



Wireless LAN Access Point with 5-Port Switch

Wireless LAN Access Point with 5-Port Switch

EW-7205APS

User's Manual

ΣDIMAX

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Chapter 1 Introduction

This product is a Wireless LAN Access Point with 5-port 10/100Mbps Fast Ethernet Switch, which allows you to build your wireless network without buying an additional hub or switch. It is the ideal product that provides you the best solution for building both wireless network and 10/100Mbps Fast Ethernet backbone.

The product supports advanced user authentication including 64/128-bit WEP Encryption and IEEE 802.1X ensures a high level of security for wireless networking. In addition to corporate use, this Access Point can also be implemented in the public arena such as airports, hotels based on the advanced 802.1X authentication mechanism.

The product's dipole antenna is detachable by connecting to a RP-SMA connector. Users can install a high gain antenna to the connector for better network link quality so that you can build wireless network with more flexibility.

This product provides easy to use user interface and allows users to configuring from web browser. Also it integrates DHCP server to provide multiple wireless and wired users to get their IP address automatically. With the versatile of features, this product is the best choice for you to integrate your wireless and wired network seamlessly.

1.1 Package Contents

The Access Point includes the following items:

- One Access Point
- One Power Adapter
- One User's Manual

1.2 Features

- Complies with the IEEE 802.11b (DSSS) 2.4GHz specification.
- High data rate 11, 5.5, 2 and 1Mbps network speed.
- Seamlessly integrate wireless and wired Ethernet LAN networks.
- Provides an internal 5-port switch for wired Ethernet connection.
- Detachable external antenna provides users flexibility to install the wireless network with high gain antenna.
- Auto rate fallback in case of obstacles or interferences.
- Provides 64/128-bit WEP Data Encryption function to protect the wireless data transmissions.
- Supports IEEE 802.1X, enabling enhanced WLAN security.
- Built-in proprietary authentication server based on the IEEE 802.1X standard.
- Built-in DHCP Server supports auto IP address assignment.
- Supports Web-based configuration.

1.3 Specifications

- Standards: IEEE 802.11b (Wireless), IEEE 802.3 and IEEE 802.3u (Wired), IEEE 802.11X
- Data Rate: 11/5.5/2/1Mbps auto fallback
- Security: 64/128-bit WEP Data Encryption, IEEE 802.1X
- Frequency Band: 2.400~2.4835GHz (Industrial Scientific Medical Band)
- Modulation: CCK@11/5.5Mbps, DQPSK@2Mbps and DBPSK@1Mbps
- Radio Technology: Direct Sequence Spread Spectrum (DSSS)
- Antenna: External detachable dipole antenna (with RP-SMA connector)
- Connectors: 10/100Mbps RJ-45 x 5 (Normal x 4, Uplink x 1)
- Power: 12VDC, 1A
- Transmit Power: 15dBm (Typical)
- LEDs: Power, LAN Link/Activity and 10/100M Speed, Wireless Link/Activity
- Dimension: 33(H) x 188(W) x 135(D) mm

- Temperature:
 - Operating: 32~131°F (0~55°C)
 - Storage: -4~158°F(-20~70°C)
- Humidity: 0-90% (Noncondensing)
- Certification: FCC, CE

1.4 Physical Description

Front Panel

On the Access Point's front panel there are LED lights that inform you of the Access Point's current status. Below is an explanation of each LED.



LED	Color	Status	Description
Power	Green	Lit	Power is supplied.
		Off	No Power.
Wireless TX/RX	Green	Flash	Antenna is transmitting or receiving data.
		Off	Antenna is not transmitting or receiving data.
LAN Link/Activity	Amber (100Mbps)	Lit	A valid link is established.
		Flash	Data packets are received.
		Off	No link is established.
	Green (10Mbps)	Lit	A valid link is established.
		Flash	Data packets are received.
		Off	No link is established.

Back Panel

Access Point's connection ports are located on the back panel. Below is the description of each connection port.



- **Antenna Connector**
This round connection is standard Reverse SMA connector where any antennas with Reverse SMA connector can connect to the Access Point.
- **DC Adapter Port**
Insert the power jack of the power adapter into this port.
- **10/100Mbps**
The Access Point's LAN ports are where you connect your LAN's PCs.
- **Uplink Port**
Using this port connects to Ethernet network devices, such as a hub, switch, or router directly.
- **Reset**
The Reset button allows you to do one of two things.
 - 1) If problems occur with your Access Point, press the reset button with a pencil tip (for less than 4 seconds) and the Access Point will re-boot itself, keeping your original configurations.
 - 2) If problems persist or you experience extreme problems or you forgot your password, press the reset button for longer than 4 seconds and the Access Point will reset itself to the factory default settings (warning: your original configurations will be replaced with the factory default settings).

Chapter 2 Wireless LAN Access Point Connection

1. Locate an optimum location for the Wireless LAN Access Point.

The best location for your Access Point is usually at the center of your wireless network, with line of sight to all of your mobile stations.

2. Connect the Wireless LAN Access Point to your 10/100Mbps network.

Connect one end of standard UTP cable to the Access Point's Uplink Port and connect the other end of the cable to a switch or a hub's regular port. The Access Point will then be connected to your existed 10/100Mbps Network.

3. Connect your PCs to the Wireless LAN Access Point directly.

This Access Point has a built-in 5-Port Fast Ethernet Switch, allowing you to build a wired LAN network directly by connecting your PCs to the Access Point. Connect one end of standard UTP cable to the Access Point and connect the other end of the cable to your PCs. A small LAN network will be built.

4. Connect the AC Power Adapter to the Wireless LAN Access Point's Power Socket.

Only use the power adapter supplied with the Access Point. Using a different adapter may damage the product.

The Hardware Installation is complete.

Chapter 3 Wireless LAN Access Point Configuration

3.1 Getting Started

This Access Point provides web-based configuration tool allowing you to configure from wired or wireless stations. Follow the instructions below to get started configuration.

From Wired Station

1. Make sure your wired station is in the same subnet with the Access Point. The default IP Address and Sub Mask of the Access Point is:

Default IP Address: 192.168.2.1

Default Subnet: 255.255.255.0

Configure your PC to be in the same subnet with the Access Point.

1a) Windows 95/98/Me

1. Click the *Start* button and select *Settings*, then click *Control Panel*. The *Control Panel* window will appear.
2. Double-click *Network* icon. The *Network* window will appear.
3. Check your list of *Network Components*. If TCP/IP is not installed, click the *Add* button to install it now. If TCP/IP is installed, go to **step 6**.
4. In the *Network Component Type* dialog box, select *Protocol* and click *Add* button.
5. In the *Select Network Protocol* dialog box, select *Microsoft and TCP/IP* and then click the *OK* button to start installing the TCP/IP protocol. You may need your Windows CD to complete the installation.
6. After installing TCP/IP, go back to the *Network* dialog box. Select *TCP/IP* from the list of *Network Components* and then click the *Properties* button.
7. Check each of the tabs and verify the following settings:
 - **Bindings:** Check *Client for Microsoft Networks* and *File and printer sharing for Microsoft Networks*.
 - **Gateway:** All fields are blank.
 - **DNS Configuration:** Select *Disable DNS*.
 - **WINS Configuration:** Select *Disable WINS Resolution*.

- **IP Address:** Select *Specify an IP Address*. Specify the IP Address and Subnet Mask as following example.
 - ✓ IP Address: 192.168.2.3 (any IP address within 192.168.2.2~192.168.2.254 is available, **do not setup 192.168.2.1**)
 - ✓ Subnet Mask: 255.255.255.0
8. Reboot the PC. Your PC will now have the IP Address you specified.

1b) Windows 2000

1. Click the *Start* button and select *Settings*, then click *Control Panel*. The *Control Panel* window will appear.
2. Double-click *Network and Dial-up Connections* icon. In the *Network and Dial-up Connection* window, double-click *Local Area Connection* icon. The *Local Area Connection* window will appear.
3. In the *Local Area Connection* window, click the *Properties* button.
4. Check your list of *Network Components*. You should see *Internet Protocol [TCP/IP]* on your list. Select it and click the *Properties* button.
5. In the *Internet Protocol (TCP/IP) Properties* window, select *Use the following IP address* and specify the IP Address and Subnet mask as following.
 - ✓ IP Address: 192.168.2.3 (any IP address within 192.168.2.2~192.168.2.254 is available, **do not setup 192.168.2.1**)
 - ✓ Subnet Mask: 255.255.255.0
6. Click *OK* to confirm the setting. Your PC will now have the IP Address you specified.

