

***108M 802.11g
Wireless LAN Access Point***

User Guide

Regulatory notes and statements

Wireless LAN, Health and Authorization for use

Radio frequency electromagnetic energy is emitted from Wireless LAN devices. The energy levels of these emissions however are far much less than the electromagnetic energy emissions from wireless devices like for example mobile phones. Wireless LAN devices are safe for use frequency safety standards and recommendations. The use of Wireless LAN devices may be restricted in some situations or environments for example:

- On board of airplanes, or
- In an explosive environment, or
- In case the interference risk to other devices or services is perceived or identified as harmful

In case the policy regarding the use of Wireless LAN devices in specific organizations or environments (e.g. airports, hospitals, chemical/oil/gas industrial plants, private buildings etc.) is not clear, please ask for authorization to use these devices prior to operating the equipment.

Regulatory Information/disclaimers

Installation and use of this Wireless LAN device must be in strict accordance with the instructions included in the user documentation provided with the product. Any changes or modifications made to this device that are not expressly approved by the manufacturer may void the user's authority to operate the equipment. The Manufacturer is not responsible for any radio or television interference caused by unauthorized modification of this device, of the substitution or attachment. Manufacturer and its authorized resellers or distributors will assume no liability for any damage or violation of government regulations arising from failing to comply with these guidelines.

USA-FCC (Federal Communications Commission) statement

This device complies with Part 15 of FCC Rules.

Operation is subject to the following two conditions:

1. This device may not cause interference, and
2. This device must accept any interference, including interference that may cause undesired operation of this device.

FCC Radio Frequency Exposure statement

This Wireless LAN radio device has been evaluated under FCC Bulletin OET 65 and found compliant to the requirements as set forth in CFR 47 Sections 2.1091, 2.1093, and 15.247 (b) (4) addressing RF Exposure from radio frequency devices. The radiated output power of this Wireless LAN device is far below the FCC radio frequency exposure limits. Nevertheless, this device shall be used in such a manner that the potential for human contact during normal operation is minimized.

When nearby persons has to be kept to ensure RF exposure compliance, in order to comply with RF exposure limits established in the ANSI C95.1 standards, the distance between the antennas and the user should not be less than 20 cm.

FCC Interference Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses, and can radiate radio frequency energy. If not installed and used in accordance with the instructions, it may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try and correct the interference by one or more of the following measures:

1. Reorient or relocate the receiving antenna.
2. Increase the distance between the equipment and the receiver.
3. Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
4. Consult the dealer or an experienced radio/TV technician for help.

Export restrictions

This product or software contains encryption code that may not be exported or transferred from the US of Canada without an approved US Department of Commerce export license.

Safety Information

Your device contains a low power transmitter. When device is transmitted it sends out radio frequency (RF) signal.

CAUTION: To maintain compliance with FCC's RF exposure guidelines, this equipment should be installed and operated with minimum distance 20cm between the radiator and your body. Use on the supplied antenna. Unauthorized antenna, modification, or attachments could damage the transmitter and may violate FCC regulations.

The antenna(s) used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.

CE Mark Warning

This is a Class B product. In a domestic environment, this product may cause radio interference, in which case the user may be required to take adequate measures.

Protection requirements for health and safety – Article 3.1a

Testing for electric safety according to EN 60950 has been conducted. These are considered relevant and sufficient.

Protection requirements for electromagnetic compatibility – Article 3.1b

Testing for electromagnetic compatibility according to EN 301 489-1, EN 301 489-17 and EN 55024 has been conducted. These are considered relevant and sufficient.

Effective use of the radio spectrum – Article 3.2

Testing for radio test suites according to EN 300 328-2 has been conducted. These are considered relevant and sufficient.

CE in which Countries where the product may be used freely:

Germany, UK, Italy, Spain, Belgium, Netherlands, Portugal, Greece, Ireland, Denmark, Luxembourg, Austria, Finland, Sweden, Norway and Iceland.

France: The use of other channels that the channel 10 through 13 is prohibited by law.

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ABOUT THIS GUIDE

Congratulations on your purchase of this 108M Super-G Wireless LAN Access Point. This manual helps to features the innovating wireless technology that can help you build a wireless network easily! This manual contains detailed instructions in operation of this product. Please keep this manual for future reference.

