DG-WA3000NP

300Mbps Wireless LAN Access Point with PoE

User Manual

V1.0

2012-03-17

COPYRIGHT

Trademarks:

Safety

This equipment is designed with the utmost care for the safety of those who install and use it. However, special attention must be paid to the dangers of electric shock and static electricity when working with electrical equipment. All guidelines of this and of the computer manufacturer must therefore be allowed at all times to ensure the safe use of the equipment.

Index

☎ 1800-209-3444 (Toll Free)
helpdesk@digisol.com sales@digisol.com www.digisol.com

☎ 1800-209-3444 (Toll Free)
helpdesk@digisol.com sales@digisol.com www.digisol.com

1. Product Information

1-1 Product Introduction

Thank you for purchasing DG-WA3000NP wireless LAN Access Point with PoE! With this high cost-efficiency wireless Access Point, computers and wireless devices which are compatible with IEEE 802.11n can connect to existing wired Ethernet network, at the speed of up to 300Mbps. DG-WA3000NP also supports power over ethernet which helps in easy installation, by eliminating the need of a dedicated power source for the access point.

With Quick Setup installation procedure, any computer user can setup a wireless network environment in very short time - within minutes, even inexperienced users. Just follow the instructions given in this user manual, you can complete the setup procedure.

Other features of this Access Point include:

- Complies with IEEE 802.11b/g/n wireless network standards - works with other 802.11b/g/n wireless devices.
- Complies with 802.3af PoE standard.
- High speed wireless network, six times faster than conventional 802.11g wireless network (up to 300Mbps).
- Allows wireless devices to connect to existing wired network and share network resources.
- Supports 64/128-bit WEP, WPA, and WPA2 wireless data encryption.
- Supports RADIUS server, only allows users listed in your authorization server to use wireless network.
- Supports MAC address filtering (Only allows specific wireless device of your choice to connect to this Access Point).
- Supports DHCP server function.
- Supports point-to-point and point-to-multi point bridge function.
- Supports WDS (Wireless Distributed System) repeater mode.
- Supports Universal Repeater mode.

- Supports AP Client mode.
- Supports four sets of ESSID to group the different wireless networks.
- Supports hidden SSID function.
- Supports WPS (Wi-Fi Protected Setup), simplifies wireless client setup procedures. Even inexperienced users can setup a wireless network without network technician's help!
- Easy to use web-based GUI (Graphical User Interface) for network configuration and management purposes.

1-2 Safety Information

In order to keep the safety of users and your property, please follow the safety instructions mentioned below:

1. This Access Point is designed for indoor use only; **DO NOT** place this Access Point outdoor.

2. **DO NOT** place this Access Point close to a hot or humid area, like kitchen or bathroom. Also, do not leave this Access Point in the car during summer.

3. **DO NOT** pull any connected cable with force; disconnect it from the Access Point first.

4. If you want to place this Access Point at a height or mount on the wall, please make sure the Access Point is firmly secured. Falling from a height would damage the Access Point and its accessories and warranty will be void.

5. Accessories of this Access Point, like antenna and power supply, are dangerous to small children. They may put the small parts in their nose or mouth and it could cause serious damage to them. **KEEP THIS ACCESS POINT OUT OF THE REACH OF CHILDREN.**

6. The Access Point will get heated up when used for a long time ***(This is normal and is not a malfunction)***. **DO NOT** put this Access Point on paper, cloth, or other flammable materials.

7. There's no user-serviceable part inside the Access Point. If you find that the Access Point is not working properly, please contact your dealer of purchase and ask for help. **DO NOT** disassemble the Access Point, warranty will be void.

8. If the Access Point falls into water when it's powered, **DO NOT** use your hand to pick it up. Switch the electrical power off before you do anything, or contact an experienced electrical technician for help.

9. If you smell something strange or even see some smoke coming out from the Access Point or power supply, remove the power supply or switch the electrical power off immediately, and call the dealer of purchase for help.

1-3 System Requirements

- Computer or network devices with wired or wireless network interface card.
- Web browser (Microsoft Internet Explorer 4.0 or above, Netscape Navigator 4.7 or above, Opera web browser, or Safari web browser).
- An available AC power socket (100 – 240 V, 50/60Hz)

1-4 Package Contents

Before you start using this PoE Access Point, please check if there's anything missing in the package, and contact your dealer of purchase to claim for missing items:

- DG-WA3000NP Wireless Access Point with PoE
- 3dBi dipole antenna (2 Nos.)
- Switching Power Adapter (5V DC, 1A)
- Rubber feet (4 Nos.)
- Quick Installation Guide
- Installation Guide CD (includes User Manual & Utility)
- Patch cord (1 No.)

1-5 Get familiar with your new wireless PoE Access Point

Front Panel

LED Name	Light Status	LED Color	Description
PWR	On	Green	The Access Point is switched on and correctly powered.
WLAN	On	Amber	Wireless WPS mode is enabled.
	Off		Wireless network is switched off.
	Flashing		Wireless LAN activity (transferring or receiving data).
LAN	On	Green	LAN port is connected.
	Off		LAN port is not connected.
	Flashing		LAN activity (transferring or receiving data).

Back Panel

Interfaces	Description
Antennas	Two reverse SMA antenna connectors for screwing detachable antennas enclosed with the product.
Power	Power connector, connects to power adapter.
LAN	Local Area Network (LAN) port.
Reset / WPS	Reset the Access Point to factory default settings (clear all settings) or start WPS function. Press this button and hold for 10 seconds to restore all settings to factory defaults, and press this button for less than 5 seconds to start WPS function.

☎ 1800-209-3444 (Toll Free)
helpdesk@digisol.com sales@digisol.com www.digisol.com

2. System and Network Setup

2-1 Hardware and Software Installation

Please follow the instructions mentioned below to build the network connection between your new wireless PoE Access Point and your computers, network devices:

Hardware Installation:-

1. Fix two detachable dipole antennas to the antenna connectors of the Access Point.

2. Connect the Access Point to ADSL modem, router, or switch/hub in your network through the LAN port of the Access Point by using Ethernet cable.

3. Connect the power adapter (5V DC, 1A) to the wall socket, and then connect the other end of it to the 'Power' socket of the Access Point.

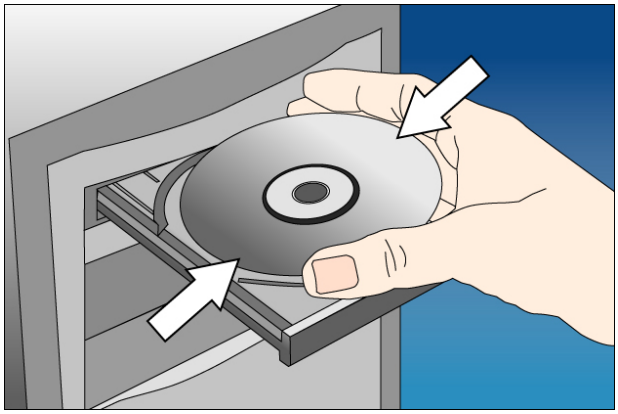
4. Please check all LEDs on the front panel. 'PWR' LED should be steadily ON, 'LAN' LED should be ON if the Access Point is correctly connected to the ADSL modem, router or switch/hub. If 'PWR' LED is not ON, or any LED you expected is not ON, please recheck the cabling, or jump to ***'Section 4-2 Troubleshooting'*** for possible reasons and solutions.

Note: You must use the power adapter shipped along with the Access Point. DO NOT use any other power adapter from other sources.

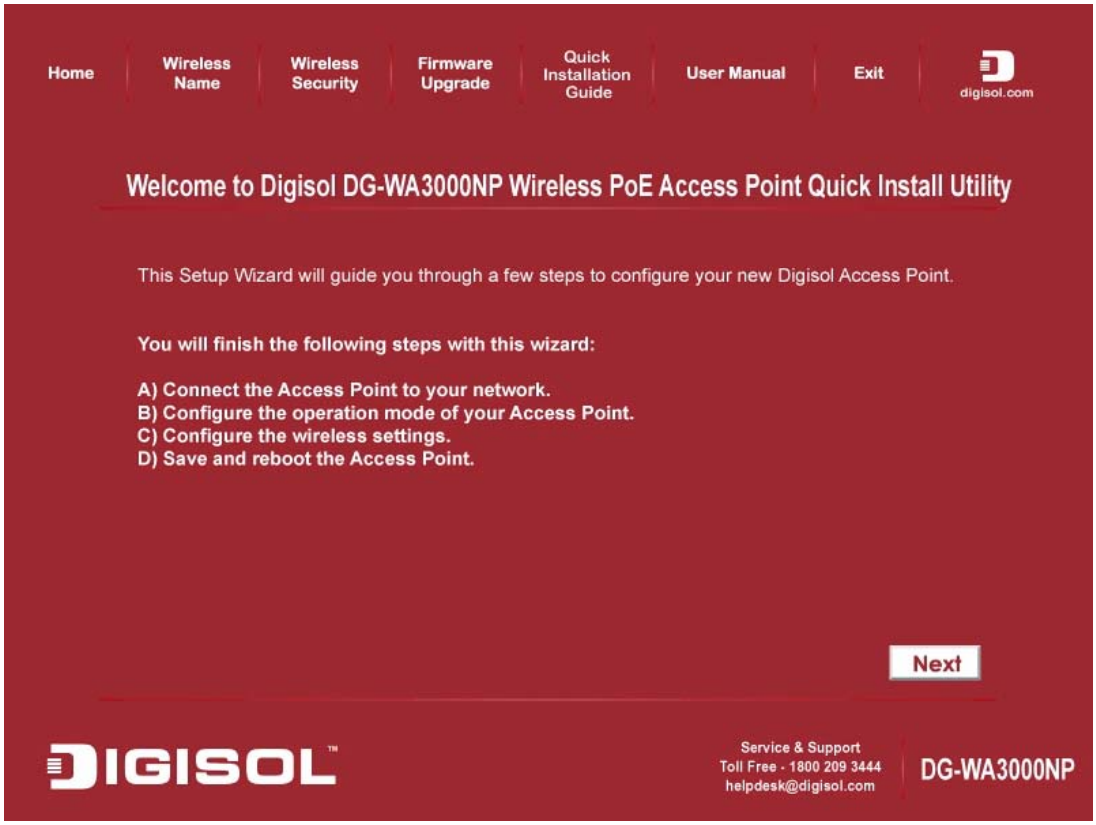
☎ 1800-209-3444 (Toll Free)
helpdesk@digisol.com sales@digisol.com www.digisol.com

Software Installation:-

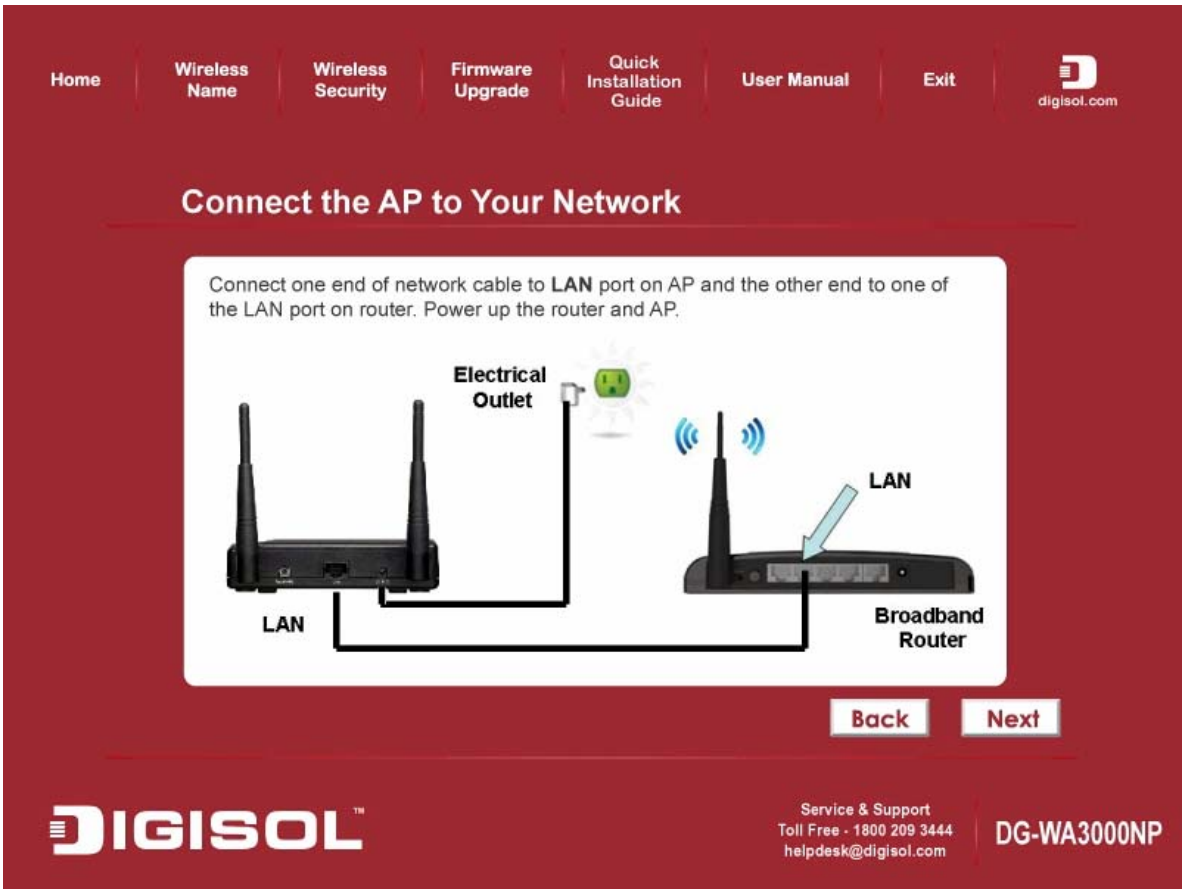
- Insert the Setup CD into your CD-ROM drive of notebook/desktop computer.



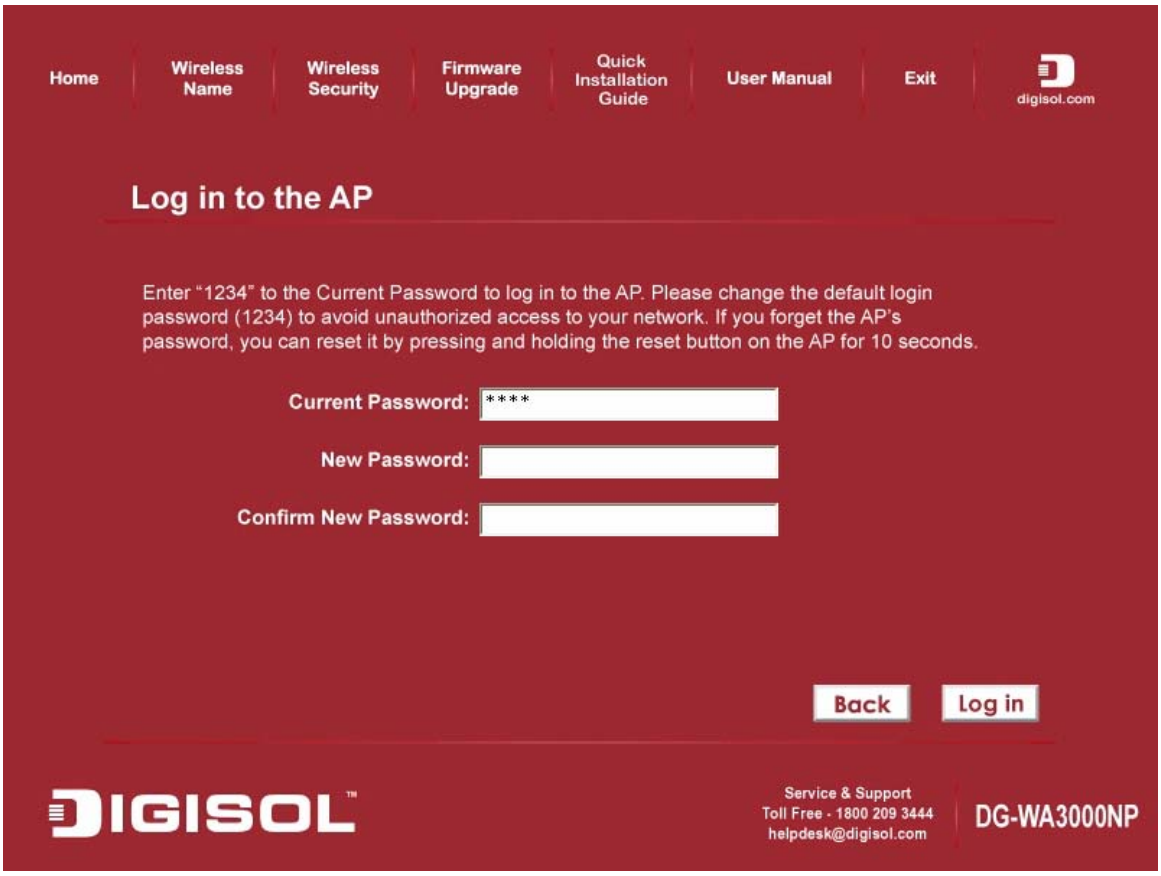
- Explore the CD and execute the “APWizard.exe” file. Screen given below will be displayed. Click **‘Next’** to continue.



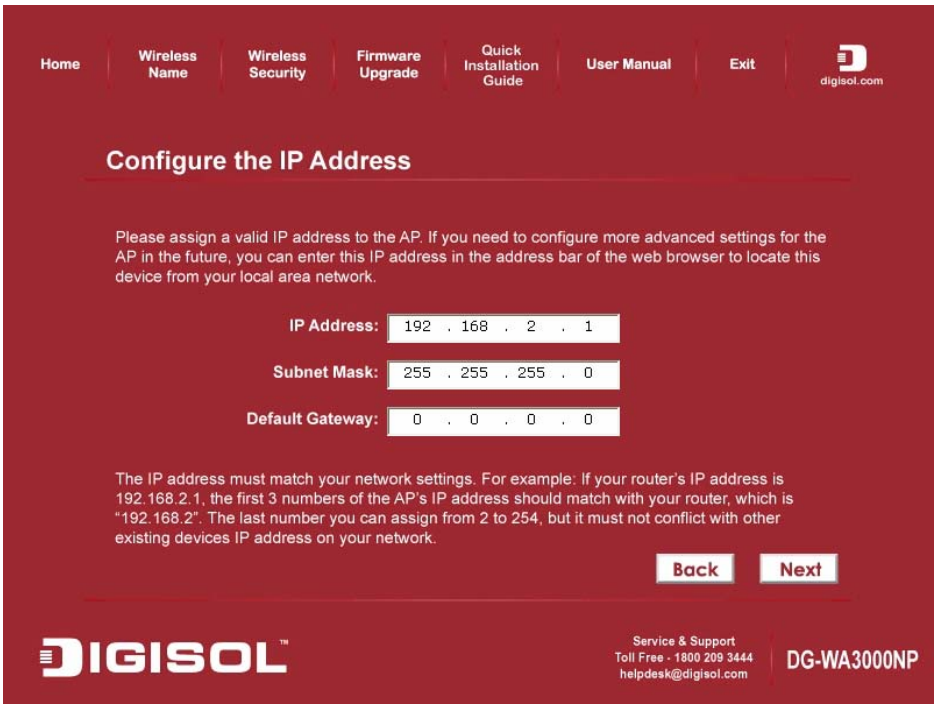
- Connect one end of the network cable to the LAN port on the AP and the other end to one of the LAN ports on the router. Power ON the router and the AP. Ensure that all the LED's on the Access Point are ON. If not, try the above steps again else click '**Next**' to continue.



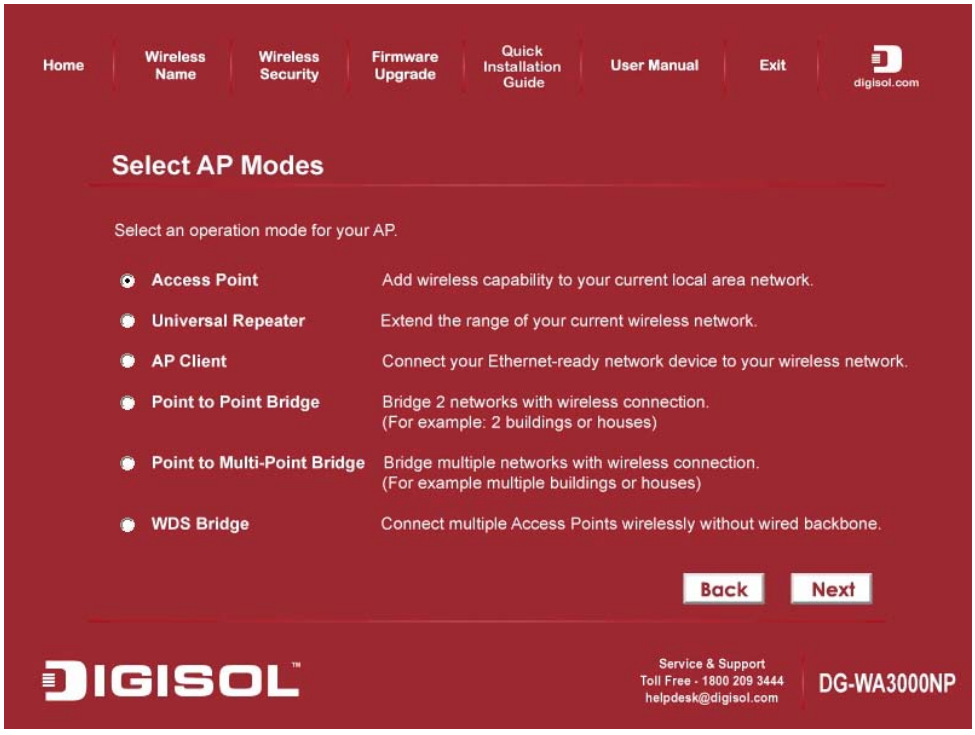
- Enter the AP's password to log in to the AP. The default password is "1234". It is recommended to change the AP's password to protect it from being accessed by other users. If you do not wish to change the current password, you can leave "New Password" and "Confirm New Password" fields blank. Click '**Log in'** to continue.



- Configure the IP Address of AP for future management. Click '**Next**' to continue.



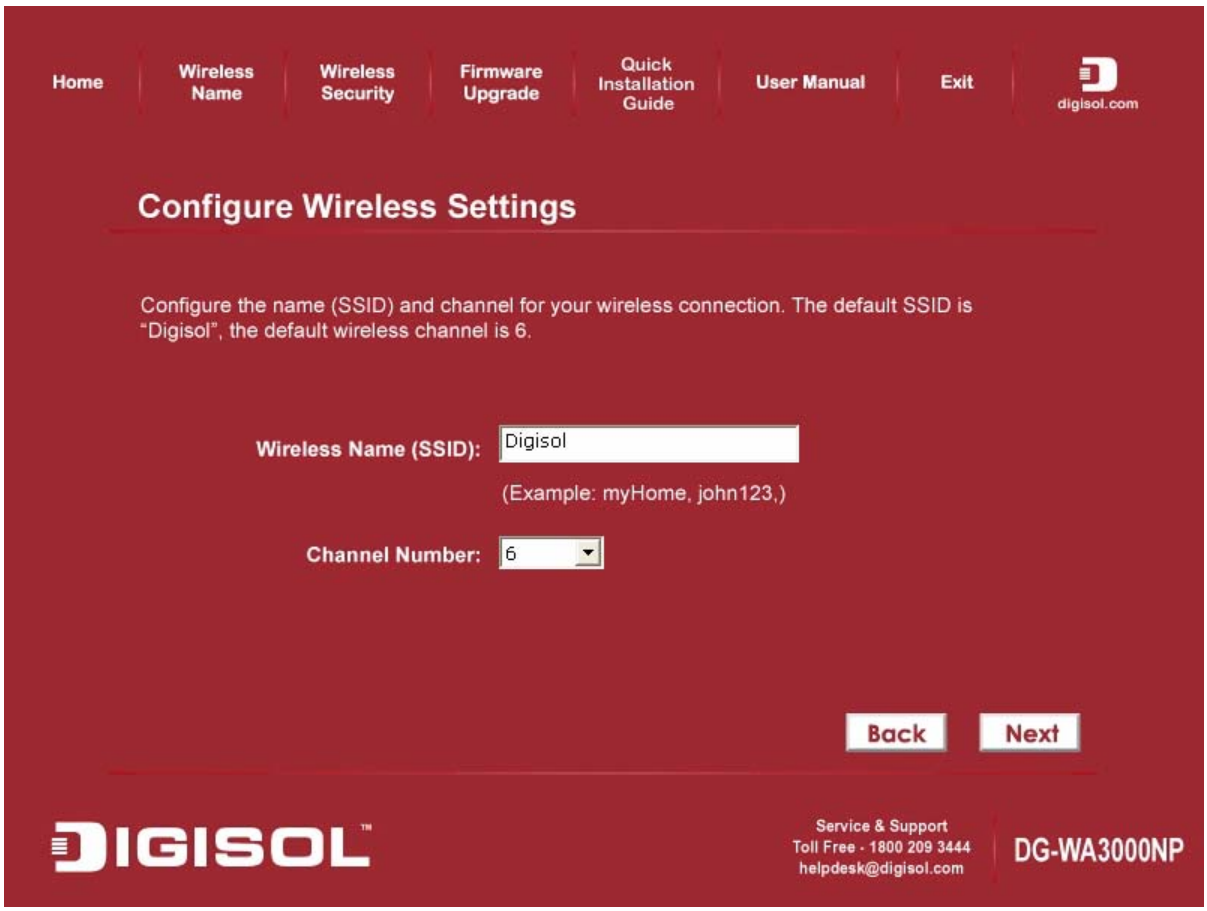
- Select an operation mode for your Access Point and click '**Next'**. The wizard will guide you to finish the following corresponding settings.



- Configure the settings for the operation mode you have selected.

