



# **WDAP-1001**

**Wireless 802.11ag AP/bridge**

User's Guide

Version 1.0

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## 1. Safety Notification

Thank you for purchasing your Wireless 802.11g AP. This user guide will assist you with the installation procedure.

Your Wireless AP should be placed in a safe and secure location. To ensure proper operation, please keep the unit away from water and other damaging elements. Please read the user manual thoroughly before you install the device.

The device should only be repaired by authorized and qualified personnel.

- Please do not try to open or repair the device yourself.
- Do not place the device in a damp or humid location, i.e. a bathroom.
- The device should be placed in a sheltered and non-slip location within a temperature range of +5 to +40 Celsius degree.
- Please do not expose the device to direct sunlight or other heat sources. The housing and electronic components may be damaged by direct sunlight or heat sources.

## 2. Hardware Installation

### Front Panel

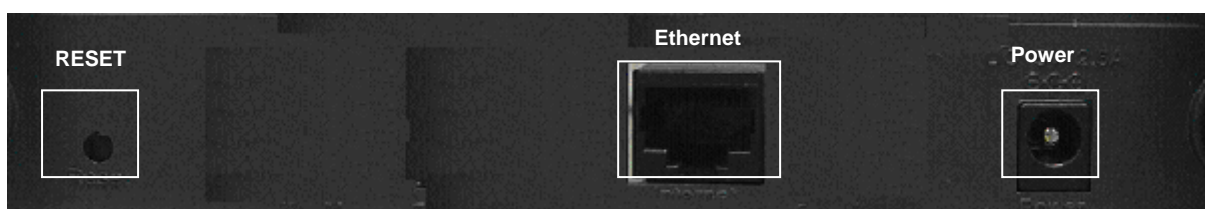
The front panel provides LED's for device status. Refer to the following table for the meaning of each feature.



<b>Power</b>	The <b>Power</b> LED lights up and will keep while the AP is powered on. When the AP goes through its self-diagnostic mode during every boot-up, this LED will flash. When the diagnostic is complete, the LED will be lit continuously.
<b>11a</b>	The <b>11a</b> LED flashes when there is a successful Wireless-A connection.
<b>11b/g</b>	The <b>11b/g</b> LED flashes when there is a successful Wireless-B/G connection.
<b>LAN</b>	The <b>LAN</b> LED lights up when Ethernet port of AP was connected to LAN. When the LED is flashing that indicates the network activity over that port.

### Rear Panel

The rear panel features 1 Ethernet port, Reset button and Power port. Refer to the following table for the meaning of each feature.



<b>RESET Button</b>	The <b>RESET button</b> can restore device to factory default settings by press this button for approx. 10 seconds during device power on status.
<b>LAN</b>	The port connects the AP to your networked PCs and other Ethernet network devices.
<b>Connectors</b>	There are two RPSMA Female connectors, <b>Ant 1</b> is for 802.11a and <b>Ant 2</b> is for 802.11b/g.
<b>Power</b>	The <b>POWER</b> port is where you will connect the power adapter.

## AP Default Settings

User	
Password	admin
IP Address	192.168.1.250
Subnet Mask	255.255.255.0
RF ESSID	A band: wlan-a      G band: wlan-g
Channel	A band: Auto      G band: 6
Mode	G band: Mixed
Encryption	Disabled

## Hardware Installation for Connection to Your local network

1. Power off your network devices.
2. Locate an optimum location for the AP. The best place for the AP is usually at the center of your wireless network, with line of sight to all of your wireless devices.
3. Adjust the antennas. Normally, the higher location of your AP will get better the performance.
4. Using a standard Ethernet network cable, connect the AP's Internet port to your broadband modem.
5. Connect your network PCs or Ethernet devices to the AP's LAN ports using standard Ethernet network cabling.
6. Connect the AC power adapter to the AP's Power port. Then connect the other end to an electrical outlet. Only use the power adapter supplied with the AP. Use of a different adapter may cause product damage.
7. The Hardware installation is completed; please refer to the following content for AP configuration.

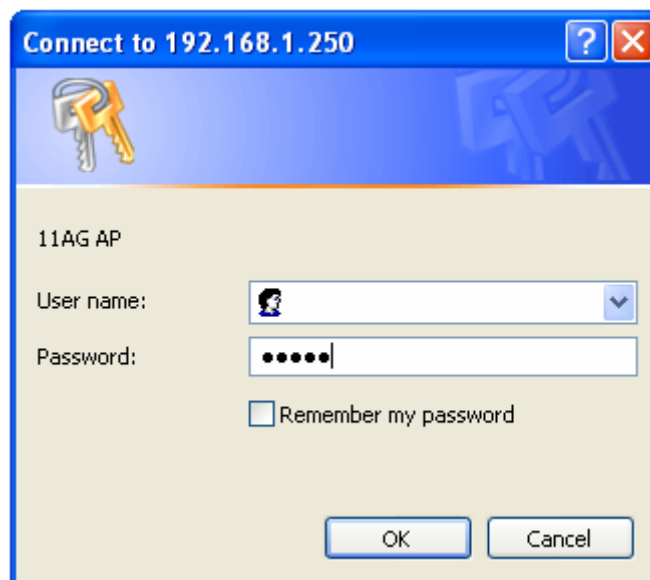
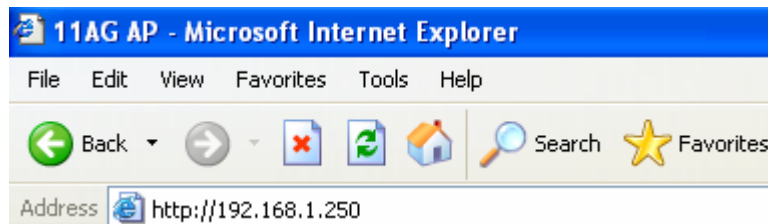
### 3. How to Configure the Dual Band AP

#### TURN ON POWER SUPPLY

Quick power cycle would cause system corruption. When power on, be careful not to shut down in about 5 seconds, because data is writing to the flash.

#### START UP & LOGIN

In order to configure the Wireless 11ag AP, you must use web browser and manually input `http://192.168.1.250` into the Address box and press Enter. The Main Page will appear.