With a WLAN Access Point, a mobile computer can share data with another mobile computer in a wireless way. Easy-to-use utilities are bundled with WLAN Access Point for configuration and monitoring purposes.

WLAN networking can wirelessly transmit and receive data, minimizing the need for wired connections, at a speed of up to eleven megabit per second. With WLAN networking, you can locate your PC wherever you want without wires and cables.

WLAN networking provides users with an access to real-time information anywhere in their organization. The mobility provides productivity and service, which are not available under wired networks.

Purpose

This manual discusses how to install the WLAN Access Point.

Overview of this User's Guide

Introduction. Describes the WLAN Access Point and its features.

Unpacking and Setup. Helps you get started with the basic installation of the WLAN Access Point.

Hardware Installation. Describes the LED indicators of the AP.

Configuration the Wireless LAN Access Point. Configure the AP related setting.

Technical Specifications. Lists the technical (general, physical and environmental) specifications of the WLAN Access Point.

UNPACKING AND SETUP

This chapter provides unpacking and setup information for the Access Point.

Unpacking

Open the box of the Access Point and carefully unpack it. The box should contain the following items:

- ◆ One Wireless Access Point
- ◆ One Antenna
- ◆ One external power adapter
- ◆ One CD-Rom (User's guide)

If any item is found missing or damaged, please contact your local reseller for replacement.

Setup

The setup of the Wireless Access Point can be performed using the following steps:

- ◆ Locate an optimum location for the Wireless LAN Access Point (AP). The best place for your AP is usually the center of your wireless network, with line of sight to all of your mobile stations.
- ◆ Visually inspect the Ethernet RJ45 port connector and make sure that it is fully plugged in to the system's Ethernet switch/hub port.
- ◆ Fix the direction of the antennas. Try to place the AP in a position that can best cover your wireless network. Normally, the higher you place the antenna, the better the performance will be. The antenna's position enhances the receiving sensitivity.
- ◆ Visually inspect if the Power Adapter was fully plugged to the device power jack.

HARDWARE INSTALATION

LED Indicator

The figure below shows the LED Indicator of the Wireless LAN Access Point.

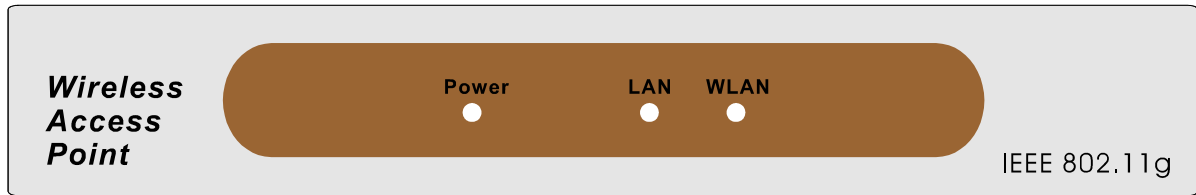


Figure 1. Front panel

Power

This indicator lights green when the Access Point receives power. Otherwise, it turns off.

LAN (Link/ACT)

The indicator lights green when the LAN port is connected to Ethernet network, the indicator blinks green while transmitting or receiving data on the Ethernet network.

WLAN (ACT)

The indicator blinks green when the wireless station activity to the AP.