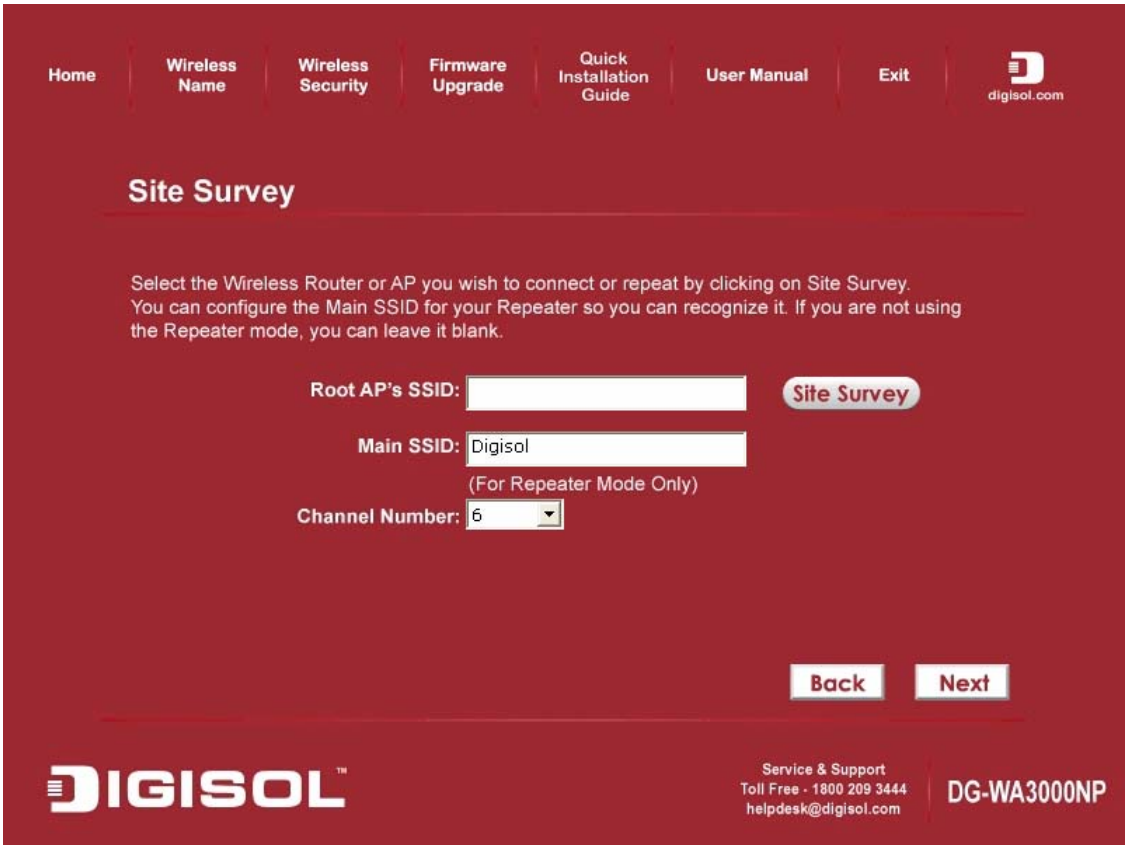
Access Point

- Configure the SSID and Channel Number. Click **'Next'** to continue.



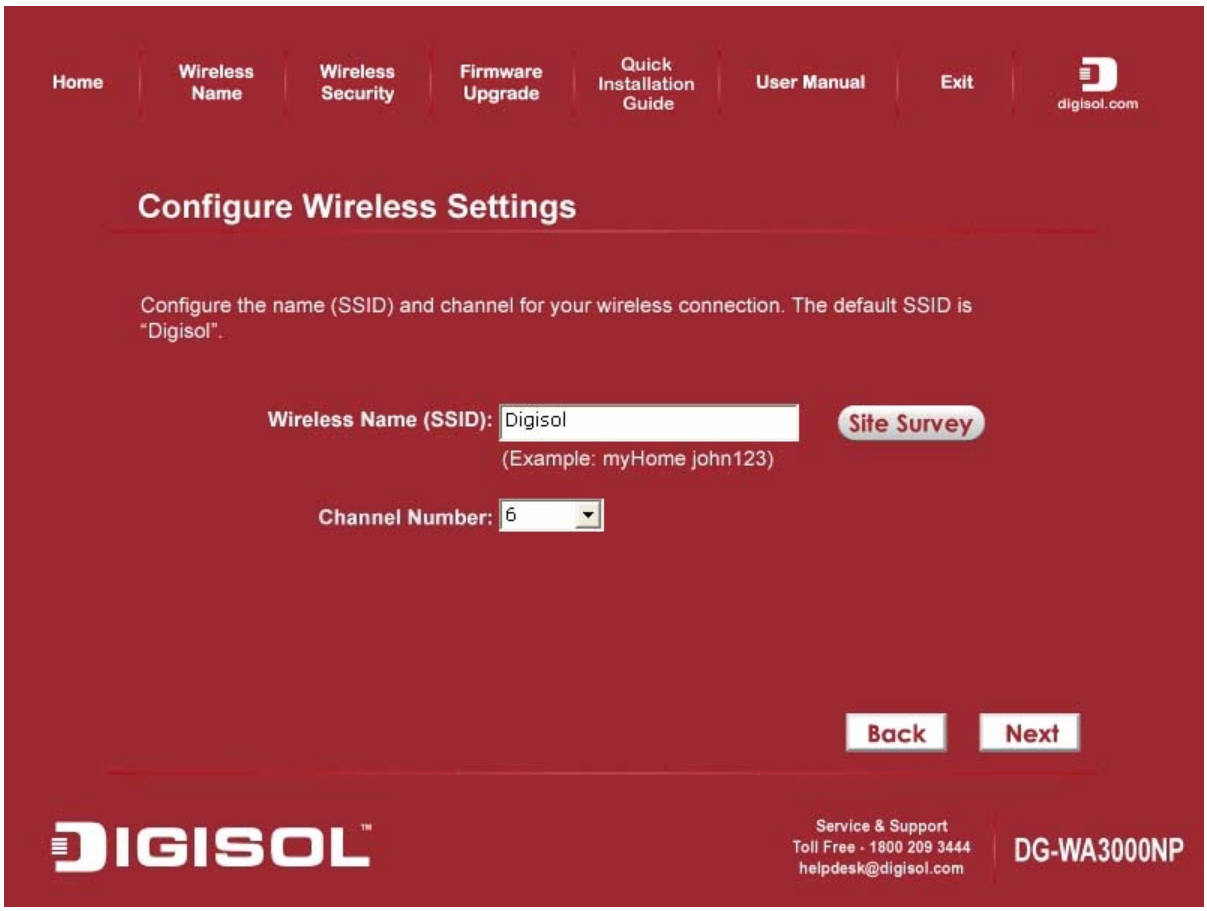
Universal Repeater

To configure Root AP's SSID Click on '**Site Survey'**, a "Wireless Site Survey" window will appear. Select the wireless router or AP you wish to repeat and click '**Connect**'. Next, configure a network name and channel no in Main SSID and Channel Number for the repeater to be identified.



AP Client

Click on '**Site Survey'**, "Wireless Site Survey" window will appear. Select the wireless router or AP you wish to connect and click '**Connect**', or enter your wireless network's SSID manually. Click '**Next**' to continue.

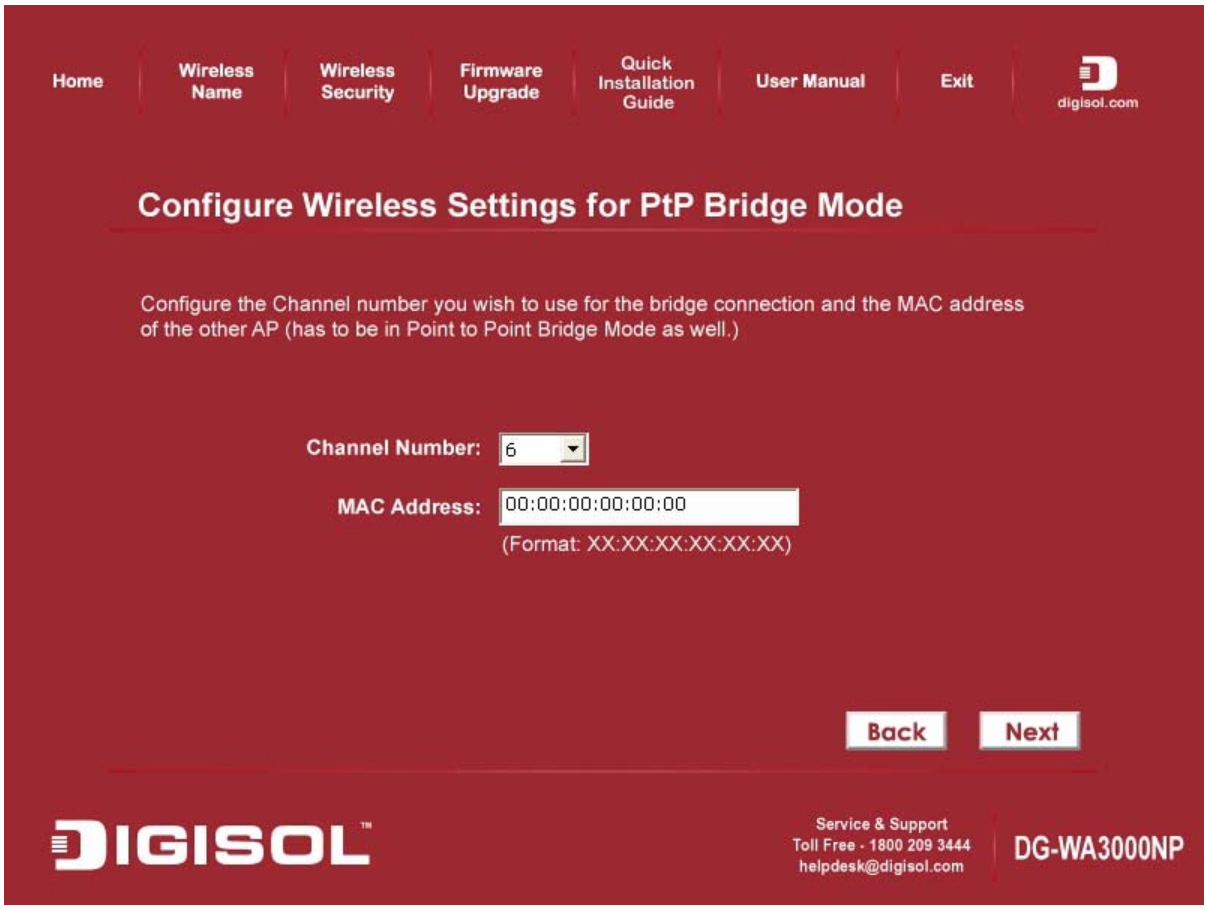


Point-to-Point / Point-to-MultiPoint / WDS Bridge

Note: Same setup procedure applies to Point-to-Point Bridge, Point-to-MultiPoint Bridge and WDS Bridge modes.

For bridge mode, you need at least **two** Access Points. We will use Point-to-Point Bridge as an example.

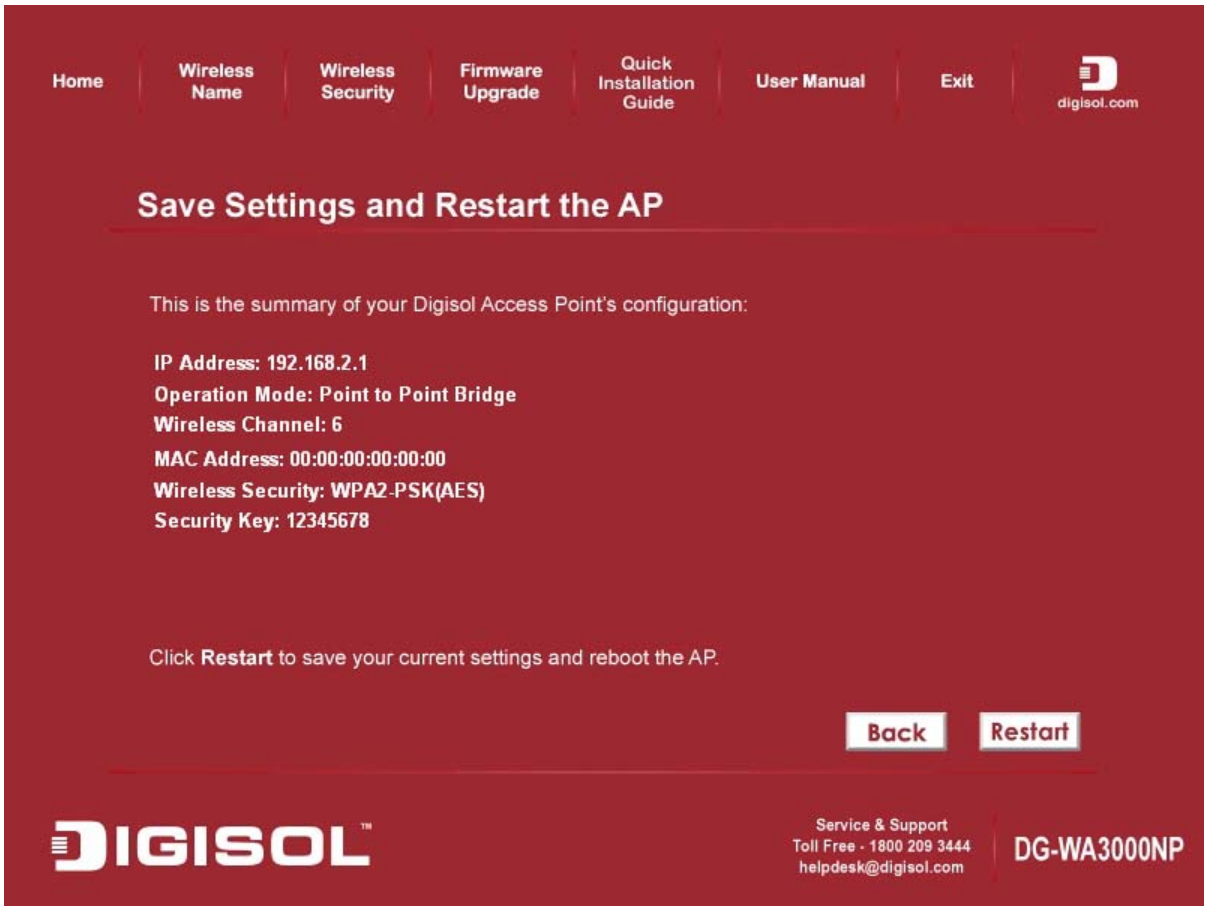
Select a channel number you wish to use and enter the MAC address of the other Access Point for the bridge. Click **'Next'**.



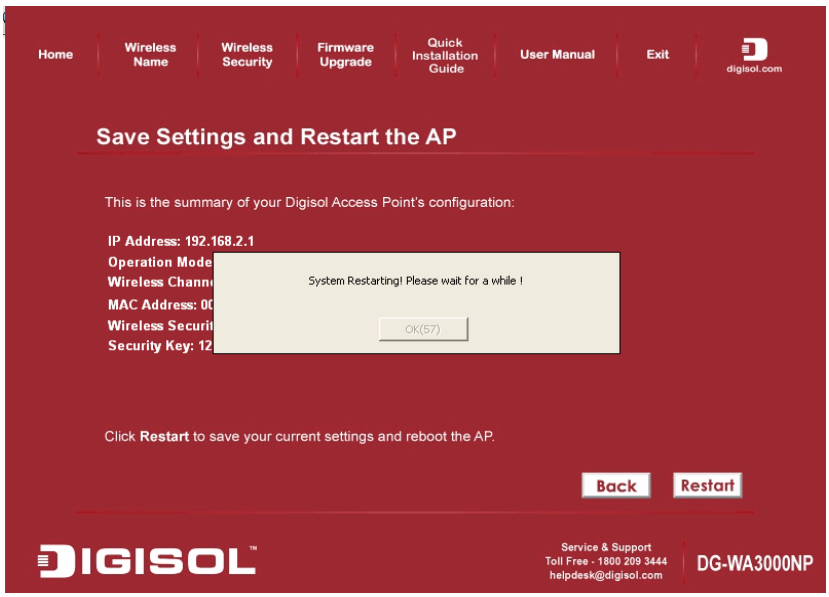
- Configure the wireless security settings. It is recommended to use WPA2-PSK (AES) which is the most secured encryption for general users.

  Then Click '**Next**'.

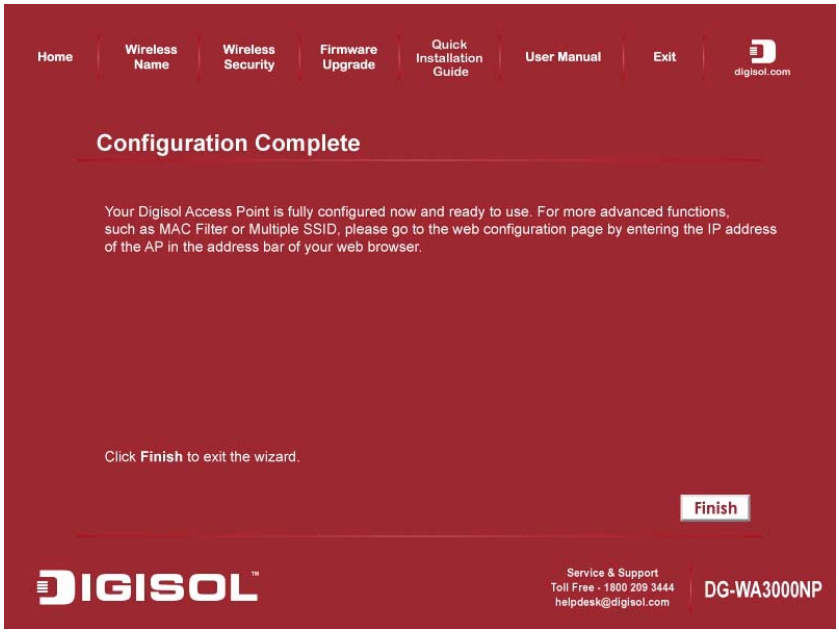
➢ Verify the settings you have configured and click **'Restart'**.



- This will take 60 Seconds. Then Press **'OK'**



- Click '**Finish**' to complete the installation.



Congratulations! Your Access Point Installation is now finished.

2-2 Connecting to wireless Access Point using web browser

After the network connection is setup, next step is to setup the Access Point with proper network parameters, so it can work properly in your network environment.

Please use the web browser to configure the Access Point. A computer with wired Ethernet connection to the Access Point is required for this first-time configuration.

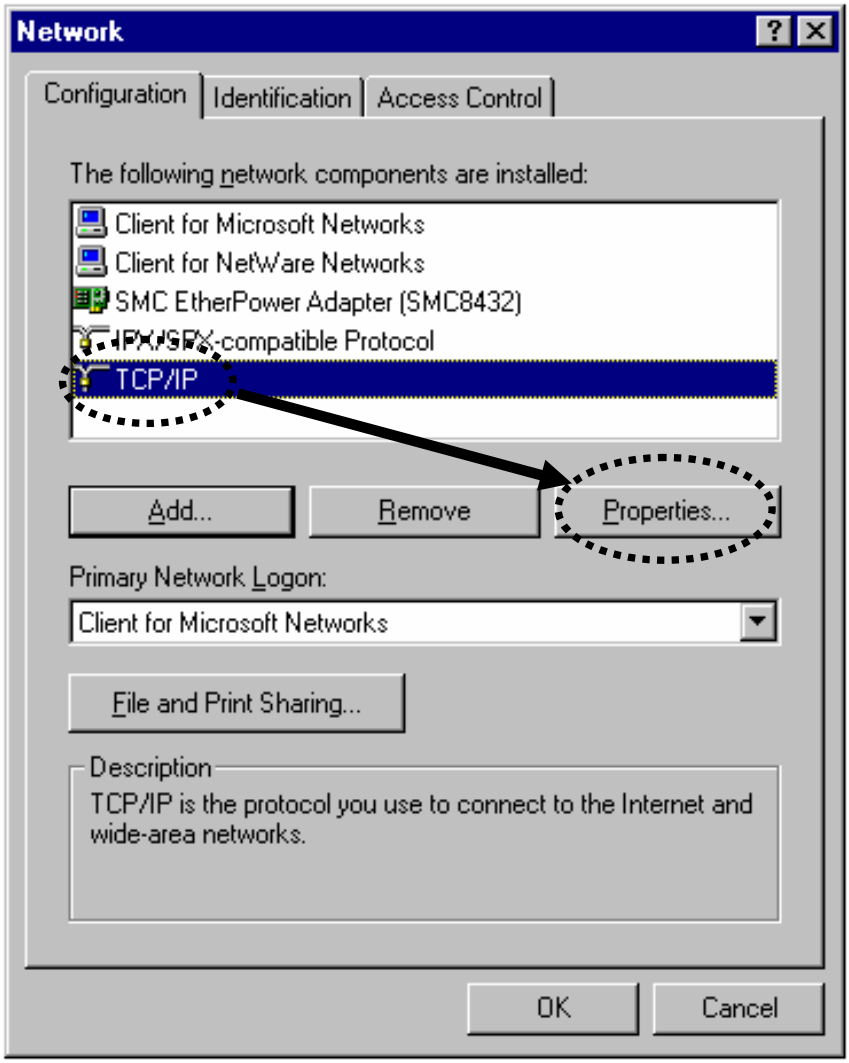
Before you start to configure the Access Point, please configure the IP address of the computer in the same network Class as that of the Access Point.

If the operating system of your computer is….

Windows 95/98 **- please go to** section 2-2-1
Windows 2000 **- please go to** section 2-2-2
Windows XP **- please go to** section 2-2-3
Windows Vista **- please go to** section 2-2-4

2-2-1 Windows 95/98 IP address setup

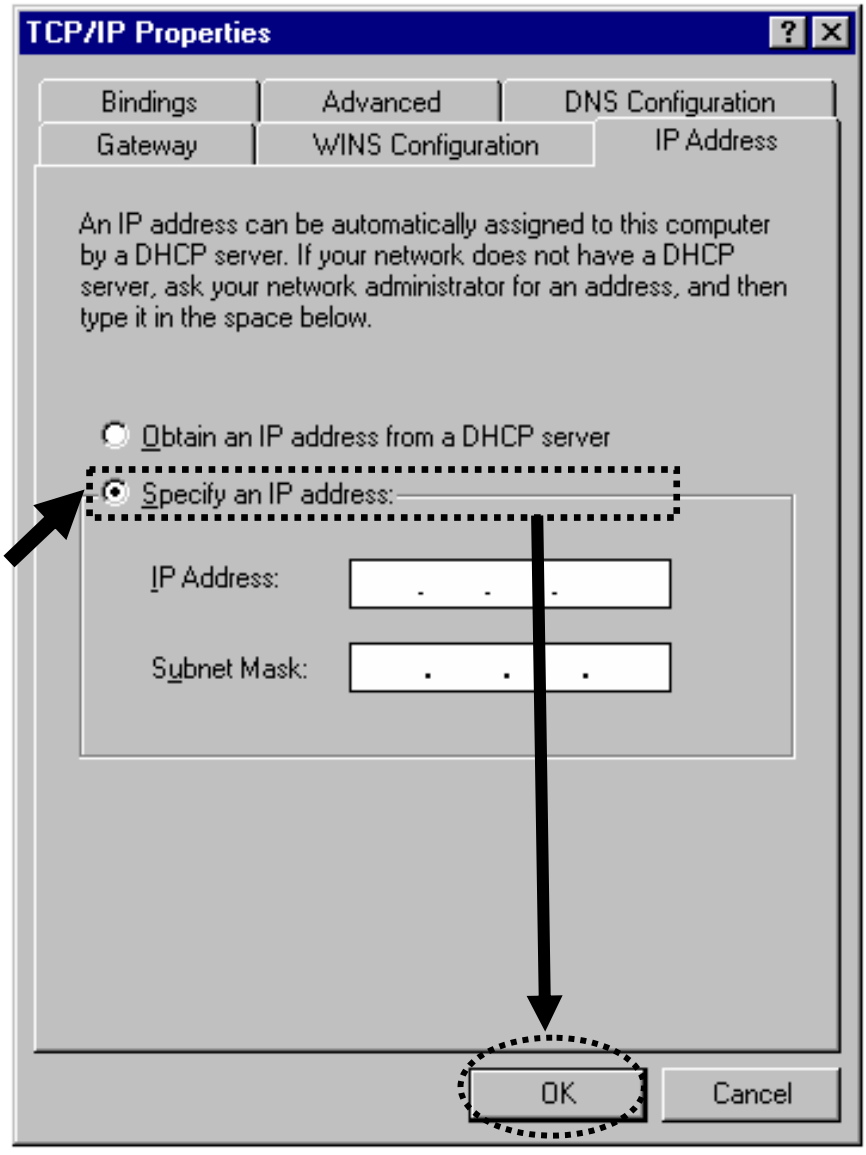
1. Click 'Start' button (it should be located at lower-left corner of your computer), then click control panel. Double-click '***Network'*** icon, and ***Network*** window will appear. Select 'TCP/IP', then click '**Properties**'.



2. Select ‘Specify an IP address’, then input the following settings in respective field:

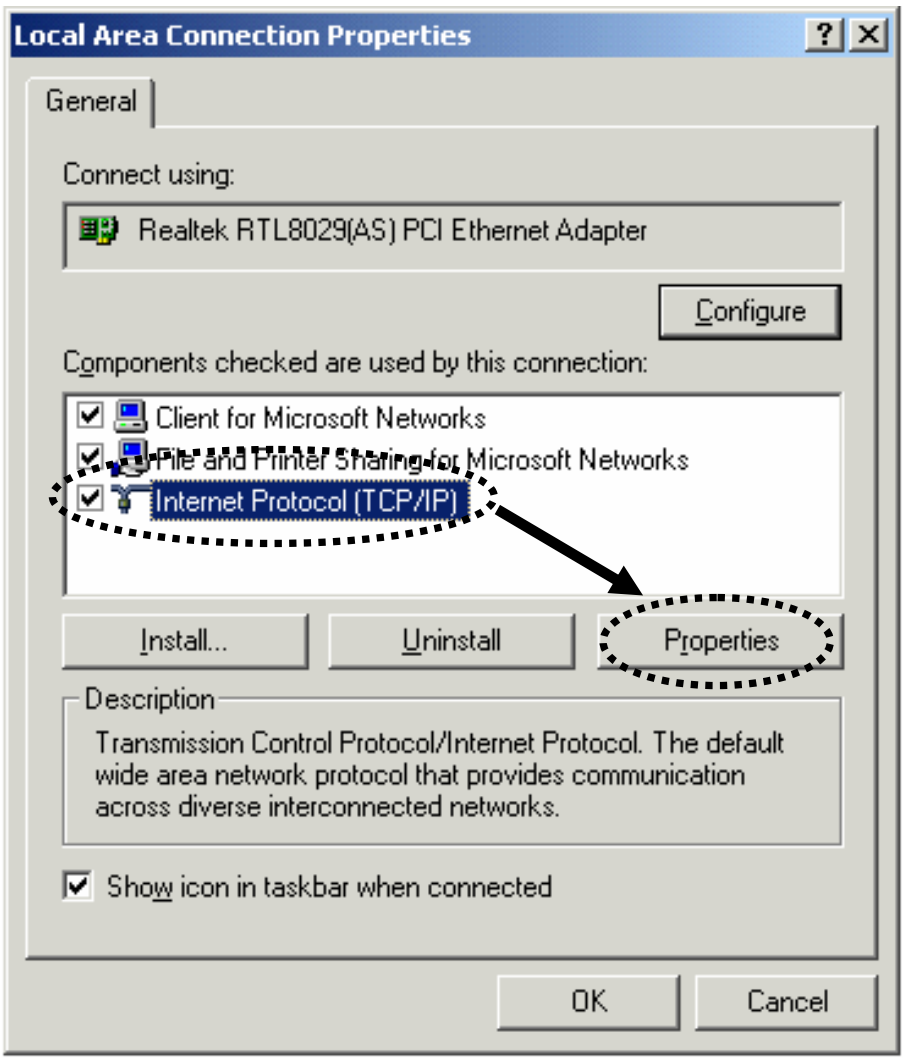
   IP address: 192.168.2.2
   Subnet Mask: 255.255.255.0

   Click ‘OK’ when finish.



