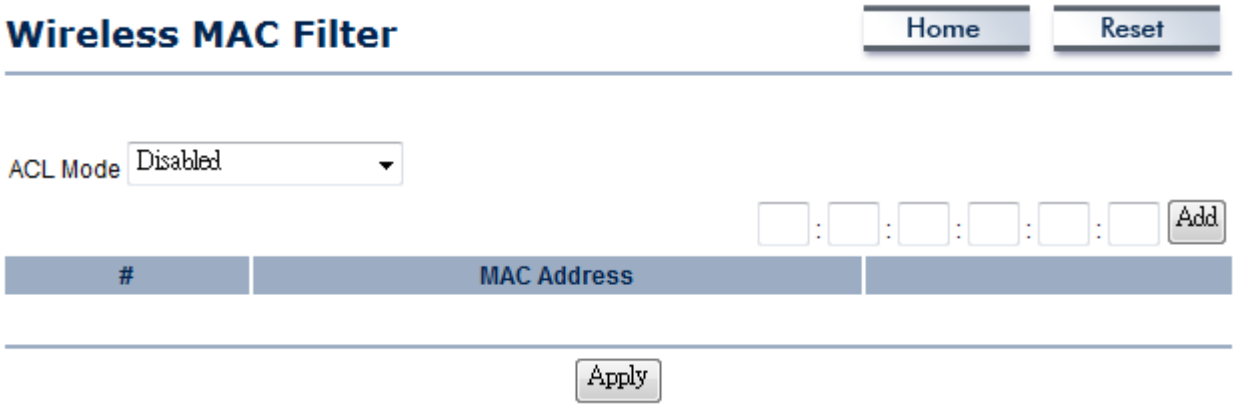
Data Rate	Select Data Rate from the drop down list. Data rate will affect the efficiency of the throughput. If the data rate is set to a small number, the lower through will get but it can transmit to longer distance.
Transmit Power	Auto Transmit Power.
RTS/CTS Threshold	Specify Threshold package size for RTC/CTS. Using small number of the threshold will cause RTS/CTS packets to be sent more often to consuming more of the available bandwidth. In addition, if the heavy load traffic occurs, the wireless network can be recovered easily from interferences or collisions.
Distance	Specify distance rage between AP and Clients. Longer distance may lose high connection speed.
Antenna Selection	Specify the internal antenna type.
Short GI	Short GI is improved of 802.11n and 802.11a/g. It can increase 10% of the internet speed during the data transmission. For example, the 802.11a/g's GI is 800us, the short GI will be 400us.
Aggregation	Aggregation is to merge the typical size of data's header to one data. It

	is useful for the small size but larger amount packets.
Wireless Traffic Shaping	Place a **Check** to enable Wireless Traffic Shaping function.
Incoming Traffic Limit	Specify the wireless transmission speed for downloading.
Outgoing Traffic Limit	Specify the wireless transmission speed for uploading.
Accept / Cancel	Press Accept to confirm the changes or Cancel to return previous settings.

1. Changing Wireless Advanced Settings may cause insufficient wireless connection quality. Please remain all settings as default unless you have acknowledged all changing that you have made.
2. Accept does not compile the changes, you must go to Status -> Save/Load to apply the new settings. Please refer to the chapter 4.1 for more detail.

6.5 Wireless MAC Filter

Wireless MAC Filters is used to Allow or Deny wireless clients, by their MAC addresses, accessing the Network. You can manually add a MAC address to restrict the permission to access ENH200. The default setting is Disable Wireless MAC Filters.

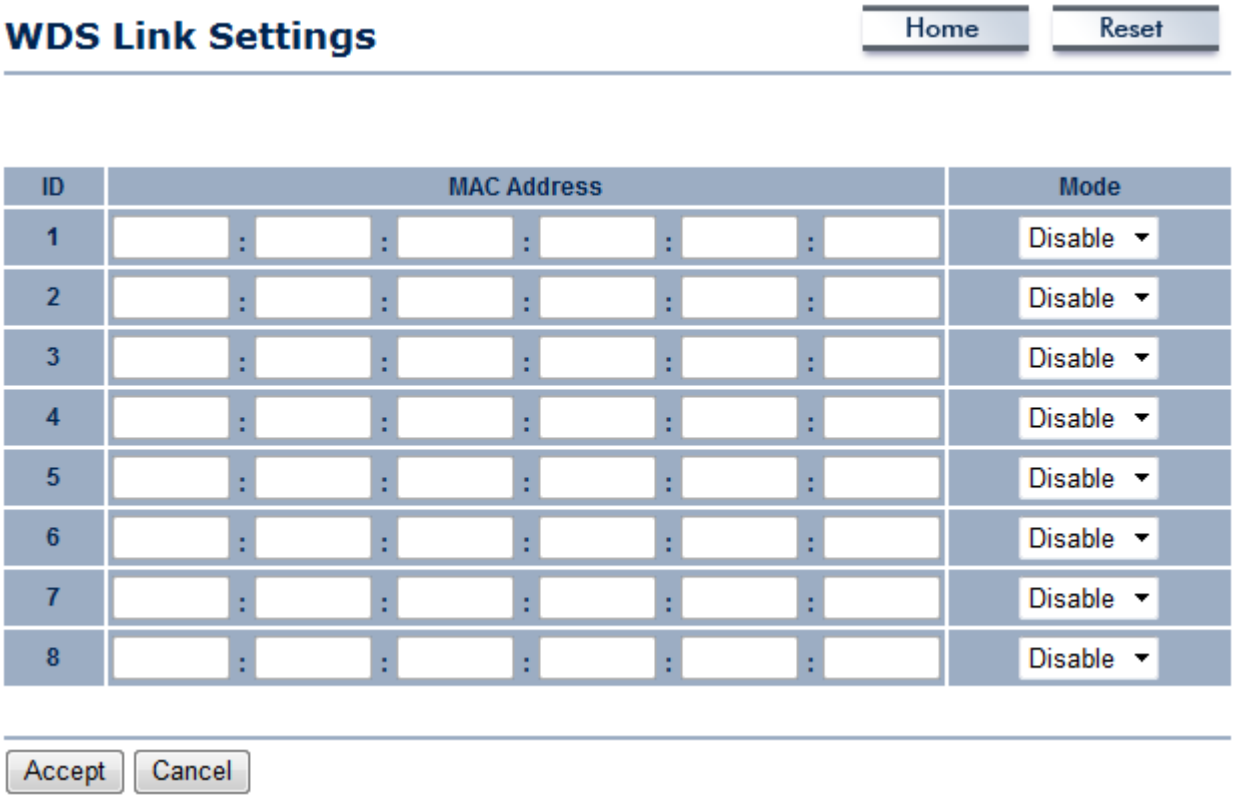


0.

ACL Mode	ACL Mode can help to deny or allow certain Client to access the network. Select Disable, Deny MAC in the list or Allow MAC in the list from the drop down list.
MAC Address Filter	Specify the MAC address manually.
Add	Press **Add** to add the MAC address in the table.
Apply	Press **Apply** to apply the changes.

6.6 WDS Link Settings

WDS Link Settings is used to establish a connection between Access Points but the device is not losing Access Point function. AP has WDS function can extend the wireless coverage and allow LANs to communicate each other.



MAC Address	Enter the Access Point's MAC address that you would like to extend the wireless area.
Mode	Select Disable or Enable from the drop down list.
Accept / Cancel	Press Accept to confirm the changes or Cancel to return previous settings.

Accept does not compile the changes, you must go to Status -> Save/Load to apply the new settings. Please refer to the chapter 4.1 for more detail.

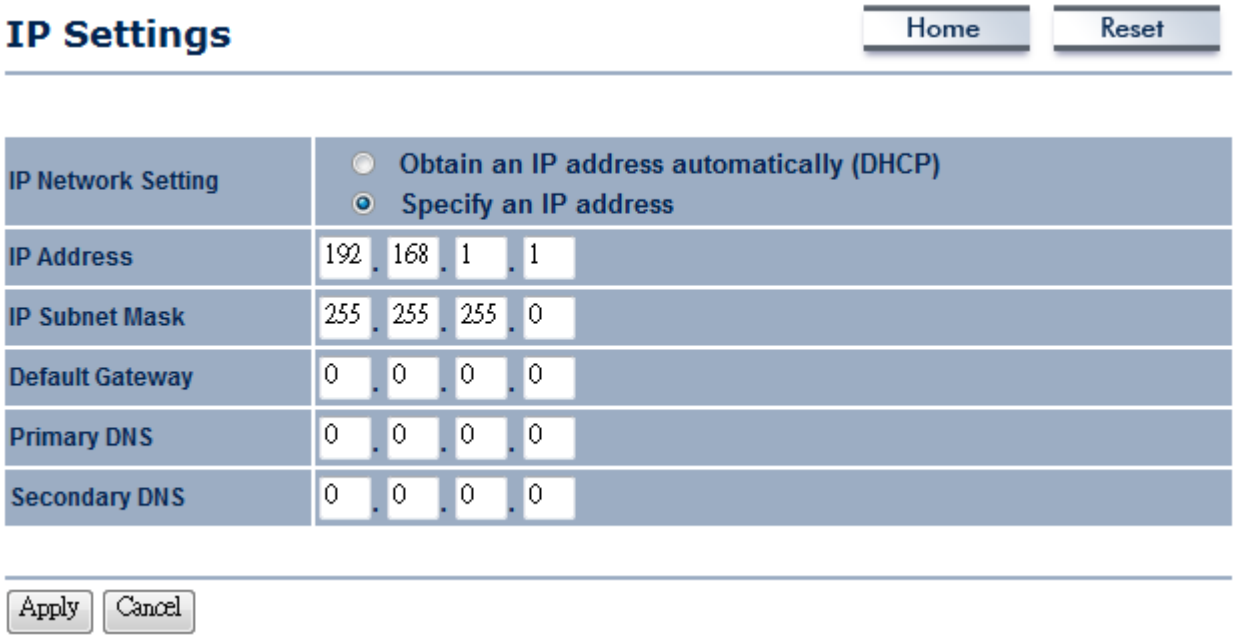
The Access Point that you would like to extend the wireless area must enter your Access Point's MAC address. Not all Access Point supports this feature.