Rear Panel

The figure below shows the rear panel of the Access Point

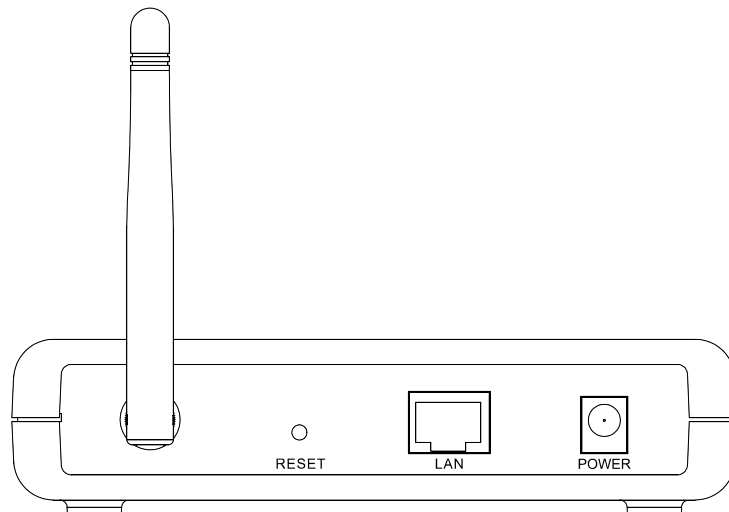


Figure 2. Rear panel

Ethernet

Ethernet uplink port with auto-sensing for connecting to either 10/100Mbps Fast Ethernet connections, connect this port to switch/hub.

Reset

To reset the setting back to factory default setting, press the “Reset” button 3 seconds, once you press the button, the LED of the WLAN will turn off and when the Access Point is ready, the LED will start blinking.

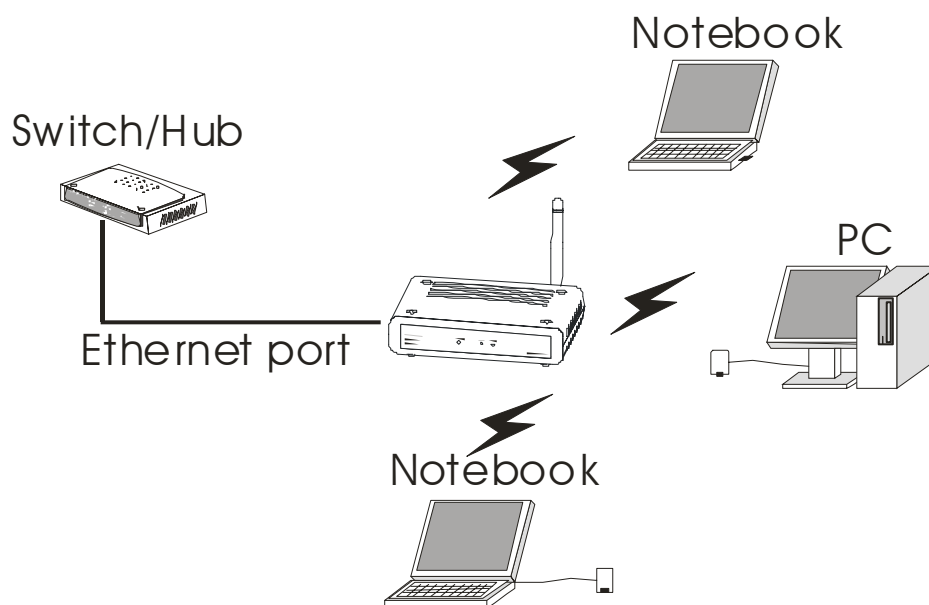
DC Power

Connect the AC Power Adapter to the AP’s power jack.

Antenna

There is one antenna in the rear panel, connect the antenna directly to the antenna screw in the rear panel.

Hardware connections



Wireless LAN Networking

Figure 3

Connect to the Switch/Hub

1. Plug in one end of the RJ45 network cable to the Switch/Hub port,
2. Plug in the other end of the RJ45 network cable to the Wireless Access Point.

Check the installation

The control LEDs of the Access Point are clearly visible and the status of the network link can be seen instantly:

1. With the power source on, once the device is connected, the Power, LAN and WLAN LEDs of the AP will light up indicating a normal status.
2. If the LAN Port's Link indicator does not light up then check the RJ-45 cable if it is firmly feed to the RJ45 port, while the LAN is link up to the Switch/Hub, the LAN port's LED will light up.

CONFIGURING THE WIRELESS LAN ACCESS POINT

The Wireless Access Point has a Web GUI interface for the configuration. The AP can be configured through the Web Browser. A network manager can manage, control and monitor the AP from the local LAN. This section indicates how to configure the AP to enable its functions.

Login

Before you configure this device, note that when the AP is configured through an Ethernet connection, make sure the manager PC must be set on same the **IP network**. For example, when the default network address of the default IP address of the AP is **192.168.1.1**, then the manager PC should be set at 192.168.1.x (where x is a number between 1 and 254), and the default subnet mask is 255.255.255.0.