2-2-2 Windows 2000 IP address setup

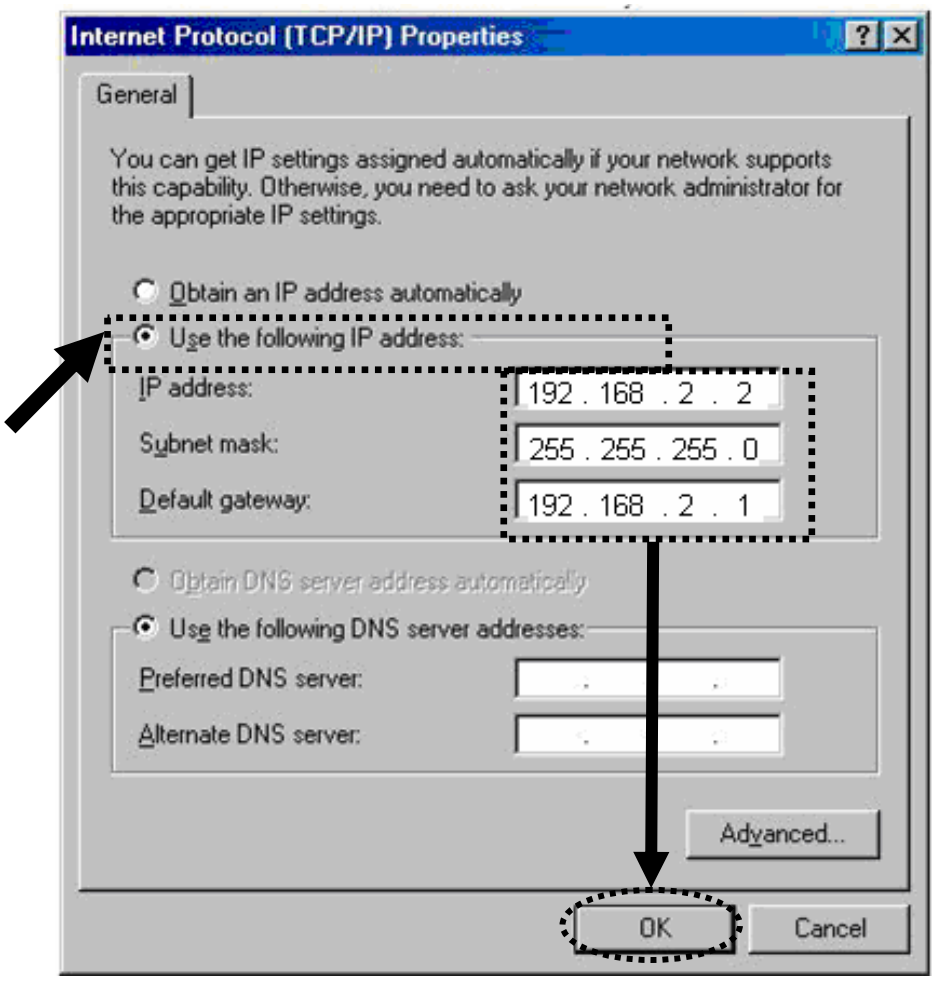
1. Click 'Start' button (it should be located at lower-left corner of your computer), then click control panel. Double-click '***Network and Dial-up Connections'*** icon, Right click on '***Local Area Connection'*** and select '***Properties', Local Area Connection Properties*** window will appear. Select 'Internet Protocol (TCP/IP)', then click '**Properties**'



2. Select ‘Use the following IP address’, then input the following settings in respective field:

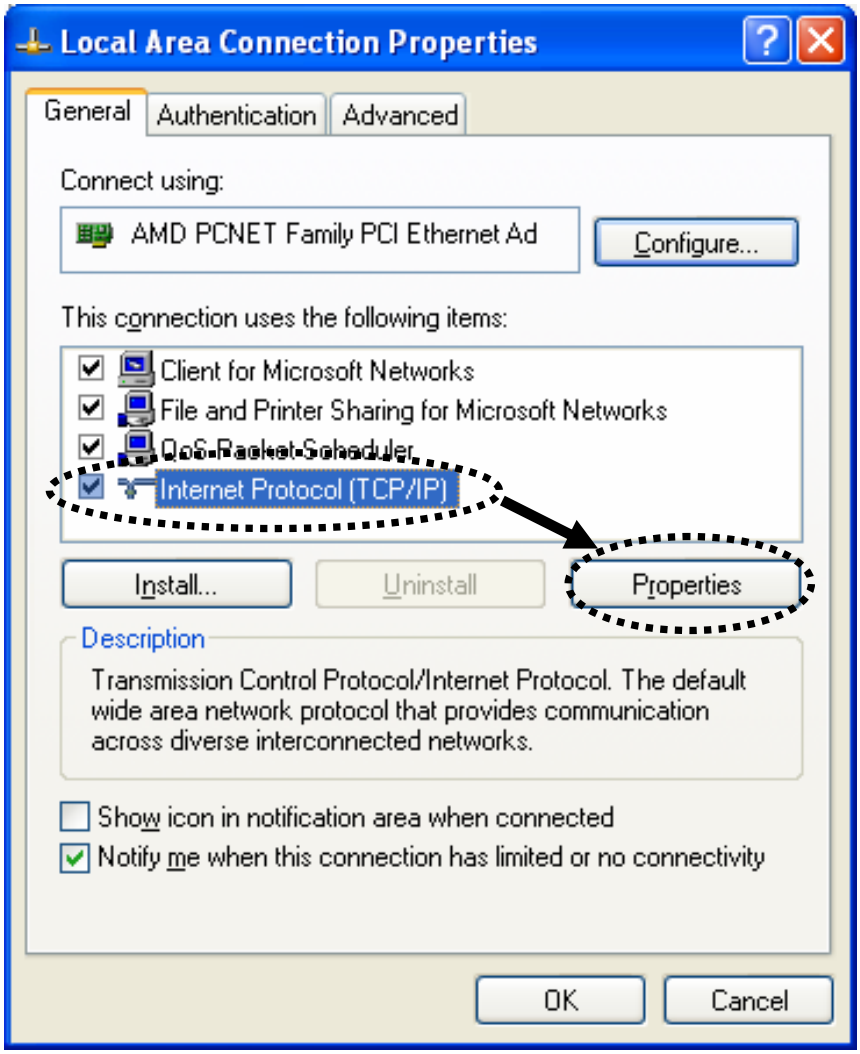
   IP address: 192.168.2.2
   Subnet Mask: 255.255.255.0
   Default gateway: 192.168.2.1

   Click ‘OK’ when finish.



2-2-3 Windows XP IP address setup

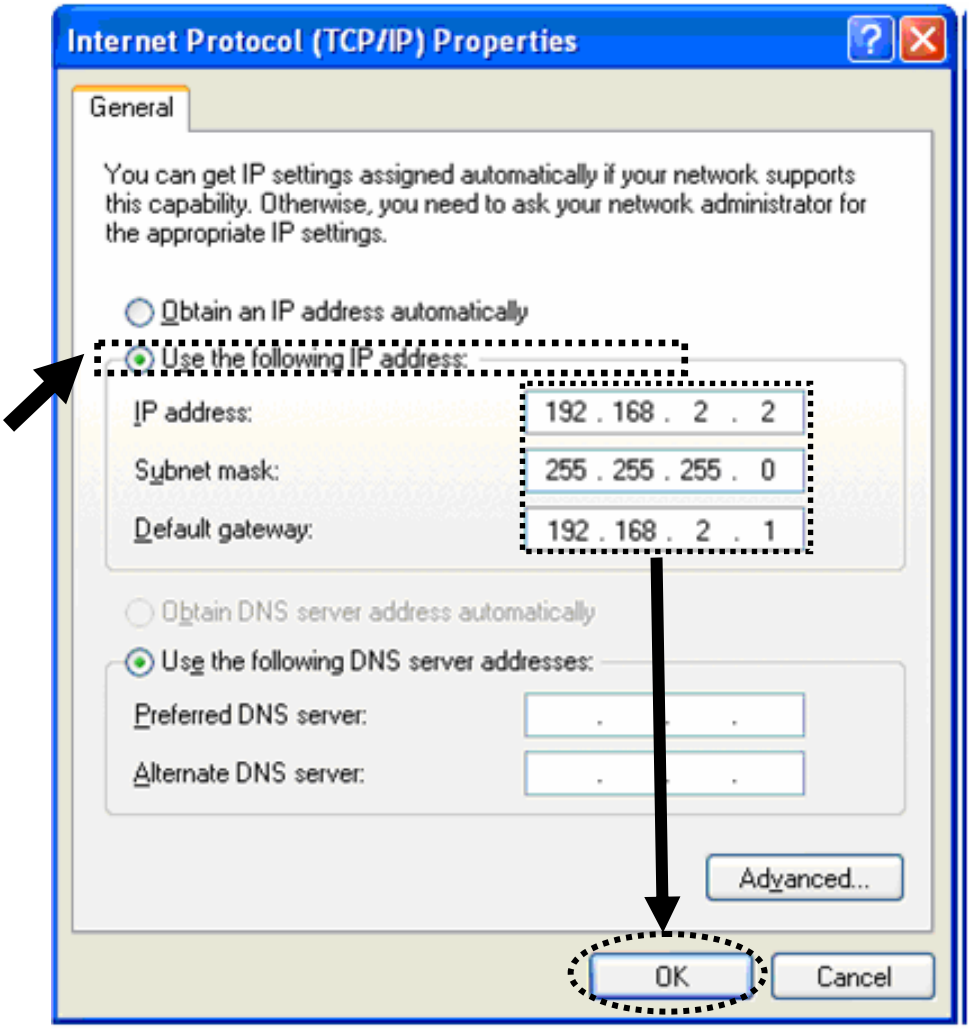
1. Click 'Start' button (it should be located at lower-left corner of your computer), then click control panel. Click on '***Network Connections'***, Right click on '***Local Area Connection'*** and select ***Properties, Local Area Connection Properties*** window will appear. Select '**Internet Protocol (TCP/IP)**' and then click '**Properties**'.



2. Select ‘Use the following IP address’, then input the following settings in respective field:

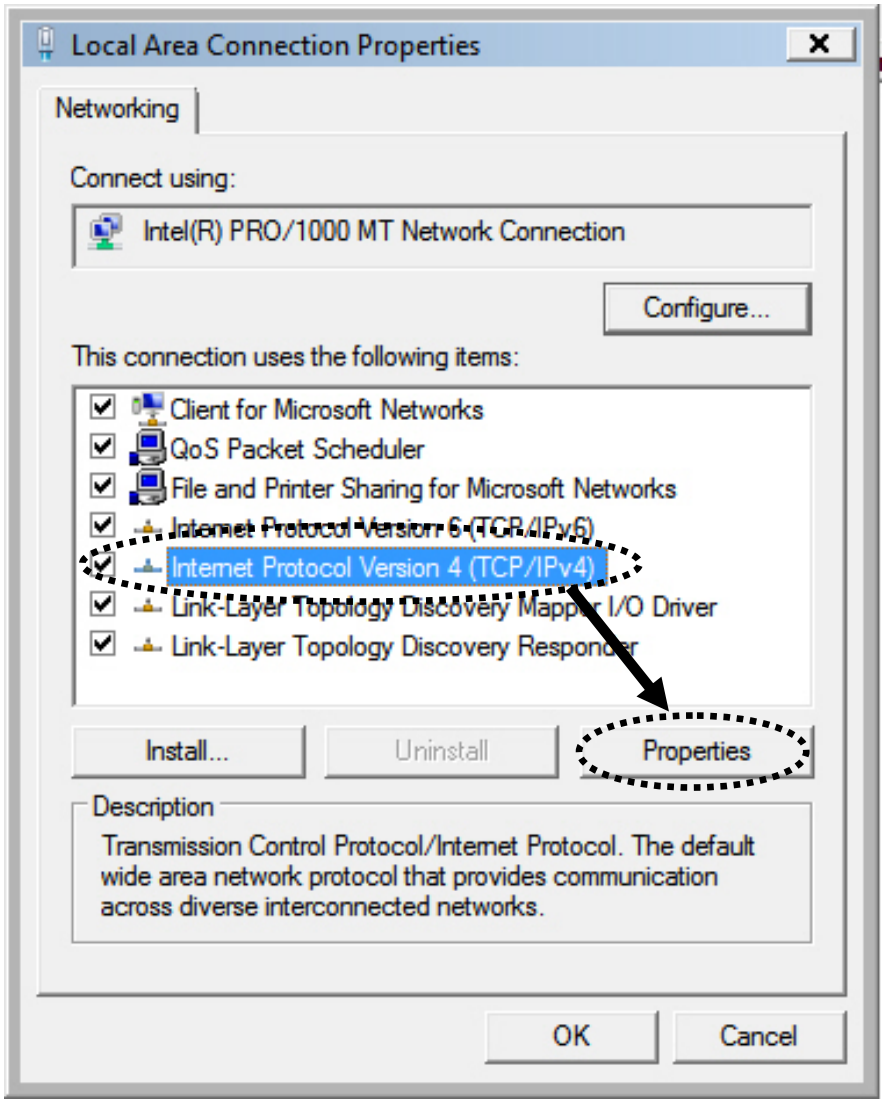
   IP address: 192.168.2.2
   Subnet Mask: 255.255.255.0
   Default gateway: 192.168.2.1

   Click ‘OK’ when finish.



2-2-4 Windows Vista IP address setup

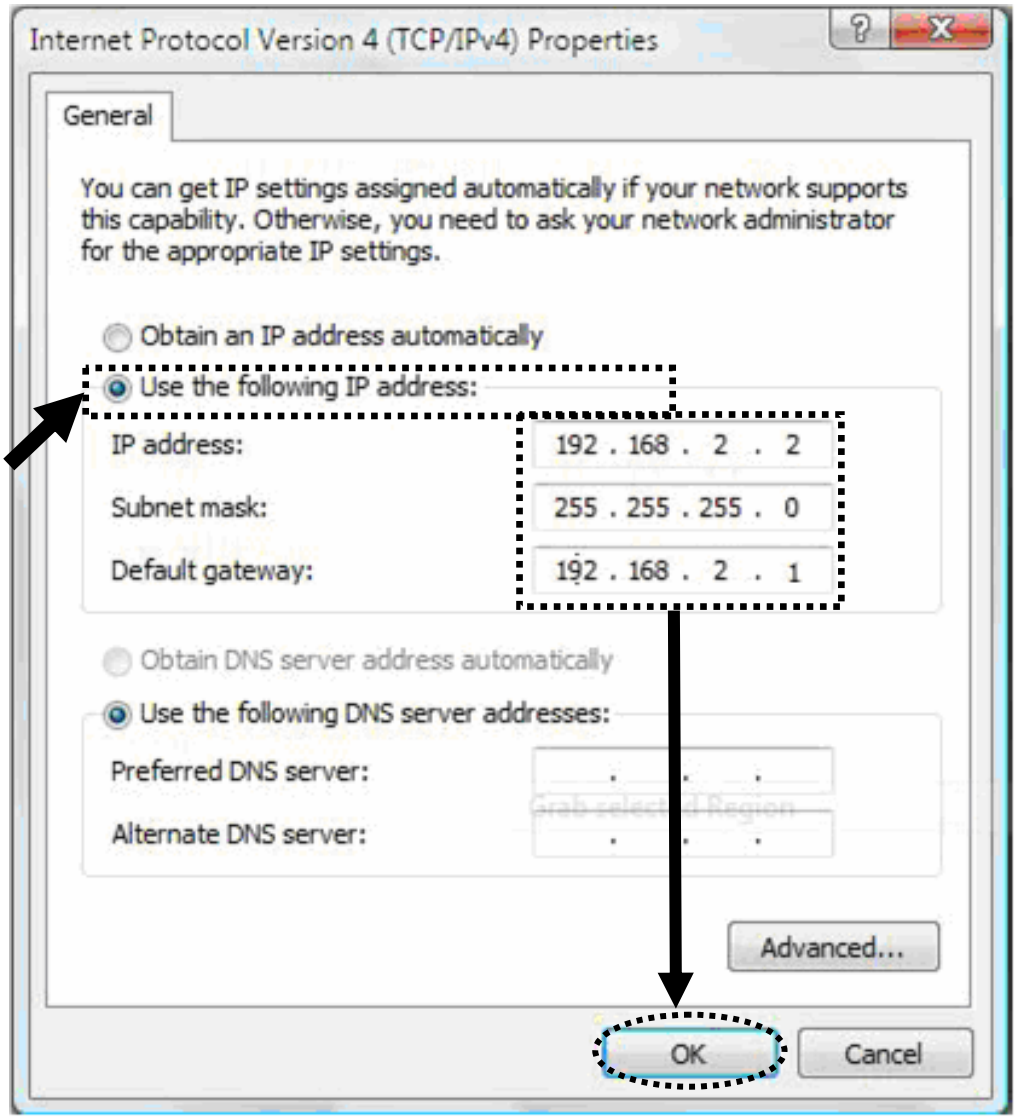
1. Click 'Start' button (it should be located at lower-left corner of your computer), then click control panel. Click on '***View Network Status and Tasks'***, and then click on '***Manage Network Connections'.*** Right-click '***Local Area Connection',*** then select ***'Properties'. Local Area Connection Properties*** window will appear, select 'Internet Protocol Version 4 (TCP / IPv4), and then click **'Properties'**



2. Select ‘Use the following IP address’, then input the following settings in respective field:

   IP address: 192.168.2.2
   Subnet Mask: 255.255.255.0
   Default gateway: 192.168.2.1

   Click ‘OK’ when finish.

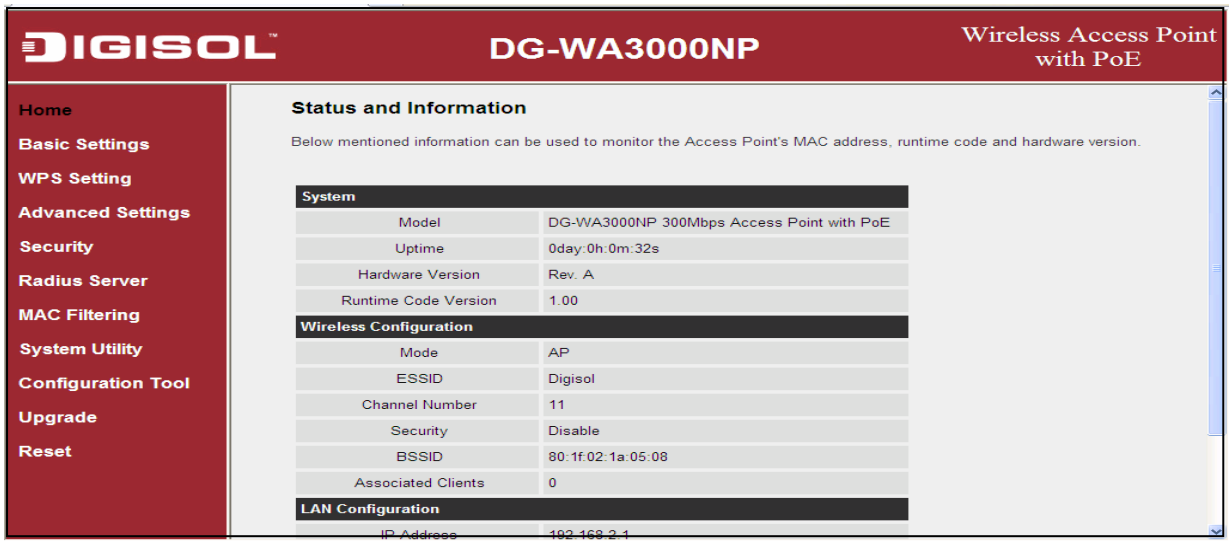


2-2-5 Connecting to Web Management Interface by web browser

All functions and settings of this Access Point must be configured via web management interface. Please start your web browser, and input '192.168.2.1' in address bar, then press 'Enter' key. The following message should be shown:

1800-209-3444 (Toll Free)
helpdesk@digisol.com sales@digisol.com www.digisol.com

Please input user name and password in the field respectively, default user name is '**admin**', and default password is '**1234**', then press 'OK' button, and you can see the web management interface of this Access Point:

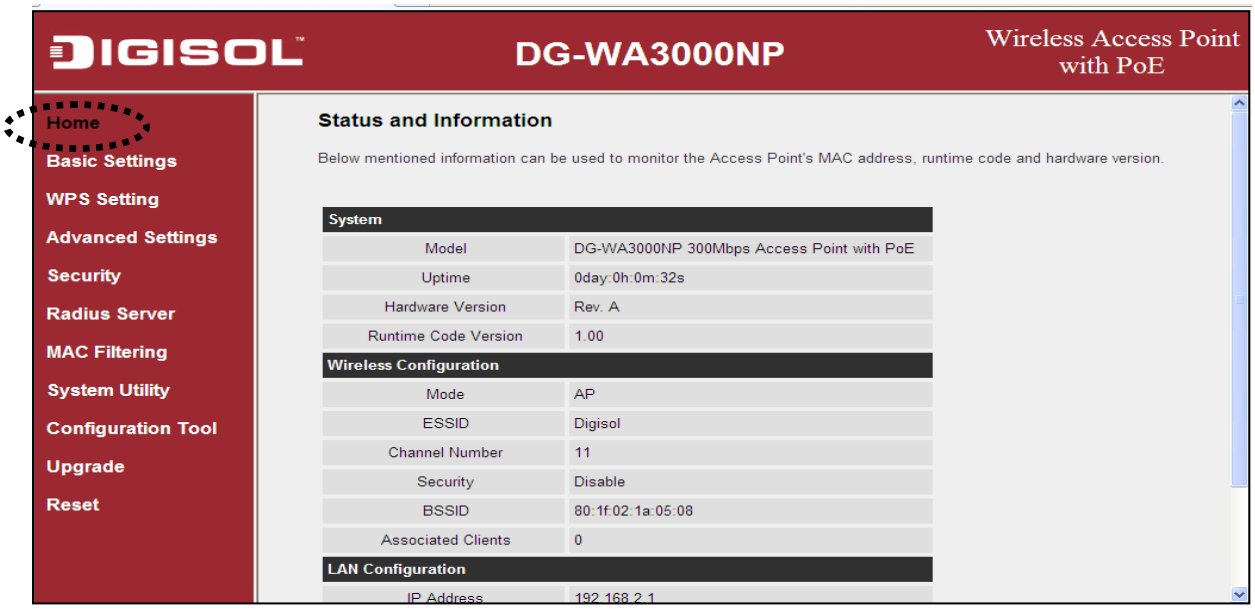


NOTE: If you can't see the web management interface, and you're being prompted to input user name and password again, it means you didn't input username and password correctly. Please retype user name and password again. If you're certain about the user name and password you typed, please go to 'Section 4-2 Troubleshooting' to perform a factory reset, to set the password back to default value.

2-3 View System Status and Information

After you are connected to the Access Point by web browser, the first thing you see is 'Status and Information' page. All system and network related information of this Access Point will be displayed here. The information is very helpful when you want to know the detailed information of your Access Point, and when you try to fix the communication problem between this Access Point and other wired / wireless computer / devices.

You can click '**Home**' on the left, and the system status and Information will be displayed, as shown below:



The following screen shows all the parameters of Status Information.

Status and Information

Below mentioned information can be used to monitor the Access Point's MAC address, runtime code and hardware version.