7 LAN Setup

This section will guide you to setup the Local Area Network (LAN) settings

7.1 IP Settings

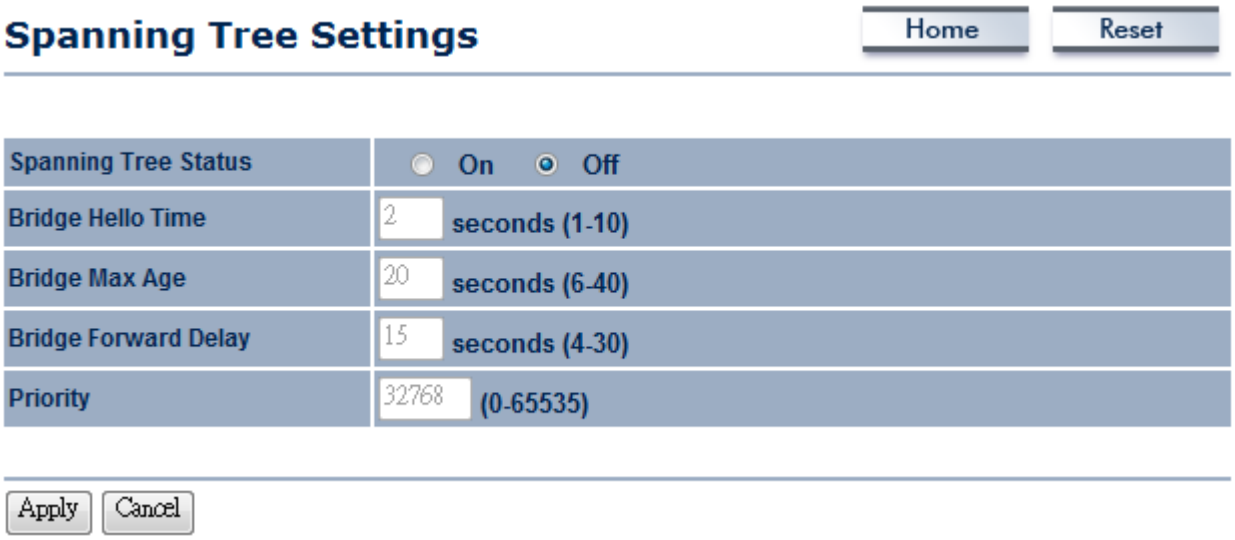
This section is only available for **Non-Router Mode**. IP Settings allows you to LAN port IP address of the ENH200.



IP Network Setting	Select Radio button for **Obtain an IP address automatically** or **Specify an IP address**.
IP Address	Specify LAN port IP address.
IP Suet Mask	Specify Subnet Mask.
Default Gateway	Specify Default Gateway
Primary DNS	Specify Primary DNS
Secondary DNS	Specify Secondary DNS
Accept / Cancel	Press Accept to confirm the changes or Cancel to return previous settings.

1. Obtain an IP address automatically is not a DHCP server. It means automatically get IP address when device connected to a device which has DHCP server.
2. Changing LAN IP Address will change LAN Interface IP address. Webpage will automatically redirect to the new IP address after Apply.

7.2 Spanning Tree Settings



Spanning Tree Status	Select the Radio button to On or Off Spanning Tree function.
Bridge Hello Time	Specify Bridge Hello Time in second.
Bridge Max Age	Specify Bridge Max Age in second.
Bridge Forward Delay	Specify Bridge Forward Delay in second.
Priority	Specify the Priority number. Smaller number has greater priority.
Accept / Cancel	Press Accept to confirm the changes or Cancel to return previous settings.

Accept does not compile the changes, you must go to Status -> Save/Load to apply the new settings. Please refer to the chapter 4.1 for more detail.

8 Router Settings

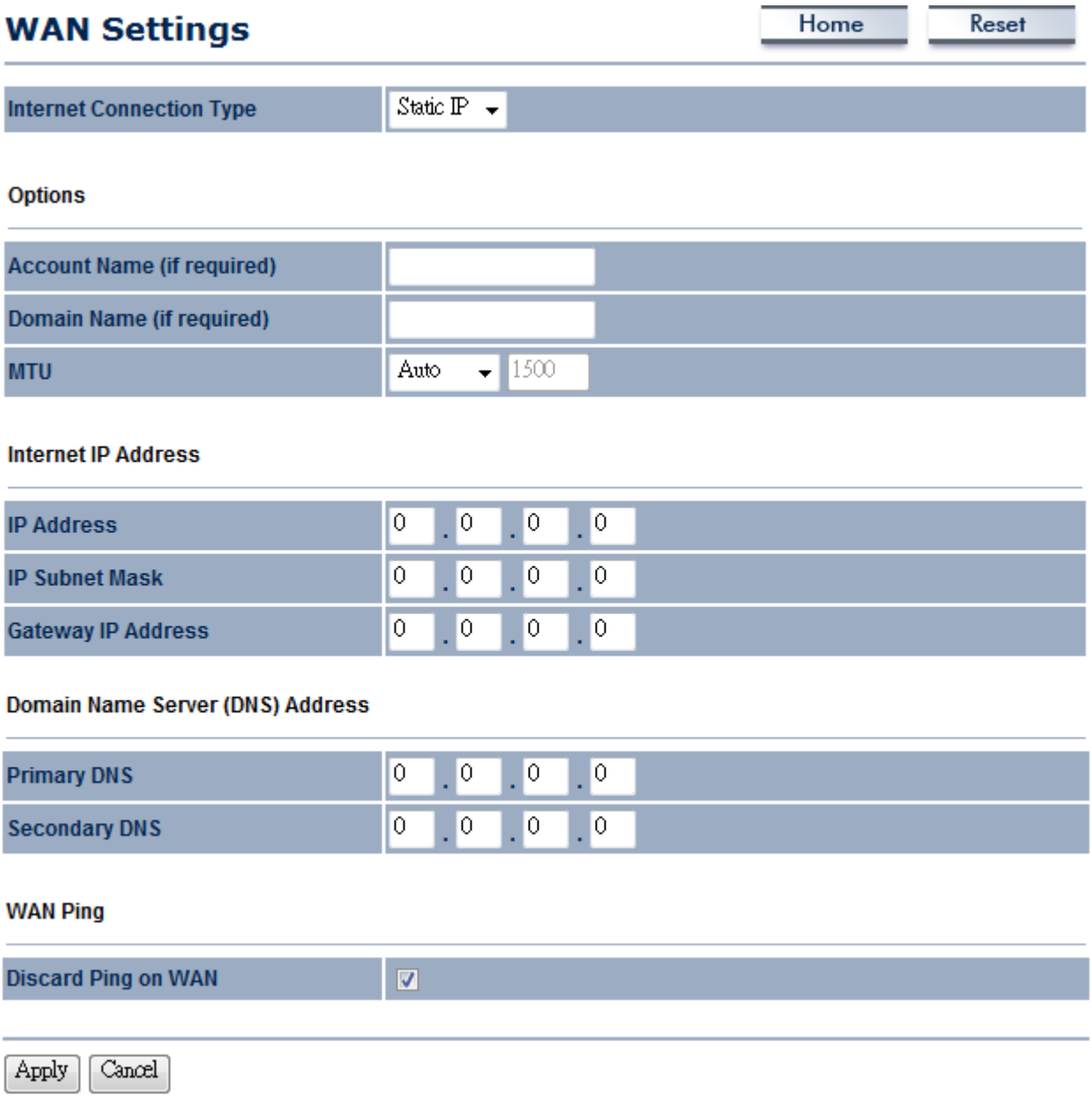
This section is only available for **AP Router Mode** and **Client Router Mode**.

8.1 WAN Settings

There are four different types of WAN connection: Static IP, DHCP, PPPoE and PPTP. Please contact your ISP to select the connection type.

8.1.1 Static IP

Select Static IP in WAN connection if your ISP gives all the information about IP address, Subnet Mask, Default Gateway, Primary DNS and Secondary DNS.