Open Internet Explorer 5.0 or above Web browser.

Enter IP address **http://192.168.1.1** (the factory-default IP address setting) to the address location.

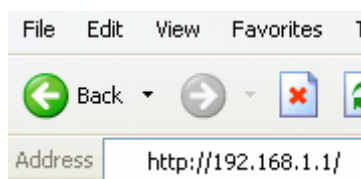


Figure 4

When there is a screen need to enter the Network password, it means that there is a password settle, type in the password you entered before. Please enter the user name and password both of the default are “admin”.



Figure 5

Quick Setup with Wizard

Setup wizard is provided as the part of the web configuration utility. You can simply follow the step-by-step process to get your Access Point configuration ready to run in 4 easy steps by clicking on the “**Wizard**” button on the function menu. The following screen will appear. Please click “**Next**” to continue.



Figure 6. Setup Wizard

Step 1: Set Password

You can change the password as you like and then click “**Next**” to continue.

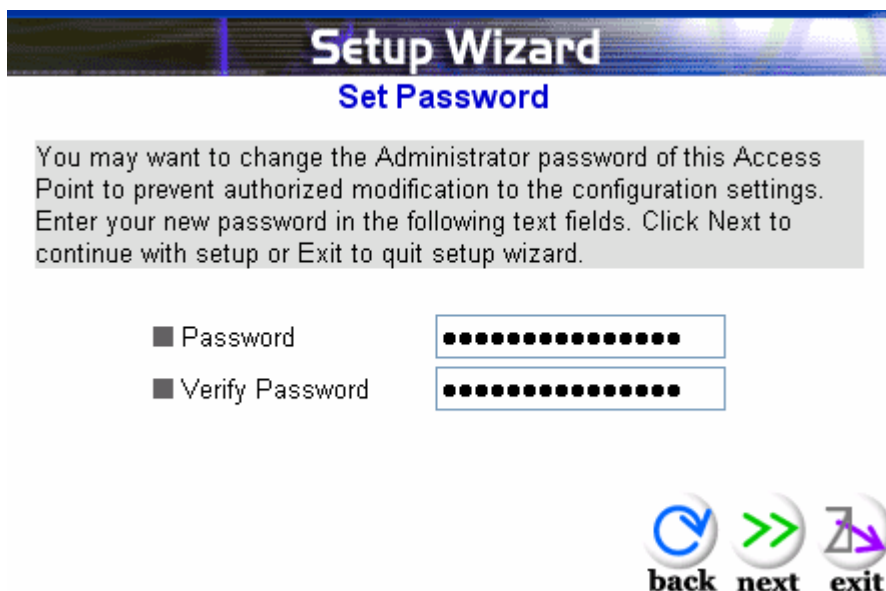


Figure 7. Setup Wizard – Set Password

Step2: Set WLAN Connection

Please type the name of SSID you like and select the channel. Then, click “Next” to continue.



Setup Wizard
Set Wireless LAN Connection

Enter the SSID of the wireless network, and select the frequency channel that this Access Point will operate in.
Click Next to continue setup, or Exit to quit setup wizard.

■ SSID

■ Channel

  
back next exit

Figure 8. Setup Wizard – Set Wireless LAN Connection

Step 3: Set WEP Encryption

If you like to enable WEP, please click “Enabled”. Then, select the key size of WEP encryption and enter the key value in the key text box. Please click “Next” to continue.



Setup Wizard

You may enable WEP security for data encryption by selecting Enabled. Select one of the WEP encryption key size and enter the value of the key in the text fields below.
Click Next to continue with setup, or Exit to quit setup wizard.

■ Wep Enabled Disabled

■ Wep encryption

■ Key
Input 10 HEX characters(HEX is 0~9, A~F or a~f)


  
back next exit

Figure 9. Setup Wizard – Set WEP Encryption

Step 4: Restart

The Setup wizard is now completed. The new settings will be effective after the Access Point restarted. Please click **“Restart”** to reboot the Access Point. If you do not want to make any changes, please click **“exit”** to quit without any changes. You also can go back to modify the setting by clicking **“Back”**.