System	
Model	DG-WA3000NP 300Mbps Access Point with PoE
Uptime	0day:0h:7m:19s
Hardware Version	Rev. A
Runtime Code Version	1.00
Wireless Configuration	
Mode	AP
ESSID	Digisol
Channel Number	11
Security	Disable
BSSID	80:1f:02:1a:05:08
Associated Clients	0
LAN Configuration	
IP Address	192.168.2.1
Subnet Mask	255.255.255.0
Default Gateway	0.0.0.0
MAC Address	80:1f:02:1a:05:08

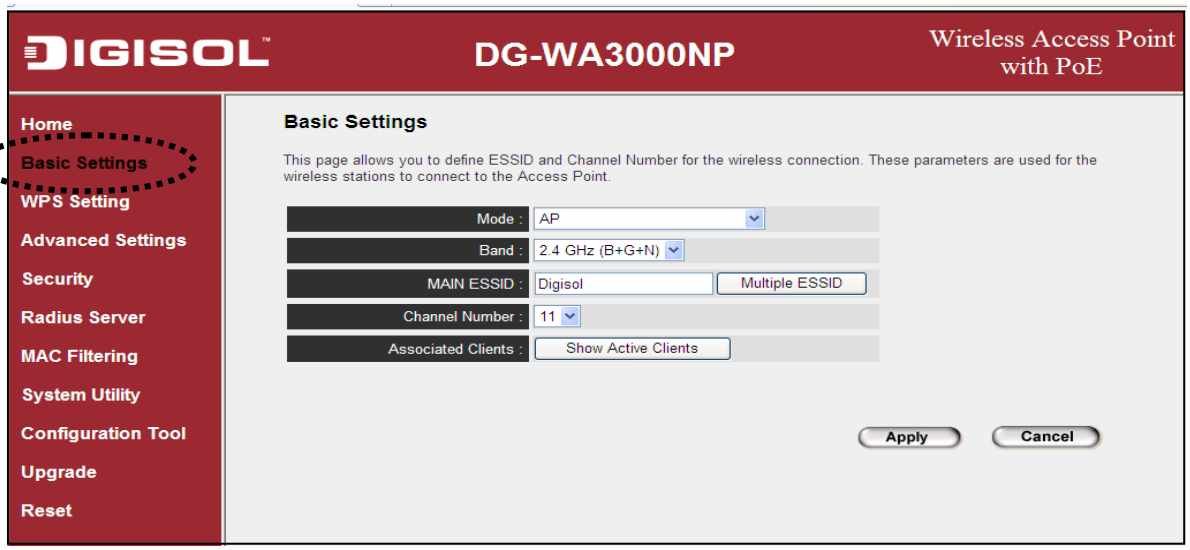
Here is the description of every item:

Parameter	Description
Model	Describes the model number of the unit.
Up time	Displays the total passed time since the wireless Access Point is powered.
Hardware Version	Displays hardware version. This information is helpful when you need online help from the dealer of purchase.
Runtime Code Version	Displays current firmware version. If you want to perform firmware upgrade, this number will help you to determine if you need such upgrade.
Mode	Displays current wireless operating mode
ESSID	Displays the current wireless SSID. Default is "Digisol"
Channel Number	Displays current wireless channel number

Security	Displays current wireless security setting
BSSID	Displays current BSSID (unique identification name of this Access Point, it can not be modified by user)
Associated Clients	Displays the number of connected wireless clients
IP Address	Displays the IP address of this wireless Access Point
Subnet Mask	Displays the net mask of IP address
Default Gateway	Displays the IP address of the default gateway
MAC address	Displays the MAC address of LAN interface

2-4 Select an Operating Mode for Wireless Access Point

This Access Point can be operated in different modes; you can click '**Basic Setting**' on the left of web management interface to select an operating mode you want to meet for different needs:



You can click '**Mode**' dropdown menu to select operating mode, and there are 6 operating modes available:

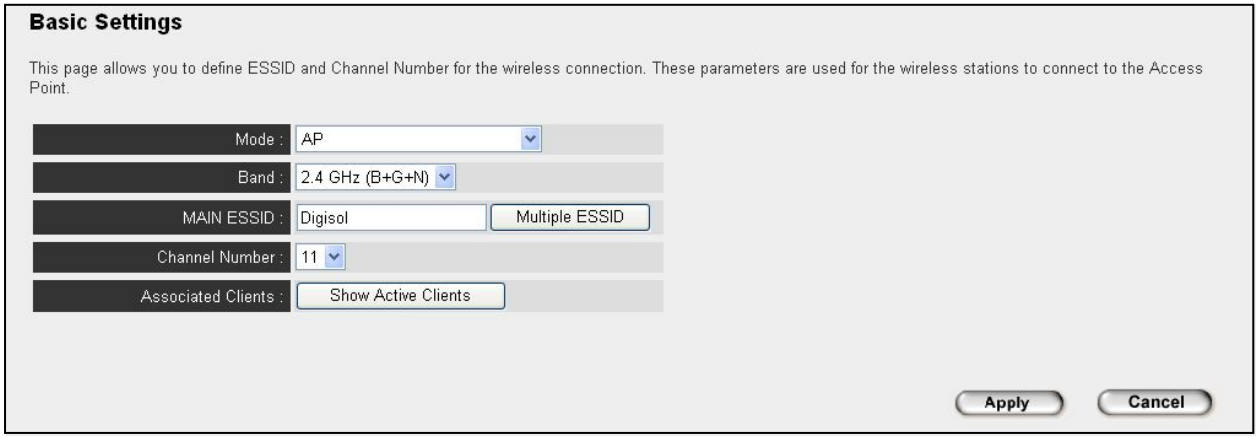
Below are the descriptions of different modes supported by Access Point.

Modes	Description
AP	Access Point mode, allows wireless clients to connect to Access Point and exchange data with the devices connected to the wired network.
Station-Infrastructure	Enables the Ethernet devices such us TV and Game player connected to the Access Point to a wireless client.
AP Bridge-Point to Point	Establishes wireless connection with another wireless Access Point using the same mode. It links the wired network which these two wireless Access Points are connected to. Only one Access Point can be connected in this mode.
AP Bridge-Point to Multi-Point	Establishes wireless connection with other wireless Access Points using the same mode. It links the wired network which these wireless Access Points are connected to. Up to four Access Points can be connected in this mode.
AP Bridge-WDS	This mode is similar to 'AP Bridge to Multi-Point', but the Access Point does not work only in a bridge-dedicated mode, but also will be able to accept wireless clients while the Access Point is working as a wireless bridge.
Universal Repeater	This product can act as a wireless range extender that will help you to extend the wireless network. The Access Point can act as Station and AP at the same time. It can use Station function to connect to a Root AP and use AP function to service all wireless clients within its coverage.

Please select one wireless operating mode. For detailed descriptions of every operating mode; please refer to Section 2-4-1 to 2-4-6 listed below.

2-4-1 AP Mode

This is the most common mode. When in AP mode, this Access Point acts as a bridge between 802.11b/g/n wireless devices and wired Ethernet network, and exchange data between them. When you select 'AP', the following options will be displayed:

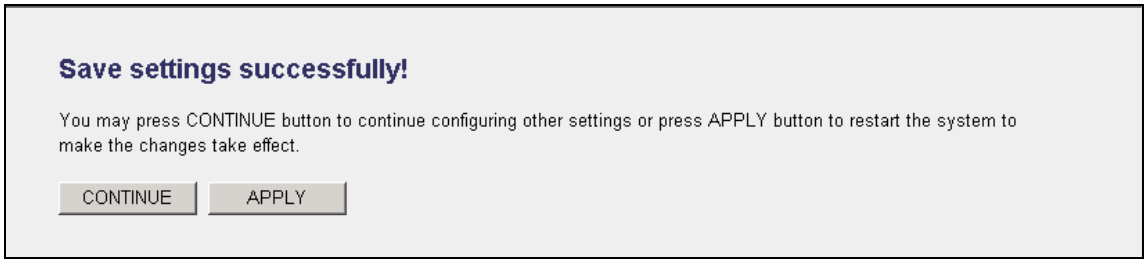


Here is the description of every setup item:

Parameter	Description
Band	Please select the wireless band you wish to use. By selecting different band setting, you'll be able to allow or deny the wireless client of a certain band. If you select 2.4GHz (B), 2.4GHz (N), or 2.4GHz (G), only wireless clients using the wireless band you select (802.11b, 802.11n, or 802.11g) will be able to connect to this Access Point. If you select 2.4GHz (B+G), then only wireless clients using 802.11b and 802.11g band will be able to connect to this Access Point. If you want to allow 802.11b, 802.11g, and 802.11n clients to connect to this Access Point, select 2.4GHz (B+G+N).
Main ESSID	Please input the ESSID (the name used to identify this wireless Access Point) here. You can input up to 32

	alphanumerical characters. **PLEASE NOTE THAT ESSID IS CASE SENSITIVE.**
Multiple ESSID	The Access Point supports multiple SSID function; up to four SSIDs can be set. If you want to configure additional SSIDs, please click this button. For detailed description of the function, please refer to Section 2-4-1-1.
Channel Number	Please select a channel number you wish to use. If you know a certain channel number is being used by other wireless Access Points nearby, please refrain from using the same channel number
Associated Clients	Click 'Show Active Clients' button and a new popup window will appear which contains the information about all wireless clients connected to this Access Point. You can click 'Refresh' button in popup window to keep information up-to-date.

After you finish with the setting, please click 'Apply', and the following message will be displayed:

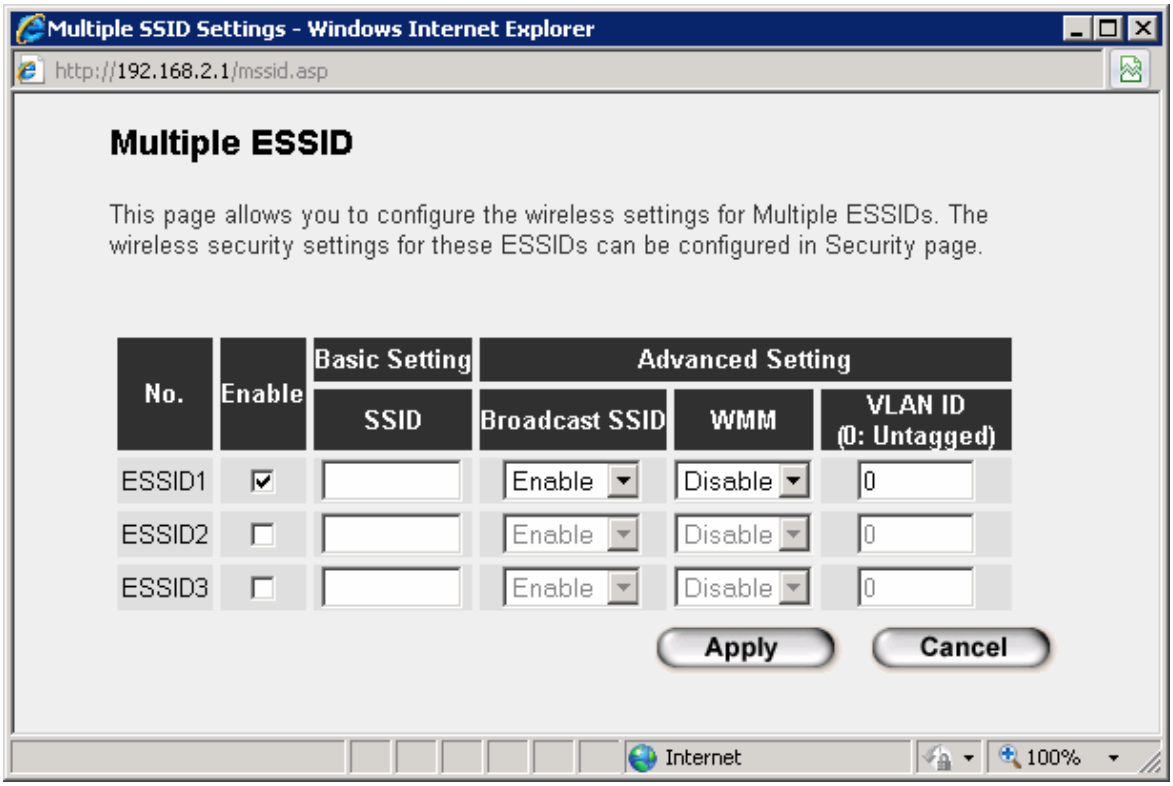


When you see this message, the settings you made are successfully saved. You can click on 'Continue' button to go back to previous page and continue with other settings, or click 'Apply' button to restart the wireless Access Point and the changes will take effect after about 30 seconds

2-4-1-1 Multiple ESSID

This Access Point supports four SSIDs. Except the main SSID (It can be configured in Basic Setting page), you can configure another three of SSIDs here. With different SSIDs, you can separate the wireless networks with different SSID name, wireless security, WMM, and VLAN settings.

NOTE: If you want to configure the wireless security for different SSID, please go to section '2-7 Wireless Security' for more information.



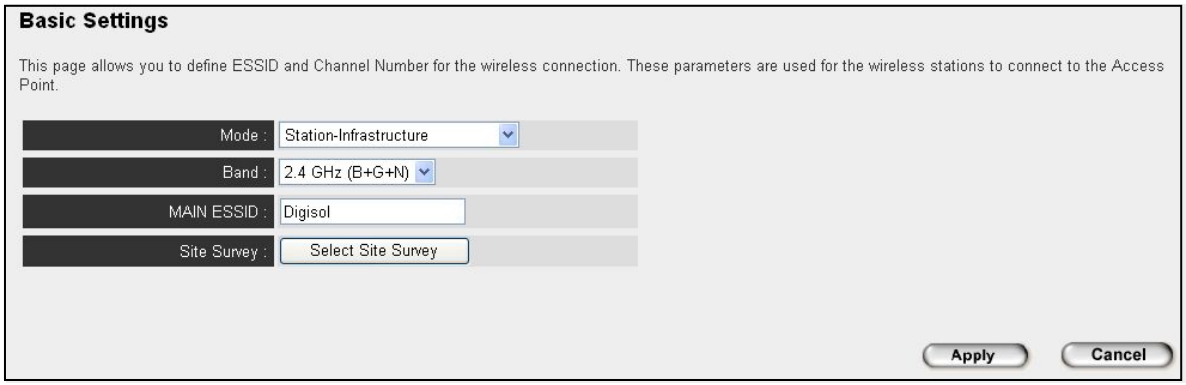
☎ 1800-209-3444 (Toll Free)
helpdesk@digisol.com sales@digisol.com www.digisol.com

Here is the description of every setup item:

Parameter	Description
No.	Except Main SSID, you can configure additional three ESSID here.
Enable	Select the box to enable the different additional ESSID.
SSID	Please input the SSID name (the name used to identify this wireless Access Point) here. You can input up to 32 alphanumerical characters. **PLEASE NOTE THAT ESSID IS CASE SENSITIVE.**
Broadcast SSID	Decides if the wireless Access Point will broadcast its own ESSID or not. You can hide the ESSID of your wireless Access Point (set the option to 'Disable'), so only those people who know the ESSID of your wireless Access Point can get connected.
WMM	WMM (Wi-Fi Multimedia) technology, which can improve the performance of certain network applications, like audio/video streaming, network telephony (VoIP), and others. When you enable WMM function, the Access Point will define the priority of different kinds of data, to give higher priority to applications which require instant responding. Therefore you can improve the performance of such network applications.
VLAN ID (0:Untagged)	If your network uses VLANs, you can assign the SSID to a VLAN on your network. Client devices that are associated using the SSID are grouped into this VLAN. The VLAN ID range is from 1 to 4094. The VLAN ID is 0 by default, it means that disable the VLAN function for the ESSID.

2-4-2 Station-Infrastructure

In this mode, you can connect the Access Point to Ethernet devices such as TV and Game player to enable the Ethernet device to act as a wireless station and connect to a wireless network through an Access Point or AP router.

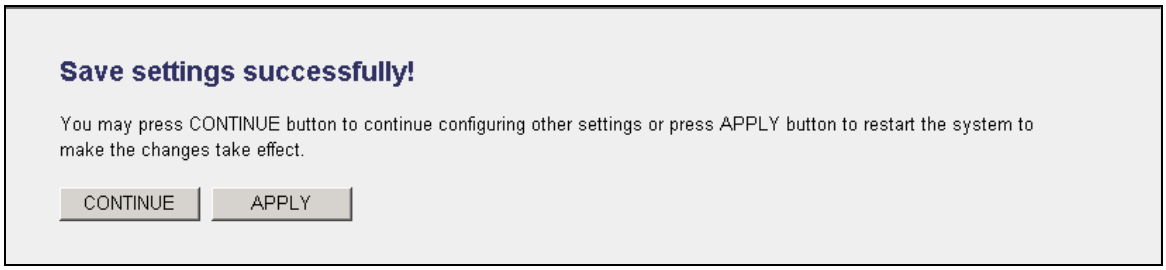


Here is the description of every setup item:

Parameter	Description
Band	Please select the wireless band you wish to use. By selecting different band settings, you'll be able to allow or deny the wireless client of a certain band. If you select 2.4GHz (B), 2.4GHz (N), or 2.4GHz (G), only wireless clients using the wireless band you select (802.11b, 802.11n or 802.11g) will be able to connect to this Access Point. If you select 2.4GHz (B+G), then only wireless clients using 802.11b and 802.11g bands will be able to connect to this Access Point. If you want to allow 802.11b, 802.11g, and 802.11n clients to connect to this Access Point, select 2.4GHz (B+G+N).
Main ESSID	Please input the ESSID (the name used to identify this wireless Access Point) here. You can input up to 32 alphanumerical characters. **PLEASE NOTE THAT ESSID IS CASE SENSITIVE.**

Site Survey	When you use this Access Point as a wireless station for Ethernet network device to have wireless capability, you have to associate it with a working Access Point. Click 'Select Site Survey' button, then a "Wireless Site Survey Table" will pop up. It will list all available Access Points near by. You can select one Access Point in the table and it will join wireless LAN through this Access Point. Please go to Section 2-4-2-1 for more information about the 'Wireless Site Survey Table'.

After you finish with setting, please click 'Apply', and the following message will be displayed:



When you see this message, the settings you made are successfully saved. You can click on 'Continue' button to go back to previous page and continue with other settings, or click 'Apply' button to restart the wireless Access Point and the changes will take effect after about 30 seconds.

2-4-2-1 Wireless Site Survey

The table will list the Access Points nearby, as the Access Point is set to Station mode; you can select one of the Access Points to associate.

Here is the description of every setup item:

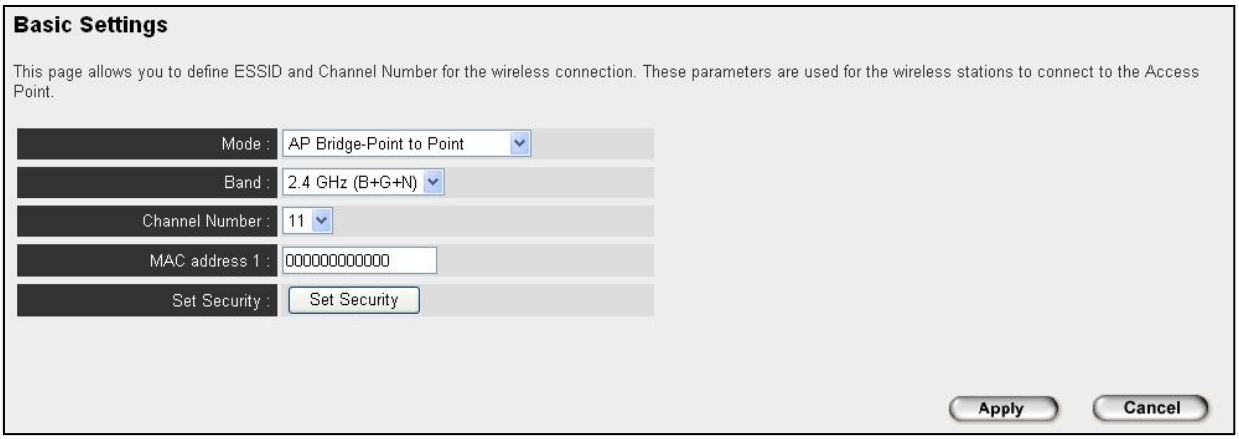
Parameter	Description
Select	Click the radio button to select the Access Point.
Channel	Displays the channel number of the Access Point.
SSID	Displays the SSID name of the Access Point.
BSSID	Displays the BSSID (MAC Address) of the Access Point.
Encryption	Displays the encryption setting of the Access Points. If you have selected the Access Point with security setting, you have to go to section '2-7 Wireless Security' to set the same security with the Access Point you want to associate.
Authentication	Displays the authentication type of the Access Point.
Signal	The signal strength of each Access Point will be displayed here. Stronger the signal strength, better is the connection quality.
Mode	Displays the wireless modes which include 11b, 11b/g or 11b/g/n or 11n only.
Refresh	Click this button to refresh the table.
Connect	Select an Access Point and click this button to choose the network. The SSID name of the Access Point you have selected will be displayed in the Main SSID in the Basic Setting page.

2-4-3 AP Bridge-Point to Point Mode

In this mode, this wireless Access Point will connect to another wireless Access Point which uses the same mode, and all wired Ethernet clients of both wireless Access Points will be connected together. You can use this mode to connect a network to another network which is physically isolated.

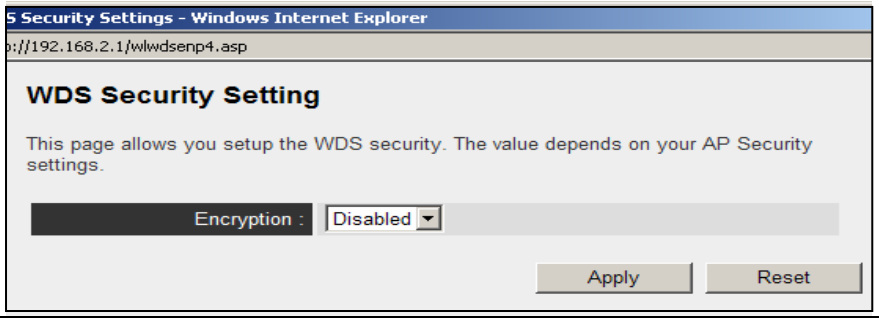
Please note that when you set your Access Point to this mode, it will not accept regular wireless clients anymore.

When you select 'AP Bridge-Point to Point', the following options will be displayed:

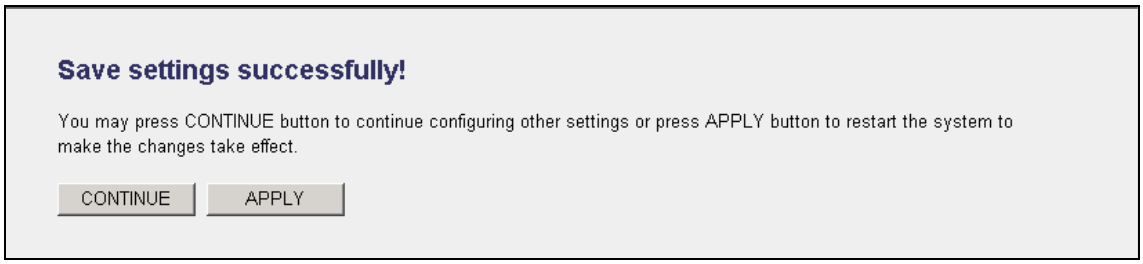


Here is the description of every setup item:

Parameter	Description
Band	Please select the wireless band you wish to use. By selecting different band settings, you'll be able to allow or deny the wireless client of a certain band. If you select 2.4GHz (B), 2.4GHz (N), or 2.4GHz (G), only wireless clients using the wireless band you select (802.11b, 802.11n or 802.11g) will be able to connect to this Access Point. If you select 2.4GHz (B+G), then only wireless clients using 802.11b and 802.11g band will be able to connect to this Access Point.

	If you want to allow 802.11b, 802.11g, and 802.11n clients to connect to this Access Point, select 2.4GHz (B+G+N).
Channel Number	Please select a channel number you wish to use. This channel number must be same as the other wireless Access Point you wish to connect.
MAC address 1	Please input the MAC address of the wireless Access Point you wish to connect.
Set Security	Click this button to select an encryption mode for this wireless link, a new popup window will appear, as shown below. For detailed description of encryption modes please refer to Section 2-7 

After you finish with setting, please click ‘Apply’, and the following message will be displayed:



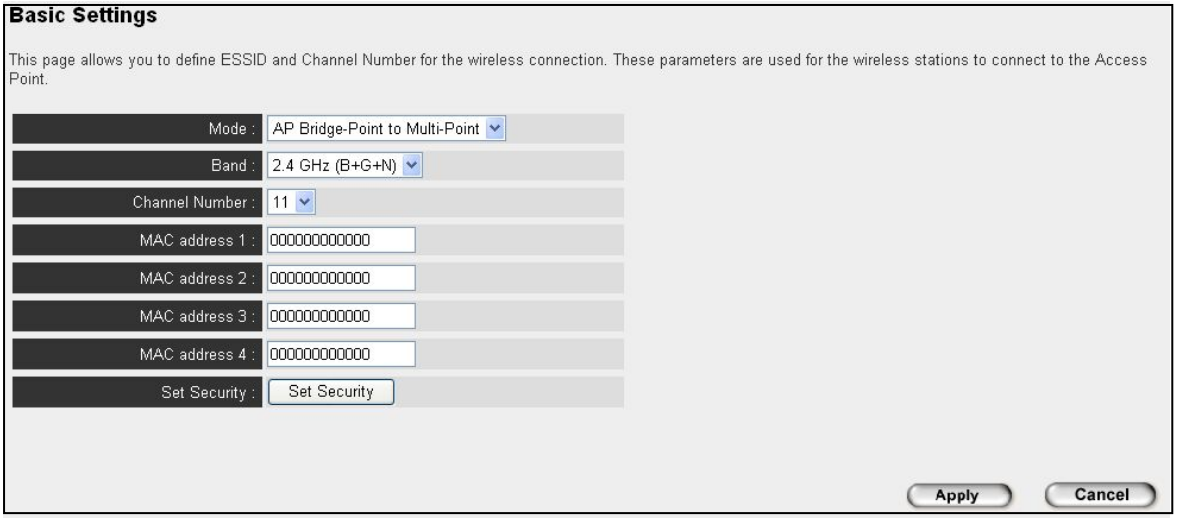
When you see this message, the settings you made are successfully saved, you can click on ‘Continue’ button to go back to previous page and continue with other settings, or click ‘Apply’ button to restart the wireless Access Point and the changes will take effect after about 30 seconds.

2-4-4 AP Bridge-Point to Multi-Point Mode

In this mode, this wireless Access Point will connect up to four wireless Access Points which use the same mode, and all wired Ethernet clients of every wireless Access Point will be connected together. You can use this mode to connect a network to other networks which are physically isolated.

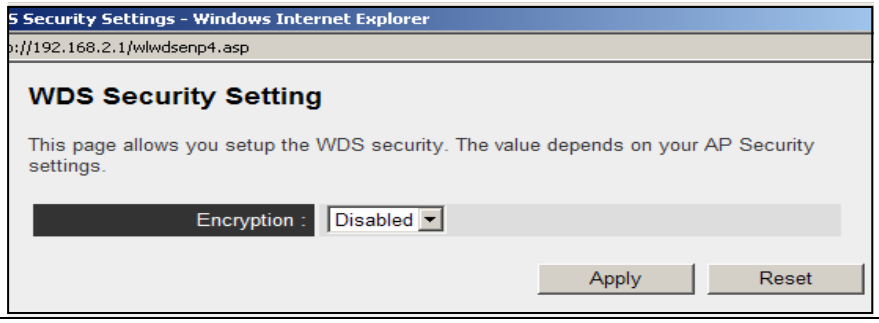
Please note that when you set your Access Point to this mode, it will not accept regular wireless clients anymore.