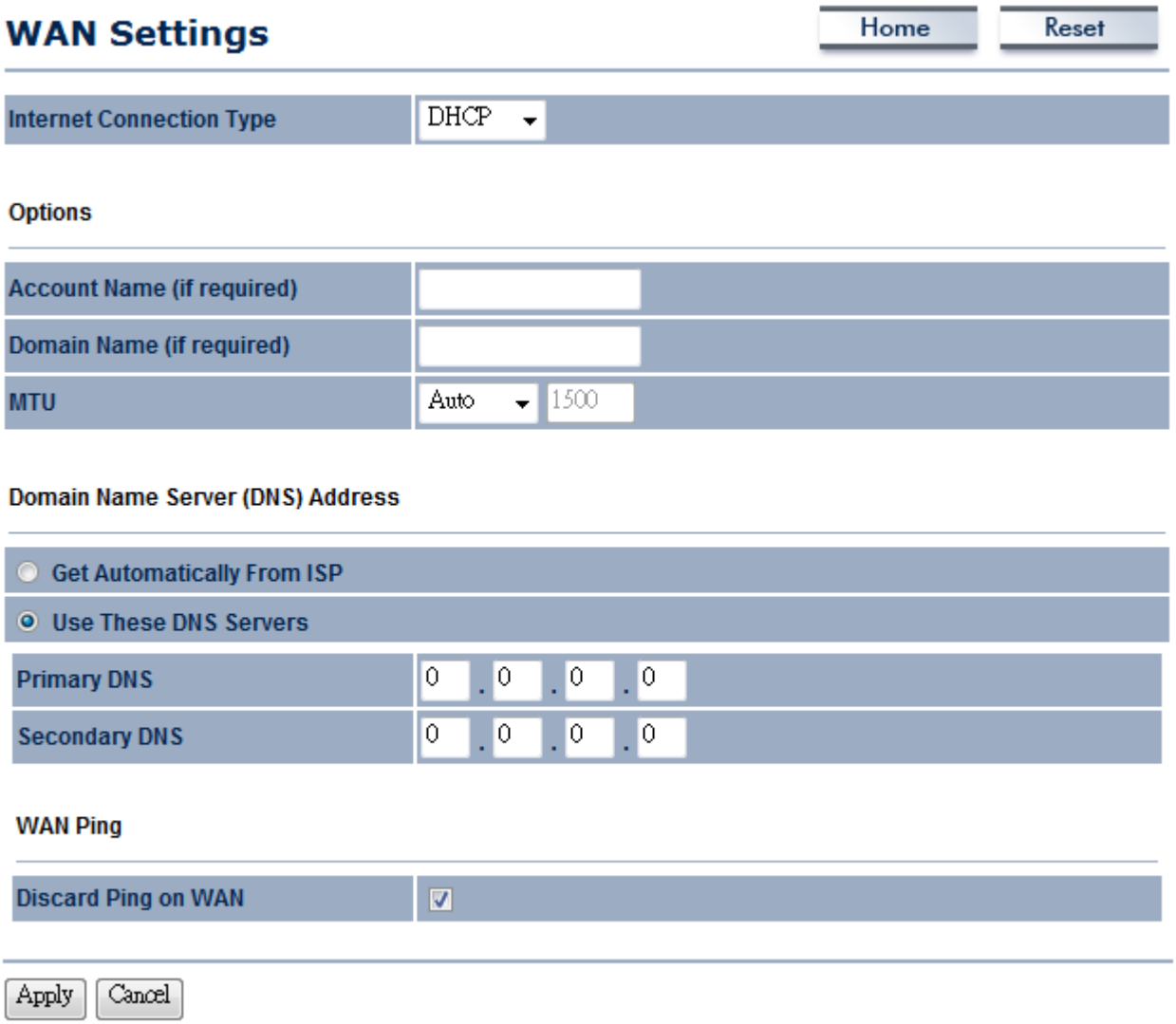
Internet Connection Type	Select **Static IP** to begin configuration of the Static IP connection.
Account Name	Specify Account Name that is provided by ISP.
Domain Name	Specify Domain Name that is provided by ISP.
MTU	Specify the Maximum Transmit Unit size. Suggest remain in Auto.
IP Address	Specify WAN port IP address.
IP Subnet Mask	Specify WAN IP Subnet Mask.
Gateway IP Address	Specify WAN Gateway IP address.
Primary DNS	Specify Primary DNS IP.
Secondary DNS	Specify Secondary DNS IP.
Discard Ping on WAN	Place a Check to Enable or Disable ping from WAN.
Accept / Cancel	Press Accept to confirm the changes or Cancel to return previous settings.

Accept does not compile the changes, you must go to Status -> Save/Load to apply the new settings. Please refer to the chapter 4.1 for more detail.

If the router's MTU is set too high, packets will be fragmented downstream. If the router's MTU is set too low, the router will fragment packets unnecessarily and in extreme cases may be unable to establish some connections. In either case, network performance can suffer.

8.1.2 DHCP (Dynamic IP)

Select DHCP as your WAN connection type to obtain your IP address automatically. You will need to enter Account Name as your hostname and DNS (Optional).



Internet Connection Type	Select **DHCP** to begin configuration of the DHCP connection.
Account Name	Specify Account Name that is provided by ISP.
Domain Name	Specify Domain Name that is provided by ISP.
MTU	Specify the Maximum Transmit Unit size. Suggest remain in Auto.
Get Automatically From ISP	Select the Radio button for get the DNS automatically from DHCP server.
Use These DNS Servers	Select the Radio button for setup the **Primary DNS** and **Secondary DNS** servers manually.
Discard Ping on WAN	Place a Check to Enable or Disable ping from WAN.
Accept / Cancel	Press Accept to confirm the changes or Cancel to return previous

settings.

Accept does not compile the changes, you must go to Status -> Save/Load to apply the new settings. Please refer to the chapter 4.1 for more detail.

If the router's MTU is set too high, packets will be fragmented downstream. If the router's MTU is set too low, the router will fragment packets unnecessarily and in extreme cases may be unable to establish some connections. In either case, network performance can suffer.

8.1.3 PPPoE (Point-to-Point Protocol over Ethernet)

Select PPPoE as your WAN connection type if your ISP provides Username and Password. PPPoE is a DSL service and please remove your PPPoE software from your computer, the software is not worked in ENH200.

Internet Connection Type	Select **PPPoE** to begin configuration of the PPPoE connection.
MTU	Specify the Maximum Transmit Unit size. Suggest remain in Auto.
Login	Specify the **Username** that is given by your ISP.
Password	Specify the **Password** that is given by your ISP.
Service Name	Specify the **Service Name** that is given by your ISP.
Connect on Demand	Select the Radio button to specify the maximum idle time. Internet

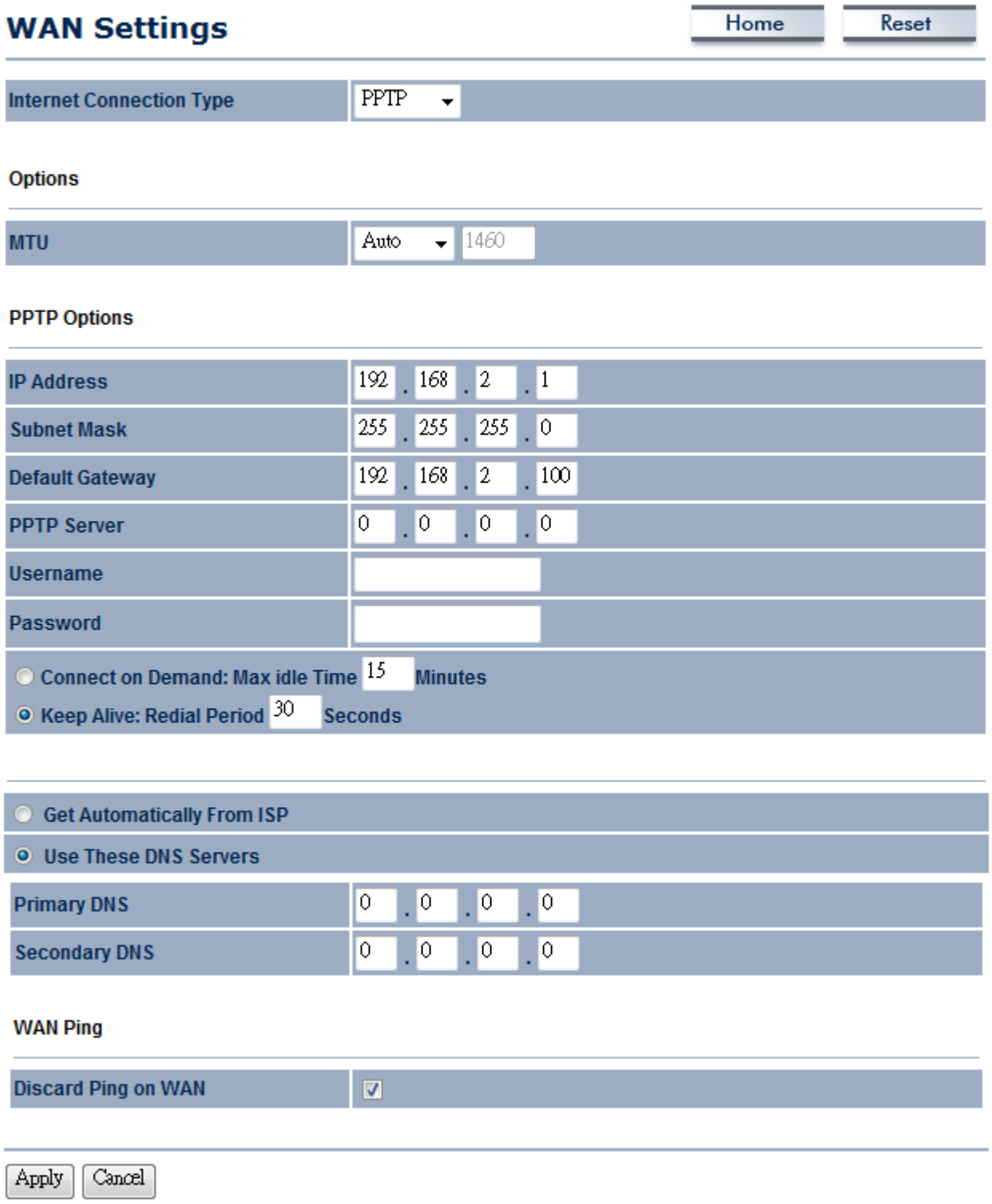
	connection will disconnect when it reach the maximum idle time, but it will automatically connect when user tries to access the network.
Keep Alive	Select the Radio button to keep internet connection always on. Specify the redial period once the internet lose connection.
Get Automatically From ISP	Select the Radio button for get the DNS automatically from DHCP server.
Use These DNS Servers	Select the Radio button for setup the **Primary DNS** and **Secondary DNS** servers manually.
Discard Ping on WAN	Place a Check to Enable or Disable ping from WAN.
Accept / Cancel	Press Accept to confirm the changes or Cancel to return previous settings.

Accept does not compile the changes, you must go to Status -> Save/Load to apply the new settings. Please refer to the chapter 4.1 for more detail.

If the router's MTU is set too high, packets will be fragmented downstream. If the router's MTU is set too low, the router will fragment packets unnecessarily and in extreme cases may be unable to establish some connections. In either case, network performance can suffer.

8.1.4 PPTP (Point-to-Point Tunneling Protocol)

Select PPTP as your WAN connection type if your ISP provides information about IP Address, Subnet Mask, Default Gateway (Optional), DNS (Optional), Server IP, Username, and Password.