In order to configure the Wireless 11ag AP, you must input the password into the **Password** box and leave blank on the **User Name** box. The default password is "**admin**".

Once you have logged-in as administrator, it is a good idea to change the administrator password to ensure a secure protection to the Wireless 11ag AP. The Security Settings section described later in this manual describes how to change the password.

Once you have input the correct password and logged-in, the screen will change to the Setup page screen.

### 3.1. Setup – Network Setup

#### MAKE CORRECT NETWORK SETTINGS OF YOUR COMPUTER

To change the configuration, use Internet Explorer (IE) or Netscape Communicator to connect the WEB management **192.168.1.250**.

This following screen contains all of the AP's basic setup functions.

Most users will be able to configure the AP and get it working properly using the default settings.

#### Network Setup

##### Identity

Device Name: These fields allow you to input a host name for the AP.

##### Local Area Network

- ◆ **Dynamic:** If your LAN supports DHCP assigning dynamic IP address then please select this type.
- ◆ **Static IP:**

This's default connection type. If you are required to use a fixed IP address to connect to the LAN, then select **Static IP**.

**IP Address:** This's the AP's IP address.

**Subnet Mask:** This's the AP's Subnet Mask.

**Default Gateway:** This's the AP's Gateway Address.

Those above items can be adjusted that depends on real network architecture if it is necessary.

Change these settings as described here and click the **Apply** button to apply your changes or click **Cancel** to cancel your changes. For additional information, click **Help**. Wireless – Wireless Settings

#### Wireless Settings

**Enable L2 isolation:** Enable this checkbox can isolate each wireless client which associated this AP.

#### Wireless-A Settings

If you are using a Wireless-A network, then the following settings that you may need to configure.

**Mode:** This mode is controlling the Wireless-A (802.11a) networking, **Enabled** or **Disabled**.

**Turbo Mode:** Using this mode enables high-speed connections but severely limits range. To perform this Turbo Mode, both the AP and wireless PCs must support this function. Turbo Mode is Atheros proprietary technology, so it does not compatible with non-Atheros chipset Wireless LAN device, only with Atheros Wireless-A turbo adapters. To increase the speed of your wireless transmissions up to 108 Mbps, select **Enabled**. (Note: the AP's range will decrease in Turbo Mode.) If you do not want to use Turbo Mode, select **Disabled**.

**Network Name (SSID):** The service set identifier ( SSID ) or network name. It is case sensitive and must not exceed 32 characters, which may be any keyboard character. You shall have selected the same SSID for all the APs that will be communicating with mobile wireless stations.

**Broadcast SSID:** When wireless clients survey the local area for wireless networks associated, they will detect the SSID broadcast

by the AP. To broadcast the AP's SSID, keep the default setting, **Enabled**. If you do not want to broadcast the AP's SSID, then select **Disabled**.

**Channel:** Select the appropriate channel from the list provided to correspond with your network settings. You shall assign a different channel for each AP to avoid signal interference. If you want the AP to automatically scan for a clear channel, then select **Auto (DFS)**.

## Wireless-G Settings

If you are using a Wireless-B, Wireless-G, or Wireless B+G network, then the following settings that you may need to configure.

**Mode:** This option can control B/G band on/off.

**Radio Policy:** From this drop-down menu, you can select the wireless standards running on your network.

If you have both 802.11g and 802.11b devices in your network, keep the default setting ---**b/g mixed**.

If you have only 802.11g devices, select **802.11g Only**.

If you have only 802.11b devices, select **802.11b Only**.

If you want to run a high-speed transmission, select **802.11g Turbo**.

**Network Name (SSID):** The service set identifier ( SSID ) or network name. It is case sensitive and must not exceed 32 characters, which may be any keyboard character. You shall have selected the same SSID for all the APs that will be communicating with mobile wireless stations.

**Broadcast SSID:** When wireless clients survey the local area for wireless networks to associate with, they will detect the SSID broadcast by the AP. To broadcast the AP's SSID, keep the default setting, **Enabled**. If you do not want to broadcast the AP's SSID, then select **Disabled**.

**Channel:** Select the appropriate channel from the list provided to correspond with your network settings. You shall assign a different channel for each AP to avoid signal interference.

The screenshot shows a web interface for configuring wireless settings. At the top, there is a navigation bar with tabs: Setup, Wireless, Administration, and Status. Below this, there are sub-tabs for Wireless Settings, Wireless Mode, Wireless MAC Filter, Wireless Security, and Advanced Wireless Settings. The main content area is titled 'Wireless Settings' and contains the following sections:

- Wireless Settings:** A heading with a sub-heading 'In this page you can configure 802.11a and 802.11g wireless network settings.'
- Enable L2 isolation:** A checkbox that is currently unchecked.
- Wireless-A Settings:**
  - Mode:** Radio buttons for 'Disable' and 'Enable', with 'Enable' selected.
  - Turbo Mode:** A dropdown menu set to '802.11a'.
  - SSID:** A text input field containing 'wlan-a'.
  - Broadcast SSID:** A checkbox that is checked.
  - Channel:** A dropdown menu set to 'Auto (DFS)'.
- Wireless-B/G Settings:**
  - Mode:** Radio buttons for 'Disable' and 'Enable', with 'Enable' selected.
  - Radio Policy:** A dropdown menu set to 'b/g mixed'.
  - SSID:** A text input field containing 'wlan-g'.
  - Broadcast SSID:** A checkbox that is checked.
  - Channel:** A dropdown menu set to '2437MHz (Channel 6)'.

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

Change these settings as described here and click the **Apply** button to apply your changes or click **Cancel** button to cancel your changes. For additional information, click **Help**.



## Wireless – Wireless Mode

There are 3 operating modes in each A,B/G band, using the following setting can perform each function.

### Wireless-A Settings

**Access Point:** This mode provides access for wireless stations to wired LANs and from wired LANs to wireless stations. This mode is not only performing AP function but also support WDS connection. Input remote AP's MAC address in below 4 fields can generate 4 WDS connections with this AP.

**Repeater:** This mode can be a repeater in your WLAN architecture. Input a SSID that you want to associate in right field.

**Wireless Client:** This mode can be a client as general WLAN card in your WLAN architecture. Input a SSID that you want to associate in right field. Using one computer with Ethernet interface to connect this device, then the computer will has capacity of WLAN association.