When you select 'AP Bridge-Point to Multi-Point', the following options will be displayed:

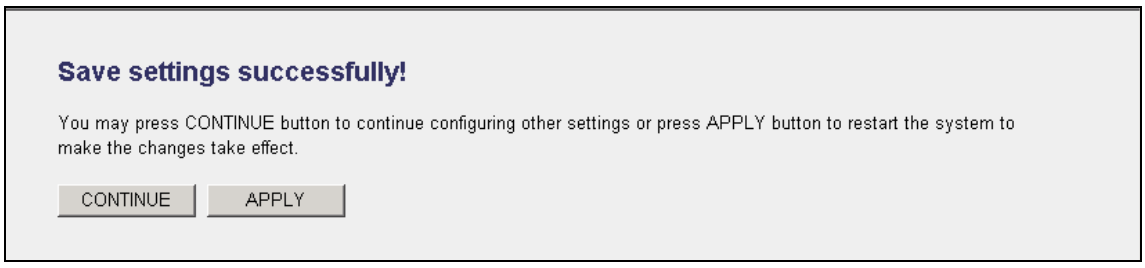


Here is the description of every setup item:

Parameter	Description
Band	Please select the wireless band you wish to use. By selecting different band settings, you'll be able to allow or deny the wireless client of a certain band. If you select 2.4GHz (B), 2.4GHz (N), or 2.4GHz (G), only wireless clients using the wireless band you select (802.11b, 802.11n, or 802.11g) will be able to connect to this Access Point.

	If you select 2.4GHz (B+G), then only wireless clients using 802.11b and 802.11g band will be able to connect to this Access Point. If you want to allow 802.11b, 802.11g, and 802.11n clients to connect to this Access Point, select 2.4GHz (B+G+N).
Channel Number	Please select a channel number you wish to use. This channel number must be same as the other wireless Access Point you wish to connect.
MAC address 1-4	Please input the MAC address of the wireless Access Point you wish to connect.
Set Security	Click this button to select an encryption mode for this wireless link, a new popup window will appear, as shown below. For detail description of encryption modes please refer to Section 2-7. 

After you finish with setting, please click ‘Apply’, and the following message will be displayed:

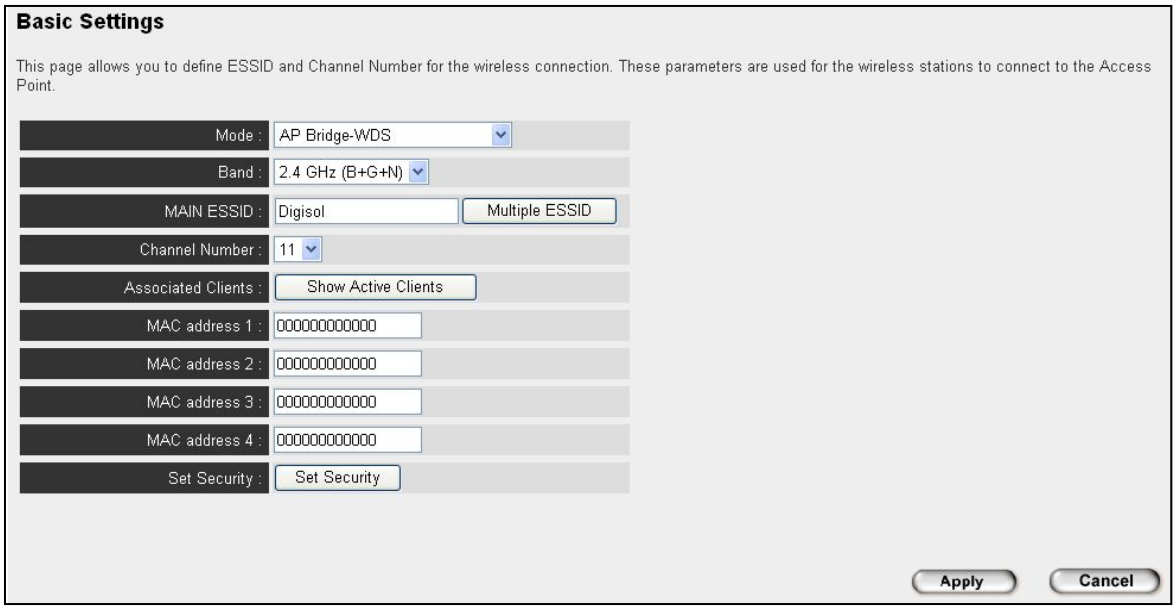


When you see this message, the settings you made are successfully saved. You can click on ‘Continue’ button to go back to previous page and continue with other settings, or click ‘Apply’ button to restart the wireless Access Point and the changes will take effect after about 30 seconds.

2-4-5 AP Bridge-WDS Mode

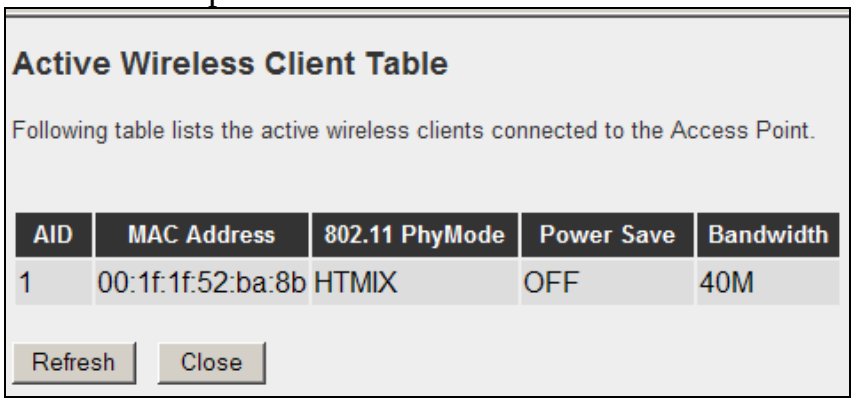
In this mode, this wireless Access Point will connect to up to four wireless Access Points which use the same mode, and all wired Ethernet clients of every wireless Access Point will be connected together. You can use this mode to connect a network to other networks which are physically isolated.

When you use this mode, this Access Point is still able to accept wireless clients. When you select 'AP Bridge-WDS', the following options will be displayed:

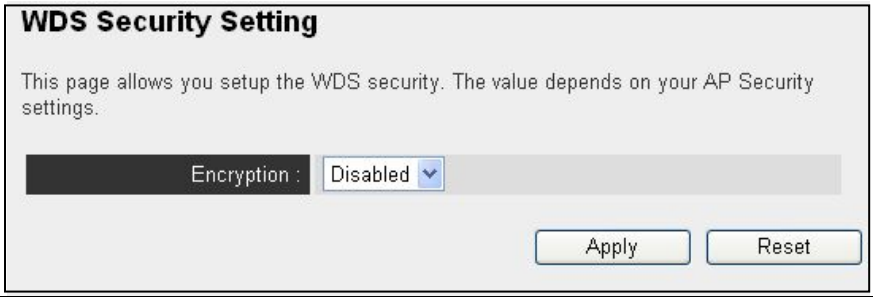


Here is the description of every setup item:

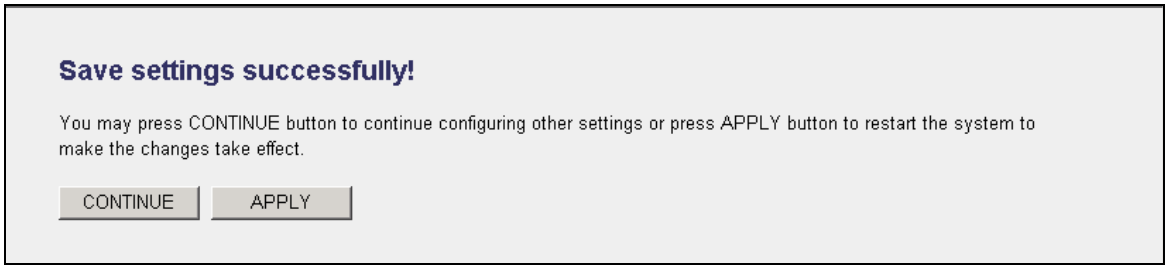
Parameter	Description
Band	Please select the wireless band you wish to use. By selecting different band settings, you'll be able to allow or deny the wireless client of a certain band. If you select 2.4GHz (B), 2.4GHz (N), or 2.4GHz (G), only wireless clients using the wireless band you select (802.11b, 802.11n or 802.11g) will be able to connect to this Access Point.

	If you select 2.4GHz (B+G), then only wireless clients using 802.11b and 802.11g band will be able to connect to this Access Point. If you want to allow 802.11b, 802.11g, and 802.11n clients to connect to this Access Point, select 2.4GHz (B+G+N).
MAIN ESSID	Please input the ESSID (the name used to identify this wireless Access Point) here. You can input up to 32 alphanumerical characters. **PLEASE NOTE THAT ESSID IS CASE SENSITIVE.**
Multiple ESSID	The Access Point supports multiple SSID function; up to four SSIDs can be set. If you want to configure additional SSIDs, please click this button. For detailed descriptions of the function, please refer to Section 2-4-1-1.
Channel Number	Please select a channel number you wish to use. The channel number must be same as the other wireless Access Point you wish to connect.
Associated Clients	Click 'Show Active Clients' button and a new popup window will appear which contains the information about all wireless clients connected to this Access Point, as shown below. You can click 'Refresh' button in popup window to keep information up-to-date.  **Active Wireless Client Table** Following table lists the active wireless clients connected to the Access Point. AID | MAC Address | 802.11 PhyMode | Power Save | Bandwidth 1 | 00:1f:1f:52:ba:8b | HTMIX | OFF | 40M Refresh Close
MAC address 1-4	Please input the MAC address of the wireless Access Point you wish to connect.

Set Security	Click this button to select an encryption mode for this wireless link, a new popup window will appear, as shown below. For detailed description of encryption modes please refer to Section 2-7



After you finish with setting, please click ‘Apply’, and the following message will be displayed:

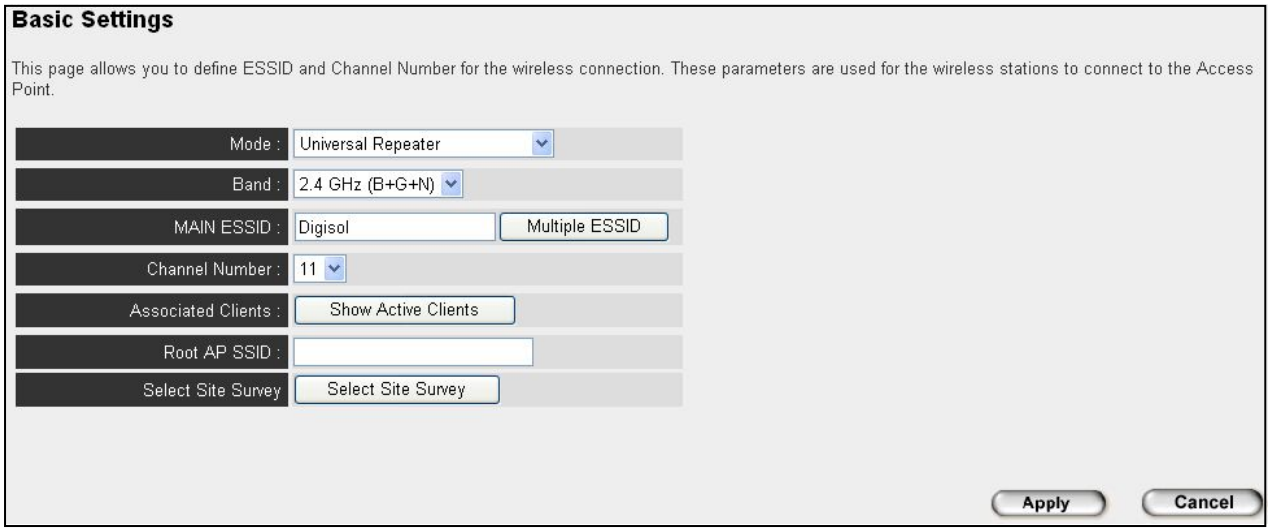


When you see this message, the settings you made are successfully saved. You can click on ‘Continue’ button to go back to previous page and continue with other settings, or click ‘Apply’ button to restart the wireless Access Point and the changes will take effect after about 30 seconds.

2-4-6 Universal Repeater

In this mode, the Access Point can act as a wireless repeater; it can be Station and AP at the same time. It can use Station function to connect to a Root AP and use AP function to service all wireless stations within its coverage.

NOTE: For Repeater Mode, this Access Point will demodulate the received signal and check if the signal is noise or valid data for the operating network. Once the Access Point validates the signal, then it will modulate and amplify the signal again.



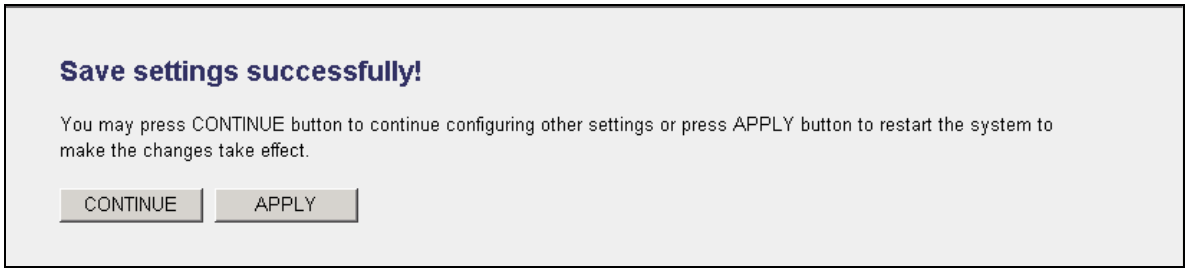
Here is the description of every setup item:

Parameter	Description
Band	Please select the wireless band you wish to use. By selecting different band settings, you'll be able to allow or deny the wireless client of a certain band. If you select 2.4GHz (B), 2.4GHz (N), or 2.4GHz (G), only wireless clients using the wireless band you select (802.11b, 802.11n or 802.11g) will be able to connect to this Access Point.

	If you select 2.4GHz (B+G), then only wireless clients using 802.11b and 802.11g band will be able to connect to this Access Point. If you want to allow 802.11b, 802.11g, and 802.11n clients to connect to this Access Point, select 2.4GHz (B+G+N).
MAIN ESSID	Please input the ESSID (the name used to identify this wireless Access Point) here. You can input up to 32 alphanumerical characters. **PLEASE NOTE THAT ESSID IS CASE SENSITIVE.**
Multiple ESSID	The Access Point supports multiple SSID function; up to four SSIDs can be set. If you want to configure additional SSIDs, please click this button. For detailed description of the function, please refer to Section 2-4-1-1.
Channel Number	Please select a channel number you wish to use. The channel number must be same as the other wireless Access Points you wish to connect.
Associated Clients	Click 'Show Active Clients' button and a new popup window will appear which contains the information about all wireless clients connected to this Access Point. You can click 'Refresh' button in popup window to keep information up-to-date. 
Root AP SSID	In 'Universal Repeater' mode, this device can act as a station to connect to a Root AP. You should assign the SSID of the Root AP here or click 'Select Site Survey' button to choose a Root AP.

Select Site Survey	Click ‘Select Site Survey’ button, then a “Wireless Site Survey Table” will pop up. It will list all available Access Points near by. You can select one Access Point in the table and the Access Point will join wireless LAN through this Access Point. Please go to Section 2-4-2-1 for more information about the ‘Wireless Site Survey Table’.

After you finish with setting, please click ‘Apply’, and the following message will be displayed:



When you see this message, the settings you made are successfully saved. You can click on ‘Continue’ button to go back to previous page and continue with other settings, or click ‘Apply’ button to restart the wireless Access Point and the changes will take effect after about 30 seconds.

2-5 WPS Setting

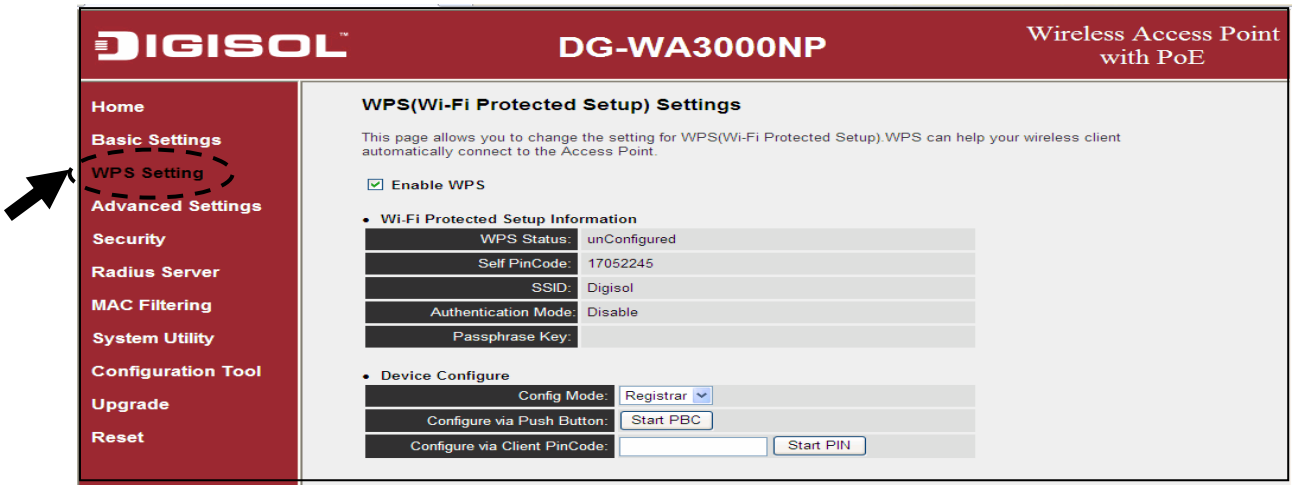
Wi-Fi Protected Setup (WPS) is the simplest way to build a connection between wireless network clients and this Access Point. You need not select encryption mode and input a long encryption passphrase every time you need to setup a wireless client. You only have to press a button on wireless client and this Access Point, and the WPS will do the setup for you.

This Access Point supports two types of WPS: Push-Button Configuration (PBC), and PIN code. If you want to use PBC, you have to switch this Access Point to WPS mode and push a specific button (hard/soft push button) on the wireless client to start WPS mode. You can push Reset/WPS button of this Access Point, or click 'Start PBC' button in the web configuration interface to do this. Press WPS button on wireless client (hard/soft push button) within 2 minutes to establish a secured wireless connection.

If you want to use PIN code, you have to provide the PIN code of the wireless client you wish to connect to this Access Point and then switch the wireless client to WPS mode. The detailed instructions are listed below:

Note: WPS function of this Access Point will not work for those wireless clients which do not support WPS.

To use WPS function to set encrypted connection between this Access Point and WPS-enabled wireless client by WPS, click ‘WPS Setting’ on the left of web management menu, and the following information will be displayed.



Here is the description of every setup item:

Parameter	Description
Enable WPS	Check this box to enable or disable WPS function. By default check box is enabled.
Wi-Fi Protected Setup Information	All information related to WPS will be displayed here, they’re helpful when you’re setting up connections by WPS. *WPS Status:* Displays WPS status. If data encryption settings of this Access Point has never been set, ‘unConfigured’ message will be displayed here. (See Section 2-7 for detailed information) If data encryption settings have been set before, ‘Configured’ message will be displayed here. *Self PinCode:* This is the WPS PIN code of this Access Point. This code is useful when you need to build wireless connection by WPS with other WPS-enabled wireless devices. *SSID:* Displays the SSID (ESSID) of this Access Point.

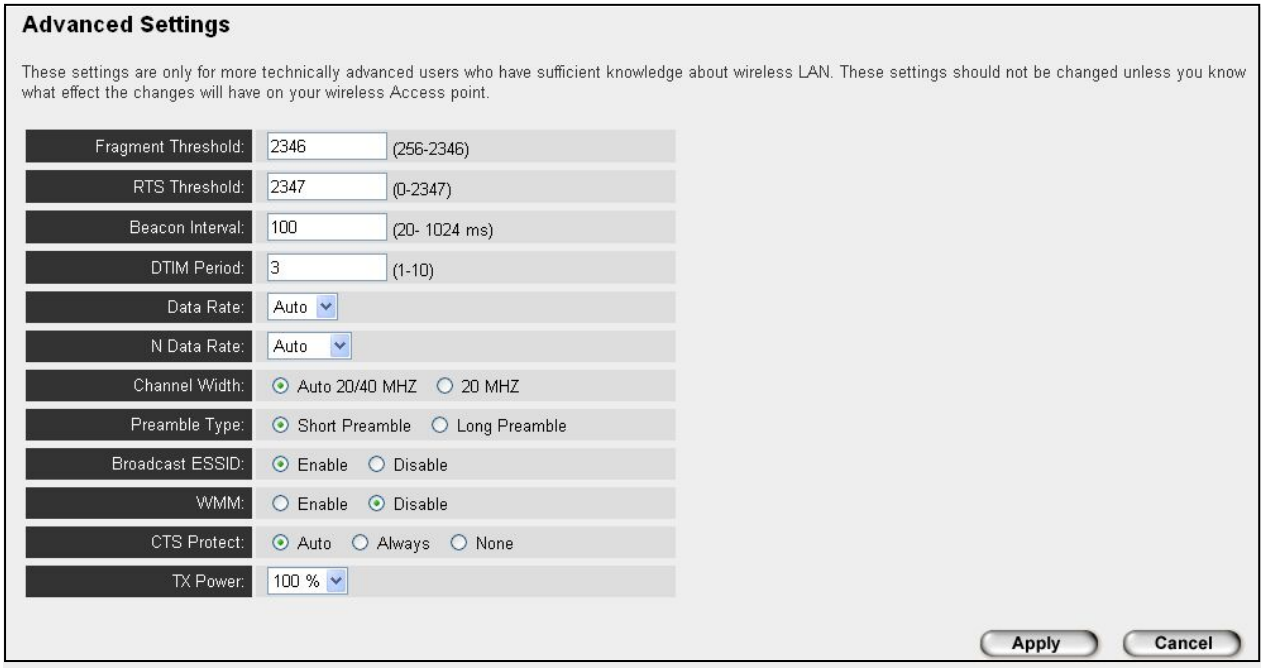
	Authentication Mode: The wireless security authentication mode of this Access Point will be displayed here. If you don't enable security function of the Access Point before WPS is activated, the Access Point will auto set the security to WPA (AES) and generate a set of passphrase key for WPS connection. *Passphrase Key:* Displays the WPA passphrase here, all characters will be replaced by asterisk for security reason. If encryption is not set on this Access Point, nothing will be displayed here.
Config Mode	There are 'Registrar' and 'Enrollee' modes for the WPS connection. When 'Registrar' is enabled, the wireless clients will follow the Access Point's wireless settings for WPS connection. When 'Enrollee' mode is enabled, the Access Point will follow the wireless settings of wireless client for WPS connection.
Start PBC	Click 'Start PBC' to start Push-Button style WPS setup procedure. This Access Point will wait for WPS requests from wireless clients for 2 minutes. The 'WLAN' LED on the Access Point will be steady on for 2 minutes when this Access Point is waiting for incoming WPS request.
Start PIN	Please input the PIN code of the wireless client you wish to connect, and click 'Start PIN' button. The 'WLAN' LED on the Access Point will be steady on, when this Access Point is waiting for incoming WPS request.

NOTE: When you're using PBC type WPS setup, you must press 'PBC' button (hardware or software) of wireless client within 120 seconds. If you didn't press PBC button of wireless client within this time period, please press 'PBC' button (hardware or software) of this Access Point again.

2-6 Advanced Wireless Settings

This wireless Access Point has many advanced wireless features. Please note that all settings listed here are for experienced users only, if you're not sure about the meaning and function of these settings, please don't modify them, or the wireless performance will be reduced.

You can click 'Advanced Setting' on the left to enter advanced settings menu, and the following message will be displayed:

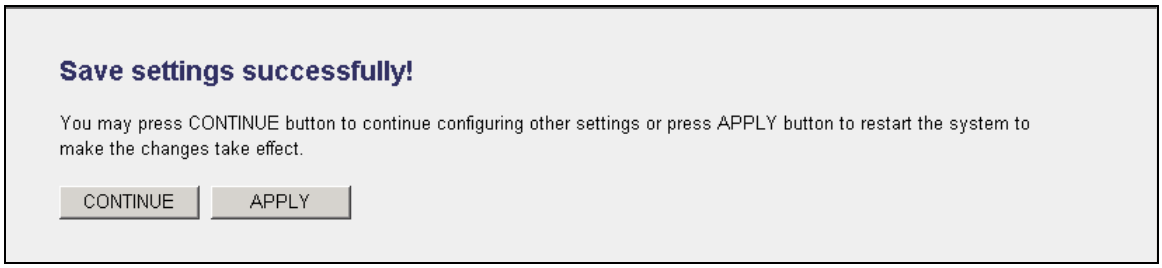


Here is the description of every setup item:

Parameter	Description
Fragment Threshold	Set the Fragment threshold of wireless radio. Do not modify default value if you don't know what it is, default value is 2346
RTS Threshold	Set the RTS threshold of wireless radio. Do not modify default value if you don't know what it is, default value is 2347
Beacon Interval	Set the beacon interval of wireless radio. Do not modify default value if you don't know what it is, default value is 100

DTIM Period	Set the DTIM period of wireless radio. Do not modify default value if you don't know what it is, default value is 3
Data Rate	Set the wireless data transfer rate to a certain value. Since most of the wireless devices will negotiate with each other and pick a proper data transfer rate automatically, it's not necessary to change this value unless you know what will happen after modification.
N Data Rate	Set the data rate of 802.11n clients, available options are MCS 0 to MCS7, it's safe to set this option to 'Auto' and it's not necessary to change this value unless you know what will happen after modification.
Channel Width	Select wireless channel width (bandwidth taken by wireless signals of this Access Point). It is suggested to select 'Auto 20/40MHz'. Do not change to '20 MHz' unless you know what it is.
Preamble Type	Set the type of preamble of wireless radio. Do not modify default value if you don't know what it is, default setting is 'Short Preamble'.
Broadcast ESSID	Decides if the wireless Access Point will broadcast its own ESSID or not. You can hide the ESSID of your wireless Access Point (set the option to 'Disable'), so only people who know the ESSID of your wireless Access Point can get connected.
WMM	WMM (Wi-Fi Multimedia) technology, which can improve the performance of certain network applications, like audio/video streaming, network telephony (VoIP), and others. When you enable WMM function, the Access Point will define the priority of different kinds of data, to give higher priority to applications which require instant responding. Therefore you can improve the performance of such network applications.
CTS Protect	Enabling this setting will reduce the chance of radio signal collisions between 802.11b and 802.11g wireless Access Points. It is recommended to set this option to 'Auto'.
TX Power	You can set the output power of wireless radio. This value can be set to less than 100% if your wireless coverage area is small. This will enhance security (malicious / unknown users in distance will not be able to reach your wireless Access Point).