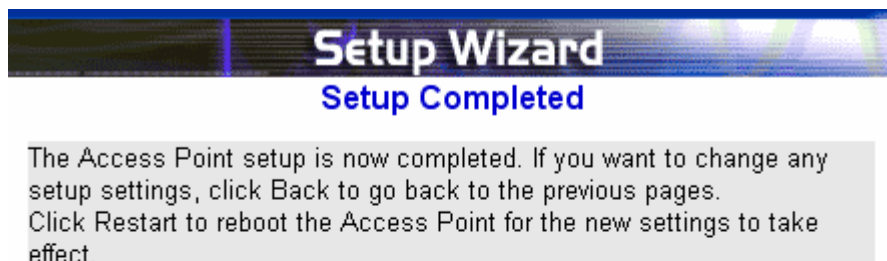


Figure 10. Setup Wizard – Restart

Configuration through WEB Browser

There are seven main functions included in the site contents: Wizard, Status, Basic Setting, IP Settings, Advanced Setting, Security and Tools. Point the selections in the top side of the menu screen.



Figure 11.

Status

The Status Function shows the System, Wireless Configuration and TCP/IP Configuration status and some settings of the Access Point.

Wireless Lan Access Point 108Mbps	
Wizard Status Basic Setting IP Setting Advanced Setting Security Tools	
Status	Firmware Version : 2.05 Date : Thu, 19 May 2005
LAN	MAC: 00-03-2f-2d-9a-e7
	IP Address: 192.168.1.1
	Subnet Mask: 255.255.255.0
	Gateway: 192.168.1.254
	Send: 475
	Receive: 1207
Wireless	
	SSID: AP2d9ae7
	Encryption : Disabled
	Channel: 6
	Send: 785
	Receive: 2194

Figure 12. Status

Firmware Version: Shows the current firmware version.

LAN: Shows the Mac address, IP address (default: 192.168.1.1), Subnet Mask, Gateway Address. The current LAN traffic calculated in terms of number of packets sent and received by AP through wired connection is also displayed.

Wireless: Shows the Mac address, current ESSID, the status of Encryption Function (Enable or Disable), the current using channel. The current wireless traffic calculated in terms of number of packets sent and received by AP through wireless communication is also displayed.

View Log: Upon clicked, the page will change to log page. The log page records every event and the time that it happens.



Figure 13. View Log

You may clear the entries recorded in the log by clicking the “**Clear Log**” button, and refresh the screen to show the latest log entries by clicking the “**Refresh**” button.

Basic Setting

This page is to configure the AP Name, SSID, Channel Number, Extended Range function, Authentication type and WEP Key setting.



Figure 14. Basic Setting

- ◆ **AP Name:** appoint a name for the AP.
 - ◆ **SSID:** It is an ASCII string up to 32 characters used to identify a WLAN that prevents the unintentional merging of two co-located WLANs. The SSID value must be the same in all stations and AP in the extended WLAN.
 - ◆ **Wireless Channel:** There are 14 channels available. The channels differ from country to country. Select the channel to be used.
 - ◆ **Extended Range:** When you enable this function, AP will reduce data rate with a long distance.
 - ◆ **Authentication Type:** The authentication type default is set to open system. There are four options: Open System; Shared Key; WPA; WPA-PSK. You may want to set to Shared Key when the clients and AP in the same wireless network enable the WEP encryption. All the nodes and hosts on the network must use the same authentication type.
 - ◆ **WEP Key:** To disable WEP security, click on the “Disable” option. To enable WEP security, there are 2 types to select – 64bits and 128 bits. When it is selected, the key value must be entered in ASCII or HEX format.
- Note:** When WEP security is enabled, all the wireless clients that wish to connect to the Access Point must also have WEP enabled with the identical WEP Key value entered.
- ◆ **WPA-PSK:** If WPA-PSK is enabled, users need to set the key in the passphrase field as the below screen. The key length should be 8 characters at least..