### Wireless-G Settings

**Access Point:** This mode provides access for wireless stations to wired LANs and from wired LANs to wireless stations. This mode is not only performing AP function but also support WDS connection. Input remote AP's MAC address in below 4 fields can generate 4 WDS connections with this AP.

**Repeater:** This mode can be a repeater in your WLAN architecture. Input a SSID that you want to associate in right field.

**Wireless Client:** This mode can be a client as general WLAN card in your WLAN architecture. Input a SSID that you want to associate in right field. Using one computer with Ethernet interface to connect this device, then the computer will has capacity of WLAN association.

**Wireless Mode Settings** In this page you can configure 802.11a and 802.11g wireless network mode settings.

**Wireless-A Settings**

**Access Point**

**WDS links - Remote APs' MAC Address:**

00:00:00:00:00:00

00:00:00:00:00:00

00:00:00:00:00:00

00:00:00:00:00:00

**Repeater**

**Wireless Client**

**Settings for Repeater/Client Mode**

Remote AP's SSID: wlan-a

Remote AP's MAC Address:

Wireless Security Settings: only Support "WEP with Pre-shared key" encryption for repeater/client mode. Configure it at [Wireless Security](#) page

Site Survey

**Wireless-B/G Settings**

**Access Point**

**WDS links - Remote APs' MAC Address:**

00:00:00:00:00:00

00:00:00:00:00:00

00:00:00:00:00:00

00:00:00:00:00:00

**Repeater**

**Wireless Client**

**Settings for Repeater/Client Mode**

Remote AP's SSID: wlan-g

Remote AP's MAC Address:

Wireless Security Settings: only Support "WEP with Pre-shared key" encryption for repeater/client mode. Configure it at [Wireless Security](#) page

Site Survey

Apply Cancel Help

Change these settings as described here and click the **Apply** button to apply your changes or click **Cancel** button to cancel your changes. For additional information, click **Help**.

### 3.2. Wireless MAC Filter

This function allows administrator to have access control by enter MAC address of wireless devices which transmitting within your wireless network.

#### Wireless-A Setting

**Access Control List Mode:** This drop-down menu can set Enable/Disable the ACL function.

**Default Access:** Select the default policy for this ACL rule.

**Specific Clients list:** Except the default rule, administrator can also create one policy for special client via **Add ACL**.

#### Wireless-B/G Setting

**Access Control List Mode:** This drop-down menu can set Enable/Disable the ACL function.

**Default Access:** Select the default policy for this ACL rule.

**Specific Clients list:** Except the default rule, administrator can also create one policy for special client via **Add ACL**.

**Wireless A+G**

Setup Wireless Administration Status

Wireless Settings Wireless Mode Wireless MAC Filter Wireless Security Advanced Wireless Settings

**Access Control List (ACL)** Grant or deny access to individual clients.

**Wireless-A Settings** Access Control List Mode: Enable

Default Access:  
 Accept  Reject

Specific Clients

MAC Address	ACL Type
-------------	----------

Add ACL

**Wireless-B/G Settings** Access Control List Mode: Enable

Default Access:  
 Accept  Reject

Specific Clients

MAC Address	ACL Type
-------------	----------

Add ACL

Apply Cancel Help

Change these settings as described here and click the **Apply** button to apply your changes or click **Cancel** button to cancel your changes. For additional information, click **Help**.

### 3.3. Wireless – Wireless Security

The Wireless Security settings configure the security of your wireless network. There are three wireless security mode options supported by the AP: WEP (Wired Equivalent Privacy), WPA Pre-Shared Key, WPA RADIUS.

#### Wireless Security

The security options are the same and independent for your Wireless-A and Wireless-G networks. You can use different wireless security methods for your networks; however, within each network (Wireless-A or Wireless-G), all devices must use the same security method and settings.

#### Security Mode:

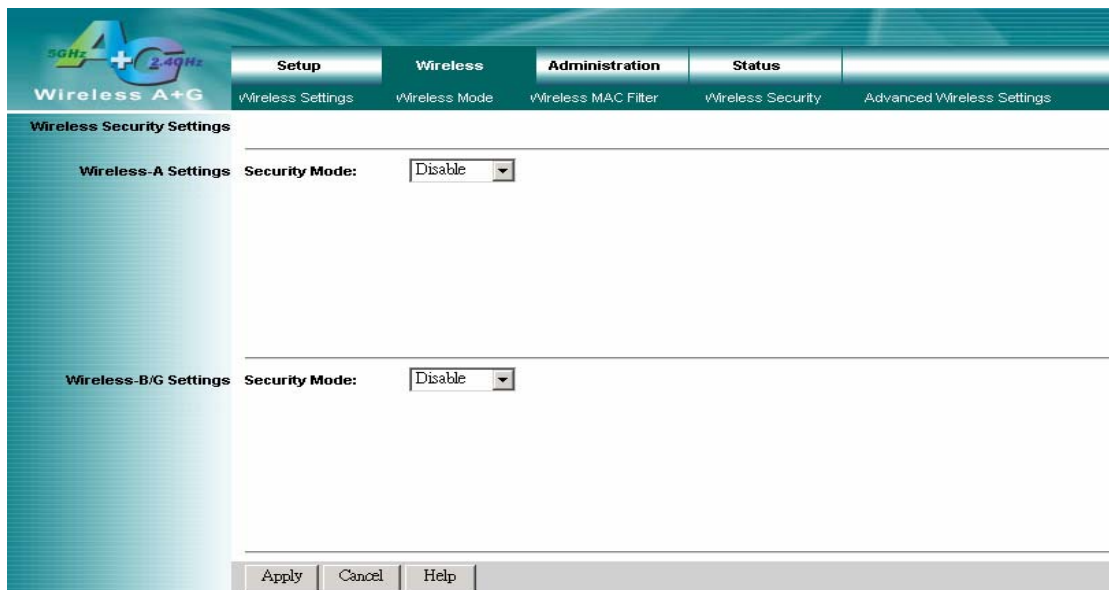
**WEP:** WEP is a basic encryption method, select a level of WEP encryption, **40/64-bit** or **128-bit**. If you want to use a Passphrase, then enter it in the *Passphrase* field and click the **Generate** button. If you want to enter the WEP key manually, then enter it in the *WEP Key 1-4* field(s). To indicate which WEP key to use, select the appropriate *TX Key* number.