After you finish with setting, please click ‘Apply’, and the following message will be displayed:



When you see this message, the settings you made are successfully saved. You can click on ‘Continue’ button to go back to previous page and continue with other settings, or click ‘Apply’ button to restart the wireless Access Point and the changes will take effect after about 30 seconds.

2-7 Wireless Security

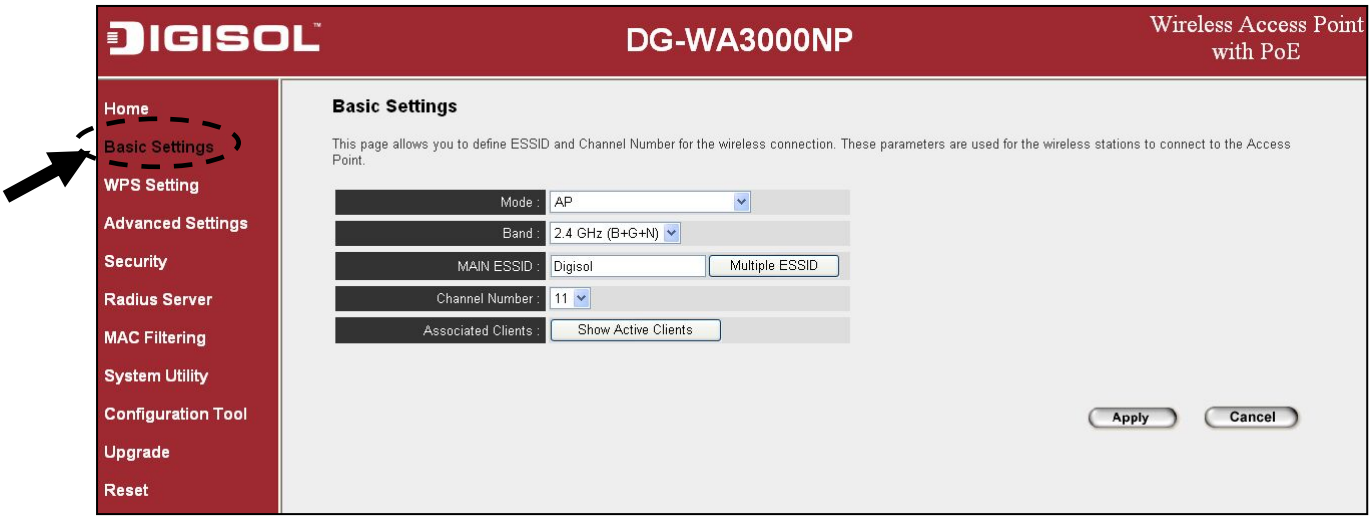
This wireless Access Point provides many types of wireless security (wireless data encryption). When you use data encryption, data transferred by radio signals in the air will become unreadable for those people who don't know correct encryption key (encryption password).

Please remember it's very important to set wireless security settings properly! Without a proper setting, hackers and intruders may gain access to your local network and interfere with your computers and servers, which could cause serious problem.

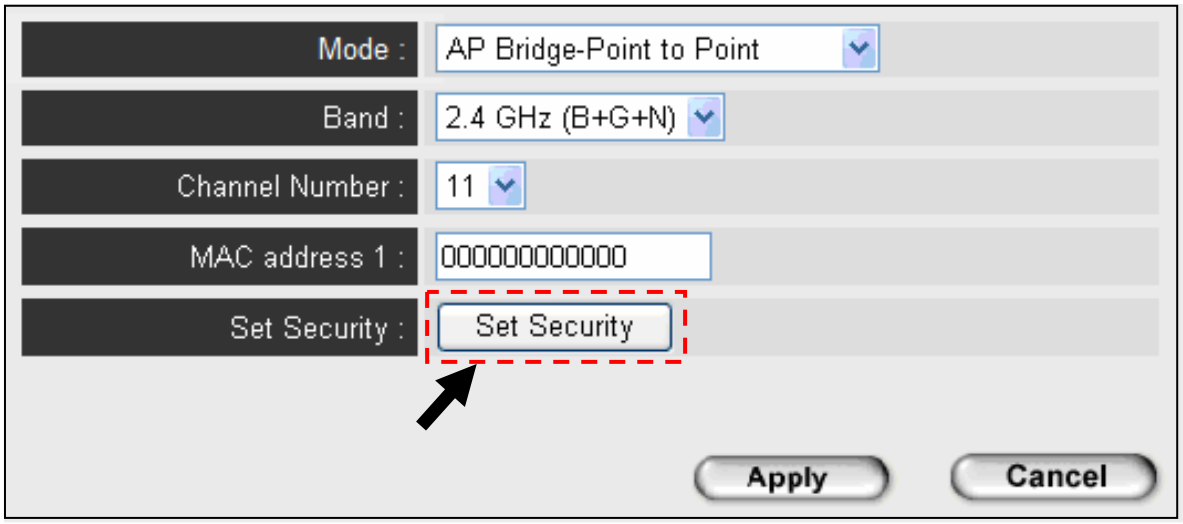
There are two ways to set wireless security:

A. **Basic Settings**:

1. Click 'Basic Settings' on the left of web management interface.



2. Click ‘Set Security’ button when the wireless operating mode you selected is ‘AP Bridge-Point to Point’, ‘AP Bridge-Point to Multi-Point’, or ‘AP Bridge-WDS’.



B. **Security:**

1. Click ‘Security’ on the left of web management interface.

NOTE: If you have enabled Multiple SSID function, please select the SSID network you wish to configure in advance.

There are four types of security levels you can select: Disable (no security - data encryption disabled), WEP, WPA Pre-shared Key, and WPA Radius. Please refer to the following sections for detailed instructions.

There are several things you can do to improve wireless security:

1. Always enable data encryption. Only disable it when you want to open your wireless Access Point to the public.

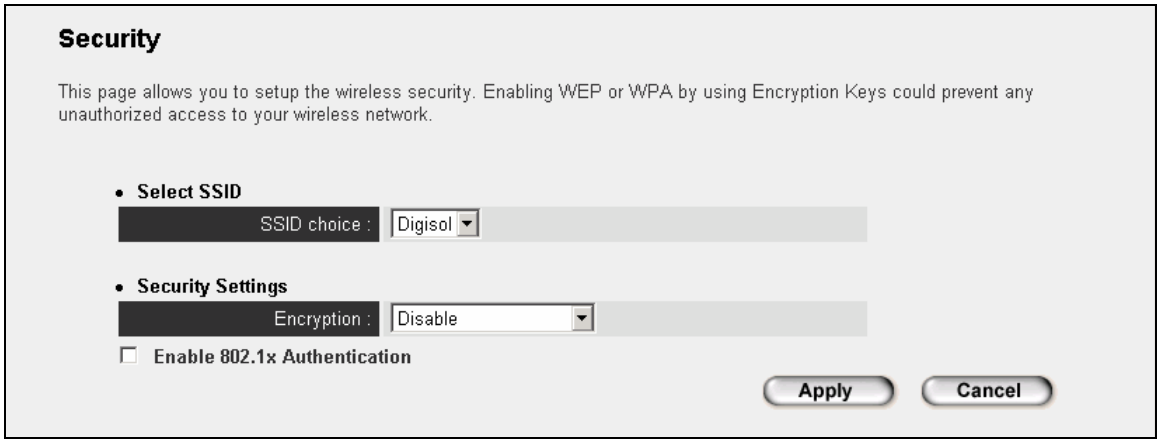
2. Never use simple words as encryption password. Using a random combination of symbols, numbers, and alphabets will greatly improve security.

3. Use WPA when possible - it's much safer than WEP.

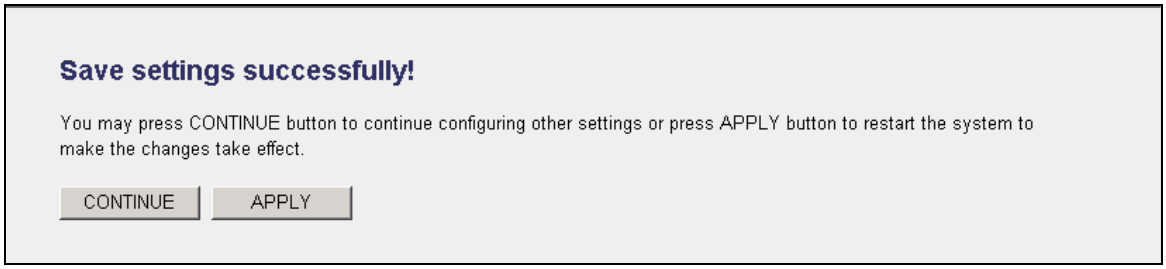
4. Change encryption password when you've used it for a longer period.

2-7-1 Disable Security

Select the SSID you wish to configure. When you select ‘Disable’, wireless encryption for the network is disabled.



After you finish with setting, please click ‘Apply’, and the following message will be displayed:



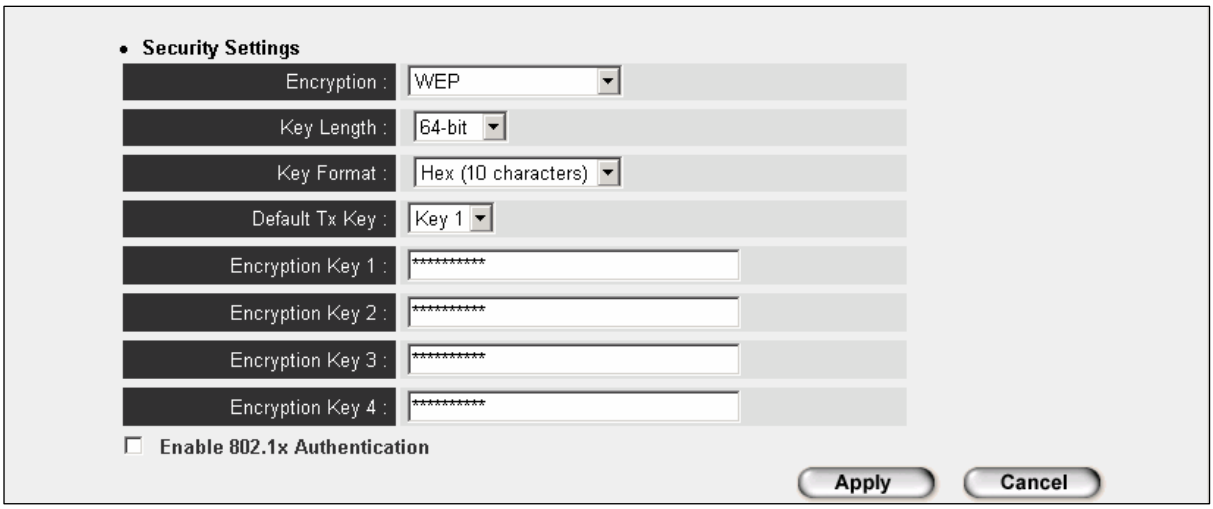
When you see this message, the settings you made are successfully saved. You can click on ‘Continue’ button to go back to previous page and continue with other settings, or click ‘Apply’ button to restart the wireless Access Point and the changes will take effect after about 30 seconds.

2-7-2 WEP

WEP (Wired Equivalent Privacy) is a common encryption mode, it's safe enough for home and personal use. But if you need higher level of security, please consider using WPA encryption (see next Section).

However, some wireless clients don't support WPA, but only support WEP, so WEP is still a good choice for you if you have such kind of clients in your network environment.

When you select 'WEP' as encryption type, the following fields will be displayed:

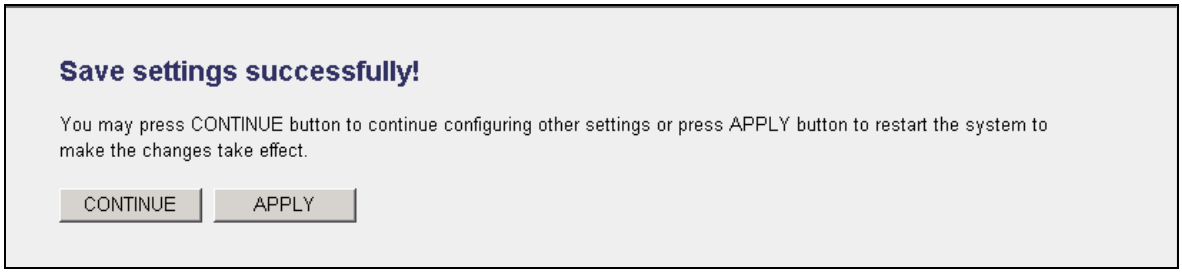


Here is the description of every setup item:

Parameter	Description
Key Length	There are two types of WEP key length: 64-bit and 128-bit. Using '128-bit' is safer than' 64-bit', but will reduce the data transfer performance to some extent.
Key Format	There are two types of key format: ASCII and Hex. When you select a key format, the number of characters of key will be displayed. For example, if you select '64-bit' as key length, and 'Hex' as key format, you'll see the message at the right of 'Key

	Format' is 'Hex (10 characters), which means the length of WEP key is 10 characters.
Default Tx Key	You can set up to four sets of WEP key, and you can decide which key is being used by default here. If you don't know which one you should use, select 'Key 1'.
Encryption Key 1 to 4	Input WEP key characters here, the number of characters must be the same as the number displayed at 'Key Format' field. You can use any alphanumerical characters (0-9, a-z, and A-Z) if you select 'ASCII' key format, and if you select 'Hex' as key format, you can use characters 0-9, a-f, and A-F. You must enter at least one encryption key here, and if you entered multiple WEP keys, they should not be the same.
Enable 802.1x Authentication	Check this box to enable 802.1x user authentication. Please refer to Section 2-7-5 for detailed instructions.

After you finish with setting, please click 'Apply', and the following message will be displayed:

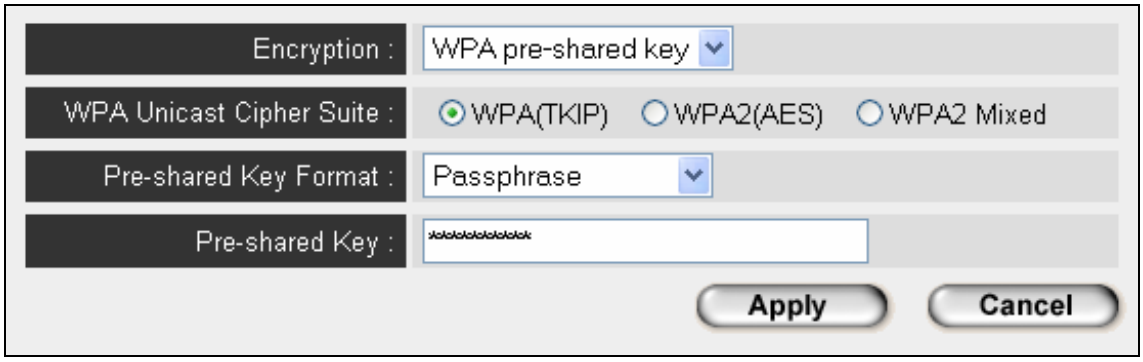


When you see this message, the settings you made are successfully saved. You can click on 'Continue' button to go back to previous page and continue with other settings, or click 'Apply' button to restart the wireless Access Point and the changes will take effect after about 30 seconds.

2-7-3 WPA Pre-shared Key

WPA Pre-shared key is the safest encryption method currently, and it's recommended to use this encryption method to ensure the safety of your data.

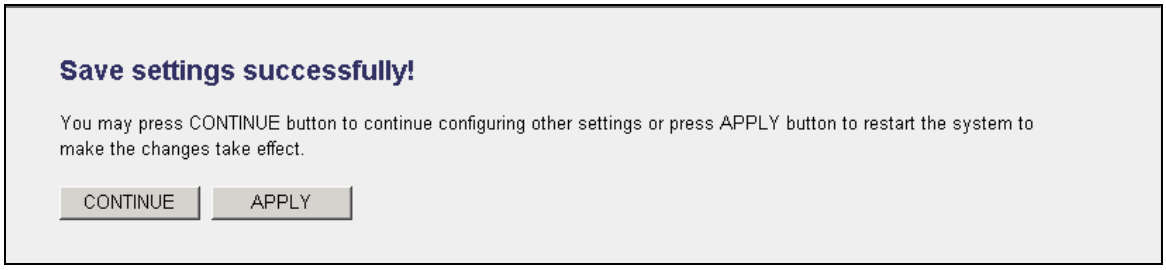
When you select 'WPA pre-shared key' as encryption type, the following fields will be displayed:



Here is the description of every setup item:

Parameter	Description
WPA Unicast Cipher Suite	Available options are: WPA (TKIP), WPA2 (AES), and WPA2 Mixed. You can select one of them, but you have to make sure, your wireless client supports the cipher you selected.
Pre-shared Key Format	Please select the format of pre-shared key here, available options are 'Passphrase' (8 to 63 alphanumerical characters) and 'Hex (64 hexadecimal characters – 0 to 9 and a to f).
Pre-shared Key	Please input pre-shared key according to the key format you selected here. For security reason, don't use simple words.

After you finish with setting, please click ‘Apply’, and the following message will be displayed:

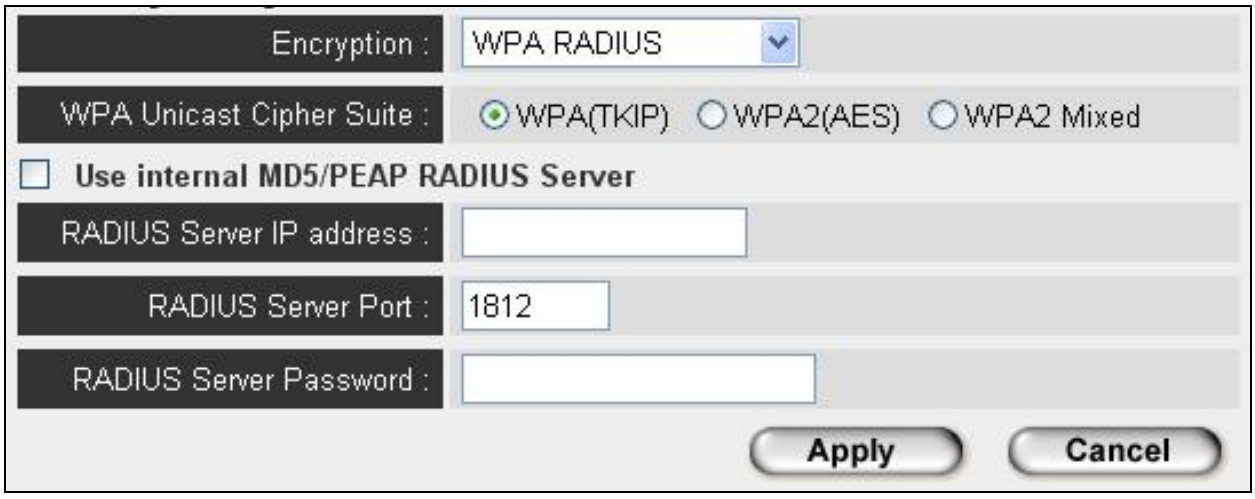


When you see this message, the settings you made are successfully saved. You can click on ‘Continue’ button to go back to previous page and continue with other settings, or click ‘Apply’ button to restart the wireless Access Point and the changes will take effect after about 30 seconds.

2-7-4 WPA RADIUS

WPA Radius is the combination of WPA encryption method and RADIUS user authentication. If you have a RADIUS authentication server, you can check the identity of every wireless client by user database.

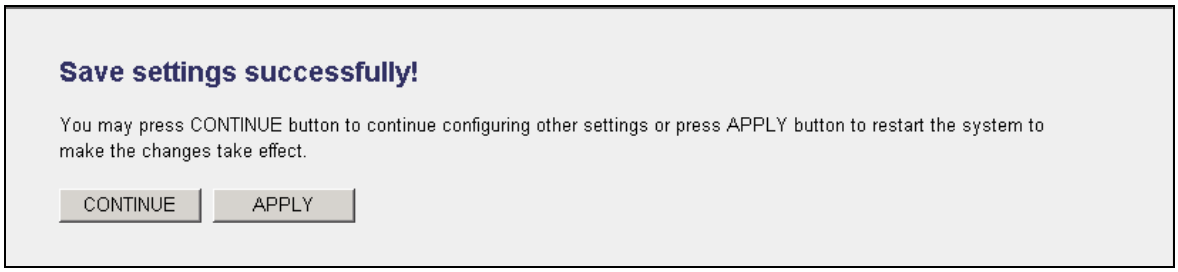
When you select ‘WPA RADIUS’ as encryption type, the following fields will be displayed:



Here is the description of every setup item:

Parameter	Description
WPA Unicast Cipher Suite	You can select WPA encryption type here. AES is safer than TKIP, but not every wireless client supports it. Please refer to the specification of your wireless client to decide which encryption type you should use.
Use internal MD5/PEAP RADIUS Server	Uses built-in RADIUS Server (refer to Section 2-8) instead of external RADIUS server. If you check this box, the value in following three fields will be ignored.
RADIUS Server IP address	Please input the IP address of RADIUS authentication server here.
RADIUS Server Port	Please input the port number of RADIUS authentication server here. Default value is 1812.
RADIUS Server Password	Please input the password of RADIUS authentication server here.

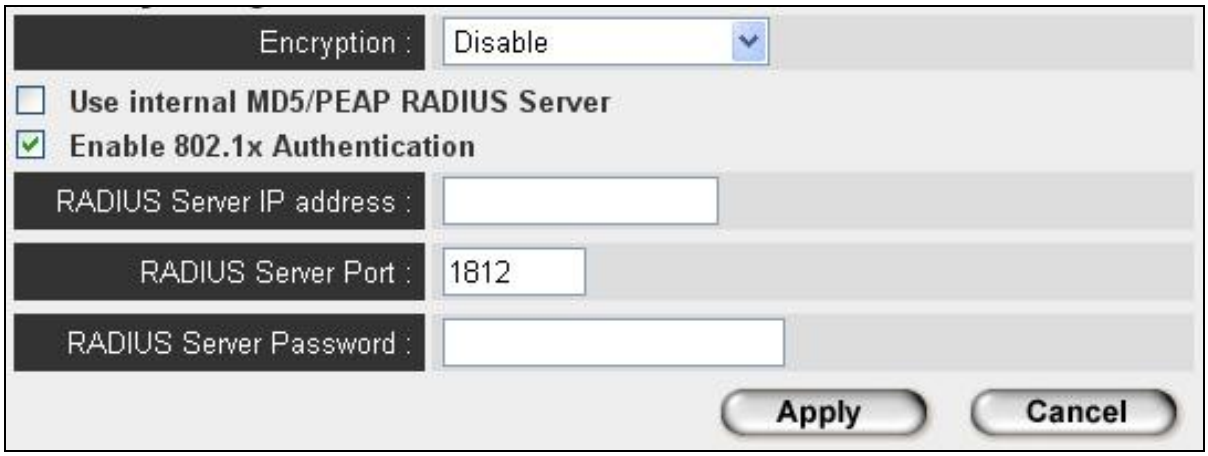
After you finish with setting, please click ‘Apply’, and the following message will be displayed:



When you see this message, the settings you made are successfully saved. You can click on ‘Continue’ button to go back to previous page and continue with other settings, or click ‘Apply’ button to restart the wireless Access Point and the changes will take effect after about 30 seconds.

2-7-5 802.1x Authentication

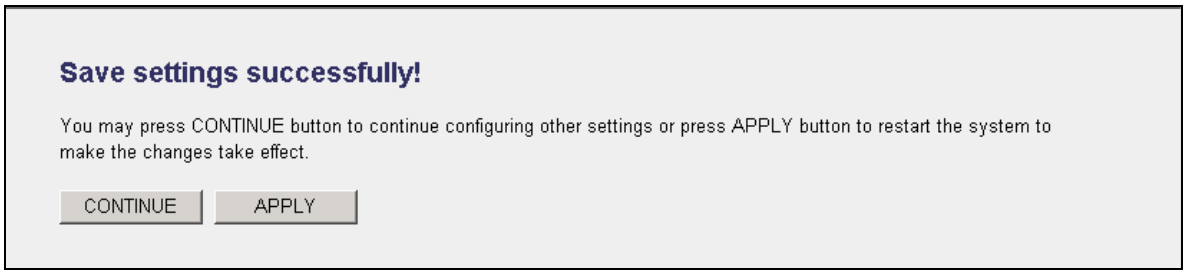
You can enable 802.1x user identification (based on RADIUS user authentication server) by checking 'Enable 802.1x Authentication' box when you select 'Disable' or 'WEP' as encryption type, and the following message will be displayed:



Here is the description of every setup item:

Parameter	Description
Use internal MD5/PEAP RADIUS Server	Uses built-in RADIUS Server (refer to next Section) instead of external RADIUS server. If you check this box, the value of internal RADIUS server fields will be ignored.
Enable 802.1x Authentication	Enables or disables the use of 802.1x user authentication.
RADIUS Server IP address	Please input the IP address of RADIUS authentication server here.
RADIUS Server Port	Please input the port number of RADIUS authentication server here. Default value is 1812.
RADIUS Server Password	Please input the password of RADIUS authentication server here.