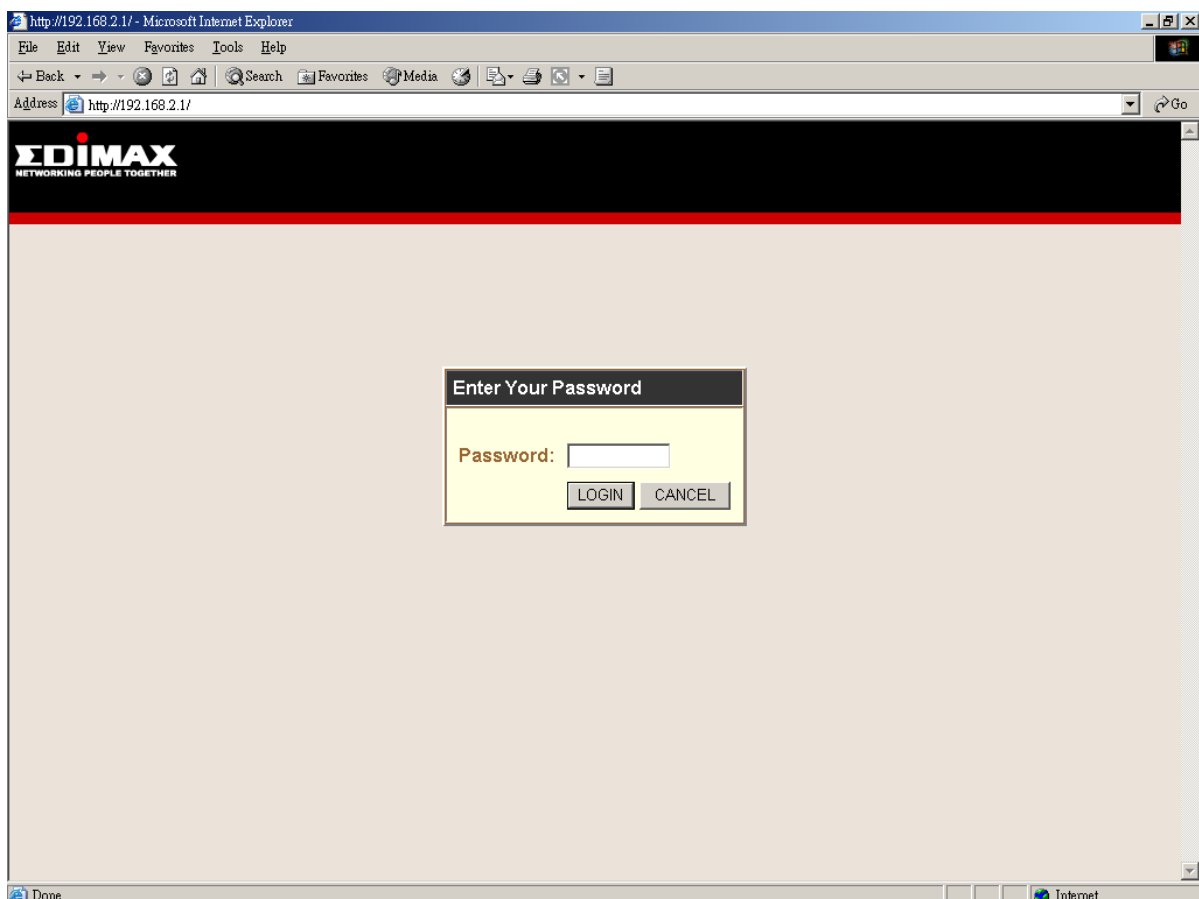
1c) Windows NT

1. Click the *Start* button and select *Settings*, then click *Control Panel*. The *Control Panel* window will appear.
2. Double-click *Network* icon. The *Network* window will appear. Select the *Protocol* tab from the *Network* window.
3. Check if the *TCP/IP Protocol* is on your list of *Network Protocols*. If *TCP/IP* is not installed, click the *Add* button to install it now. If *TCP/IP* is installed, go to **step 5**.
4. In the *Select Network Protocol* window, select the *TCP/IP Protocol* and click the *Ok* button to start installing the *TCP/IP protocol*. You may need your Windows CD to complete the installation.
5. After you install *TCP/IP*, go back to the *Network* window. Select *TCP/IP* from the list of *Network Protocols* and then click the *Properties* button.
6. Check each of the tabs and verify the following settings:

- **IP Address:** Select *Specify an IP address*. Specify the IP Address and Subnet Mask as following example.
 - ✓ IP Address: 192.168.2.3 (any IP address within 192.168.2.2~192.168.2.254 is available, **do not setup 192.168.2.1**)
 - ✓ Subnet Mask: 255.255.255.0
- **DNS:** Let all fields are blank.
- **WINS:** Let all fields are blank.
- **Routing:** Let all fields are blank.

7. Click **OK** to confirm the setting. Your PC will now have the IP Address you specified.

2. Enter **192.168.2.1** from Web Browser to get into the Access Point's configuration tool.



3. The default Password for the Access Point is blank. Press **Login** button directly.
4. You can start configuring the Access Point.

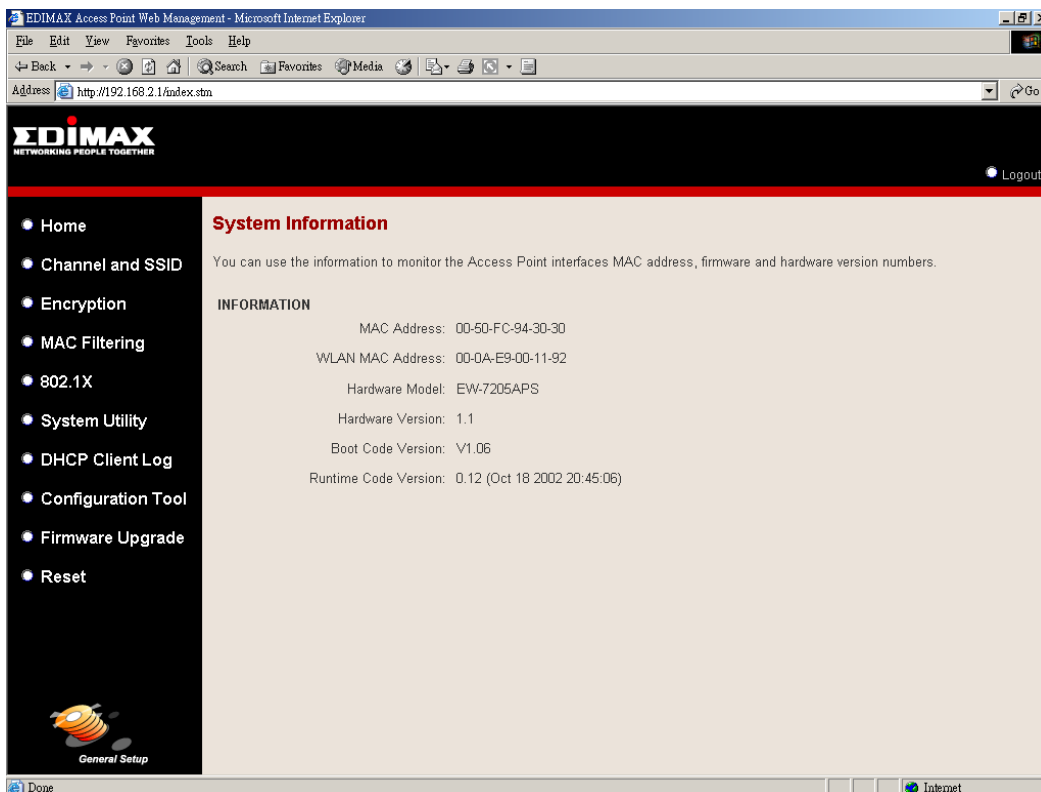
From Wireless Station

1. Make sure your wireless station is in the same subnet with the Access Point.
Please refer to the **step 1** above for configuring the IP Address and Sub Mask of the wireless station.
2. Connect to the Access Point.
The Access Point's ESSID is "**default**" and the WEP Encryption function is disabled. Make sure your wireless station is using the same ESSID as the Access Point and associate your wireless station to the Access Point.
3. Enter **192.168.2.1** from Web Browser to get into the Access Point's configuration tool.
4. Press **Login** button and you are available to configure the Access Point now.