The screenshot shows a configuration form for WPA-PSK. The fields are as follows:

- AP Name:** WirelessAccessPoint
- SSID:** AP2d9ae7
- Channel:** 6 (Domain:USA)
- Extended Range:** Disabled (radio button selected)
- Authentication:** WPA-PSK (radio button selected)
- Passphrase:** (empty text box)
- Confirmed Passphrase:** (empty text box)

Buttons: Apply, Cancel, Help

* Enabling Extended Range will automatically disable "Super G with Static Turbo" and "SSID Broadcast" mode.

Figure 15. Basic Setting – WPA-PSK

Click “Apply” after you configure the settings to save the changes, the new settings are now been saved to Access Point and will be effective once the Access Point restarts.

IP Setting

This page allows you to configure the IP and DHCP settings of the Access Point.

Wireless Lan Access Point 108Mbps

| Wizard | Status | Basic Setting | **IP Setting** | Advanced Setting | Security | Tools |

IP Setting

LAN IP Obtain IP Automatically Fixed IP

Address 192 . 168 . 1 . 1

Subnet Mask 255 . 255 . 255 . 0

Gateway 192 . 168 . 1 . 254

DHCP Server On Off

IP Range From 192 . 168 . 1 . 100 To 192 . 168 . 1 . 199

DNS Server 192 . 168 . 1 . 254

Apply Cancel Help

Figure 16. IP Setting

The default IP address of this access point is 192.168.1.1 with the subnet mask of 255.255.255.0. You can type in other values for IP Address, Subnet Mask and Gateway and click “**Apply**” button for the changes to be effective.

You can also set the Access Point to obtain the IP from a DHCP server, but it is not recommended. Select the option “Obtain IP Automatically” and click “**Apply**” button for the changes to be effective.

DHCP Server: It is not recommended to enable the DHCP Server if you have a DHCP server running in your LAN network because it probably will cause possible the conflict of IP assignment. Enable the DHCP server function by selecting the option “On”, and enter the IP range.

Click “**Apply**” for the changes to be effective.

Advanced Setting

This page contains configurations for advanced users, which the change reflects, the wireless performance and operating modes.

The screenshot shows the 'Advanced Setting' page for an Access Point. The page is divided into several sections:

- AP Mode:** A radio button selection with 'AP' selected. Other options are 'AP Client', 'Wireless Bridge', 'Multiple Bridge', and 'Repeat Mode'. There are also fields for 'Remote AP SSID' and 'Remote Bridge MAC'.
- Beacon Interval:** A text input field with '100' and a note '(msec, range:20~1000, default:100)'. There is a 'Site Survey' button to the right.
- RTS Threshold:** A text input field with '2346' and a note '(range: 256~2432, default:2432)'. There is a 'Site Survey' button to the right.
- Fragmentation Threshold:** A text input field with '2346' and a note '(range: 1500~2346, default:2346, even number only)'. There is a 'Site Survey' button to the right.
- DTIM Interval:** A text input field with '1' and a note '(range: 1~255, default:1)'. There is a 'Site Survey' button to the right.
- SSID broadcast:** Radio buttons for 'Enable' (selected) and 'Disable'.
- TX Rates:** A dropdown menu set to 'Auto' with '(Mbps)' next to it.
- CTS mode:** Radio buttons for 'None', 'Always', and 'Auto' (selected).
- WDS:** Radio buttons for 'Enable' (selected), 'Disable (MAC clone)', and 'Disable (proxy mode)'. There is a 'Site Survey' button to the right.
- 11g Only Mode:** Radio buttons for 'Enable' and 'Disable' (selected).
- Super G Mode:** A dropdown menu set to 'Disabled'.
- Antenna transmit power:** A dropdown menu set to 'full'.
- Aging Interval:** A text input field with '86400' and the unit 'second'.

At the bottom, there are three buttons: 'Apply', 'Cancel', and 'Help'.

Figure 17. Advanced Setting

AP Mode: Select one of the AP operating modes for different application of Access Point.

AP mode – The normal Access Point operating mode which forms a wireless ESS network with its wireless clients.

AP Client mode – Acts as an Ethernet-to-Wireless Bridge, which allows a LAN or a single computer station to join a wireless ESS network through it. You must make sure SSID and Channel is set the same as that AP you wish to connect.

Remote AP BSS ID: key in the LAN Mac address (NOT wireless Mac address) of the AP that you wish to get connected. Please note that if you leave Mac address as 000000000000, then you will get connected by the SSID that is set in you AP.

