![4ipnet logo - for your IP network]

Quick Installation Guide

EAP220 V1.00

Enterprise Access Point

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FCC CAUTION

This equipment has been tested and proven to comply with the limits for a class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

---Reorient or relocate the receiving antenna.

---Increase the separation between the equipment and receiver.

---Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

---Consult the dealer or an experienced radio/TV technician for help.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

The device contains a low power transmitter which will send out Radio Frequency (RF) signal when transmitting. This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 centimeters between the radiator and your body.

This device and its antennas(s) must not be co-located or operating in conjunction with any other antenna or transmitter except in accordance with FCC multi-transmitter product procedures. For product available in the USA/Canada market, only channel 1~11 can be operated. Selection of other channels is not possible. This device is going to be operated in 5.15~5.25GHz frequency range, it is restricted in indoor environment only.

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

CE CAUTION

Declaration of Conformity with Regard to the 1999/5/EC (R&TTE Directive) for

European Community, Switzerland, Norway, Iceland, and Liechtenstein

Model: EAP220

For 2.4 GHz radios, the device has been tested and passed the requirements of the following standards, and hence fulfills the EMC and safety requirements of R&TTE Directive within the CE marking requirement.

• Radio: EN 300.328:

• EMC: EN 301.489-1, EN 301.489-17,

• EMC: EN 55022 Class B, EN 55024:+ A1 + A2 including the followings:

   EN 61000-3-2, EN 61000-3-3.

   EN 61000-4-2, EN 61000-4-3, EN 61000-4-4,

   EN 61000-4-5, EN 61000-4-6, EN 61000-4-11

• Safety: EN 60950-1 + A11,

Caution:

- This declaration is only valid for configurations (combinations of software, firmware, and hardware) provided and supported by 4ipnet Inc. The use of software or firmware not provided and supported by 4ipnet Inc. may result in the equipment no longer being compliant with the regulatory requirements.

European standards dictate maximum radiated transmit power of 100mW EIRP and frequency range 2.400-2.4835 GHz. This equipment is intended to be used in all EU and EFTA countries. Outdoor use may be restricted to certain frequencies and/or may require a license for operation. Contact your local regulatory authority for compliance.

Taiwan NCC Statement

根據 NCC 低功率電波輻射性電機管理辦法 規定:	
第十二條	經型式認證合格之低功率射頻電機，非經許可，公司、商號或使用者均不得擅自變更頻率、加大功率或變更原設計之特性及功能。
第十四條	低功率射頻電機之使用不得影響飛航安全及干擾合法通信；經發現有干擾現象時應立即停用，並改善至無干擾時方得繼續使用。 前項合法通信，指依電信法規定作業之無線電通信。 低功率射頻電機須忍受合法通信或工業、科學及醫療用電波輻射性電機設備之擾。

Preface

4ipnet EAP220 is a high-end 802.11a/b/g/n 2.4GHz/ 5GHz MIMO Access Point (AP) with two RF cards (2.4GHz RF Card A / 5GHz RF Card B) embedded to maximize deployment flexibility and feasibility for IT administrators.

Complying with the latest industrial wireless security standards that are required in the tightly secured enterprise network environments, EAP220 makes the wireless communication fast, secure and easy. It supports business-grade secure encryption - 802.1X and Wi-Fi Protected Access (WPA and WPA2) ; by pushing a purposely built button, the **4ipWES (Press-n-Connect)** feature makes it easy to bridge wireless links of multiple EAP220s for forming a wider wireless network coverage.

EAP220 also features multiple ESSIDs with VLAN tags and multiple Virtual APs; great for enterprise applications, such as separating traffic from different departments using different ESSIDs. The PoE LAN port is able to receive power from Power over Ethernet (PoE) sourcing devices. Its metal case is IP50 anti-dust compliant, which means that EAP220 is well suited to WLAN deployment in industrial environments.

This Quick Installation Guide provides instructions and reference materials to get you started with 4ipnet EAP220.

Package Contents

1. 4ipnet EAP220 x 1
2. Quick Installation Guide (QIG) x 1
3. CD-ROM (with User's Manual and QIG) x 1
4. Ethernet Cable x 1
5. Console Cable x 1
6. Power Adapter (DC 12V) x 1
7. Detachable Antenna x 4

⚠️ *It is recommended to keep the original packing material for possible future shipment when repair or maintenance is required. Any returned product should be packed in its original packaging to prevent damage during delivery.*
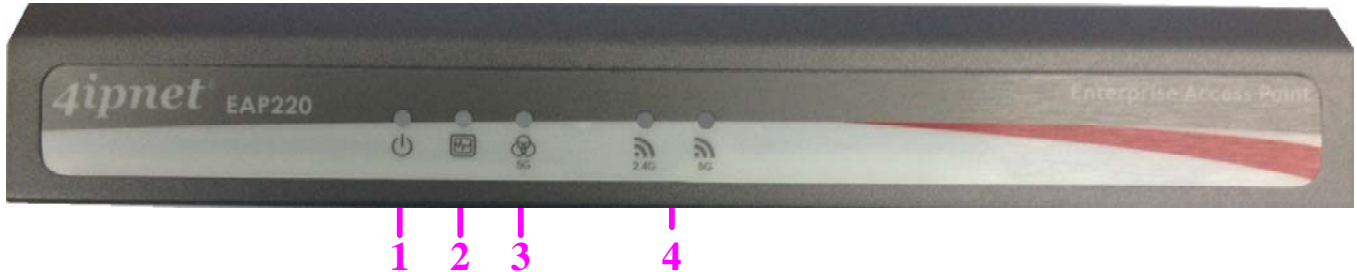
System Overview