3.2 Configuring the Access Point

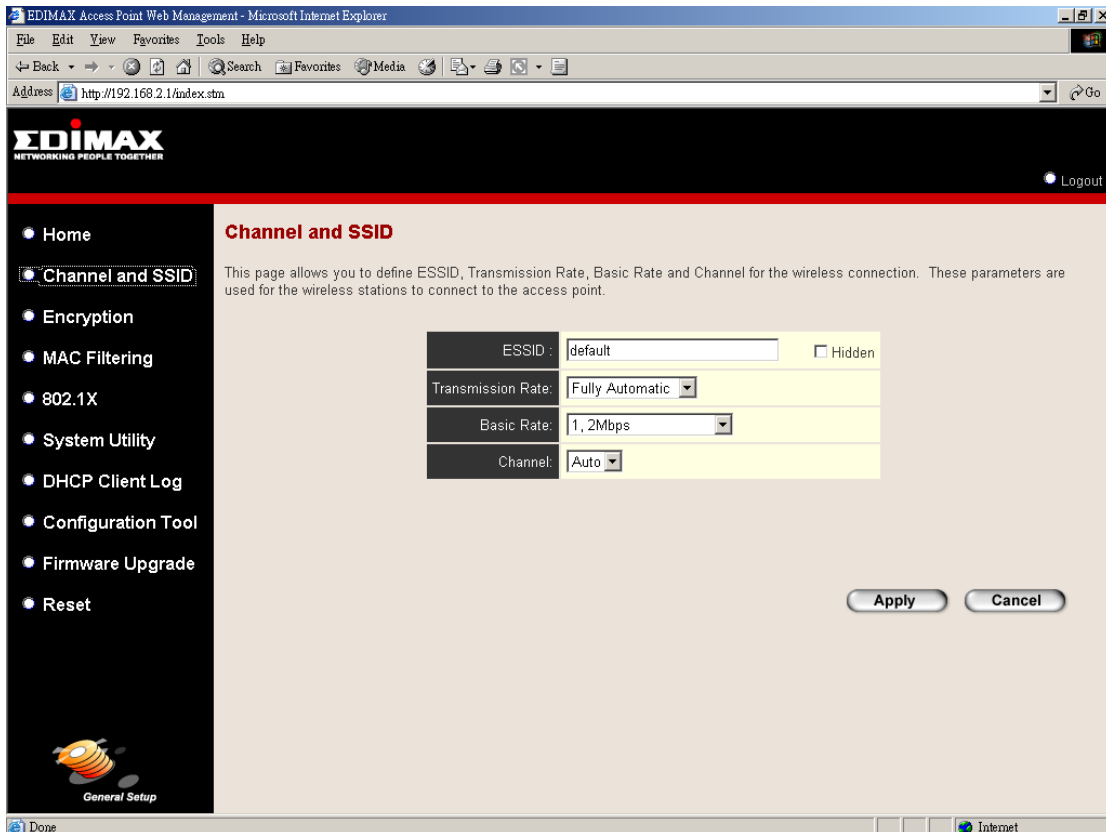
3.2.1 System Information

On this screen, you can see the general information of the Access Point including MAC Address, WLAN MAC Address and Hardware Version, etc.



3.2.2 Channel and ESSID

You can set parameters that are used for the wireless stations to connect to this Access Point. The parameters include ESSID, Transmission Rate, Basic Rate and Channel.



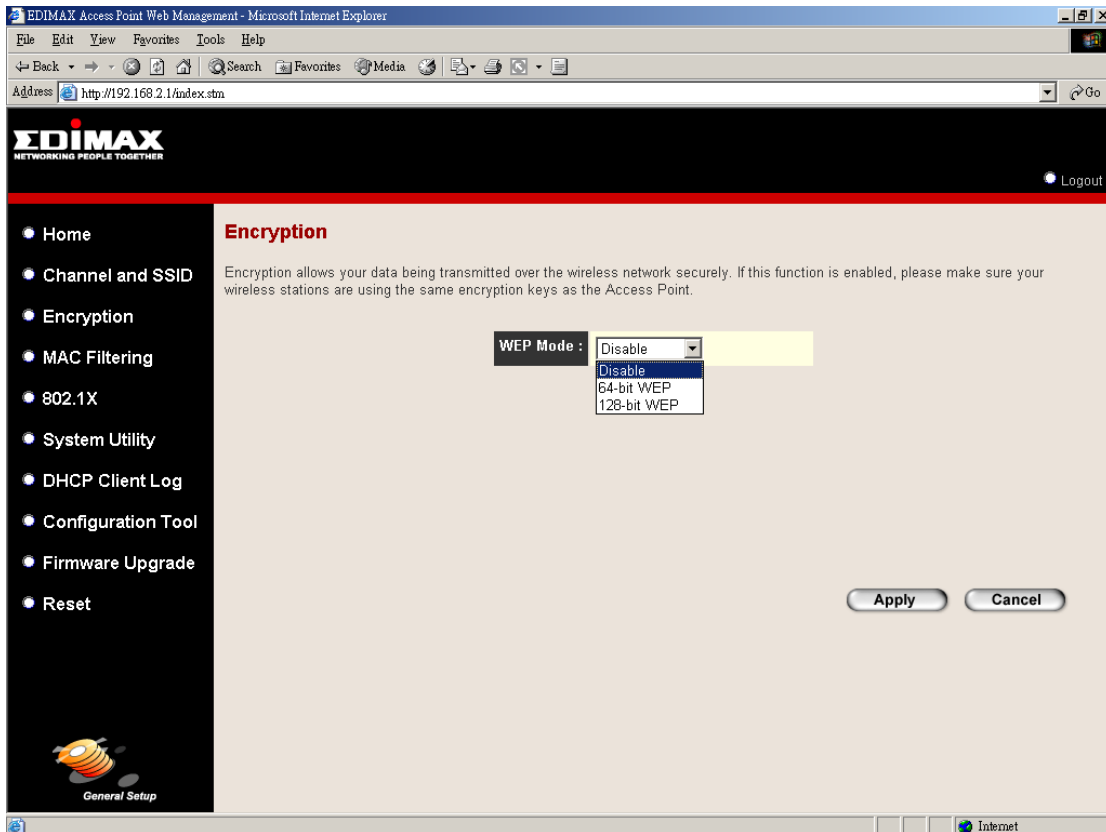
Parameter	Description
ESSID	The ESSID (up to 32 printable ASCII characters) is the unique name identified in a WLAN. The ID prevents the unintentional merging of two co-located WLANs. Please make sure that the ESSID of all stations in the network are the same. The default ESSID is “ default ”.
Transmission Rate	The highest data transmission speed supports by the Access Point. If Fully Automatic is selected, the Access Point will automatically select the optimum rate allowed in the environment.

Parameter	Description
Basic Rate	The lowest data transmission speed supported by the Access Point. If All is selected, the Access Point will automatically select the optimum rate allowed in the environment. The default value is " 1~2Mbps ".
Channel	Select the appropriate channel from the list provided to correspond with your network settings. Channels differ from country to country. Channel 1-11 (North America) Channel 1-14 (Japan) Channel 1-13 (Europe) Channel 10-11 (Spain) Channel 10-13 (France) There are 14 channels available. If Auto is selected, the Access Point will automatically select a channel which is unused by another Access Points within the wireless network.
Hidden	If you concern the security issue, you can check Hidden . Then only devices with the same ESSID as this Access Point can access the wireless LAN.