#### WPA only:

**WPA Pre-Shared Key:** This security mode offers two encryption methods, TKIP and AES, with dynamic encryption keys. Select the type of encryption method you want to use, **TKIP** or **AES**. Enter the Passphrase, which can have 8 to 63 characters. Then enter the Key Renewal period, which instructs the AP how often it should change the encryption keys.

**WPA RADIUS:** This security mode must work with a RADIUS server using EAP –TLS or PEAP for user authentication. To use WPA RADIUS, select the type of encryption method you want to use, **TKIP** or **AES**. Enter the RADIUS server's IP address and port number (default is 1812), along with the authentication shared key by the AP and the server.

Enter the Key Renewal period, which instructs the AP how often it should change the encryption keys.



Change these settings as described here and click the **Apply** button to apply your changes or click **Cancel** button to cancel your changes. For additional information, click **Help**.

### 3.4. Wireless – Advanced Wireless Settings

This section provides AP's advanced wireless settings. These settings should be adjusted carefully. Any improper settings will affect the AP's wireless performance.

#### Advanced Wireless

##### Wireless-A Settings

###### Authentication Type:

**Open System:** This is default setting, those wireless clients that NOT use a WEP key for authentication.

**Shared Key:** This option means the wireless clients use a WEP key for authentication. Shared Key is only available if the WEP option is implemented.

**Transmission Rate:** The data transmission rate should be set depending on the speed of your wireless network. You can select a proper transmission speeds to fit your wireless clients requirement, or you can select **Auto (Default)** to have the AP automatically adjust one the fastest and suitable data rate to fit network status at the time. Usually this function can be named Auto-Fallback feature. Auto-Fallback will treat one best connection rate between the AP and a wireless client. The default value is **Auto (Default)**.

**Transmission Power:** This option provides the AP's RF output power adjustment. To minimize the possibility of eavesdropping by unauthorized wireless users, suggest to decrease the transmission power with a needed by your wireless environment. By drop down menu, you can select the appropriate level, **Full (Default)**, **Half**, **Quarter**, **Eighth**, or **Min**. The default is **Full (Default)**.

**Antenna Select:** This option provides antenna setting for which one you would like to set as TX/RX antenna. Using Diversity setting is proposed.

**ACK Timeout:** The Acknowledgement Timeout means from remote to local data transmission, one parameter to control both acknowledging action to guaranty those packets have already be received. Usually, for short distance, keep default setting is proposed. If there is long distance application, have minor increased with this parameter will be proposed.

**Beacon Interval:** The Beacon Interval value indicates the frequency interval of the beacon. Enter a value between 20 and 1000. A beacon is a packet broadcast by the AP to synchronize the wireless network. The default value is **100**.

**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 AP has buffered broadcast or multicast messages for associated clients, it sends the next DTIM with a DTIM Interval value. Its clients hear the beacons and awaken to receive the broadcast and multicast messages. The default value is **1**.

**Fragmentation Threshold:** This value specifies the maximum size for a packet before data is fragmented into multiple packets. If you experience a high packet error rate, you may slightly increase the Fragmentation Threshold. Setting the Fragmentation Threshold too low may result in poor network performance. Only minor reduction of the default value is recommended. In most cases, it should remain at its default value of **2346**.

*Beacon interval: The data transmitted on your wireless network that keeps the network synchronized.*

*DTIM: A message included in data packets that can increase wireless efficiency.*

*Fragmentation: Breaking a packet into smaller units when transmitting over a network medium that cannot support the original size of the packet.*

**RTS Threshold:** Using this setting can regulate your wireless network if you experience any inconsistent data flow situation, only by minor adjustment of the default value, the default value **2346** is recommended. The RTS/CTS mechanism will not be enabled if your wireless network packet less than RTS threshold value. The AP sends Request to Send (RTS) frames to a particular receiving station and negotiates the sending of a data frame. After receiving an RTS, the wireless station responds with a Clear to Send (CTS) frame to acknowledge the right to begin transmission. The RTS Threshold value should keep at its default value of **2346**.

##### Wireless-B/G Settings

###### Authentication Type:

**Open System:** This is default setting, those wireless clients that NOT use a WEP key for authentication.

**Shared Key:** This option means the wireless clients use a WEP key for authentication. Shared Key is only available if the WEP

option is implemented.

**Transmission Rate:** The data transmission rate should be set depending on the speed of your wireless network. You can select a proper transmission speeds to fit your wireless clients requirement, or you can select **Auto (Default)** to have the AP automatically adjust one the fastest and suitable data rate to fit network status at the time. Usually this function can be named Auto-Fallback feature. Auto-Fallback will treat one best connection rate between the AP and a wireless client. The default value is **Auto (Default)**.

**Transmission Power:** This option provides the AP's RF output power adjustment. To minimize the possibility of eavesdropping by unauthorized wireless users, suggest to decrease the transmission power with a needed by your wireless environment. By drop down menu, you can select the appropriate level, **Full (Default)**, **Half**, **Quarter**, **Eighth**, or **Min**. The default is **Full (Default)**.

**Antenna Select:** This option provides antenna setting for which one you would like to set as TX/RX antenna. Using Diversity setting is proposed.

**ACK Timeout:** The Acknowledgement Timeout means from remote to local data transmission, one parameter to control both acknowledging action to guaranty those packets have already be received. Usually, for short distance, keep default setting is proposed. If there is long distance application, have minor increased with this parameter will be proposed.

**Beacon Interval:** The Beacon Interval value indicates the frequency interval of the beacon. Enter a value between 20 and 1000. A beacon is a packet broadcast by the AP to synchronize the wireless network. The default value is **100**.

**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 AP has buffered broadcast or multicast messages for associated clients, it sends the next DTIM with a DTIM Interval value. Its clients hear the beacons and awoken to receive the broadcast and multicast messages. The default value is **1**.