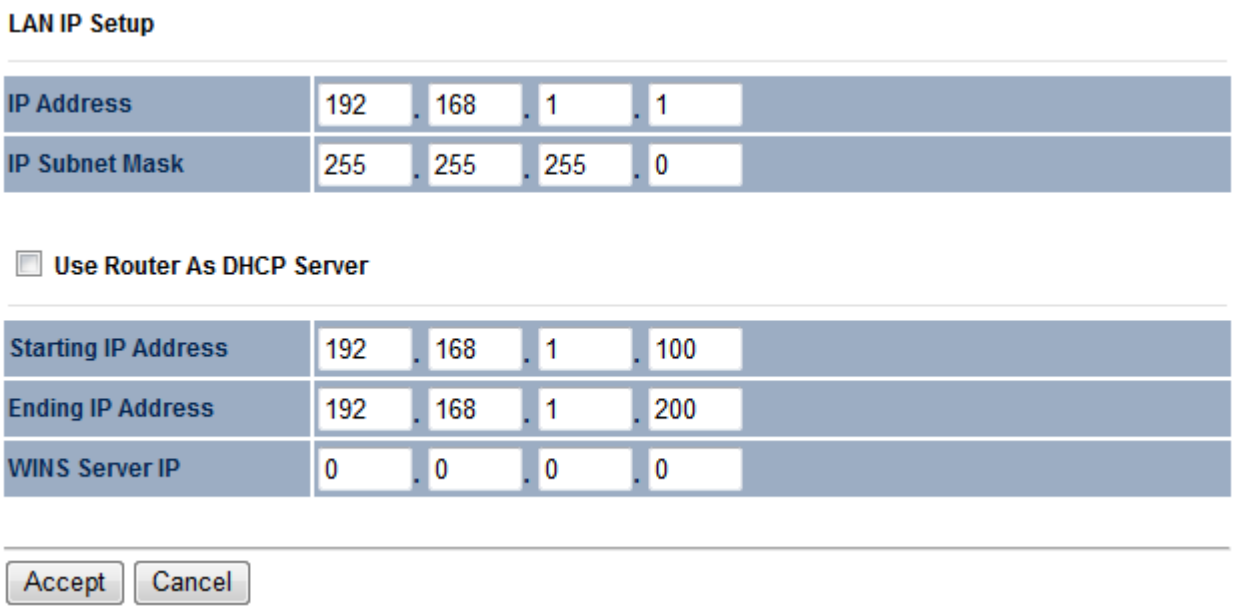
Internet Connection Type	Select **PPTP** to begin configuration of the PPTP connection.
MTU	Specify the Maximum Transmit Unit size. Suggest remain in Auto.
IP Address	Specify WAN port IP address.

IP Subnet Mask	Specify WAN IP Subnet Mask.
Gateway IP Address	Specify WAN Gateway IP address.
PPTP Server	Specify PPTP Server IP address.
Username	Specify the **Username** that is given by your ISP.
Password	Specify the **Password** that is given by your ISP.
Connect on Demand	Select the Radio button to specify the maximum idle time. Internet connection will disconnect when it reach the maximum idle time, but it will automatically connect when user tries to access the network.
Keep Alive	Select the Radio button to keep internet connection always on. Specify the redial period once the internet lose connection.
Get Automatically From ISP	Select the Radio button for get the DNS automatically from DHCP server.
Use These DNS Servers	Select the Radio button for setup the **Primary DNS** and **Secondary DNS** servers manually.
Discard Ping on WAN	Place a Check to Enable or Disable ping from WAN.
Accept / Cancel	Press Accept to confirm the changes or Cancel to return previous settings.

Accept does not compile the changes, you must go to Status -> Save/Load to apply the new settings. Please refer to the chapter 4.1 for more detail.

If the router's MTU is set too high, packets will be fragmented downstream. If the router's MTU is set too low, the router will fragment packets unnecessarily and in extreme cases may be unable to establish some connections. In either case, network performance can suffer.

8.2 LAN Settings (Router Mode)



IP Address	Specify LAN port IP address.
IP Subnet Mask	Specify LAN IP Subnet Mask.
WINS Server IP	Specify WINS Server IP.
Use Router As DHCP Server	Place a **Check** to enable DHCP server.
Starting IP Address	Specify DHCP server starting IP address.
Ending IP Address	Specify DHCP server ending IP address.
WINS Server IP	Specify the WINS Server IP address.
Accept / Cancel	Press Accept to confirm the changes or Cancel to return previous settings.

Accept does not compile the changes, you must go to Status -> Save/Load to apply the new settings. Please refer to the chapter 4.1 for more detail.

8.3 VPN Pass Through

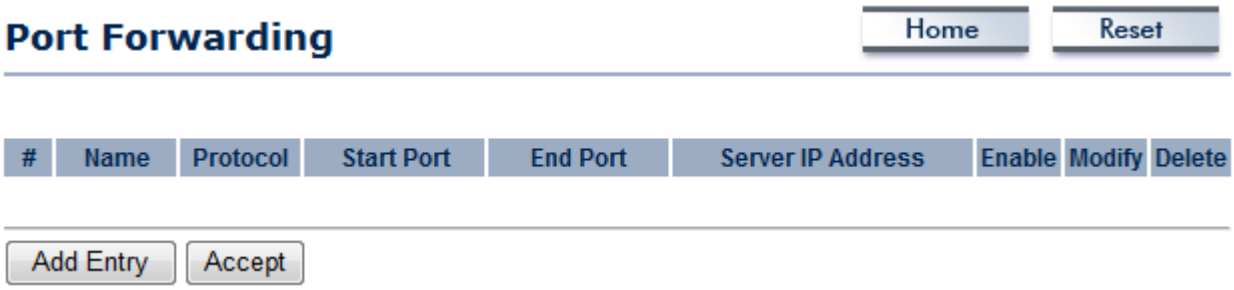
VPN Pass Through is used to allow certain protocol to be tunneled through an IP network such as PPTP and L2TP or implement secure exchange of packets at the IP Layer such as IPSec.

PPTP Pass Through	Place a **Check** to enable PPTP protocol passes through WAN.
L2TP Pass Through	Place a **Check** to enable L2TP protocol passes through WAN.
IPSec Pass Through	Place a **Check** to enable IPSec protocol passes through WAN.
Accept / Cancel	Press Accept to confirm the changes or Cancel to return previous settings.

Accept does not compile the changes, you must go to Status -> Save/Load to apply the new settings. Please refer to the chapter 4.1 for more detail.

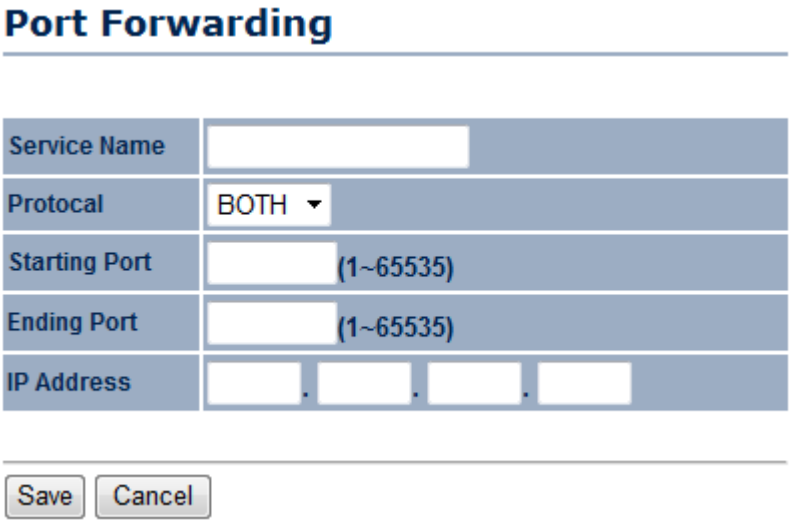
8.4 Port Forwarding

Port Forwarding is used to allow a public service such as Web Server, Mail Server, and FTP server to be set up. For example: Set up a Web Server on your computer with port number **8080**. Visitor on the internet can access your Web Server by entering **WAN Port IP** with port number **8080**. If your WAN Port IP is 192.168.5.1, then visitor must enter **http://192.168.5.1:*8080***. To find out more the well known port numbers please search the internet.



Add Entry	Press Add Entry to add a rule of Port Forwarding.
Accept	Press **Accept** to confirm the changes.

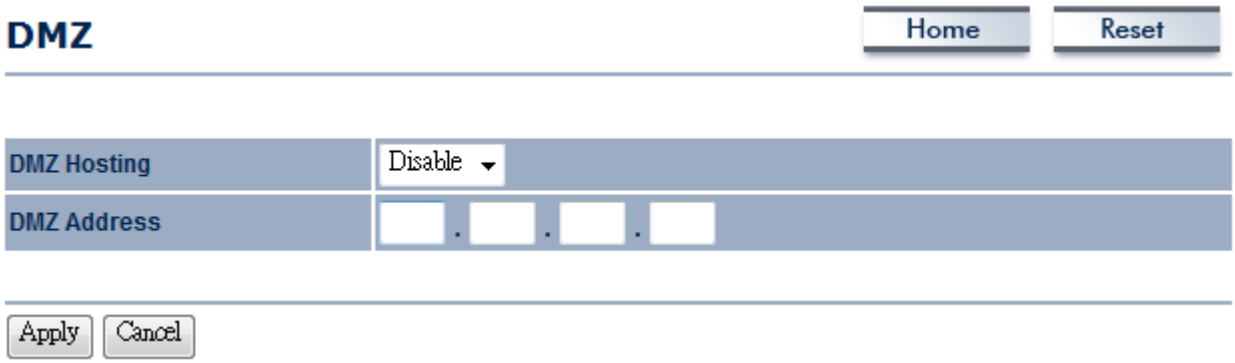
Accept does not compile the changes, you must go to Status -> Save/Load to apply the new settings. Please refer to the chapter 4.1 for more detail.



Service Name	Specify a name for current Port Forwarding rule.
Protocol	Select a protocol from drop down list: Both, TCP and UDP.
Starting Port	Specify Starting Port number.
Ending Port	Specify Ending Port number.
IP Address	Specify IP address.
Save / Cancel	Press **Save** to apply the changes or **Cancel** to return previous settings.

8.5 DMZ

Enable DMZ will expose your network computer to the internet. This feature may be used in some circumstance such as Internet Gaming or Video Conference. DMZ will forward all the ports to one PC at the same time. This PC would be easily to attack because DMZ opens all the ports to one certain PC.