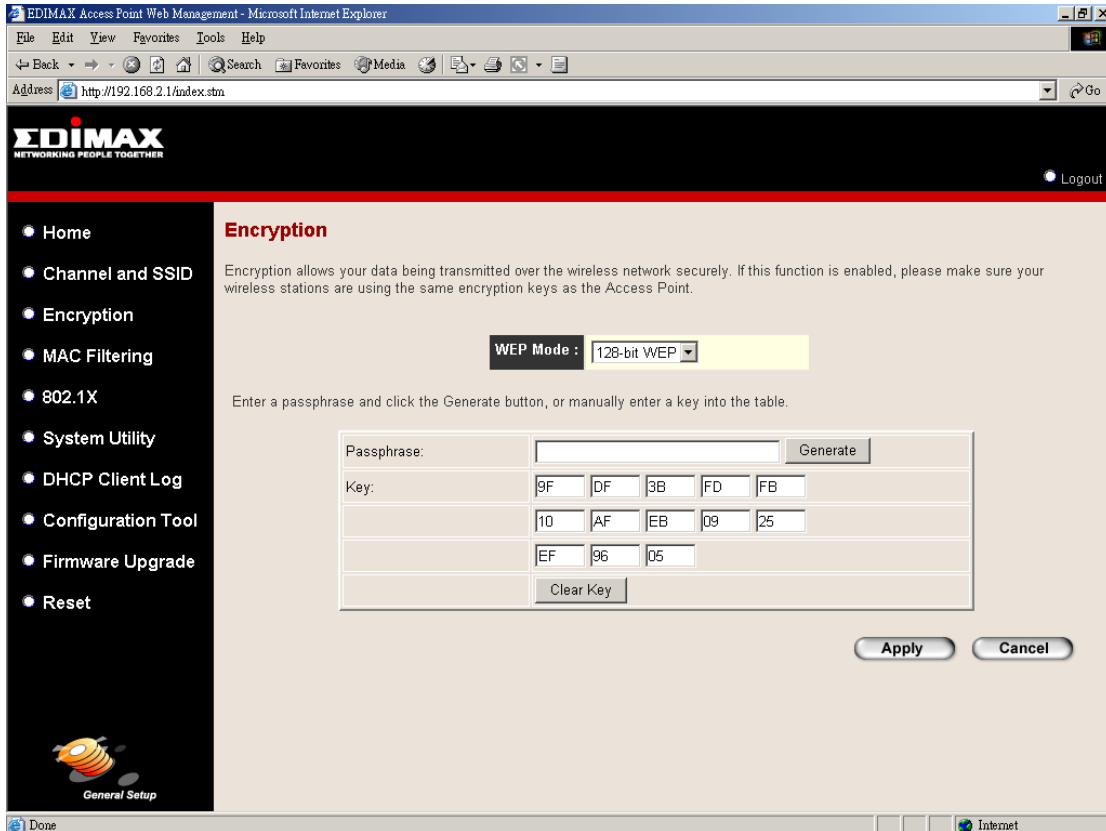
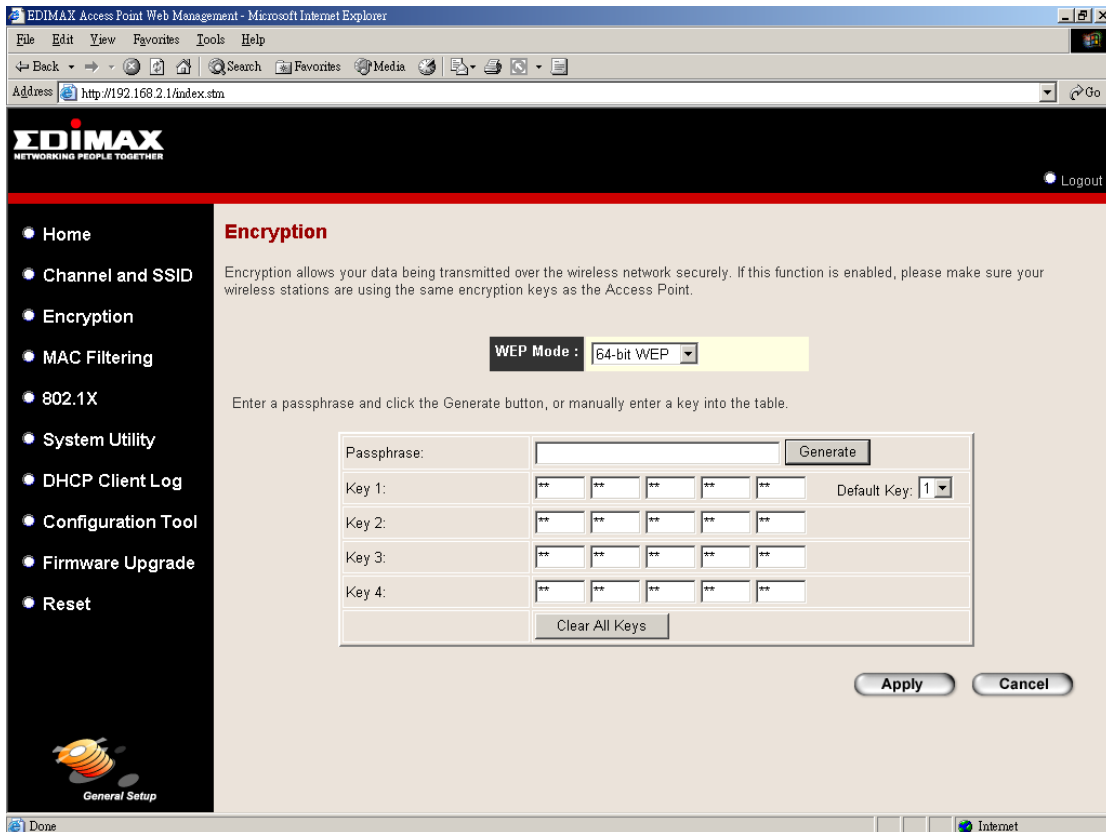
Click **Apply** button at the bottom of the screen to save the above configurations. You can now configure other advanced sections or start using the Access Point.

3.2.3 Encryption

WEP is an authentication algorithm, which protects authorized Wireless LAN users against eavesdropping. The Authentication type and WEP key must be the same on the wireless station and on the Access Point. This Access Point supports 64/128-bit WEP Encryption function. With this function, your data will be transmitted over the Wireless network securely.



Parameter	Description
WEP Mode	You can select the 64-bit or 128-bit to encrypt transmitted data. Larger WEP key length will provide higher level of security, but the throughput will be lower. You also can select Disable to transmit data without encryption.

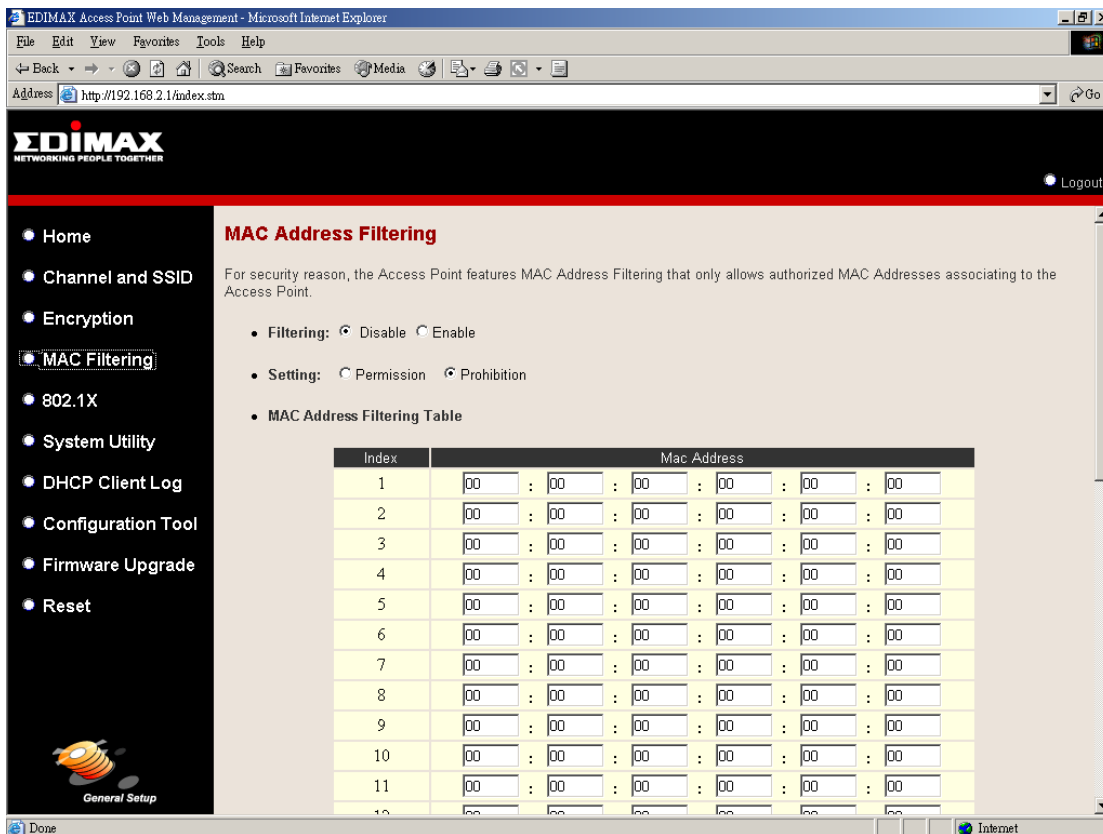


Parameter	Description
Passphrase	Enter a maximum of 32 alphanumeric characters in the text box and press Generate button, the Access Point will generate a WEP key automatically (refer to the 128-bit screen, the key is displayed after the Access Point generate the key for the wording "test"). It is easy for user to setup the WEP key. Note that this passphrase may not work with some wireless products due to possible incompatibility with other vendor's passphrase generators.
Key 1 - Key 4	The WEP keys are used to encrypt data transmitted in the wireless network. Fill the text box by following the rules below. 64(40)-bit WEP: input 10 digit Hex values (in the "A-F", "a-f" and "0-9" range) as the encryption keys. 128-bit WEP: input 26 digit Hex values (in the "A-F", "a-f" and "0-9" range) as the encryption keys.
Default Key	Select one of the four keys to encrypt your data (only in 64-bit mode). Only the key you select it in the "Default key" will take effect.
Clear All Keys	Press Clear All Keys button to clear all the WEP keys.