**Fragmentation Threshold:** This value specifies the maximum size for a packet before data is fragmented into multiple packets. If you experience a high packet error rate, you may slightly increase the Fragmentation Threshold. Setting the Fragmentation Threshold too low may result in poor network performance. Only minor reduction of the default value is recommended. In most cases, it should remain at its default value of **2346**.

**RTS /CTS Threshold:** Using this setting can regulate your wireless network if you experience any inconsistent data flow situation, only by minor adjustment of the default value, the default value **2346** is recommended. The RTS/CTS mechanism will not be enabled if your wireless network packet less than RTS threshold value. The AP sends Request to Send (RTS) frames to a particular receiving station and negotiates the sending of a data frame. After receiving an RTS, the wireless station responds with a Clear to Send (CTS) frame to acknowledge the right to begin transmission. The RTS Threshold value should keep at its default value of **2346**.

**Short Preamble:** This setting is for 11b clients, usually set **short** value will enhance your WLAN performance for 11b client, however the 11b clients must have same feature as well.

**Allow 2.4GHz 54Mbps Station Only:** In order to keep high performance for this WLAN, set this option **Enable** will only allow stations with 54Mbps data rate to associate this AP.

**RTS/CTS Protection Mode:** CTS (Clear-To-Send) Protection Mode should be set to **Auto (Default)**. The AP will automatically use CTS Protection Mode when the Wireless-G products are experiencing severe problems and are not able to transmit to the AP in an environment with heavy 802.11b traffic. This function boosts the AP's ability to catch all Wireless-G transmissions but will severely decrease the performance. If you do not want to use CTS Protection Mode at all, select **Disabled**.

**RTS/CTS Protection Rate:** This setting is set the rate of RTS/CTS while protection mode is enabled.

**RTS/CTS Protection Type:** This protection mode provides 2 types, one is RTS/CTS and other is CTS only. Generally, using CTS only is able to fulfill most of environment.

The screenshot displays the 'Advanced Wireless' configuration page for a device. The interface includes a navigation bar with tabs for 'Setup', 'Wireless', 'Administration', and 'Status'. Under the 'Wireless' tab, there are sub-tabs for 'Wireless Settings', 'Wireless Mode', 'Wireless MAC Filter', 'Wireless Security', and 'Advanced Wireless Settings'. The 'Advanced Wireless' section is divided into two main areas: 'Wireless-A Settings' and 'Wireless-B/G Settings'.

**Wireless-A Settings:**

- Authentication Type: Open System (Default)
- Transmission Rate: best
- Transmission Power: Full
- Antenna Select: Diversity
- ACK Timeout: 48 (Default: 48, Range: 0 ~ 372)
- Beacon Interval: 100 (Default: 100 Milliseconds, Range: 20 ~ 1000)
- DTIM Interval: 1 (Default: 1, Range: 1 ~ 16384)
- Fragmentation Threshold: 2346 (Default: 2346, Range: 256 ~ 2346)
- RTS/CTS Threshold: 2346 (Default: 2346, Range: 256 ~ 2346)

**Wireless-B/G Settings:**

- Authentication Type: Open System (Default)
- Transmission Rate: best
- Transmission Power: Full
- Antenna Select: Diversity
- ACK Timeout: 48 (Default: 48, Range: 0 ~ 372)
- Beacon Interval: 100 (Default: 100 Milliseconds, Range: 20 ~ 1000)
- DTIM Interval: 1 (Default: 1, Range: 1 ~ 16384)
- Fragmentation Threshold: 2346 (Default: 2346, Range: 256 ~ 2346)
- RTS/CTS Threshold: 2346 (Default: 2346, Range: 0 ~ 2346)
- Short Preamble:  Disable  Enable
- Allow 2.4GHz 54Mbps Stations Only:  Disable  Enable
- RTS/CTS Protection Mode: Auto
- RTS/CTS Protection Rate: 11 Mbps
- RTS/CTS Protection Type:  CTS-only  RTS-CTS

Change these settings as described here and click the **Apply** button to apply your changes or click **Cancel** to cancel your changes. For additional information, click **Help**.

### 3.5. Administration – Management

This section allows the network’s administrator to manage specific AP functions for access and security.

#### Management

**UserName:** The login username, default value is blank(null).

**Password:** The login password, default value is **admin**.

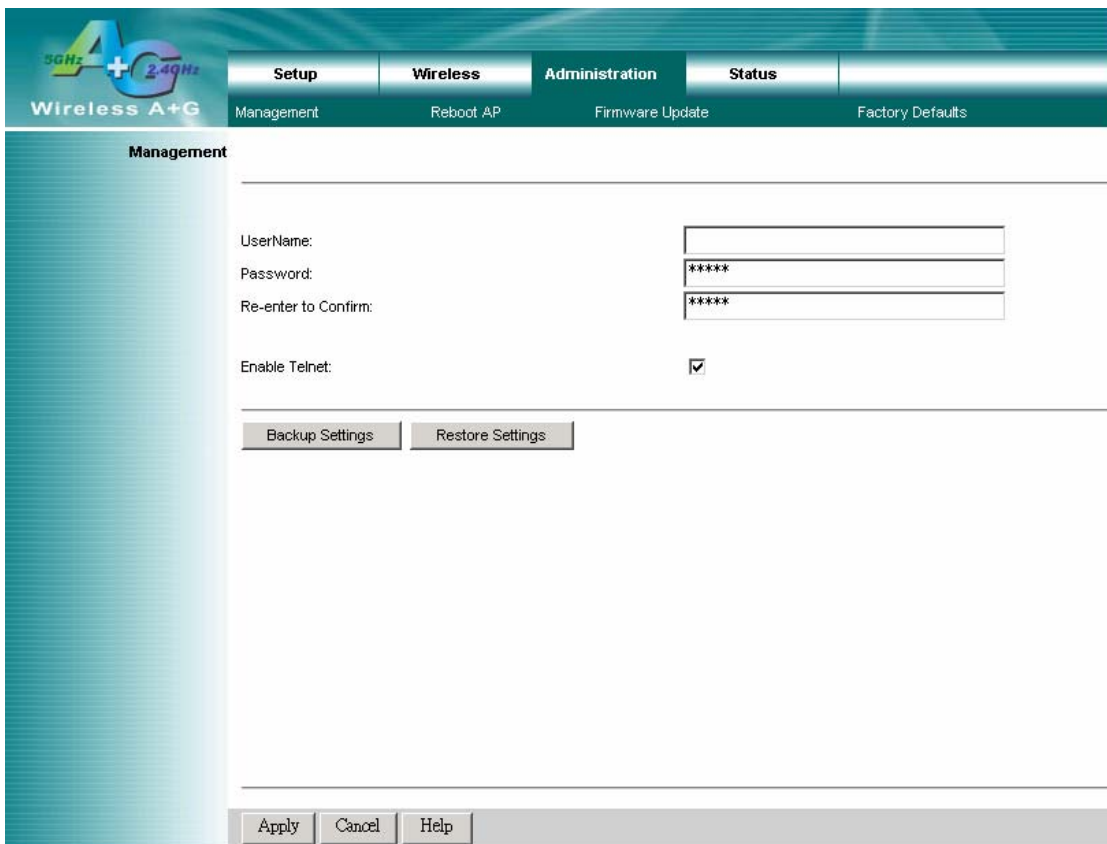
**Re-enter to Confirm:** You can change the AP’s password from here. Enter a new AP password and then type it again in the Re-enter to Confirm field to confirm.