DMZ Hosting	Select **Enable** or **Disable** DMZ from drop down list.
DMZ Address	Specify an IP address of DMZ.
Accept / Cancel	Press Accept to confirm the changes or Cancel to return previous settings.

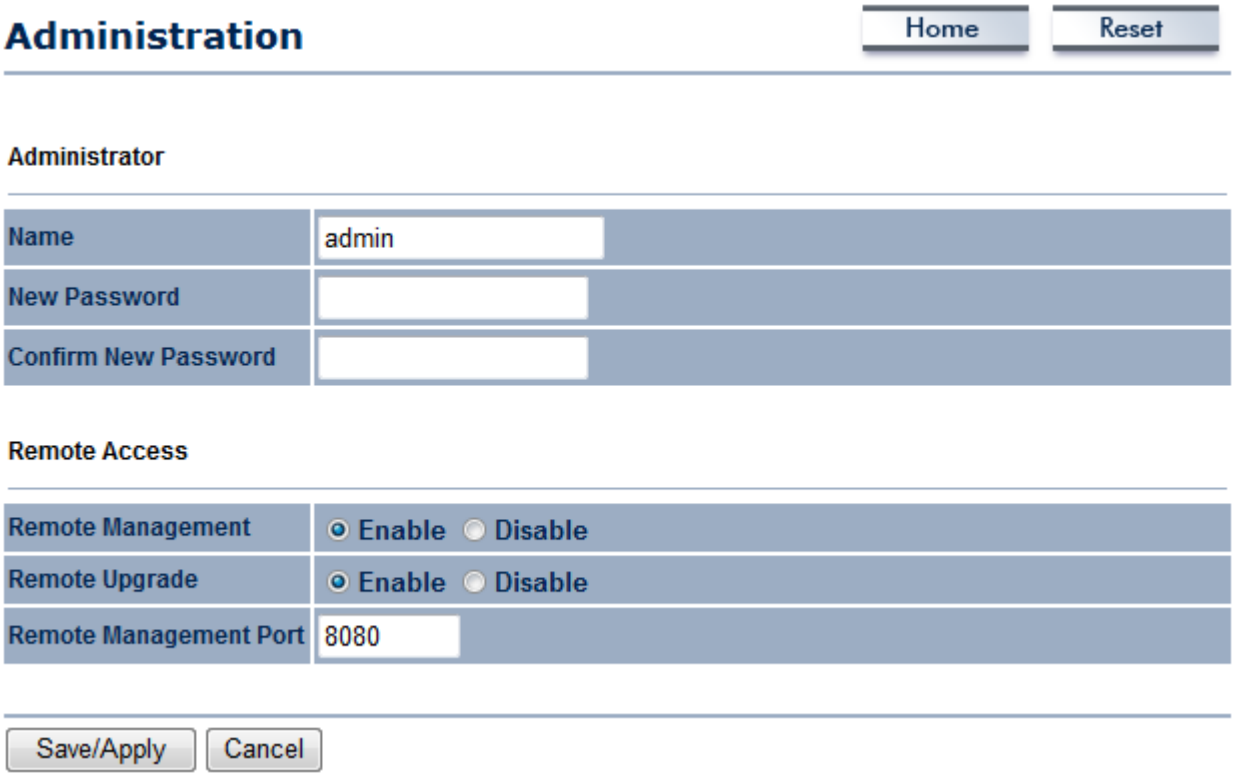
Accept does not compile the changes, you must go to Status -> Save/Load to apply the new settings. Please refer to the chapter 4.1 for more detail.

9 Management Settings

Management section is on the navigation drop-down menu. You will then see seven options: administration, management VLAN, SNMP settings, backup/restore settings, firmware upgrade, time settings, and log. Each option is described below.

9.1 Administration

Click on the **Administration** link under the **Management** menu. This option allows you to create a user name and password for the device. By default, this device is configured with a user name and password **admin**. For security reasons it is highly recommended that you create a new user name and password.



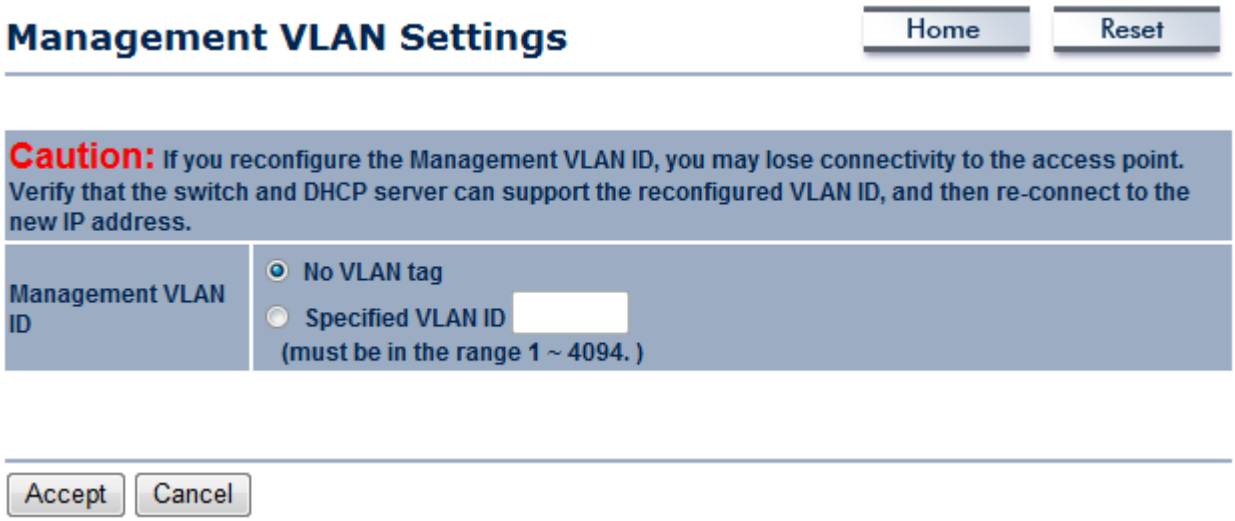
Name	Specify Username for login.
Password	Specify a Password for login
Confirm Password	Re-enter the Password for confirmation.
Remote Management	Select the Radio button to Enable or Disable Remote Management.
Remote Upgrade	Select the Radio button to Enable or Disable Remote Upgrade.
Remote Management Port	Specify the Port number for Remote Management. For example: If you specify the Port number is 8080, then you will need to enter following http://<IP address>:8080 to access the web interface.

Save/Apply / Cancel	Press Save/Apply to apply the changes or Cancel to return previous settings.

Press Save/Apply will change the setting immediately. It will not be able to undo the action.

9.2 Management VLAN

Click on the **Management VLAN** link under the **Management** menu. This option allows you to assign a VLAN tag to the packets. A VLAN is a group of computers on a network whose software has been configured so that they behave as if they were on a separate Local Area Network (LAN). Computers on VLAN do not have to be physically located next to one another on the LAN

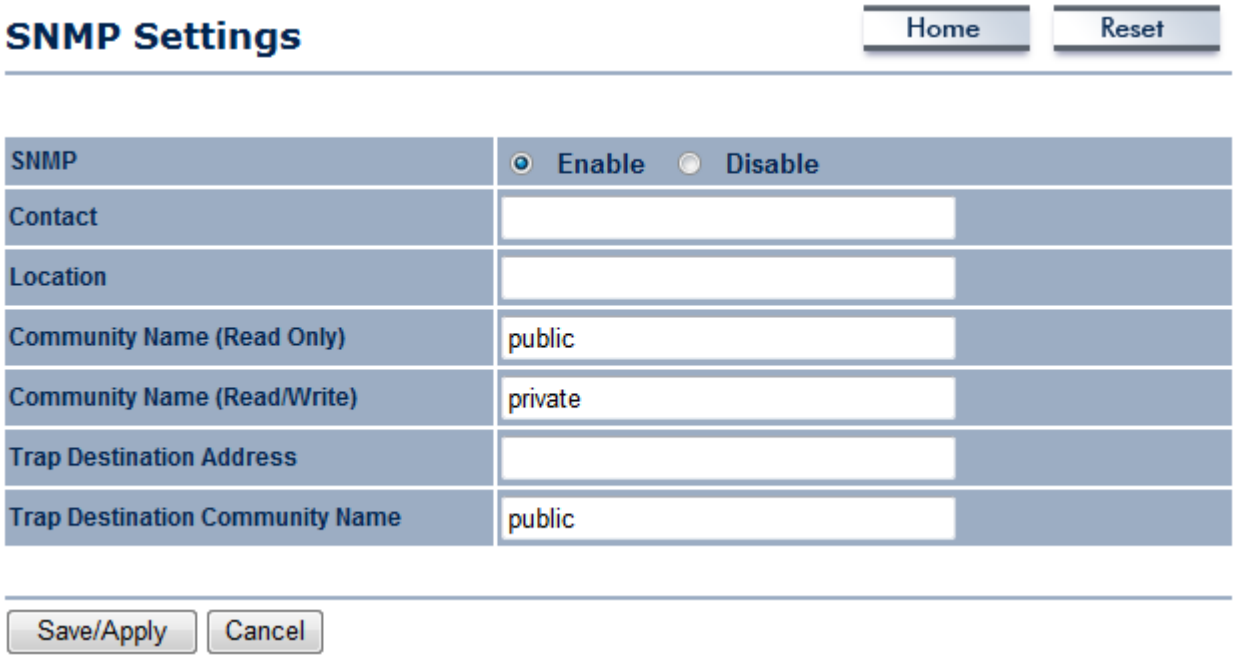


Management VLAN ID	If your network includes VLANs and if tagged packets need to pass through the Access Point, specify the VLAN ID into this field. If not, select the **No VLAN tag** radio button.
Accept / Cancel	Press Accept to confirm the changes or Cancel to return previous settings.

1. If you reconfigure the Management VLAN ID, you may lose connection to the ENH200. Verify DHCP server can support the reconfigured VLAN ID, and then re-connect to the new IP address.
2. Accept does not compile the changes, you must go to Status -> Save/Load to apply the new settings. Please refer to the chapter 4.1 for more detail.