Wireless Bridge mode – A pair of APs operating under Bridge mode to act as the bridge that connect two Ethernet networks or Ethernet enabled clients together. You must make sure that the SSID and Channel is set the same as that AP you wish to connect.

Remote Bridge MAC filed: key in the **LAN Mac address** (NOT wireless Mac address) of the AP that you wish to get connected.

Multiple Bridge mode – A group of APs which consists of two or more APs operating under Multiple Bridge mode, that can connect two or more Ethernet networks or Ethernet enabled clients together.

Note: *All APs have to use the same Channel and SSID in order to set a Multiple Bridge network.*

Repeat Mode – It is able to extend the effective range and coverage of the wireless network. Please make sure the SSID is the same as that AP you want to extend.

Beacon Interval: To set the period of time in milliseconds that AP sends out a beacon. Default is 100 milliseconds.

RTS Threshold: To set the size of RTS/CTS packet size. Default is 2432 bytes.

Fragmentation Threshold: To set the number of bytes used for the fragmentation boundary for directed messages. Default is 2436 bytes.

DTIM Interval: This value indicates the interval of the Delivery Traffic Indication Message (DTIM). A DTIM field is a countdown field informing clients of the next window for listening to broadcast and multicast messages. When the access point has buffered broadcast or multicast messages for associated clients, it sends the next DTIM with a DTIM interval value. Access point clients hear the beacons and awaken to receive the broadcast and multicast messages.

SSID Broadcast: While SSID Broadcast is enabled, all wireless clients will be able to communicate with the access point. For secure purpose, you may want to disable SSID broadcast to allow only those wireless clients with the AP SSID to communicate with the access point.

TX Rates (Mbps): Select one of the wireless communications transfer rates, measured in megabytes per second, based upon the speed of wireless adapters connected to the WLAN.

CTS Mode (clear to send): None- disable CTS function. Always- Regardless of wireless environment (11b or 11g), platform will always transfer 11g packet.

Auto- AP soon detected the wireless environment and decided the transmission packet, either 11b or 11g.

WDS (Wireless Distribution System): Only use in AP mode. It will add client quantity at the back when you enable this function.

11g mode only: User can use 11g only when he selects “enable”.

Super G mode: Super G mode is disabled by selecting “Disable” from the drop list. If you like to use Super G to enhance the speed, there are three options on Super G mode: Super G without turbo; Super G with Dynamic turbo and Super G with Static turbo. Turbo mode indicates the combination of two channels to enhance the throughput. Super G without turbo indicates that it is on Super G mode without the channel’s combination. Dynamic turbo is able to automatically detect if any ‘Super G based’ product is available. If no, the connection is via ‘normal’ G. Static turbo means it will not go back to ‘normal’ G once it starts.

Antenna Transmit Power: Adjust the power of the antenna transmission by selecting from the dropping list.

Aging Interval: To limited STA connect timing.

Security

This page is where you configure the security features supported by this Access Point.

Wireless Lan Access Point 108Mbps

| Wizard | Status | Basic Setting | IP Setting | Advanced Setting | Security | Tools |

Security

Administrator id: admin

AP Password New: [masked]

Confirm: [masked]

Apply Cancel Help

MAC Filter Enabled Disabled

Only deny PCs with MAC listed below to access device

Only allow PCs with MAC listed below to access device

1~10

MAC 1	[]	-	[]	-	[]	-	[]	-	[]	-	[]
MAC 2	[]	-	[]	-	[]	-	[]	-	[]	-	[]
MAC 3	[]	-	[]	-	[]	-	[]	-	[]	-	[]
MAC 4	[]	-	[]	-	[]	-	[]	-	[]	-	[]

Figure 18. Security

Password: Allow you to change the new login password. Here are the necessary steps:

1. Enter the new password in the “AP Password New:” field.
2. Enter the new password again in the “Confirm” field.
3. Click “Apply”

MAC Filter: MAC Filter function controls the MAC of the network devices that are listed in this table for access authorization or denial. When MAC Filter is enabled, by selecting the “Enabled” radio box, select one of two choices:

- Only deny PCs with MAC listed below to access device
- Only allow PCs with MAC listed below to access device

The maximum number of MAC addresses that can be stored is 50. You can browse through the MAC address saved by selecting the drop-down box.