**Enable Telnet:** Enable this checkbox can to perform Telnet configuration.

#### Backup and Restore

**Backup Settings:** To back up the AP’s configuration, click this button and follow the on-screen instructions.

**Restore Settings:** To restore the AP’s configuration, click this button and follow the on-screen instructions. (You must have previously backed up the AP’s configuration.)



The screenshot shows the 'Administration' tab of the AP's web interface. The top navigation bar includes 'Setup', 'Wireless', 'Administration', and 'Status'. Below this, there are sub-tabs: 'Management', 'Reboot AP', 'Firmware Update', and 'Factory Defaults'. The 'Management' section contains the following fields and controls:

- UserName:** A text input field.
- Password:** A text input field with masked characters (\*\*\*\*\*).
- Re-enter to Confirm:** A text input field with masked characters (\*\*\*\*\*).
- Enable Telnet:** A checkbox that is currently checked.

Below these fields are two buttons: 'Backup Settings' and 'Restore Settings'. At the bottom of the form are three buttons: 'Apply', 'Cancel', and 'Help'.

Change these settings as described here and click the **Apply** button to apply your changes or click **Cancel** to cancel your changes. For additional information, click **Help**.

### 3.6. Administration – Reboot AP

**AP Reboot:** Click this button to initialize this device.





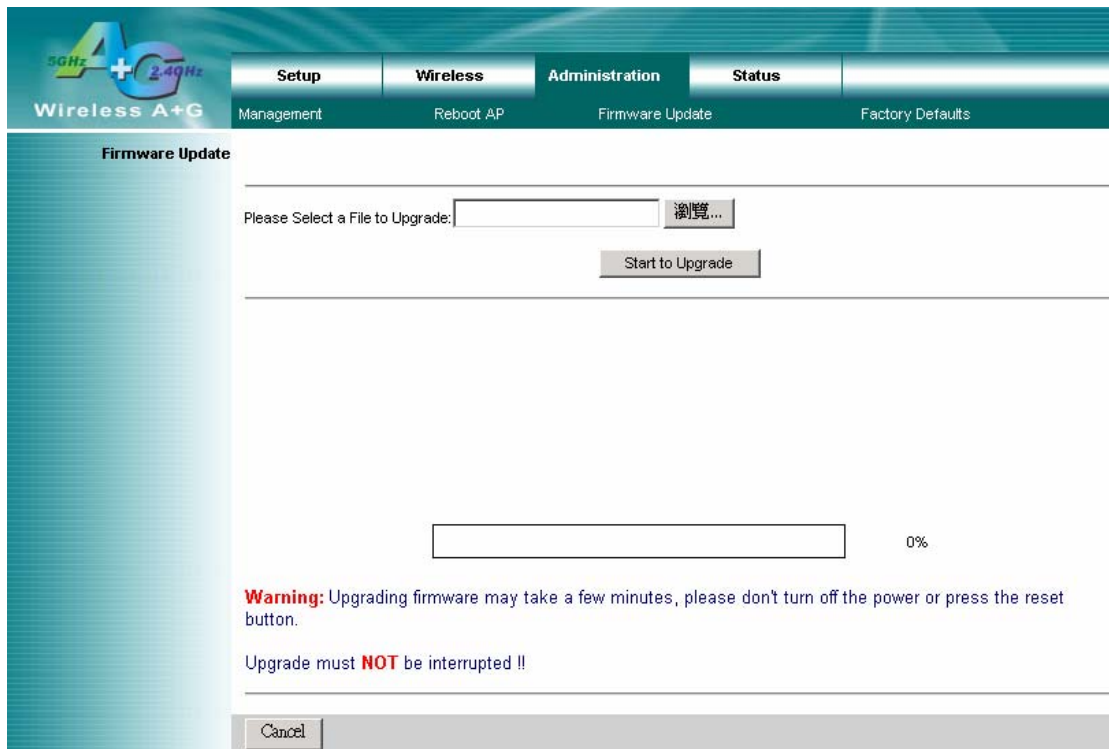
### 3.7. Administration – Firmware Upgrade

This Firmware Upgrade screen allows you to upgrade the AP's firmware. Do not upgrade the firmware unless you are experiencing problems with the AP or the new firmware has a feature you want to use.

#### Firmware Upgrade

**Please select a file to upgrade:** In the field provided, enter the name of the extracted firmware upgrade file, or click the **Browse** button to find this file.

**Start to Upgrade:** After you have selected the appropriate file, click this button for upgrade.



### 3.8. Administration – Factory Defaults

This Factory Defaults allows you to restore the AP's configuration to its factory default settings.

#### Factory Defaults

**Restore Factory Defaults:** Click this button to reset all configuration settings to their default values. Any settings you have saved will be lost when the default settings are restored.



### 3.9. Status – Local Network

The Local Network screen on the Status Tab displays the status of your network.