9.3 SNMP Settings

Click on the **SNMP Settings** link under the **Management** menu. This is a networking management protocol used to monitor network-attached devices. SNMP allows messages (called protocol data units) to be sent to various parts of a network. Upon receiving these messages, SNMP-compatible devices (called agents) return data stored in their Management Information Bases.

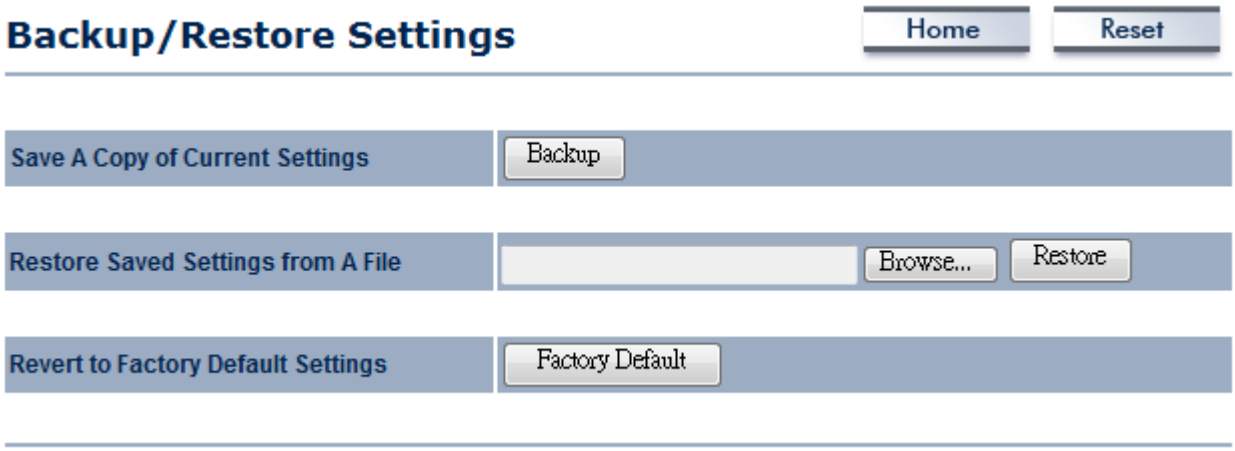


SNMP Enable/Disable	Select the Radio button to Enable or Disable SNMP function.
Contact	Specify the contact details of the device.
Location	Specify the location of the device.
Community Name	Specify the password for access the SNMP community for read only access.
Community Name	Specify the password for access the SNMP community for read and write access.
Trap Destination IP Address	Specify the IP address that will receive the SNMP trap.
Trap Destination Community Name	Specify the password of the SNMP trap community.
Save/Apply / Cancel	Press Save/Apply to apply the changes or Cancel to return previous settings.

Press Save/Apply will change the setting immediately. It will not be able to undo the action.

9.4 Backup/Restore Settings

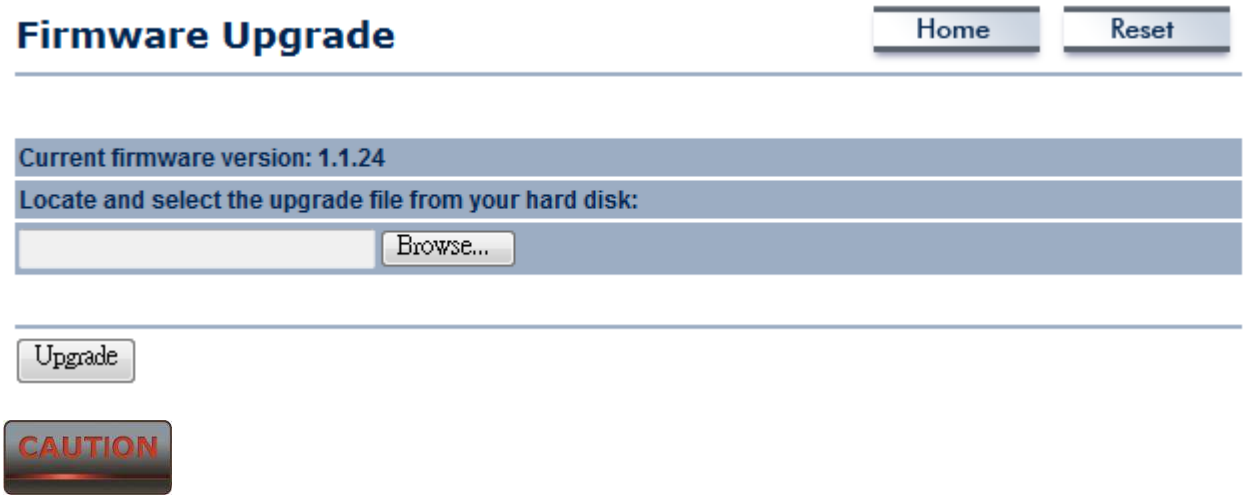
Click on the **Backup/Restore Setting** link under the **Management** menu. This option is used to save the current settings of the device in a file on your local disk or load settings on to the device from a local disk. This feature is very handy for administrators who have several devices that need to be configured with the same settings.



Save A Copy of Current Settings	Click on **Backup** to save current configured settings.
Restore Saved Settings from a File	ENH200 can restore a previous setting that has been saved. Click on Browse to select the file and Restore.
Revert to Factory Default Settings	Click on Factory Default button to reset all the settings to the default values.

9.5 Firmware Upgrade

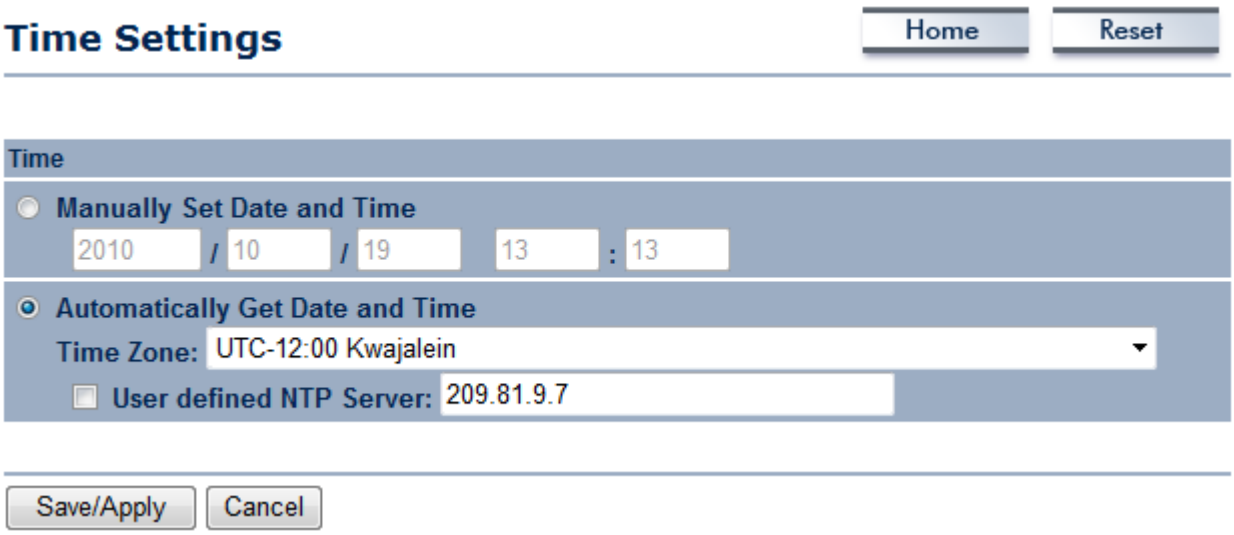
Click on the **Firmware Upgrade** link under the **Management** menu. This page is used to upgrade the firmware of the device. Make sure that downloaded the appropriate firmware from your vendor.



Upgrade process may take few minutes, please do not power off the device and it may cause the device crashed or unusable. ENH200 will restart automatically once the upgrade is completed.

9.6 Time Settings

Click on the **Time Settings** link under the **Management** menu. This page allows you to configure the time on the device. You may do this manually or by connecting to a NTP server.

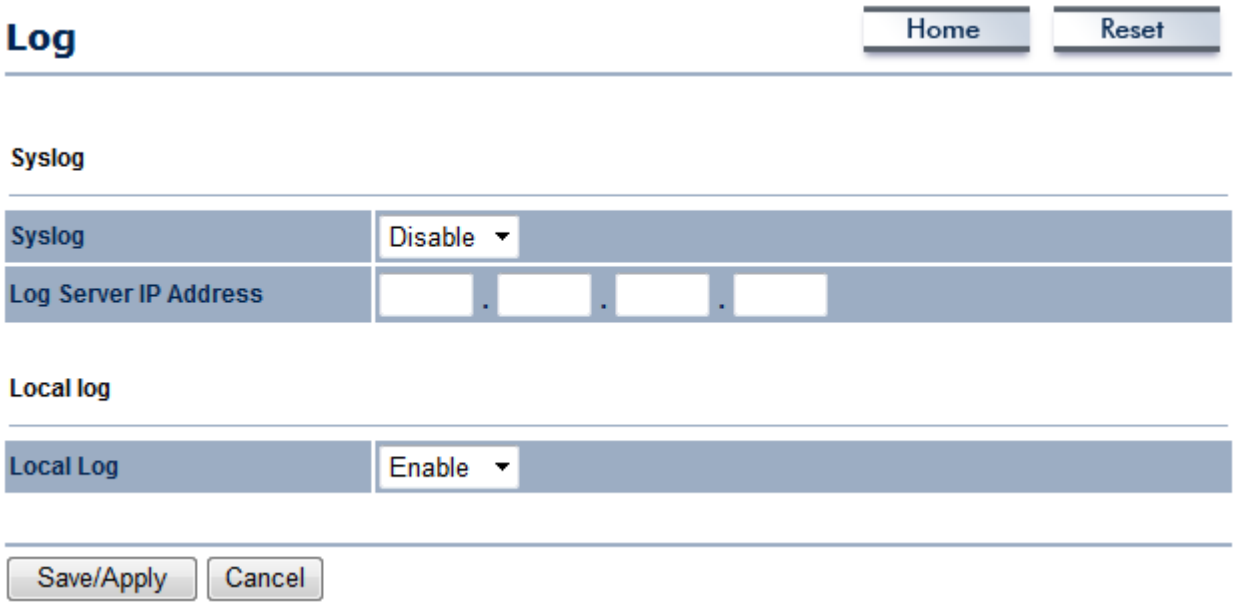


Manually Set Date and Time	Manually setup the date and time.
Automatically Get Date and Time	Specify the Time Zone from the drop down list and Place a **Check** to specify the IP address of the NTP Server manually or uses default NTP Server.
Save/Apply / Cancel	Press Save/Apply to apply the changes or Cancel to return previous settings.