Front Panel

Figure 1 EAP220 Front Panel

| 1	⏻	**Power LED**	On indicates power on.		
2	🖾	**Status LED**	On indicates the system is ready.		
3	⊛	**WES LED**	For indicating WDS connection status.		
				Master (Press for more than 3 seconds)	Slave (Press once and then release right away)
			WES Negotiate	BLINKING SLOWLY (Green)	BLINKING RAPIDLY (Green)
			WES Success	LED (Green) ON	LED (Green) ON
			WES Fail/Timeout	LED (Green) OFF	LED (Green) OFF
4	🛜	**Wireless LED (2.4 / 5 GHz)**	On indicates wireless network interface is ready for service.		

Rear Panel
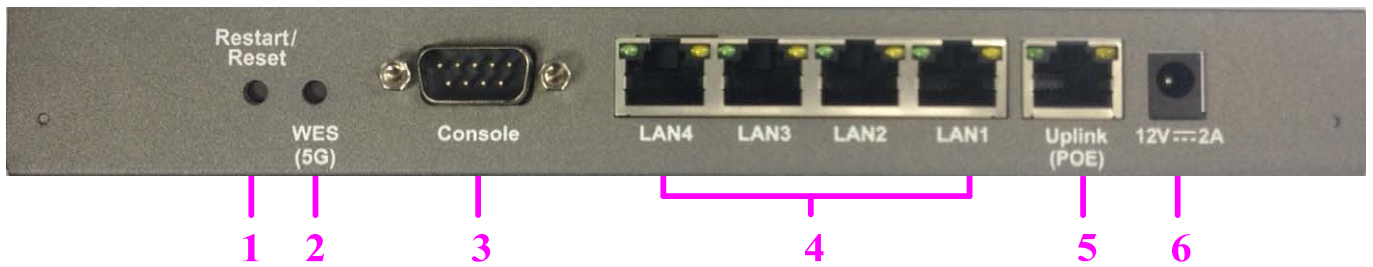
Figure 2 EAP220 Rear Panel

1	**Restart/ Reset**	Press once to restart the system; to reset the system to factory default settings, hold for more than 5 seconds.
2	**WES Button (RF B)**	For IT administrators to easily setup WDS links with two RF cards.
3	**Console port**	To access EAP220 via the console interface.
4	**LAN 1 - 4 ports**	The ports for connections with LAN side devices.
5	**Uplink Port**	The port for uplink connection to another gateway or device. PoE (802.3at) is supported.
6	**12V 2 A**	Power Socket for the power adaptor.

Right-Side Panel

On the right side of the panel there is a Kensington slot. Admin can also fill it with a rubber plug.

Hardware Installation

Please follow the steps mentioned below to install the hardware of EAP220:

1. **Place the EAP220 at the best location.**

   The best location for EAP220 is usually at the center of your intended wireless network.

2. **Connect EAP220 to your network device.**

   Connect one end of the Ethernet cable to the Uplink port of EAP220 and the other end of the cable to a switch, a router or a hub. EAP220 is then connected to your existing wired LAN network.

3. **There are two ways to supply power over to EAP220.**

   (a) Connect the **DC power adapter** to the EAP220 power socket.

   > ⚠ *Please use only the power adapter supplied with the EAP220 package. Using a different power adapter may damage this system.*

   (b) EAP220 Uplink port is capable of receiving DC currents. Connect an IEEE 802.3at-compliant PSE device, e.g. a PoE-switch, to the Uplink port of EAP220 with the Ethernet cable.

Now, the Hardware Installation is completed.

> ⚠ *To verify the wired connection between EAP220 and your switch/router/hub, please check the LED status indication of these network devices.*

Getting Started

4ipnet EAP220 supports web-based configuration. When hardware installation is complete, EAP220 can be configured through a PC by using a web browser such as Mozilla Firefox 2.0 or Internet Explorer version 6.0 and above.

The default values of LAN IP address and subnet mask of EAP220 are:

> **IP Address:** *192.168.1.1*
> **Subnet Mask:** *255.255.255.0*

Steps:

1. To access the Web Management Interface, connect the administrator PC to the LAN port of EAP220 via an Ethernet cable. Then, set a static IP address on the same subnet mask as EAP220 in TCP/IP of your PC, such as the following example:

> **IP Address***: 192.168.1.100*
> **Subnet Mask***: 255.255.255.0*

2. Launch the web browser on your PC by entering the IP address of EAP220 (**http://192.168.1.1**) at the address field, and then press *Enter*.