Click **Apply** button at the bottom of the screen to save the above configurations. You can now configure other advance sections or start using the Access Point.

3.2.4 MAC Address Filtering

This Access Point provides MAC Address Filtering, which prevents the unauthorized MAC Addresses from accessing your Wireless LAN.



Parameter	Description
Filtering	Enable or disable the MAC Address Filtering function.
Setting	You can select to permit or prohibit the MAC addressed listed in the MAC Address Filtering Table to access your wireless LAN.
MAC Address Filtering Table	There are 32 sets MAC Address you can set here. Fill the MAC Addresses of wireless stations you want to permit or prohibit to access your network in this table.

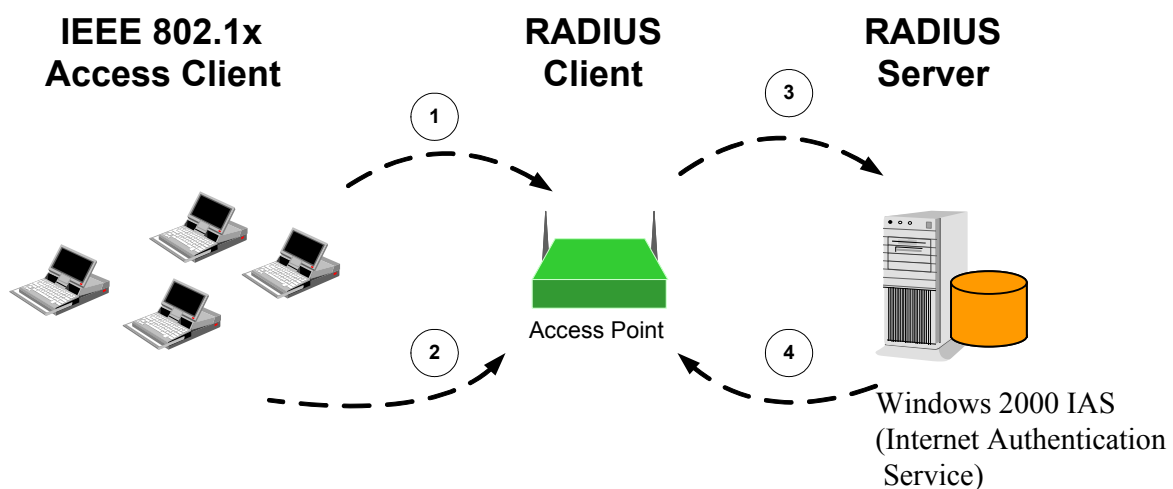
Click **Apply** button at the bottom of the screen to save the above configurations. You can now configure other advance sections or start using the Access Point.

3.2.5 IEEE 802.1X

802.1X, an IEEE standard that provides an authentication framework for 802-based LANs. 802.1X will let wireless LANs scale by allowing centralized authentication of wireless users or stations. Based on the 802.1X framework, any wireless stations try

to connect to the Access Point should be authenticated by an Authentication Server. The Authentication Server identifies the wireless station by a set of user name and password, only wireless stations provide correct user name and password can connect to the Access Point and access to the network.

This Access Point can not only use Remote RADIUS Server to authenticate the wireless stations, but also utilize a built-in propriety authentication server (TINY Server) that allows 30 users being authenticated through the Access Point itself.

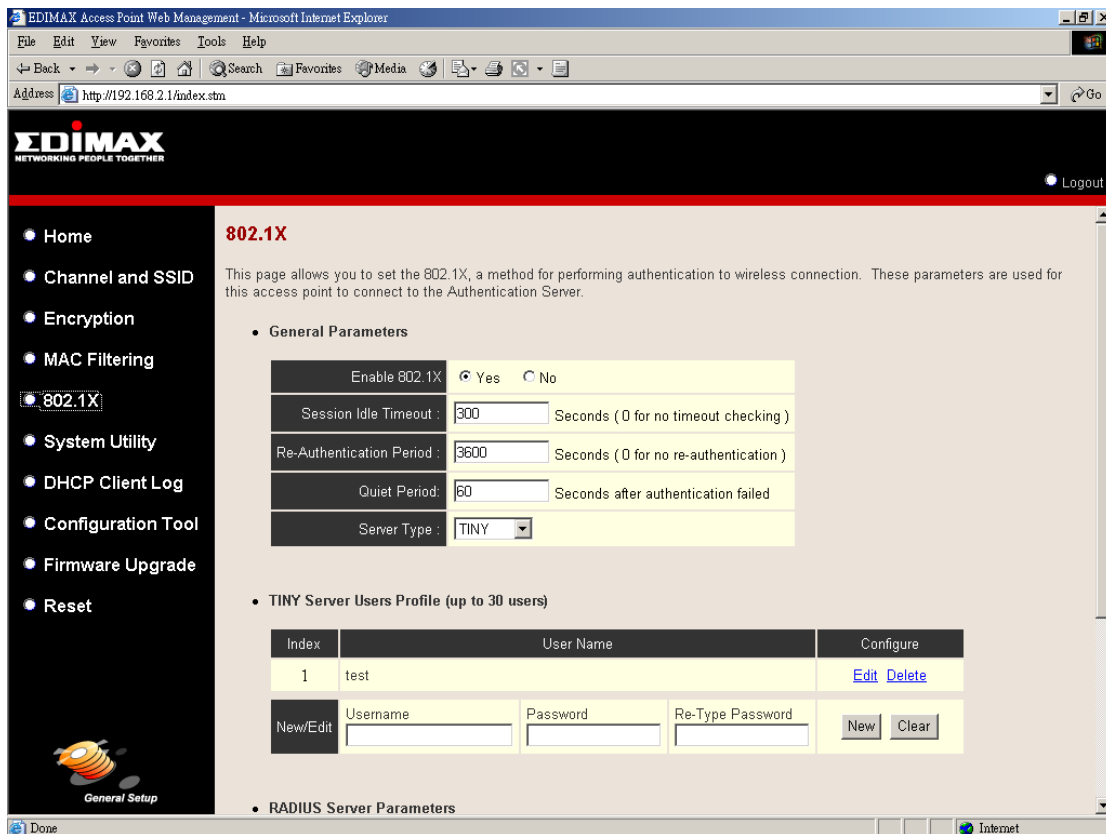


(1) Client requests to login the network.

(2) Login with username, password.

(3) Send username, password to RADIUS server.

(4) Approve or deny user login to the LAN.



Parameter

Description

Enable IEEE 802.1X

Enable or disable the IEEE 802.1X function.

Session Idle Timeout

If the wireless station doesn't transmit or receive data for a period after authentication, the Access Point will force the wireless station to the unauthenticated status and the wireless station has to authenticate again. The default session idle timeout is 300 seconds.

Re-Authentication Period

Re-Authentication Period defines the time period that the wireless station will be forced to authenticate again. The default value is 3600 seconds.

Quiet Period

Quiet Period defines the time period the wireless station has to wait once the authentication was failed last time. The default value is 60 seconds.

Parameter	Description
Server Type	There are two kinds of servers supported by the Access Point including Remote RADIUS Server and TINY Server. You have to build a Remote RADIUS Server if RADIUS Server is selected. You can build a RADIUS Server by installing Windows 2000 with Internet Authentication Server. If TINY Server is selected, the Access Point can be the authentication server itself and you don't need to build another authentication server.

Click **Apply** button at the bottom of the screen to save the above configurations. You can now configure other advance sections or start using the Access Point.

3.2.5.1 TINY Server Setting

TINY Server is a proprietary authentication server provided by the Access Point. This server can support up to 30 sets of user accounts. Any wireless clients want to access the Access Point have to enter his/her user name and password and the TINY Server will verify if the user is qualified to access the Access Point.

The screenshot shows the EDIMAX Access Point Web Management interface in Microsoft Internet Explorer. The browser address bar shows <http://192.168.2.1/index.htm>. The page title is "EDIMAX Access Point Web Management - Microsoft Internet Explorer". The EDIMAX logo is visible at the top left, with the tagline "NETWORKING PEOPLE TOGETHER". A "Logout" link is at the top right.

The left navigation menu includes: Home, Channel and SSID, Encryption, MAC Filtering, **802.1X**, System Utility, DHCP Client Log, Configuration Tool, Firmware Upgrade, and Reset. A "General Setup" icon is at the bottom of the menu.