Press Save/Apply will change the setting immediately. It will not be able to undo the action.

9.7 Log

Click on the **Log** link under the **Management** menu. The **Log** page displays a list of events that are triggered on the Ethernet and Wireless interface. This log can be referred when an unknown error occurs on the system or when a report needs to be sent to the technical support department for debugging purposes.

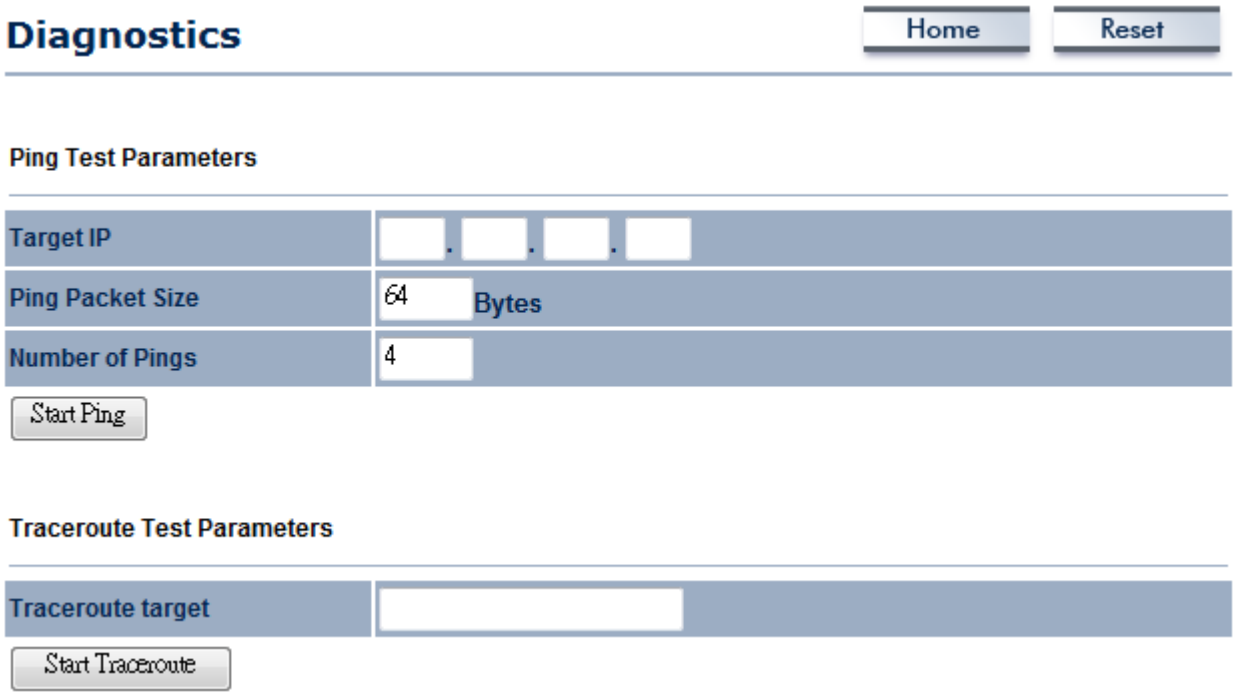


Syslog	Select Enable or Disable Syslog function from the drop down list.
Log Server IP Address	Specify the Log Server IP address.
Local Log	Select Enable or Disable Local Log service.
Save/Apply / Cancel	Press Save/Apply to apply the changes or Cancel to return previous settings.

Press Save/Apply will change the setting immediately. It will not be able to undo the action.

9.8 Diagnostics

Click on the **Diagnostics** link under the **Management** menu. This function allows you to detect connection quality and trace the routing table to the target.

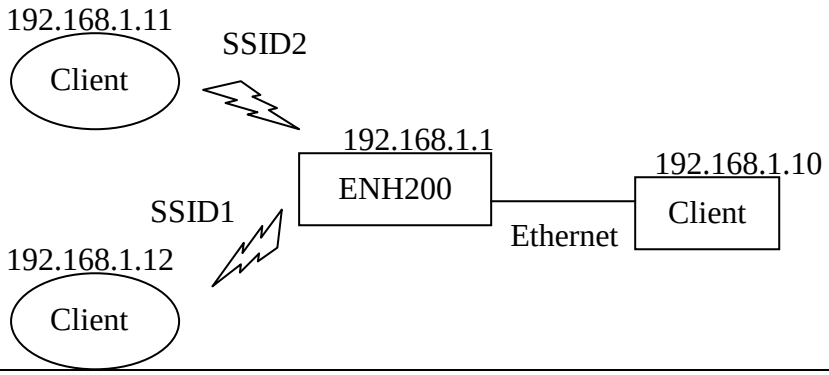


Target IP	Specify the IP address you would like to search.
Ping Packet Size	Specify the packet size of each ping.
Number of Pings	Specify how many times of ping.
Start Ping	Press Start Ping to begin.
Traceroute Target	Specify an IP address or Domain name you would like to trace.
Start Traceroute	Press Start Traceroute to begin.

10 Network Configuration Example

This chapter describes the role of the ENH200 with 4+1 modes. The Access Point mode's default configuration is a central unit of the wireless network or as a root device of the wired environment. Repeater mode and Mesh network mode need future configuration.

10.1 Access Point



Access Point	
Step1	Login to the web-based configuration interface with default IP 192.168.1.1
Step2	Follow region's regulation.
Step3	Use site survey to scan channels that have been used in nearby area.
Step4	Select channel with less interferences.
Step5	Specify the SSID for your broadcast SSID and you can also configure multiple SSID at the same time.
Step6	Verify VLAN identifier to separate services among clients
Step7	Setup the authentication settings.
Step8	Apply to process all the configurations.

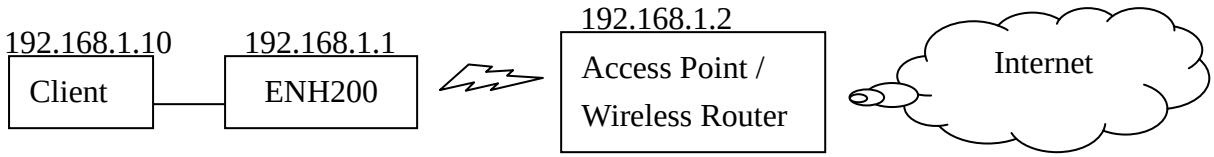
NOTE For more advanced settings, please refer to the previous chapters.

Wireless Client	
Step1	Select wireless mode you would like to associate with.
Step2	Use site survey to scan nearby Access Point and select the certain AP you would like to connect with or enter SSID manually.
Step3	Configure VLAN ID in your wireless device if available.
Step4	Select correct authentication type and password.

CAUTION ENH200's Access Point Mode does not provide DHCP server so the Wireless Client IP address must configure manually at the same subnet in Local Area Network.

10.2 Client Bridge Mode

Client Bridge Mode functions like a wireless dongle. It must connect to an Access Point/AP Router to join the network.



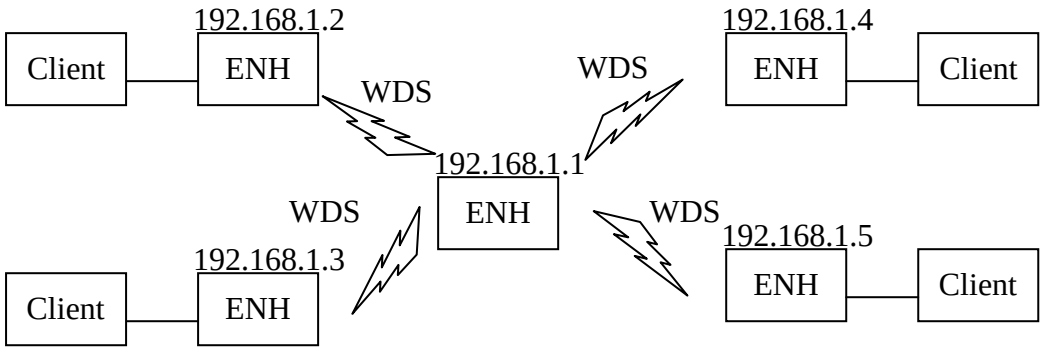
NOTE Please refer to the last section to check Access point's configuration.

Client Bridge	
Step1	Login to the web-based configuration interface with default IP 192.168.1.1
Step2	Follow region's regulation.
Step3	Select **Operation Mode** to **Client Bridge** from **System Properties**.
Step4	Use site survey to scan Access Points that are available in nearby area.
Step5	Select the AP you would like to associate with.
Step6	Setup the authentication settings that match to the Access Point's setting.
Step7	Apply to process all the configurations.

TIP Client Bridge's IP setting must match to the Access Point's subnet.

10.3 WDS Bridge Mode

Use this feature to link multiple APs in a network. All clients associated with any APs can communicate each other like an ad-hoc mode.