After you finish with setting, please click ‘Apply’, and the following message will be displayed:



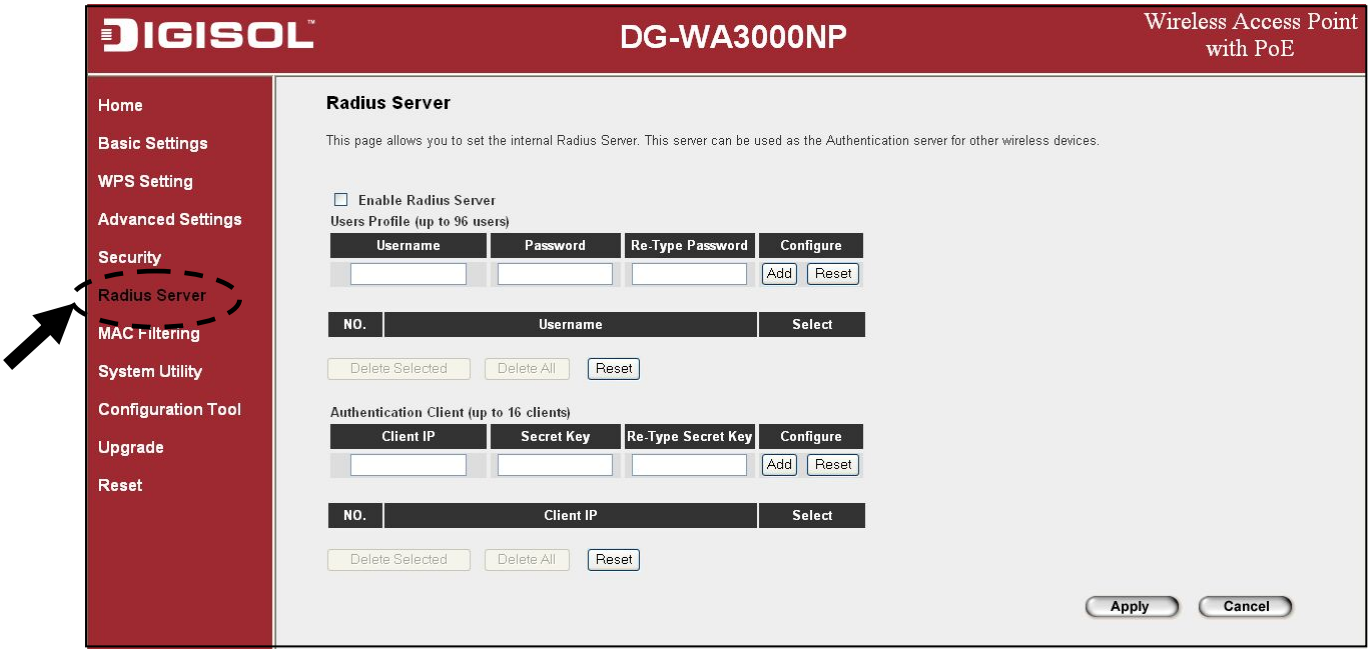
When you see this message, the settings you made are successfully saved. You can click on ‘Continue’ button to go back to previous page and continue with other settings, or click ‘Apply’ button to restart the wireless Access Point and the changes will take effect after about 30 seconds.

2-8 Radius Server

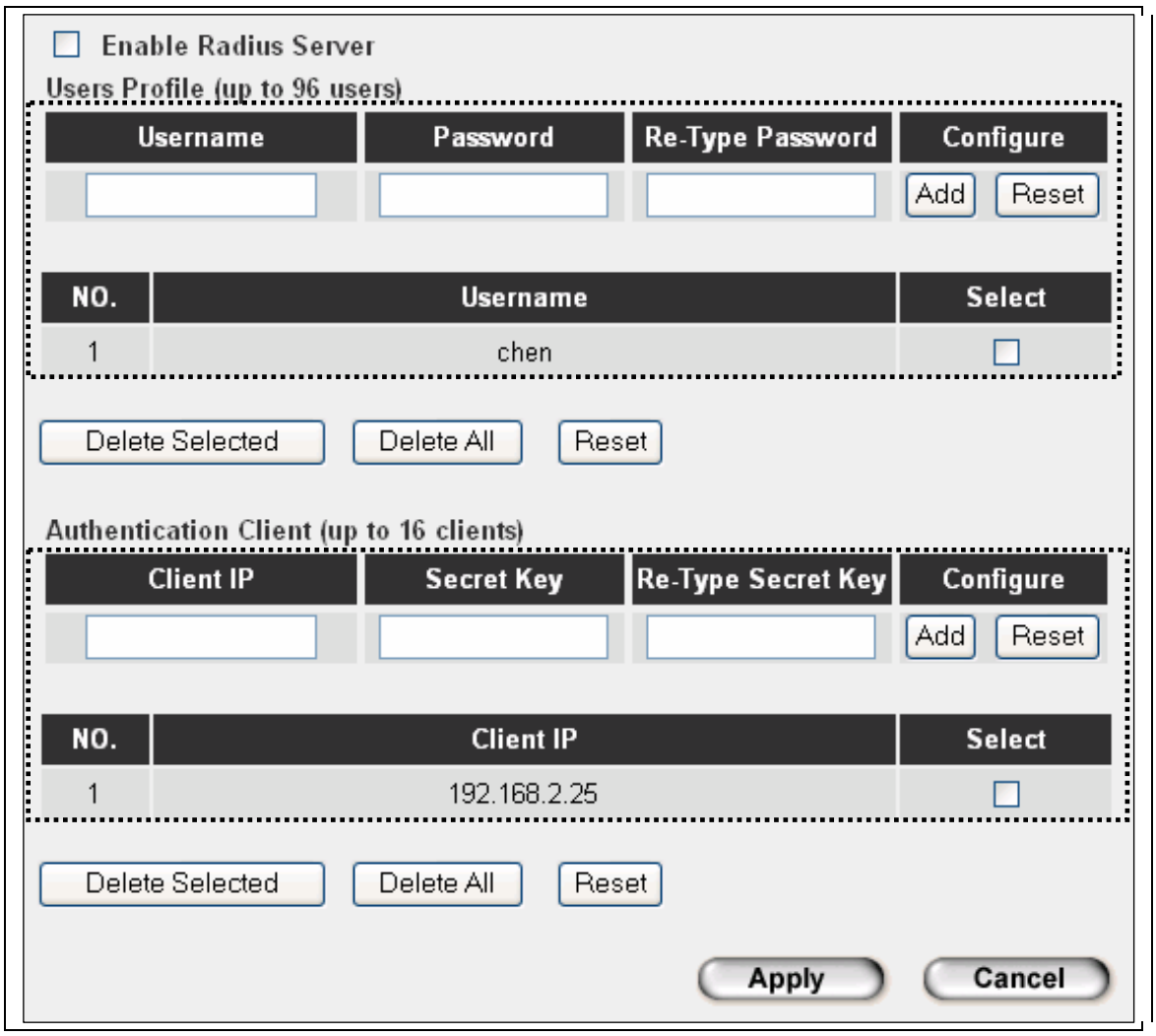
Compared to other wireless security measures, radius server provides user-based authentication. If your wireless client supports 802.1x user authentication, you can use the 'Radius Server' function to use the internal mini radius server to improve security and wireless user control.

The internal radius server only supports 96 users and 16 IP addresses. If the number of users and/or IP addresses you need is more than this, please use external radius server.

To setup internal radius server, click 'Radius Server' on the left of web management interface, and the following information will be displayed:



The following parameters are of radius server:

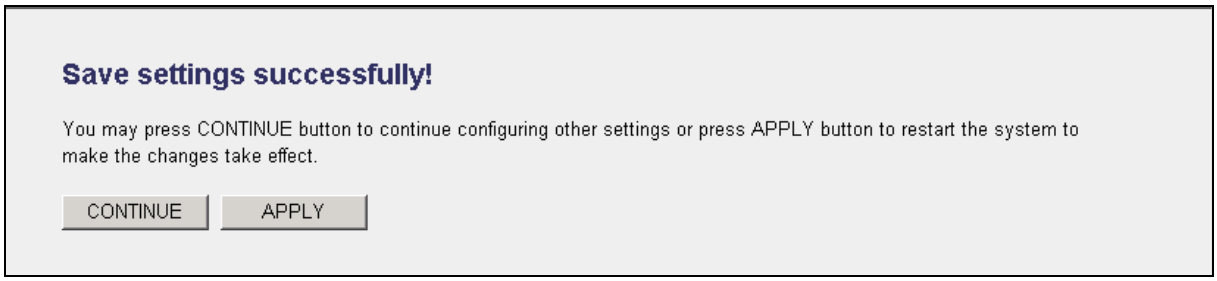


Here is the description of every setup item:

Parameter	Description
Enable Radius Server	Check this box to enable internal radius server function.
User Profile	You can add or delete radius user here. Please input username, password, re-type password in corresponding fields, and click 'Add' button to add the user to radius server database. You can click 'Reset' to clear the text you typed in above three fields. All current radius users will be listed here. If you want to delete one or more users, check 'Select' box of that

	user, and click ‘Delete Selected’ button; you can click ‘Delete All’ button to delete all the users in the radius server database. You can also click ‘Reset’ button to uncheck all ‘Select’ boxes.
Authentication Client	You can add allowed radius client IP addresses here. Please input client IP, secret key, re-type secret key in corresponding fields, and click ‘Add’ button to add the IP address to radius server database. You can click ‘Reset’ to clear the text you typed in above three fields. All current IP addresses will be listed here. If you want to delete one or more addresses, check ‘Select’ box of that address, and click ‘Delete Selected’ button; you can click ‘Delete All’ button to delete all addresses in radius server database. You can also click ‘Reset’ button to uncheck all ‘Select’ boxes.

After you finish with setting, please click ‘Apply’, and the following message will be displayed:



When you see this message, the settings you made are successfully saved. You can click on ‘Continue’ button to go back to previous page and continue with other settings, or click ‘Apply’ button to restart the wireless Access Point and the changes will take effect after about 30 seconds.

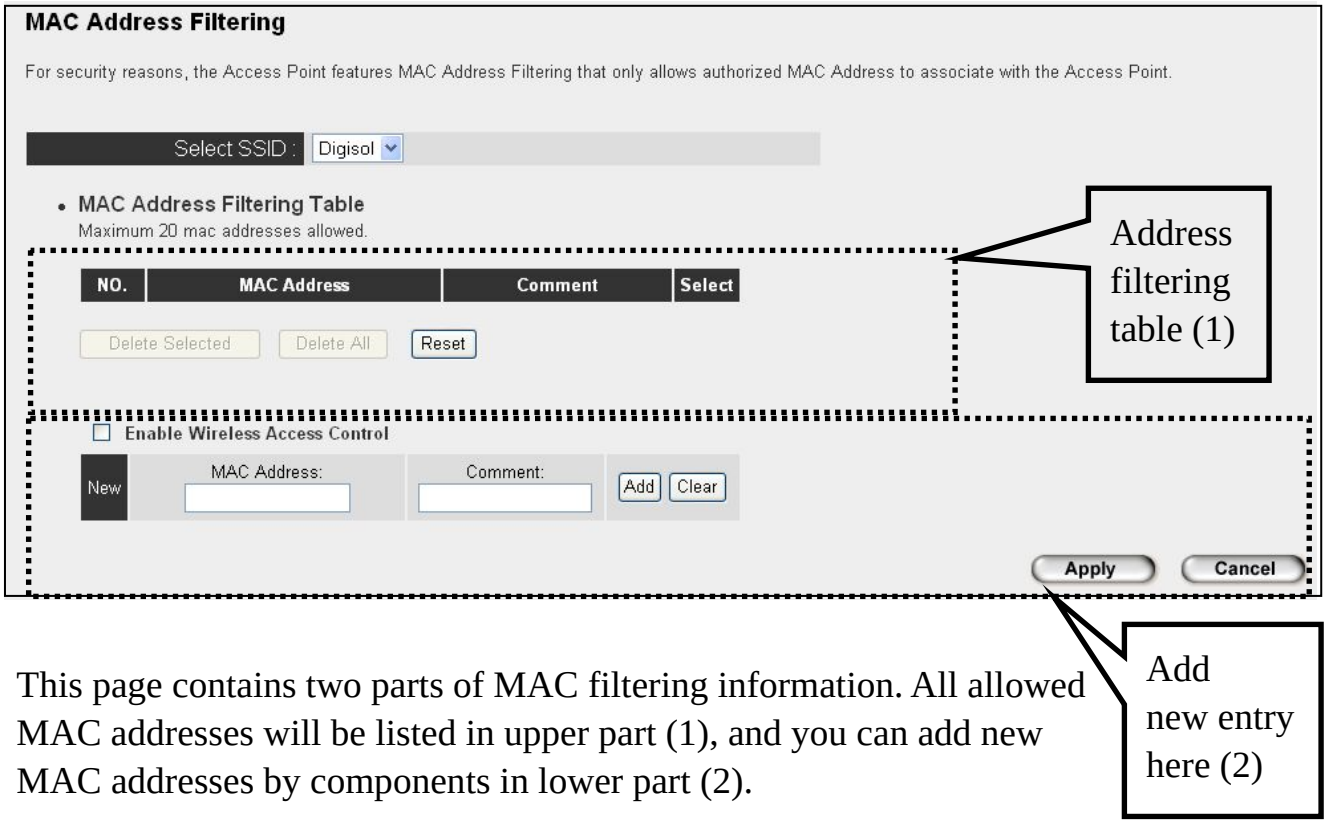
2-9 MAC Filtering

Another security measure you can use to keep hackers and intruders away is 'MAC filtering'. You can pre-define a so-called 'white-list', which contains MAC addresses of the wireless clients you trust. All other wireless clients with MAC addresses which are not in your list will be denied by this wireless Access Point.

To setup MAC filtering, please click 'MAC Filtering' on the left of web management interface.

1800-209-3444 (Toll Free)
helpdesk@digisol.com sales@digisol.com www.digisol.com

The following messages will be displayed:



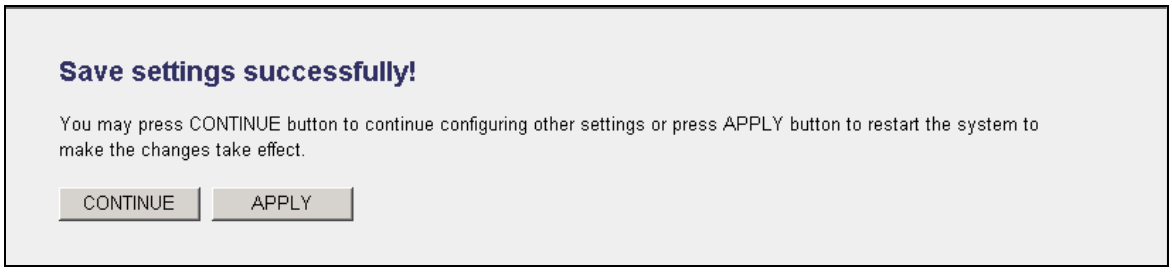
This page contains two parts of MAC filtering information. All allowed MAC addresses will be listed in upper part (1), and you can add new MAC addresses by components in lower part (2).

Here is the description of every setup item:

Parameter	Description
Select	Check this box to select one or more MAC address (es) to delete.
Delete Selected	Click this button to delete all selected MAC address (es).
Delete All	Delete all MAC address entries.
Reset	Uncheck all selected MAC address entries.
Enable Wireless Access Control	Check this box to enable MAC address restriction. If unchecked, no restriction will be enforced (any wireless client with proper encryption setting will be able to connect to this wireless Access Point).
MAC address	Input MAC address here, which this wireless Access Point will permit to access. You need not add colon (:) or hyphen (-), just input 0 to 9 and a to f here, like 112233445566 or aabbccddeeff.
Comment	You can input any text here as the comment of this MAC address, like 'ROOM 2A Computer' or anything. You can

	input up to 16 alphanumerical characters here. This is optional and you can leave it blank, however, it's recommended to use this field to write a comment for every MAC addresses as a memory aid.
Add	When you finish inputting MAC address and (optional) Comment, click this button to add the MAC address to the list.
Clear	Remove all characters in 'MAC address' and 'Comment' field.

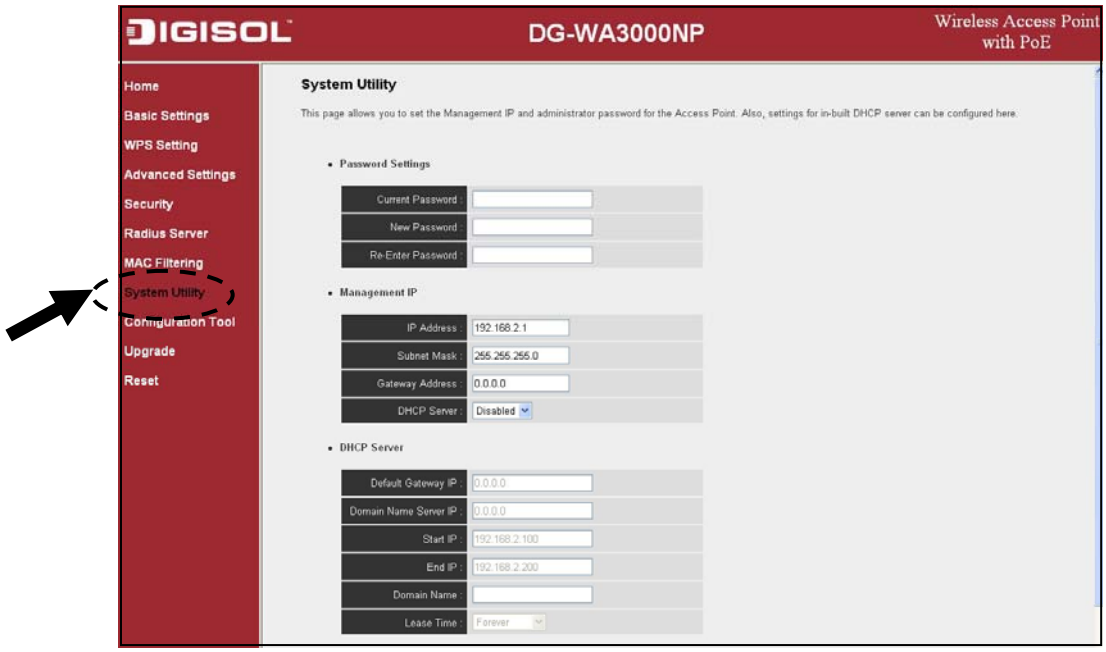
After you finish with setting, please click 'Apply', and the following message will be displayed:



When you see this message, the settings you made are successfully saved. You can click on 'Continue' button to go back to previous page and continue with other settings, or click 'Apply' button to restart the wireless Access Point and the changes will take effect after about 30 seconds.

2-10 System Utility

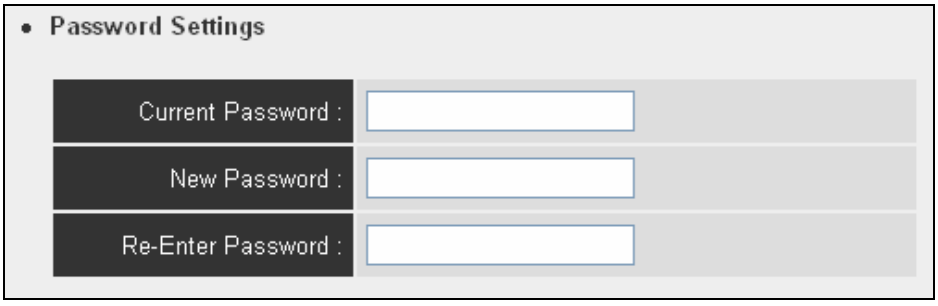
This Access Point provides some control functions, which include password, IP address management, and DHCP server function. Please click 'System Utility' on the left of web management interface to access these functions as shown below.



Below are detailed descriptions of every control function.

2-10-1 Change Password

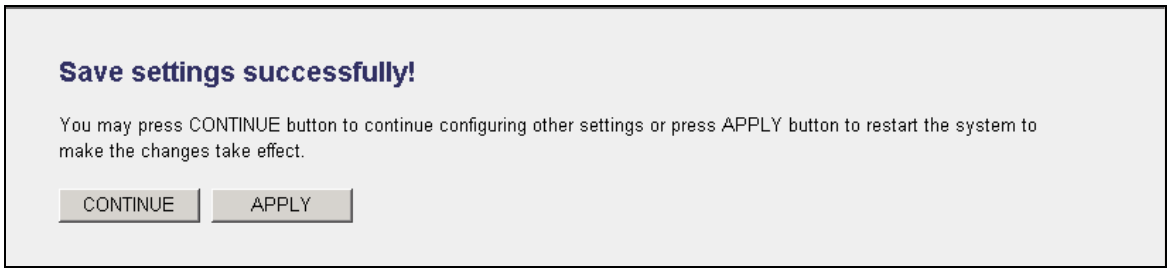
You can change the password used to enter the web configuration menu of this wireless Access Point.



Please input current password in ‘Current Password’ field, then input new password in both ‘New Password’ and ‘Re-Enter Password’ fields.

After you finish, please go to the bottom of this page and click ‘Apply’.
Login screen will pop up, enter the newly configured password and press ok button.

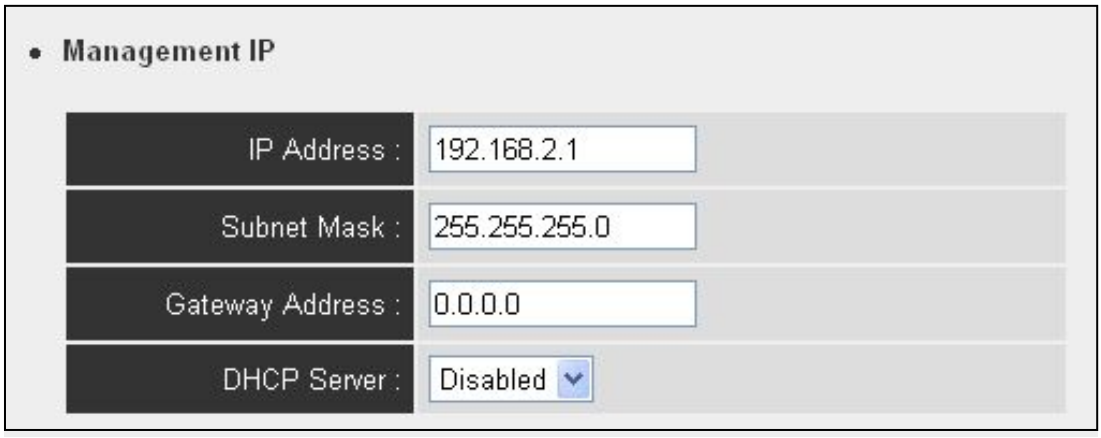
When you see this message, the settings you made are successfully saved. You can click on ‘Continue’ button to go back to previous page and continue with other settings, or click ‘Apply’ button to restart the wireless Access Point and the changes will take effect after about 30 seconds.



2-10-2 IP Address of the Wireless Access Point

You can change the IP address of this wireless Access Point, so it can become a part of your local network. Please remember this address, or you will not be able to connect to the configuration menu of this wireless Access Point.

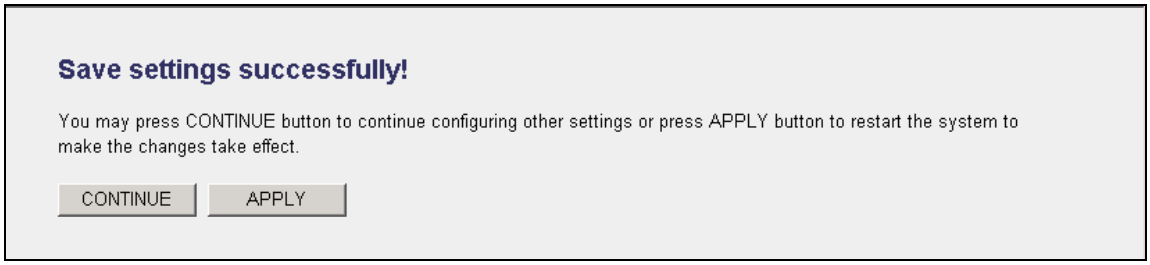
Default IP address is: 192.168.2.1 / Subnet Mask 255.255.255.0, you can press and hold ‘Reset/WPS’ button over 10 seconds to change the IP address back to default value if you forget the IP address you set.



Please input IP address and Subnet Mask in corresponding fields. You can also input IP address of the gateway in ‘Gateway Address’ field, if you need to manage this wireless Access Point from other network (like Internet).

If you want to activate the DHCP server function of this wireless Access Point, please select ‘Enabled’ in ‘DHCP Server’ option, and see next Section for detailed instructions. If you don’t want to use DHCP server function of this wireless Access Point, or there’s another DHCP server on the network this Access Point connects to, please select ‘Disabled’.

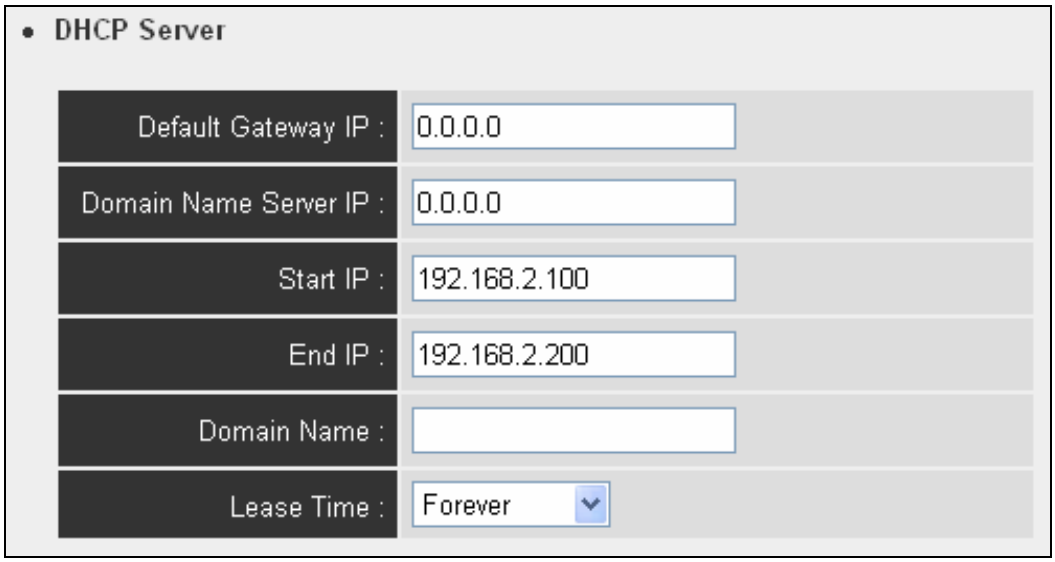
After you finish, please go to the bottom of this page and click ‘Apply’, and the following message will be displayed:



When you see this message, the settings you made are successfully saved. You can click on ‘Continue’ button to go back to previous page and continue with other settings, or click ‘Apply’ button to restart the wireless Access Point and the changes will take effect after about 30 seconds.