3. The following Admin Login Page will appear. Enter **"admin"** for both the *Username* and *Password* fields, and then click *Login*.

Administrator Login Page

4. After a successful login to EAP220, a **System Overview** page of the Web Management Interface will appear, as depicted below. The Radio Status and AP Status for modules on both RF cards will be shown.

The Web Management Interface - System Overview Page

5. To logout, simply click on the *Logout* button at the upper-right corner of the interface to return to the Administrator Login Page. Click *OK* to logout.

Common Settings

Step 1. Change Administrator's Password

Change Password Page

- ➢ Click on the **Utilities** icon on the main menu, and select the **Change Password** tab.
- ➢ Enter the old password and then a new password with a length of up to 32 characters, and retype it in the **Re-enter New Password** field.
- ➢ Click *SAVE* to save the changes.

Step 2. Configure General AP (Access Point) Settings

Wireless General Settings Page

- ➢ Click on the **Wireless** icon on the main menu, and then select the **General** tab.
- ➢ Select the RF card you would like to set up.
- ➢ Determine the **Band** and **Channel** settings:

  Select your preferred **Band** and **Channel** for you wireless connection. For example, select

  802.11g+802.11n for the band and 6 for the channel.

⏵ **Note:**	RF Card A supports only 2.4GHz bands (b/g/n) and RF Card B supports only 5GHz bands (a/n). To utilize MIMO for N band, two antennas per RF Card is recommended.

Step 3. Configure VAP (Virtual Access Point) Profile Settings

VAP Configuration Page (RF Card A : VAP-1 shown)

➢ Each embedded RF card supports up to 8 virtual APs (VAPs), which means 16 VAPs are available.

➢ Configure VAP profile settings：

  (a)   Select the **VAP Configuration** tab to configure the settings of the desired VAP.

  (b)   Choose a specific RF card to set up

  (c)   Enable a selected VAP from the drop-down menu of **Profile Name** and configure related

       settings below.

  (d)   Check "CAPWAP Tunnel Interface" if you would like data of this VAP to go through the

       Controller when the Access Point is managed by CAPWAP.

➢ Check VAP status：

  After finishing VAP configuration, the status of the enabled Virtual APs shall be reflected on the VAP

  Overview page – **at Wireless > VAP Overview**.

RF Card A

VAP No.	ESSID	State	Security Type	MAC ACL	Advanced Settings
1	4ipnetAP-A1	Enabled	None	Disabled	Edit
2	4ipnetAP-A2	Disabled	None	Disabled	Edit
3	4ipnetAP-A3	Disabled	None	Disabled	Edit
4	4ipnetAP-A4	Disabled	None	Disabled	Edit
5	4ipnetAP-A5	Disabled	None	Disabled	Edit
6	4ipnetAP-A6	Disabled	None	Disabled	Edit
7	4ipnetAP-A7	Disabled	None	Disabled	Edit
8	4ipnetAP-A8	Disabled	None	Disabled	Edit

RF Card B

VAP No.	ESSID	State	Security Type	MAC ACL	Advanced Settings
1	4ipnetAP-B1	Enabled	None	Disabled	Edit
2	4ipnetAP-B2	Disabled	None	Disabled	Edit
3	4ipnetAP-B3	Disabled	None	Disabled	Edit
4	4ipnetAP-B4	Disabled	None	Disabled	Edit
5	4ipnetAP-B5	Disabled	None	Disabled	Edit
6	4ipnetAP-B6	Disabled	None	Disabled	Edit
7	4ipnetAP-B7	Disabled	None	Disabled	Edit
8	4ipnetAP-B8	Disabled	None	Disabled	Edit

Virtual AP Overview Page

Step 4. Configure WDS (Wireless Distribution System) Settings (Optional)

To extend the wireless coverage, EAP220 supports up to 4 WDS links per RF card for connecting wirelessly to other WDS-capable APs, or peer APs. By default, all WDS profiles are disabled.

- ➢ Click on the **Wireless** button on the main menu.
- ➢ Select the **Repeater** tab.
- ➢ Choose **WDS** as the **Repeater Type**.
- ➢ Choose the desired RF card and WDS profile:
  - (a) Enable **WDS**.
  - (b) Enter the **MAC Address** (peer AP) and then Click **SAVE**.

If you are using another EAP220 as the peer AP, simply repeat the above-mentioned steps to configure another peer AP(s).

▶▶ **Note:**	On each and every configuration page, you may click *SAVE* to save the changes of your configured settings, but you must reboot the system for the changes to take effect. After clicking *SAVE*, the following message will appear: **"Some modifications have been saved and will take effect after Reboot."**

Congratulations!

Now, 4ipnet EAP220 is installed and configured successfully.

⚠ *After EAP220's network configuration is completed, please remember to change the IP Address of your PC Connection Properties back to its original settings in order to ensure that your PC functions properly in its real network environments.*

● ***It is strongly recommended to back up your configuration settings.***

● ***For further configuration and information, please refer to the User's Manual.***

P/N: V10020130606