The main content area is titled "802.1X" and contains the following text: "This page allows you to set the 802.1X, a method for performing authentication to wireless connection. These parameters are used for this access point to connect to the Authentication Server."

The "General Parameters" section includes the following settings:

- Enable 802.1X: Yes No
- Session Idle Timeout: Seconds (0 for no timeout checking)
- Re-Authentication Period: Seconds (0 for no re-authentication)
- Quiet Period: Seconds after authentication failed
- Server Type:

The "TINY Server Users Profile (up to 30 users)" section includes a table with the following data:

Index	User Name	Configure
1	test	Edit Delete

Below the table is a "New/Edit" form with the following fields:

New/Edit	Username	Password	Re-Type Password	
	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="button" value="New"/> <input type="button" value="Clear"/>

The "RADIUS Server Parameters" section is partially visible at the bottom of the page.

Parameter	Description
New/Edit	From TINY Server Users Profile table, you can enter Username, Password, Re-Type Password and press New button to create a new user. The format of user name is up to 23-digit alphanumeric string; password is up to 7-digit alphanumeric string, both are case-sensitive.
Edit/Delete	To edit or delete the specific users, press Edit or Delete button from the corresponding column directly.

Click **Apply** button at the bottom of the screen to save the above configurations. You can now configure other advance sections or start using the Access Point.

3.2.5.2 RADIUS Server Setting

If the authentication server is RADIUS Server, you have to setup the RADIUS Server's relative information including IP Address, Server Port, etc. so that the Access Point can connect and communicate to the RADIUS successfully.

The screenshot shows the EDIMAX Access Point Web Management interface in Microsoft Internet Explorer. The browser address bar shows <http://192.168.2.1/index.stm>. The interface includes a navigation menu on the left with options like Home, Channel and SSID, Encryption, MAC Filtering, 802.1X, System Utility, DHCP Client Log, Configuration Tool, Firmware Upgrade, and Reset. The main content area is titled "General Setup" and contains the following settings:

- Quiet Period: 60 Seconds after authentication failed
- Server Type: RADIUS
- TINY Server Users Profile (up to 30 users):

Index	User Name	Configure
1	test	Edit Delete
- RADIUS Server Parameters:

Server IP:	192 . 168 . 1 . 1
Server Port:	1812
Secret Key:	
NAS-ID:	

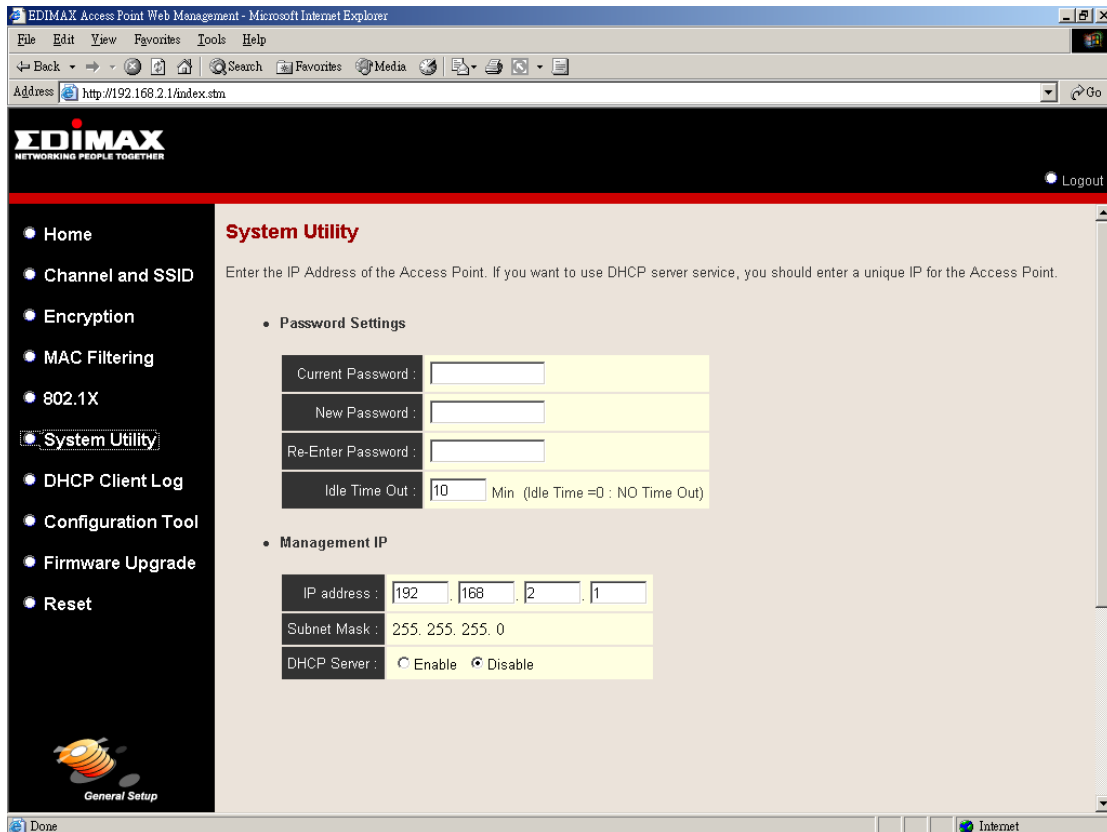
At the bottom right, there are "Apply" and "Cancel" buttons.

Parameter	Description
Server IP	Enter the RADIUS Server's IP Address.
Server Port	Designate the Server Port used by the RADIUS Server and Access Point to exchange the authentication packets mutually. The default port is 1812. Note that the Server Port you designate in the RADIUS Server should be the same as the Access Point.
Secret Key	The Secret Key (up to 23-digit alphanumeric string) is used to protect the RADIUS Server from accessing by any authentication client. The Secret Key you setup here should be the same as the RADIUS Server. Note that the Secret Key is case-sensitive.
NAS-ID	Enter the NAS-ID of the Access Point defined by the RADIUS Server. Usually, you don't need to setup the parameter if RADIUS Server doesn't restrict the connection. The format of NAS-ID is 31-digit alphanumeric string and it is case-sensitive.

Click **Apply** button at the bottom of the screen to save the above configurations. You can now configure other advance sections or start using the Access Point.

3.2.6 System Utility

From here, you can define the Access Point's IP Address and Login Password and enable the Access Point to be a DHCP Server.



Parameter	Description
Current Password	Enter the current password (up to 39-digit alphanumeric string) of the Access Point. The default password for the Access Point is blank. Note that the password is case-sensitive.
New Password	Enter the password (up to 39-digit alphanumeric string) you want to login to the Access Point. Note that the password is case-sensitive.
Re-Enter Password	Reconfirm the password (up to 39-digit alphanumeric string) you want to login to the Access Point. Note that the password is case-sensitive.
Idle Time Out	The Idle Time Out defines the period when the Access Point will be logout and go back to Login screen automatically. The unit is minute. If you set up "0" minute, the Access Point will never be logout. Note that the Access Point only allows one user to configure at a time.

Parameter	Description
IP Address	Designate the Access Point's IP Address. This IP Address should be unique in your network. The default IP Address is 192.168.2.1 .
Subnet Mask	Specify a Subnet Mask for your LAN segment. The Subnet Mask of the Access Point is fixed and the value is 255.255.255.0 .

Click **Apply** button at the bottom of the screen to save the above configurations. You can now configure other advance sections or start using the Access Point.

3.2.6.1 DHCP Server Setting

DHCP Server will automatically give your LAN client an IP address. If the DHCP is not enabled then you'll have to manually set your LAN client's IP address.

The screenshot shows the EDIMAX Access Point Web Management interface in Microsoft Internet Explorer. The browser address bar shows 'http://192.168.2.1/index.htm'. The interface has a navigation menu on the left with options: Home, Channel and SSID, Encryption, MAC Filtering, 802.1X, System Utility, DHCP Client Log, Configuration Tool, Firmware Upgrade, and Reset. The main content area is titled 'General Setup' and includes the following settings:

- Idle Time Out: 10 Min (Idle Time = 0 : NO Time Out)
- Management IP:
 - IP address: 192 . 168 . 2 . 1
 - Subnet Mask: 255 . 255 . 255 . 0
 - DHCP Server: Enable Disable
- DHCP Server:
 - Default Gateway IP: 192 . 168 . 2 . 1
 - Domain Name Server IP: 192 . 168 . 2 . 1
 - Start IP: 192 . 168 . 2 . 100
 - End IP: 192 . 168 . 2 . 199
 - Domain Name: [Empty field]
 - Lease Time: One Week

At the bottom right, there are 'Apply' and 'Cancel' buttons. The status bar at the bottom shows 'Done' and 'Internet'.