2-10-3 DHCP Server

This wireless Access Point is capable to act as a DHCP server for your network, and it's disabled by default.

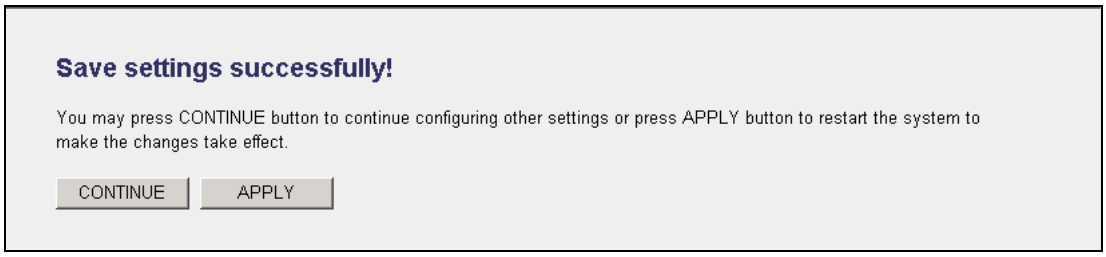


NOTE: Please remember to select 'Enabled' in 'DHCP Server' option as described in last Section, or all DHCP-related fields will be grayed out, and you will not be able to input any DHCP parameter.

Here is the description of every setup item:

Parameter	Description
Default Gateway IP	Please input the IP address of default gateway of your network here.
Domain Name Server IP	Please input the IP address of domain name server (DNS) here.
Start IP	Please input the start IP address of the IP range.
End IP	Please input the end IP address of the IP range.
Domain Name	If you wish, you can also input the domain name for your network. This is optional.
Lease Time	Please choose a lease time (the duration that every computer can keep a specific IP address) of every IP address assigned by this Access Point from dropdown menu.

After you finish, please click ‘Apply’, and the following message will be displayed:



When you see this message, the settings you made are successfully saved. You can click on ‘Continue’ button to go back to previous page and continue with other settings, or click ‘Apply’ button to restart the wireless Access Point and the changes will take effect after about 30 seconds.

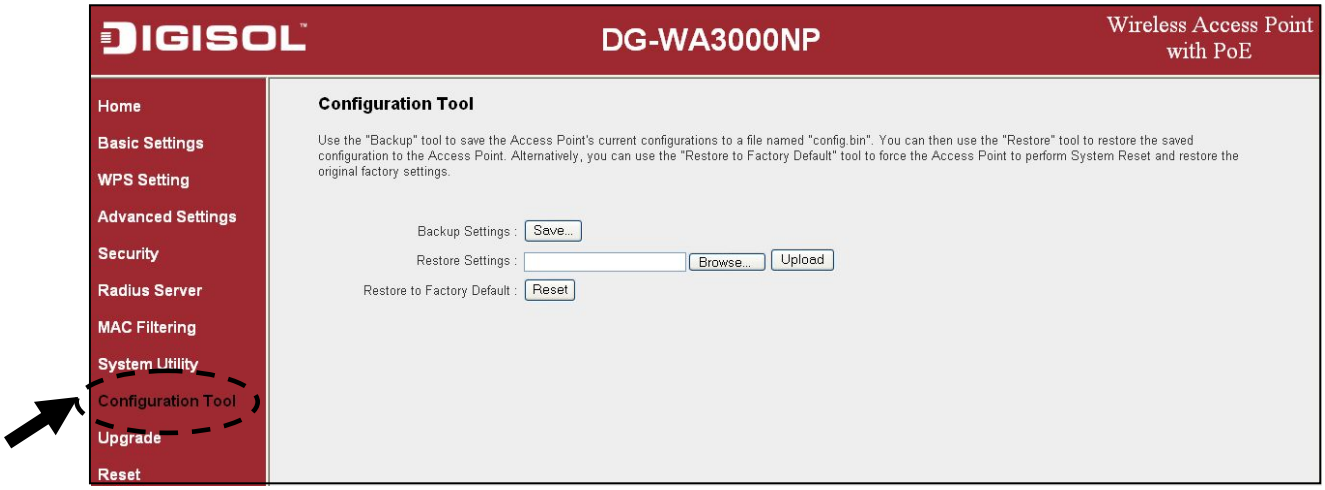
3. Advanced Configuration

3-1 Configuration Backup and Restore

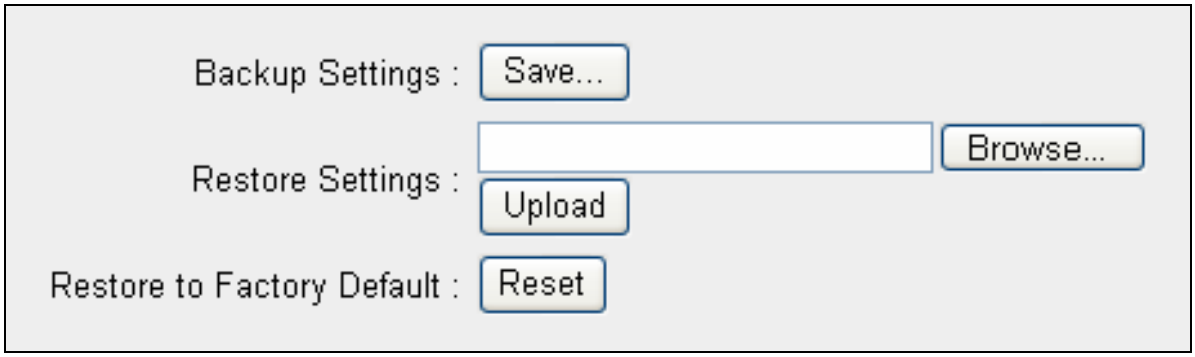
You can backup all configurations of this Access Point to a file, so you can make several copies of the Access Point configuration for security reason.

To backup or restore Access Point configuration, please follow the instructions mentioned below:

Please click ‘Configuration Tool’ on the left of the web management interface.



The following message will be displayed on your web browser.



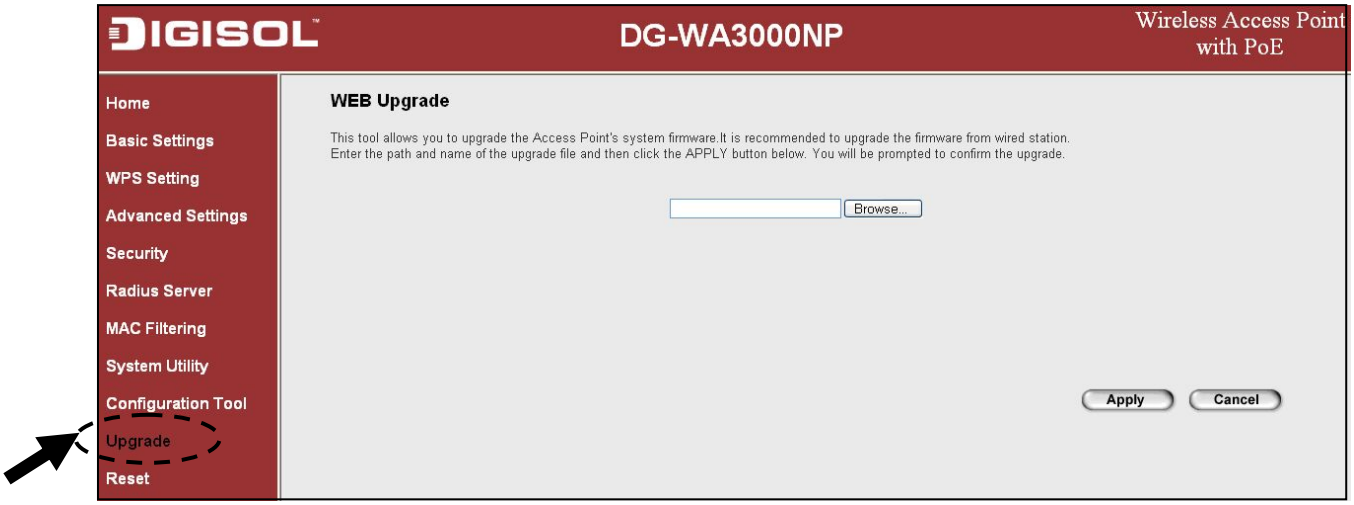
Here is the description of every button:

Parameter	Description
Backup Settings	Press ‘Save...’ button, and you’ll be prompted to download the configuration as a file, default filename is ‘config.bin’, you can save it as another filename for different versions, and keep it in a safe place.
Restore Settings	Press ‘Browse…’ to pick a previously-saved configuration file from your computer, and then click ‘Upload’ to transfer the configuration file to Access Point. After the configuration is uploaded, the Access Point’s configuration will be replaced by the file you just uploaded.
Restore to Factory Default	Click this button to remove all settings you made, and restore the configuration of this Access Point back to factory default settings.

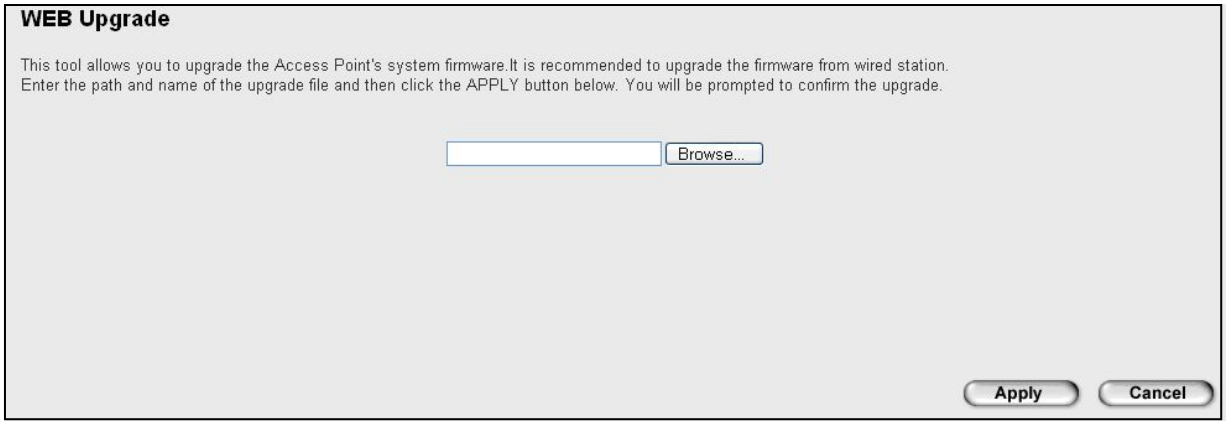
3-2 Firmware Upgrade

If there is a new firmware of this wireless Access Point, you can upload it which will change the firmware to the new one, to get extra functions or problem fix.

To perform firmware upgrade, please click ‘Upgrade’ on the left of web management interface



The following message will be displayed:



Click ‘Browse…’ button first, you’ll be prompted to provide the filename of firmware upgrade file. Please download the latest firmware file from our website, and use it to upgrade your Access Point.

☎ 1800-209-3444 (Toll Free)
helpdesk@digisol.com sales@digisol.com www.digisol.com

After a firmware upgrade file is selected, click ‘Apply’ button, and the Access Point will start the firmware upgrade procedure automatically. The procedure may take several minutes, please be patient.

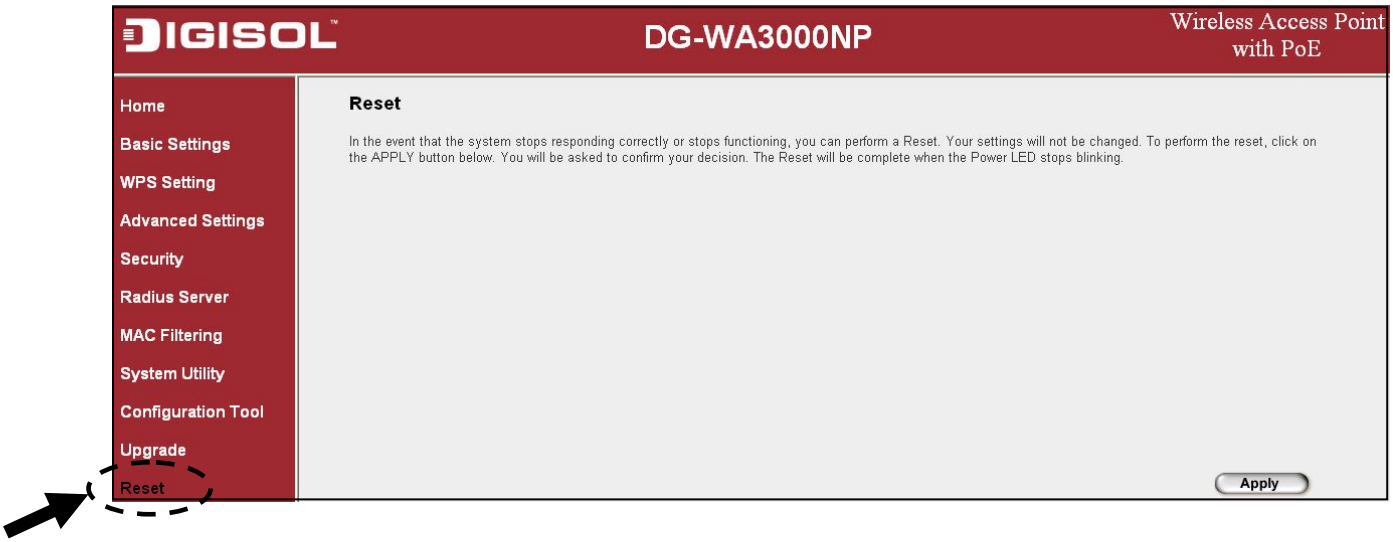
NOTE: Never interrupt the upgrade procedure by closing the web browser or physically disconnecting your computer from the Access Point. If the firmware you uploaded is corrupt, the firmware upgrade will fail, and you may have to return this Access Point to the dealer of purchase to ask for help. (Warranty voids if you interrupt the upgrade procedure).

3-3 System Reset (Restart)

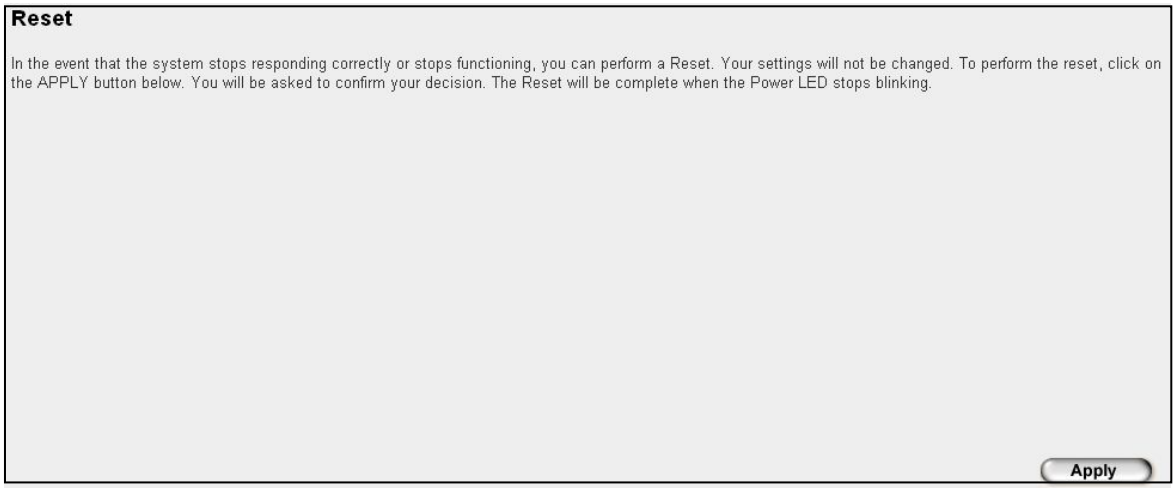
When you think the Access Point is not working properly, you can use this function to restart the Access Point; this may help and solve the problem.

This function is useful when the Access Point is far from you or unreachable. However, if the Access Point is not responding, you may have to switch it off by unplugging it from the power socket and plugging it back again after 10 seconds.

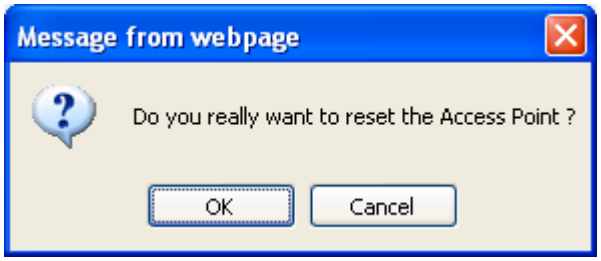
To reset your Access Point, please click 'Reset' on the left of the web management interface.



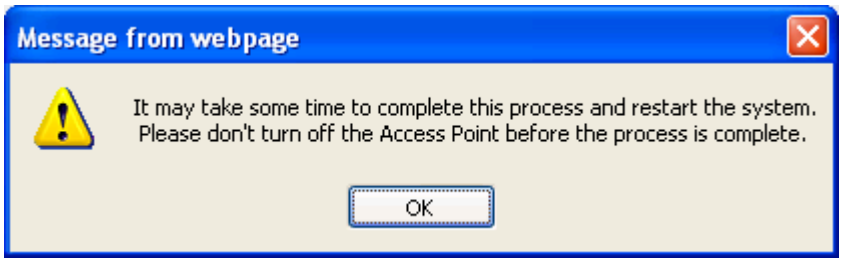
The following message will be displayed:



Please click ‘Apply’, and a popup message will appear asking you again, to make sure you really want to reset the Access Point:



Click ‘OK’ to reset the Access Point, or click ‘Cancel’ to abort. Once you click on ‘OK’ the following screen will appear.



Then click **‘OK’**.

NOTE: **Please remember all connections between wireless client and this Access Point will be disconnected while the unit is resetting.**

4. Appendix

4-1 Hardware Specification

Flash: 4MB

SDRAM: 16MB

LAN Port: 10/100M UTP Port x 1

Antenna: 3dBi Detachable Dipole Antenna x 2 (2T2R Spatial Multiplexing MIMO configuration. These 2 antennas are for signal transmitting and receiving)

Power: 5VDC, 1A Switching Power Adapter

Net Dimension: 128 (L) x 84 (W) x 36 (H) mm

Gross Dimension: 276(L) x 210 (W) x 70 (H) mm

Net Weight : 140gms

Gross Weight : 570gms

Transmit Power:11n:14dBm ± 1.5dBm, 11g:15dBm ± 1.5dBm, 11b:17dBm ± 1.5dBm

Operating Temperature: 0 ~ 40°C

Storage Temperature: -5 ~ 45°C

Operating Humidity: 10-90% (Non-Condensing)

Storage Humidity: 5-95% (Non-Condensing)

4-2 Troubleshooting

If you find that the Access Point is not working properly or stops responding, don't panic! Before you contact your dealer of purchase for help, please read this troubleshooting section first. Some problems can be solved by yourself within very short time!

Scenario	Solution
Access Point is not responding when I want to access it by web browser	a. Please check the connection of power cord and network cable of this Access Point. All cords and cables should be correctly and firmly inserted to the Access Point. b. You must use the same IP address subnet which Access Point uses. c. Are you using MAC or IP address filter? Try to connect the Access Point by another computer and see if it works; if not, please perform a hard reset (pressing 'reset' button). d. Set your computer to obtain an IP address automatically (DHCP), and see if your computer can get an IP address. e. If you did a firmware upgrade and this happens, contact your dealer of purchase for help. f. If all above solutions don't work, contact the dealer of purchase for help.
Can't get connected to wireless Access Point	a. If encryption is enabled, please re-check WEP or WPA passphrase settings on your wireless client. b. Try to move closer to wireless Access Point. c. Unplug the Access Point from the power socket, and plug it again after 10 seconds. If the access point is powered through PoE, then unplug the ethernet cable from the access point and plug it again after 10 seconds.
I can't locate my Access Point by my wireless client	a. 'Broadcast ESSID' set to off? b. Are antennas properly installed and secured? c. Are you too far from your Access Point? Try to get closer. d. Please remember that you have to input ESSID on your wireless client manually, if ESSID broadcast is disabled.

File download is very slow or breaks frequently	a. Try to reset the Access Point and see if it's better after that. b. Try to know what other clients do on your local network. If some clients are transferring files of big size, other clients will get an impression that Internet is slow. c. Change channel number and see if this works.
Access Point gets heated up	a. This is not a malfunction as long as you are able to touch the Access Point's case. b. If you smell something wrong or see smoke coming out from the Access Point or the power adapter, please disconnect the Access Point and power adapter from utility power (make sure it's safe before doing this!), and call your dealer of purchase for help.

4-3 Glossary

Default Gateway (Access Point): Every non-Access Point IP device needs to configure default gateway's IP address. When the device sends out an IP packet and if the destination is not on the same network, the device has to send the packet to its default gateway, which will then send it to the destination.

DHCP: Dynamic Host Configuration Protocol. This protocol automatically gives every computer on your home network an IP address.

DNS Server IP Address: DNS stands for Domain Name System, which allows Internet servers to have a domain name (such as www.BroadbandAccess Point.com) and one or more IP addresses (such as 192.34.45.8). A DNS server keeps a database of Internet servers and their respective domain names and IP addresses, so that when a domain name is requested (as in typing "BroadbandAccess Point.com" into your Internet browser), the user is directed to the proper IP address. The DNS server IP address used by the computers on your home network is the location of the DNS server your ISP has assigned to you.

DSL Modem: DSL stands for Digital Subscriber Line. A DSL modem uses your existing phone lines to transmit data at high speeds.

Ethernet: A standard for computer networks. Ethernet networks are connected by special cables and hubs, and move data around at up to 10/100 million bits per second (Mbps).

Idle Timeout: Idle Timeout is designed so that when there is no traffic on the Internet for a pre-configured amount of time, the connection will automatically be disconnected.

IP Address and Network (Subnet) Mask: IP stands for Internet Protocol. An IP address consists of a series of four numbers separated by periods that identifies a single, unique Internet computer host in an IP network. Example: 192.168.2.1. It consists of 2 portions: the IP network address, and the host identifier.

The IP address is a 32-bit binary pattern, which can be represented as four cascaded decimal numbers separated by ".": aaa.aaa.aaa.aaa, where each "aaa" can be anything from 000 to 255, or as four cascaded binary numbers separated by ".": bbbbbbbb.bbbbbbbb.bbbbbbbb.bbbbbbbb, where each "b" can either be 0 or 1.

A network mask is also a 32-bit binary pattern, and consists of consecutive leading 1's followed by consecutive trailing 0's, such as 11111111.11111111.11111111.00000000. Therefore sometimes a network mask can also be described simply as "x" number of leading 1's. When both are represented side by side in their binary forms, all bits in the IP address that correspond to 1's in the network mask become part of the IP network address, and the remaining bits correspond to the host ID.

For example, if the IP address for a device is, in its binary form,
11011001.10110000.10010000.00000111, and if its network mask is,
11111111.11111111.11110000.00000000
It means the device's network address is
11011001.10110000.10010000.00000000, and its host ID is,
00000000.00000000.00000000.00000111. This is a convenient and efficient method for Access Points to route IP packets to their destination.

ISP Gateway Address: (see ISP for definition). The ISP Gateway Address is an IP address for the Internet Access Point located at the ISP's office.

ISP: Internet Service Provider. An ISP is a business that provides connectivity to the Internet for individuals and other businesses or organizations.

LAN: Local Area Network. A LAN is a group of computers and devices connected together in a relatively small area (such as a home or office). Your home network is considered a LAN.

MAC Address: MAC stands for Media Access Control. A MAC address is the hardware address of a device connected to a network. The MAC address is a unique identifier for a device with an Ethernet interface. It is comprised of two parts: 3 bytes of data that corresponds to the Manufacturer ID (unique for each manufacturer), plus 3 bytes that are often used as the product's serial number.

NAT: Network Address Translation. This process allows all of the computers on your home network to use one IP address. Using the broadband Access Point's NAT capability, you can access the Internet from any computer on your home network without having to purchase more IP addresses from your ISP.

Port: Network Clients (LAN PC) uses port numbers to distinguish one network application/protocol over another. Below is a list of common applications and protocol/port numbers:

Application	Protocol	Port Number
Telnet	TCP	23
FTP	TCP	21
SMTP	TCP	25
POP3	TCP	110
H.323	TCP	1720
SNMP	UCP	161
SNMP Trap	UDP	162
HTTP	TCP	80
PPTP	TCP	1723
PC Anywhere	TCP	5631
PC Anywhere	UDP	5632

PPPoE: Point-to-Point Protocol over Ethernet. Point-to-Point Protocol is a secure data transmission method originally created for dial-up connections; PPPoE is for Ethernet connections. PPPoE relies on two widely accepted standards, Ethernet and the Point-to-Point Protocol. It is a communication protocol for transmitting information over Ethernet between different manufacturers

Protocol: A protocol is a set of rules for interaction agreed upon between multiple parties so that when they interface with each other based on such a protocol, the interpretation of their behavior is well defined and can be made objectively, without confusion or misunderstanding.

Access Point: An Access Point is an intelligent network device that forwards packets between different networks based on network layer address information such as IP addresses.

Subnet Mask: A subnet mask, which may be a part of the TCP/IP information provided by your ISP, is a set of four numbers (e.g. 255.255.255.0) configured like an IP address. It is used to create IP address numbers used only within a particular network (as opposed to valid IP address numbers recognized by the Internet, which must be assigned by InterNIC).

TCP/IP, UDP: Transmission Control Protocol/Internet Protocol (TCP/IP) and Unreliable Datagram Protocol (UDP). TCP/IP is the standard protocol for data transmission over the Internet. Both TCP and UDP are transport layer protocols. TCP performs proper error detection and error recovery, and thus is reliable. UDP on the other hand is not reliable. They both run on top of the IP (Internet Protocol), a network layer protocol.

WAN: Wide Area Network. A network that connects computers located in geographically separate areas (e.g. different buildings, cities, countries). The Internet is a wide area network.

Web-based management Graphical User Interface (GUI): Many devices support a graphical user interface that are based on the web browser. This means the user can use the familiar Netscape or Microsoft Internet Explorer to Control/configure or monitor the device being managed.

PoE: Power-over-Ethernet: It is a means for delivering power to a remote device using the same cable lines used to deliver Ethernet data.