#### Identity

**Device Name:** The device name for user identification.

**Firmware Version:** The current AP firmware version display here.

#### Local Area Network

**Local MAC Address:** This is the AP's local physical MAC Address.

**Connection Type:** The current IP address type --- Dynamic or Static.

**IP Address:** The current AP's IP address.

**Subnet Mask:** This is AP's local subnet mask.

**Default Gateway:** This is the local network gateway IP.



### 3.10. Status – Wireless Network

The Wireless Network screen on the Status Tab displays the information of your Wireless networks.

#### Wireless Settings

##### Wireless-A Settings

**MAC Address:** This is the AP's Wireless-A band MAC Address.

**Mode:** This mode is displaying the current status of Wireless-A band network. **Enabled** means the A band network is **ON**.

**Turbo Mode:** This mode is displaying the turbo mode status. ( **Enabled/Disabled** )

**SSID:** This displays the AP's current Wireless-A SSID string.

**Broadcast SSID:** This displays the AP's SSID Broadcast status.

**Channel:** The current A band channel you are using.

##### Wireless-B/G Settings

**MAC Address:** This is the AP's Wireless-G band MAC Address.

**Mode:** This mode is displaying the current status of Wireless-B/G band network. **Enabled** means the B/G band network is **ON**.

**Radio Policy:** This displays the Wireless-G band network mode.

**SSID:** This displays the AP's current Wireless-B/G SSID string.

**Broadcast SSID:** This displays the AP's SSID Broadcast status.

**Channel:** The current G band channel you are using.

The screenshot shows a web interface for wireless network settings. At the top, there is a navigation bar with tabs for 'Setup', 'Wireless', 'Administration', and 'Status'. Below the navigation bar, there are three sub-tabs: 'Local Network', 'Wireless Network', and 'Wireless Statistics'. The 'Wireless Network' tab is selected. The main content area is divided into three sections: 'Wireless Settings', 'Wireless-A Settings', and 'Wireless-B/G Settings'. The 'Wireless Settings' section shows a message: '802.11a and 802.11g wireless network settings are shown as the following.' Below this, there is a table with two columns: 'L2 isolation:' and 'Disable'. The 'Wireless-A Settings' section shows a table with the following data: MAC Address: 00:90:4B:DA:E7:93, Mode: Enable, Turbo Mode: 802.11a, SSID: wlan-a, Broadcast SSID: Enable, Channel: Auto (DFS). The 'Wireless-B/G Settings' section shows a table with the following data: MAC Address: 00:90:4B:DA:E7:94, Mode: Enable, Radio Policy: b/g mixed, SSID: wlan-g, Broadcast SSID: Enable, Channel: 2437MHz (Channel 6).

Section	Parameter	Value
Wireless Settings	L2 isolation:	Disable
	802.11a and 802.11g wireless network settings are shown as the following.	
Wireless-A Settings	MAC Address:	00:90:4B:DA:E7:93
	Mode:	Enable
	Turbo Mode:	802.11a
	SSID:	wlan-a
	Broadcast SSID:	Enable
	Channel:	Auto (DFS)
Wireless-B/G Settings	MAC Address:	00:90:4B:DA:E7:94
	Mode:	Enable
	Radio Policy:	b/g mixed
	SSID:	wlan-g
	Broadcast SSID:	Enable
	Channel:	2437MHz (Channel 6)

### 3.11. Status – Wireless Statistics

**Wireless Statistics:** This displays the AP and stations that are currently part of the BSS.

The screenshot shows a web interface for 'Wireless A+G' with a navigation menu at the top. The 'Status' tab is selected, and the 'Wireless Statistics' sub-tab is active. The page displays two tables of statistics: one for 5GHz and one for 2.4GHz. Each table has columns for ID, MAC Address, and State. Both tables show a single entry for 'AP' with MAC address '00:90:4B:DA:E7:93' and state 'up'.

5GHz Statistics		
ID	MAC Address	State
AP	<a href="#">00:90:4B:DA:E7:93</a>	up

2.4GHz Statistics		
ID	MAC Address	State
AP	<a href="#">00:90:4B:DA:E7:94</a>	up

## 4. Troubleshooting – Q & A

### 1. I'm trying to log on the AP's Web configuration page, but I do not see the login screen.

**Answer:**

1. Please make sure the IP address that you input on address field of IE browser is correct.
2. Make sure the physical layer connection is established. If you are using wired to connect this AP, check the relevant LAN LED whether is lit or not.
3. On Dos Prompt screen, using “ ping “ command to probe this AP, check if you got reply from it.  
Command: ping < Destination IP address >
4. If you have any TCP/IP setting problem, please refer to the Quick Installation Guide.

### 2. I forgot my password, how to log on this AP for configuration?

**Answer:**

1. Reset the AP to factory default by pressing the Reset button for 10 seconds then releasing it.
2. Log on the AP's web management by <http://192.168.1.250>  
Leave username blank and enter the default password **admin**.

### 3. How to set the AP to factory default setting.

**Answer:**

1. Reset the AP to factory default by pressing the Reset button for 10 seconds then releasing it.
2. After release the Reset button, the AP will get back all setting to factory default and reboot system.
3. While the reboot is complete, log on the AP's web management by default IP <http://192.168.1.250>  
Leave username blank and enter the default password **admin**.

### 4. My AP will not turn on. No LED's light up.

**Answer:**

Usually it is caused by the power is not connected.  
Please double check the power adapter if it connected to your AP and the other side is plugged into the power outlet.  
If it still has no power, please contact your reseller.

### 5. I can't access the AP from a wireless client.

**Answer:**

Generally to make the wireless client unable to access AP with following possible issues:

1. Settings are not the same among each wireless adapter.
2. Out of range.
3. IP Address is not set correctly.

**Resolution:**

Make sure that mode, SSID, Channel and encryption settings are set the same on each wireless adapter. Make sure that your computer is within range and free from any strong electrical devices that may cause interference.

### 6. What devices cause interference?

**Answer:**

The AP is operating in the unlicensed 2.4 GHz band and 5GHz. Other devices operates in this frequency range that may cause interference include microwave ovens and 2.4 GHz portable phones. PCs or analog cellular phones do not operate at 2.4 GHz and do not cause interference. Proper placement of access points usually eliminates interference problems created by other 2.4 GHz devices.

## 5. Command Line Interface (CLI)

If desired, the Command Line Interface (CLI) can be used for configuration. This creates the possibility of creating scripts to perform common configuration changes. The CLI requires a Telnet connection on the WDAP-1001.