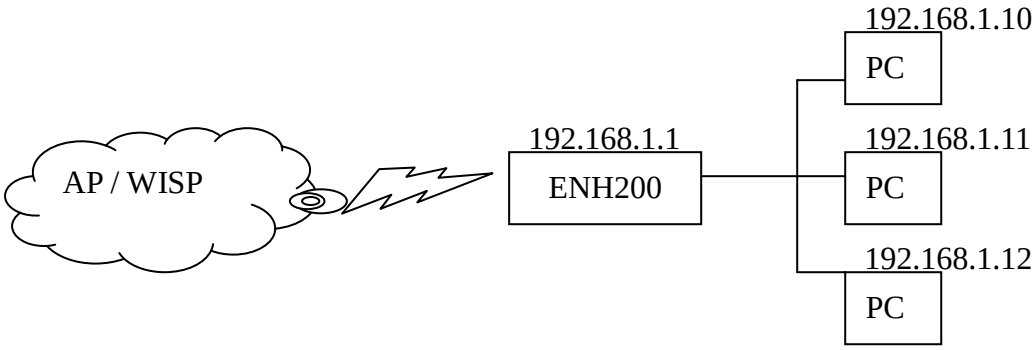


WDS Bridge	
Step1	Login to the web-based configuration interface with default IP 192.168.1.1
Step2	Follow region's regulation.
Step3	Select **Operation Mode** to **WDS Bridge** from **System Properties**.
Step4	Select channel you would like to use.
Step5	Setup the authentication settings
Step6	Setup WDS Link Settings.
Step7	Specify the AP's MAC address you would like to connect with.
Step8	Press Apply to process all the configurations.

Each WDS bridge's device must use the same **Subnet**, **Wireless Mode**, **Wireless Channel**, and **Security Setting**.

10.4 Client Router

In the Client Router Mode, the ENH200 has DHCP Server build inside that allows many LANs automatically generate an IP address to share the same Internet. Connect an AP/WISP Wirelessly and connect to LANs via wired. Client Router Mode is act completely opposite to the AP Router Mode.



NOTE Please refer to the last section to check Access point's configuration.

Client Router	
Step1	Login to the web-based configuration interface with default IP 192.168.1.1
Step2	Follow region's regulation.
Step3	Select **Operation Mode** to **Client Router** from **System Properties**.
Step4	Change your **Local Area Network** setting to **Obtain an IP Address Automatically**.
Step5	Use site survey to scan Access Points that are available in nearby area.
Step6	Select the AP you would like to associate with.
Step7	Setup the authentication settings that match to the Access Point's setting.
Step8	Setup your WAN connection type given by your **Internet Service Provider** from **WAN Settings**.
Step9	Press Apply to process all the configurations.

CAUTION Client Router's IP setting must match to the Access Point's subnet.

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: 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:

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.

Note: Country selection is not available in the US model.

Industry Canada statement:

This device complies with RSS-210 of the Industry Canada 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.

Ce dispositif est conforme à la norme CNR-210 d'Industrie Canada applicable aux appareils radio exempts de licence. Son fonctionnement est sujet aux deux conditions suivantes: (1) le dispositif ne doit pas produire de brouillage préjudiciable, et (2) ce dispositif doit accepter tout brouillage reçu, y compris un brouillage susceptible de provoquer un fonctionnement indésirable.

IMPORTANT NOTE:

Radiation Exposure Statement:

> This equipment complies with IC 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.

NOTE IMPORTANTE: (Pour l'utilisation de dispositifs mobiles)
Déclaration d'exposition aux radiations:
Cet équipement est conforme aux limites d'exposition aux rayonnements IC établies pour un environnement non contrôlé. Cet équipement doit être installé et utilisé avec un minimum de 20 cm de distance entre la source de rayonnement et votre corps.

Europe – EU Declaration of Conformity

This device complies with the essential requirements of the R&TTE Directive 1999/5/EC. The following test methods have been applied in order to prove presumption of conformity with the essential requirements of the R&TTE Directive 1999/5/EC:

- EN60950-1:2006 A11:2009
  Safety of Information Technology Equipment

- EN50385 : 2002
- Generic standard to demonstrate the compliance of electronic and electrical apparatus with the basic restrictions related to human exposure to electromagnetic fields (0 Hz - 300 GHz)

- EN 300 328 V1.7.1: 2006-10
- Electromagnetic compatibility and Radio spectrum Matters (ERM); Wideband Transmission systems; Data transmission equipment operating in the 2,4 GHz ISM band and using spread spectrum modulation techniques; Harmonized EN covering essential requirements under article 3.2 of the R&TTE Directive
-
  EN 301 489-1 V1.8.1: 2008-04
  Electromagnetic compatibility and Radio Spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 1: Common technical requirements

- EN 301 489-17 V2.1.1 2009-05
- Electromagnetic compatibility and Radio spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 17: Specific conditions for 2,4 GHz wideband transmission systems and 5 GHz high performance RLAN equipment

This device is a 2.4 GHz wideband transmission system (transceiver), intended for use in all EU member states and EFTA countries, except in France and Italy where restrictive use applies.

In Italy the end-user should apply for a license at the national spectrum authorities in order to obtain authorization to use the device for setting up outdoor radio links and/or for supplying public access to telecommunications and/or network services.

This device may not be used for setting up outdoor radio links in France and in some areas the RF output power may be limited to 10 mW EIRP in the frequency range of 2454 – 2483.5 MHz. For detailed information the end-user should contact the national spectrum authority in France.

CE 0560 !

cs Česky [Czech]	*[Jméno výrobce]* tímto prohlašuje, že tento *[typ zařízení]* je ve shodě se základními požadavky a dalšími příslušnými ustanoveními směrnice 1999/5/ES.
da Dansk [Danish]	Undertegnede *[fabrikantens navn]* erklærer herved, at følgende udstyr *[udstyrets typebetegnelse]* overholder de væsentlige krav og øvrige relevante krav i direktiv 1999/5/EF.
de Deutsch [German]	Hiermit erklärt *[Name des Herstellers]*, dass sich das Gerät *[Gerätetyp]* in Übereinstimmung mit den grundlegenden Anforderungen und den übrigen einschlägigen Bestimmungen der Richtlinie 1999/5/EG befindet.
et Eesti [Estonian]	Käesolevaga kinnitab *[tootja nimi = name of manufacturer]* seadme *[seadme tüüp = type of equipment]* vastavust direktiivi 1999/5/EÜ põhinõuetele ja nimetatud direktiivist tulenevatele teistele asjakohastele sätetele.
en English	Hereby, *[name of manufacturer]*, declares that this *[type of equipment]* is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.
es Español [Spanish]	Por medio de la presente *[nombre del fabricante]* declara que el *[clase de equipo]* cumple con los requisitos esenciales y cualesquiera otras disposiciones aplicables o exigibles de la Directiva 1999/5/CE.
el Ελληνική [Greek]	ΜΕ ΤΗΝ ΠΑΡΟΥΣΑ *[name of manufacturer]* ΔΗΛΩΝΕΙ ΟΤΙ *[type of equipment]* ΣΥΜΜΟΡΦΩΝΕΤΑΙ ΠΡΟΣ ΤΙΣ ΟΥΣΙΩΔΕΙΣ ΑΠΑΙΤΗΣΕΙΣ ΚΑΙ ΤΙΣ ΛΟΙΠΕΣ ΣΧΕΤΙΚΕΣ ΔΙΑΤΑΞΕΙΣ ΤΗΣ ΟΔΗΓΙΑΣ 1999/5/ΕΚ.
fr Français [French]	Par la présente *[nom du fabricant]* déclare que l'appareil *[type d'appareil]* est conforme aux exigences essentielles et aux autres dispositions pertinentes de la directive 1999/5/CE.
it Italiano [Italian]	Con la presente *[nome del costruttore]* dichiara che questo *[tipo di apparecchio]* è conforme ai requisiti essenziali ed alle altre disposizioni pertinenti stabilite dalla direttiva 1999/5/CE.
Latviski [Latvian]	Ar šo *[name of manufacturer / izgatavotāja nosaukums]* deklarē, ka *[type of equipment / iekārtas tips]* atbilst Direktīvas 1999/5/EK būtiskajām prasībām un citiem ar to saistītajiem noteikumiem.
Lietuvių [Lithuanian]	Šiuo *[manufacturer name]* deklaruoja, kad šis *[equipment type]* atitinka esminius reikalavimus ir kitas 1999/5/EB Direktyvos nuostatas.
nl Nederlands [Dutch]	Hierbij verklaart *[naam van de fabrikant]* dat het toestel *[type van toestel]* in overeenstemming is met de essentiële eisen en de andere relevante bepalingen van richtlijn 1999/5/EG.
mt Malti [Maltese]	Hawnhekk, *[isem tal-manifattur]*, jiddikjara li dan *[il-mudel tal-prodott]* jikkonforma mal-ħtiġijiet essenzjali u ma provvedimenti oħrajn relevanti li hemm fid-Dirrettiva 1999/5/EC.
hu Magyar [Hungarian]	Alulírott, *[gyártó neve]* nyilatkozom, hogy a *[... típus]* megfelel a vonatkozó alapvetõ követelményeknek és az 1999/5/EC irányelv egyéb elõírásainak.
pl Polski [Polish]	Niniejszym *[nazwa producenta]* oświadcza, że *[nazwa wyrobu]* jest zgodny z zasadniczymi wymogami oraz pozostałymi stosownymi postanowieniami Dyrektywy 1999/5/EC.
pt Português [Portuguese]	*[Nome do fabricante]* declara que este *[tipo de equipamento]* está conforme com os requisitos essenciais e outras disposições da Directiva 1999/5/CE.
sl Slovensko [Slovenian]	*[Ime proizvajalca]* izjavlja, da je ta *[tip opreme]* v skladu z bistvenimi zahtevami in ostalimi relevantnimi določili direktive 1999/5/ES.
Slovensky	*[Meno výrobcu]* týmto vyhlasuje, že *[typ zariadenia]* spĺňa základné požiadavky a všetky príslušné

[Slovak]	ustanovenia Smernice 1999/5/ES.
fi Suomi [Finnish]	*[Valmistaja = manufacturer]* vakuuttaa täten että *[type of equipment = laitteen tyyppimerkintä]* tyyppinen laite on direktiivin 1999/5/EY oleellisten vaatimusten ja sitä koskevien direktiivin muiden ehtojen mukainen.
sv Svenska [Swedish]	Härmed intygar *[företag]* att denna *[utrustningstyp]* står I överensstämmelse med de väsentliga egenskapskrav och övriga relevanta bestämmelser som framgår av direktiv 1999/5/EG.