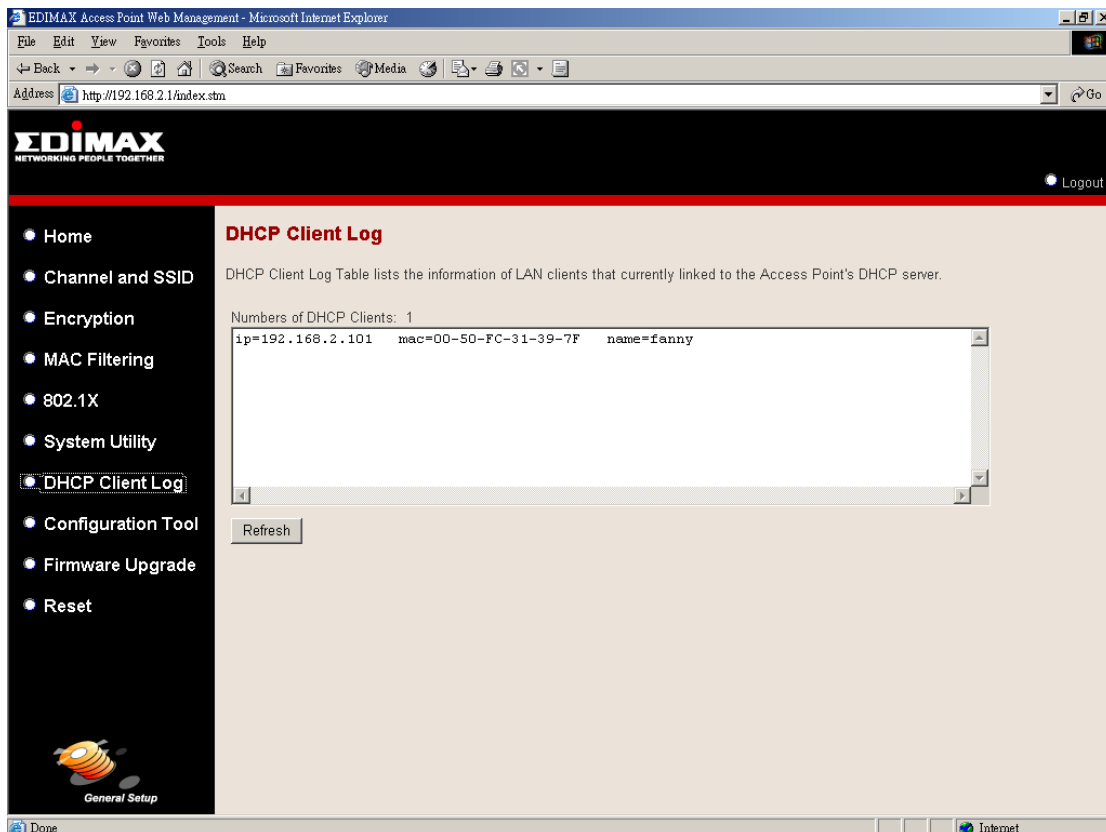
Parameter	Description
DHCP Server	You can enable or disable the DHCP server.

Parameter	Description
Default Gateway IP	Specify the gateway IP in your network. This IP address should be different from the Management IP.
Domain Name Server IP	This is the ISP's DNS server IP address that they gave you; or you can specify your own preferred DNS server IP address.
Start IP/End IP	You can designate a particular IP address range for your DHCP server to issue IP addresses to your LAN Clients. By default the IP range is from: Start IP 192.168.2.100 to End IP 192.168.2.199 .
Domain Name	You can specify the Domain Name for your Access Point.
Lease Time	The DHCP Server when enabled will temporarily give your LAN client an IP address. In the Lease Time setting you can specify the time period that the DHCP Server lends an IP address to your LAN clients. The DHCP Server will change your LAN client's IP address when this time threshold period is reached.

Click **Apply** button at the bottom of the screen to save the above configurations. You can now configure other advance sections or start using the Access Point.

3.2.7 DHCP Client Log

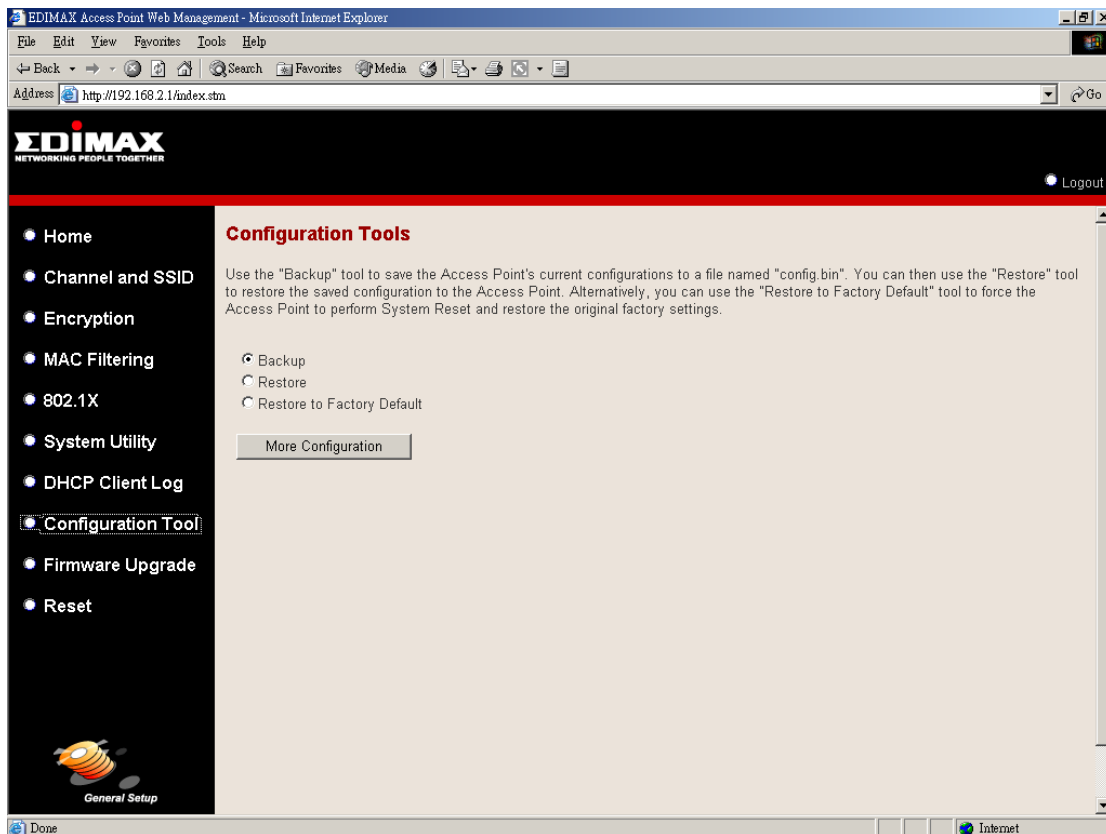
View your LAN client's information that is currently linked to the Access Point's DHCP server.



Parameter	Description
DHCP Client Log	This page shows all DHCP clients (LAN PCs) currently connected to your network. Number of DHCP Clients displays the number of LAN clients that are currently linked to the Access Point's DHCP Server. The DHCP Client Log displays the IP Address and the MAC Address of each LAN Client. Use the Refresh button to get the most updated situation.