For any changes made in the security page, click “Apply” for the changes to be effective.

Tools

Four functions are provided in this page, Backup, Restore Settings, Restore default settings and Firmware Upgrade.

The screenshot shows a web interface for configuring tools. On the left is a blue vertical sidebar with the word "Tools" in white. The main content area is light gray and contains several sections:

- Backup Settings:** A button labeled "Backup".
- Restore Settings:** A text input field, a button labeled "瀏覽..." (Browse), and a button labeled "Restore".
- Restore to default:** A button labeled "default".
- Firmware Upgrade:** Text indicating "Current Firmware Version: 2.05" and "Firmware Date: Thu, 19 May 2005", followed by a text input field, a button labeled "瀏覽..." (Browse), a button labeled "Upgrade", and a button labeled "Help".
- SNMP:** Radio buttons for "Enabled" (selected) and "Disabled".
- System Location:** A text input field.
- System Contact:** A text input field.
- Community:** A text input field containing "public".
- Trap Receiver 1:** A text input field containing "0.0.0.0".
- Trap Receiver 2:** A text input field containing "0.0.0.0".
- Trap Receiver 3:** A text input field containing "0.0.0.0".
- Buttons:** "Apply", "Cancel", and "Help" buttons at the bottom.

Figure 19. Tools

Backup Settings: Click on “**Backup**” button, which will open a FileSave Dialog box, where you get to save all the current settings and configurations to a file.

Restore Settings: Click on the “Browse” button to open a FileOpen Dialog box, where you get to select the file, which you save previous settings and configurations. Upon selecting the saved file, click “**Restore**” and complete the restore process when the access point re-operates after it restarts.

Restore to default settings: Click on “Default” button to restore the access point back to its manufacture default settings.

Firmware Upgrade: Click on the “**Browse**” button to open a File Open Dialog box, where you get to select the firmware file, which you download from the web for the latest version. Upon selecting the firmware file, click “**Upgrade**” and complete the firmware upgrade process when the Access Point re-operates after it restarts.

SNMP: Enable or disable.

TECHNICAL SPECIFICATIONS

General	
Standards	IEEE 802.11b Wireless LAN, IEEE 802.11g Wireless LAN IEEE 802.3u Fast Ethernet
Signal Type:	802.11b: DSSS, 802.11g:OFDM
Modulation:	QPSK / BPSK / CCK / OFDM
LED Indicators:	Power, LAN (Link/Activity), WLAN (Activity)
Frequency Range	2412 ~ 2484 MHz ISM band (channels 1 ~ 14)
Frequency Band:	2.4 GHz
Channel:	1 ~ 11 Channels (US, Canada, China) 1 ~ 13 Channels (Europe, Taiwan) 1 ~ 14 Channels (Japan)
Data Encryption:	64 bit / 128 bit WEP Encryption, WPA, WPA-PSK
Data Transfer Rate	LAN: 10, 100Mbps 802.11b: 1, 2, 5.5, 11Mbps 802.11g: 6,9, 12,18, 24, 36, 48,54Mbps Super-G: 108Mbps (with Automatic Scale Back)
Receiver Sensitivity	54Mbps: Typical -70 @ 10% PER (Packet Error Rate) 11Mbps: Typical -85 @ 8% PER (Packet Error Rate)
Transmit Rate	13dBm typically
Transmission Range:	Outdoor: up to 200M (without XR, depends on environment) up to 400M (with XR, depends on environment) Indoor: up to 50 (depends on environment)
Antenna:	Dual diversity antennas with one internal printed antenna and one external 2 dB Gain dipole antenna

Physical and Environmental

DC inputs	5VDC /2A or higher current
Temperature	Operating: 0° ~ 40° C, Storage: -10° ~ 70° C
Humidity	Operating: 10% ~ 90%, Storage: 5% ~ 90%
Dimensions	146 x 113 x 41 mm (W x H x D) without Antenna
EMI:	FCC Class B, CE Mark B,