1. Start your Telnet client, and establish a connection to the WDAP-1001  
e.g. **Telnet 192.168.1.250**
2. You will be prompted for the user name and password. Enter the same login name and password as used for the HTTP (Web) interface. The default values are empty for the User Name, and admin for the Password.
3. Once connected, you can use any of the commands listed in the following Command Reference.

### Command Reference

add remoteWbr	Add a remote Wireless Bridge
config wlan	config wlanX ( config wlan 0, config wlan 1)
connect bss	connect to bssX
del acl	Delete Access Control List
del key	Delete Encryption key
del remoteWbr	Delete a remote Wireless Bridge
find bss	Find BSS
find channel	Find Available Channel
find all	Find All BSS
ftp	Software update via FTP
get acl	Display Access Control List
get aging	Display Aging Interval
get antenna	Display Antenna Diversity
get association	Display Association Table
get authentication	Display Authentication Type
get autochannelselect	Display Auto Channel Select
get beaconinterval	Display Beacon Interval
get burstSeqThreshold	Display Max Number of frames in a Burst
get burstTime	Display Burst Time
get channel	Display Radio Channel
get cipher	Display Encryption cipher
get config	Display Current AP Configuration
get countrycode	Display Country Code
get domainsuffix	Display Domain Name Server suffix
get dtim	Display Data Beacon Rate (DTIM)
get encryption	Display Encryption Mode
get fragmentthreshold	Display Fragment Threshold
get frequency	Display Radio Frequency (MHz)
get gateway	Display Gateway IP Address
get groupkeyupdate	Display Group Key Update Interval (in Seconds)
get hardware	Display Hardware Revisions
get hostipaddr	Display Host IP Address
get ipaddr	Display IP Address
get ipmask	Display IP Subnet Mask
get jsw	Display Jumpstart Mode
get jsP2PassPhrase	Display JS-P2 passphrase
get key	Display Encryption Key
get keyentrymethod	Display Encrytion Key Entry Method
get keysource	Display Source Of Encryption Keys
get layer2isolate	Display Layer 2 Isolation Mode
get radardetect	Display Layer 2 Isolation Mode
get ipreset	Display IPReset Mode
get login	Display Login User Name
get minimumrate	Display Minimum Rate
get nameaddr	Display IP address of name server

get operationMode	Display Operation Mode
get pktLogEnable	Display Packet Logging Mode
get power	Display Transmit Power Setting
get radiusname	Display RADIUS server name or IP address
get radiusport	Display RADIUS port number
get rate	Display Data Rate
get reg	Display the register contents at the given offset
get remoteAp	Display Remote Ap's Mac Address
get remoteWbr	Display configured Remote Wireless bridges
get rtsthreshold	Display RTS/CTS Threshold
get sntpserver	Display SNTP/NTP Server IP Address
get ssid	Display Service Set ID
get ssidsuppress	Display SSID Suppress Mode
get station	Display Station Status
get SuperG	Display SuperG Feature Status
get systemname	Display Access Point System Name
get telnet	Display Telnet Mode
get timeout	Display Telnet Timeout
get upsd	Display UPSD Mode
get uptime	Display UpTime
get vlan	Display VLAN Mode
get wirelessmode	Display Wireless LAN Mode
get wmm	Display WMM Mode
get wmmParamBss	Display WMM parameters used by STA in this BSS
get wmmParam	Display WMM parameters used by this AP
get wlanstate	Display wlan state
help	Display CLI Command List
ping	Ping
pktLog	Packet Log
reboot	Reboot Access Point
run	Run command file
quit	Logoff
set acl	Set Access Control List
set aging	Set Aging Interval
set antenna	Set Antenna
set authentication	Set Authentication Type
set autochannelselect	Set Auto Channel Selection
set beaconinterval	Modify Beacon Interval
set burstSeqThreshold	Set Max Number of frames in a Burst
set burstTime	Set Burst Time
set channel	Set Radio Channel
set cipher	Set Cipher
set countrycode	Set Country Code
set domainsuffix	Set Domain Name Server Suffix
set dtim	Set Data Beacon Rate (DTIM)
set encryption	Set Encryption Mode
set factorydefault	Restore to Default Factory Settings
set fragmentthreshold	Set Fragment Threshold
set frequency	Set Radio Frequency (MHz)
set gateway	Set Gateway IP Address
set groupkeyupdate	Set Group Key Update Interval (in Seconds)
set hostipaddr	Set Host IP address
set ipaddr	Set IP Address
set ipmask	Set IP Subnet Mask
set jsw	Set Jumpstart Mode
set jsp2Passwd	Set JS-P2 password
set key	Set Encryption Key
set keyentrymethod	Select Encryption Key Entry Method
set keysource	Select Source Of Encryption Keys
set layer2isolate	Set Layer 2 Isolation Mode
set radardetect	Set RadarDetect Mode
set ipreset	Set IPReset Mode



set login	Modify Login User Name
set minimumrate	Set Minimum Rate
set nameaddress	Set Name Server IP address
set operationMode	Set operation Mode
set password	Modify Password
set passphrase	Modify Passphrase
set pktLogEnable	Enable Packet Logging
set power	Set Transmit Power
set radiusname	Set RADIUS name or IP address
set radiusport	Set RADIUS port number
set radiussecret	Set RADIUS shared secret
set rate	Set Data Rate
set reg	Set Register Value
set remoteAP	Set Remote AP's Mac Address
set rtsthreshold	Set RTS/CTS Threshold
set sntpserver	Set SNTP/NTP Server IP Address
set ssid	Set Service Set ID
set ssidsuppress	Set SSID Suppress Mode
set SuperG	Super G Features
set systemname	Set Access Point System Name
set telnet	Set Telnet Mode
set timeout	Set Telnet Timeout
set tzone	Set Time Zone Setting
set upsd	Set UPSD Mode
set vlan	Set VLAN Mode
set wlanstate	Set wlan state
set wirelessmode	Set Wireless LAN Mode
set wmm	Set WMM Mode
set wmmParamBss	Set WMM parameters used by STAs in this BSS
set wmmParam	Set WMM parameters used by this AP
timeofday	Display Current Time of Day
version	Display version