3.2.8 Configuration Tools

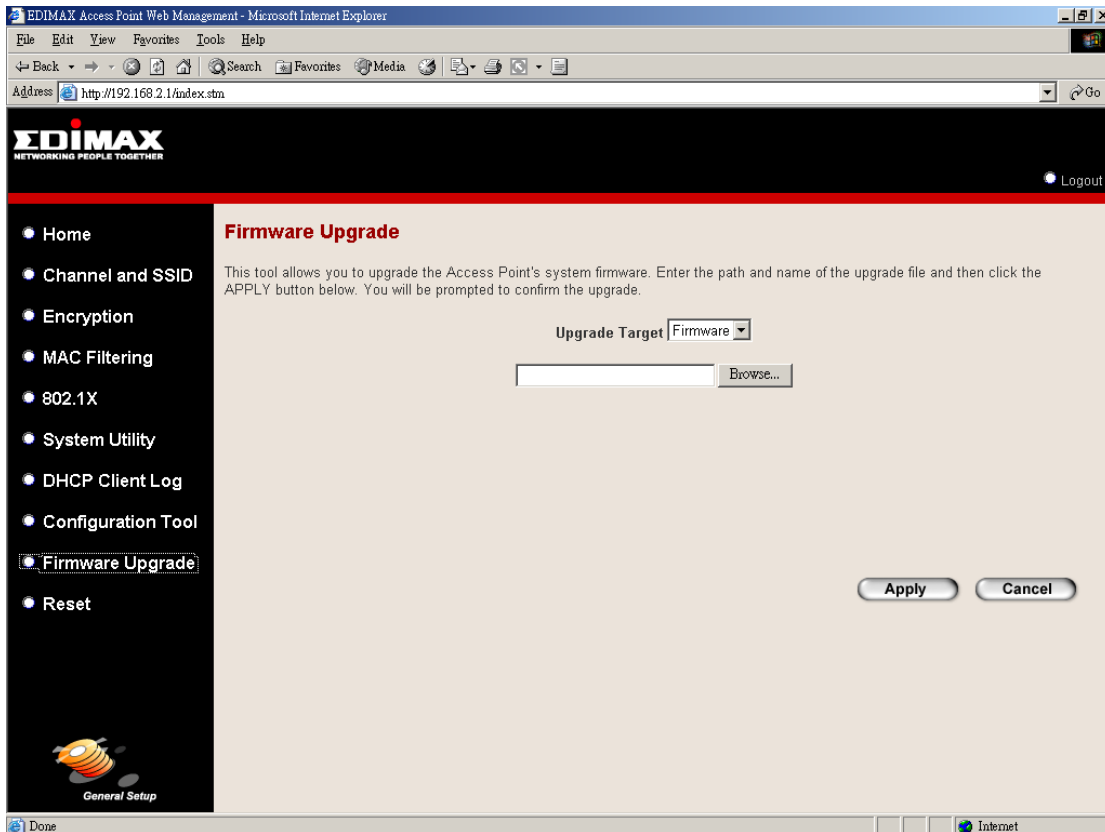
The Configuration Tools screen allows you to save (**Backup**) the Access Point's current configuration setting. Saving the configuration settings provides an added protection and convenience should problems occur with the Access Point and you have to reset to factory default. When you save the configuration setting (Backup) you can re-load the saved configuration into the Access Point through the **Restore** selection. If extreme problems occur you can use the **Restore to Factory Default** selection, this will set all configurations to its original default settings (e.g. when you first purchased the Access Point).



Parameter	Description
Configuration Tools	<p>Use the "Backup" tool to save the Access Point's current configuration to a file named "backup_config.exe" on your PC. You can then use the "Restore" tool to restore the saved configuration to the Access Point. Alternatively, you can use the "Restore to Factory Default" tool to force the Access Point to perform a power reset and restore the original factory settings.</p> <p>Note: Click More Configuration button after making a selection and follow the instructions.</p>

3.2.9 Firmware Upgrade

This page allows you to upgrade the Access Point's firmware.

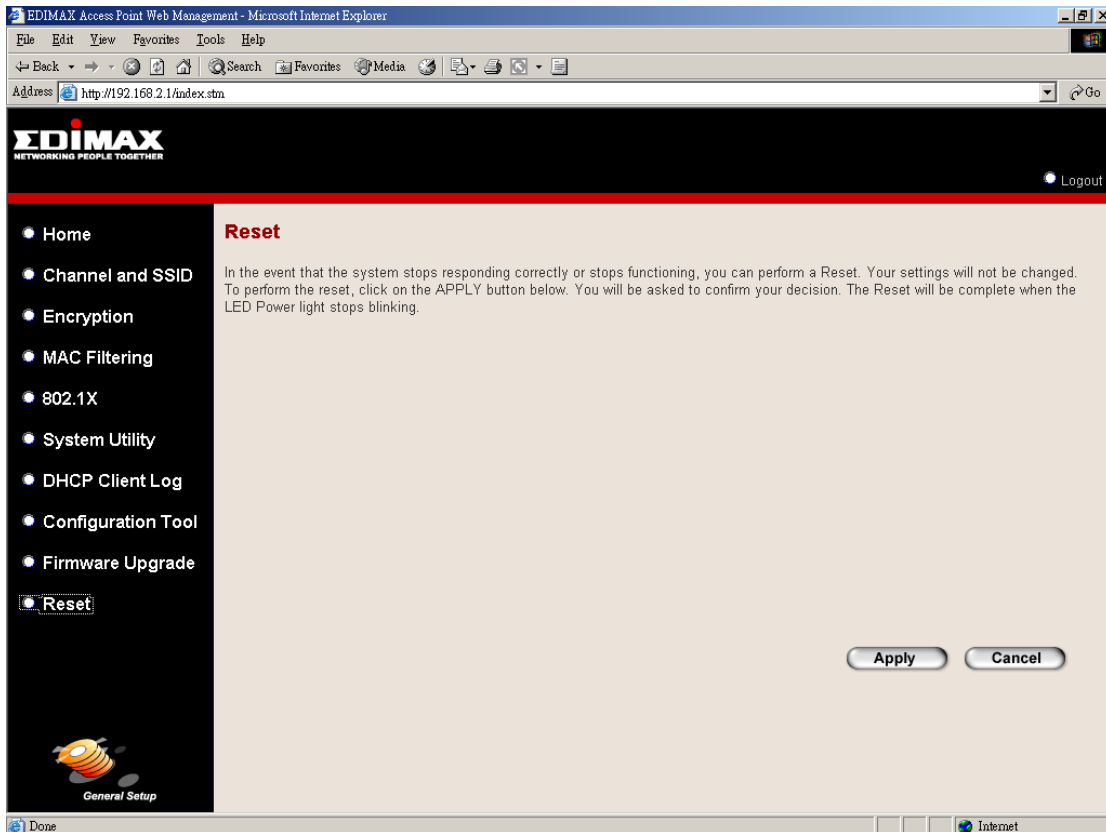


Parameter	Description
Firmware Upgrade	This tool allows you to upgrade the Access Point's system firmware. To upgrade the firmware of your Access Point, you need to download the firmware file to your local hard disk, and enter that file name and path in the appropriate field on this page. You can also use the Browse button to find the firmware file on your PC.

Once you've selected the new firmware file, click **Apply** button at the bottom of the screen to start the upgrade process. (You may have to wait a few minutes for the upgrade to complete). Once the upgrade is complete you can start using the Access Point.

3.2.10 Reset

You can reset the Access Point's system should any problem exist. The reset function essentially Re-boots your Access Point's system.



Parameter	Description
Reset	In the event that the system stops responding correctly or in some way stops functioning, you can perform a reset. Your settings will not be changed. To perform the reset, click on the Apply button. You will be asked to confirm your decision. The reset will be complete when the power light stops blinking. Once the reset process is complete you may start using the Access Point again.

Chapter 4 Troubleshooting

This chapter provides solutions to problems usually encountered during the installation and operation of the Access Point.

1. How to manually find your PC's IP and MAC Address?

- 1) In Windows, open the Command Prompt program
- 2) Type **ipconfig /all** and **Enter**
 - Your PC's IP address is the one entitled **IP address**
 - Your PC's MAC Address is the one entitled **Physical Address**

2. What is Ad-hoc?

An Ad-hoc wireless LAN is a group of computers, each with a WLAN adapter, connected as an independent wireless LAN.

3. What is Infrastructure?

An integrated wireless and wired LAN is called an Infrastructure configuration.

4. What is BSS ID?

A group of wireless stations and an Access Point compose a Basic Service Set (BSS). Computers in a BSS must be configured with the same BSSID.

5. What is ESSID?

An Infrastructure configuration could also support roaming capability for mobile workers. More than one BSS can be configured as an Extended Service Set (ESS). Users within an ESS could roam freely between BSSs while maintaining a continuous connection to the wireless network stations and the Wireless LAN Access Points.

6. Can data be intercepted while transmitting through the air?

WLAN features two-fold protection in security. On the hardware side, as with Direct Sequence Spread Spectrum technology, it has the inherent scrambling security feature. On the software side, the WLAN series offers the encryption function (WEP) to enhance security and access control.

7. What is WEP?

WEP stands for Wired Equivalent Privacy, a data privacy mechanism based on a 64(40)-bit shared key algorithm.

8. What is a MAC Address?

The Media Access Control (MAC) address is a unique number assigned by the manufacturer to any Ethernet networking device, such as a network adapter, that allows the network to identify it at the hardware level. For all practical purposes, this number is usually permanent. Unlike IP addresses, which can change every time a computer logs on to the network, the MAC address of a device stays the same, making it a valuable identifier for the network.

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