

DrayTek

VigorAP 910C

802.11ac Ceiling-mount Access Point



Quick Start Guide

V1.2

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802.11ac Ceiling-mount Access Point

Quick Start Guide

Version: 1.2

F/W: V1.1.6

Date: December 29, 2015

Warranty

We warrant to the original end user (purchaser) that the access point will be free from any defects in workmanship or materials for a period of one (1) year from the date of purchase from the dealer. Please keep your purchase receipt in a safe place as it serves as proof of date of purchase. During the warranty period, and upon proof of purchase, should the product have indications of failure due to faulty workmanship and/or materials, we will, at our discretion, repair or replace the defective products or components, without charge for either parts or labor, to whatever extent we deem necessary to restore the product to proper operating condition. Any replacement will consist of a new or re-manufactured functionally equivalent product of equal value, and will be offered solely at our discretion. This warranty will not apply if the product is modified, misused, tampered with, damaged by an act of God, or subjected to abnormal working conditions. The warranty does not cover the bundled or licensed software of other vendors. Defects which do not significantly affect the usability of the product will not be covered by the warranty. We reserve the right to revise the manual and online documentation and to make changes from time to time in the contents hereof without obligation to notify any person of such revision or changes.

European Community Declarations

Manufacturer: DrayTek Corp.
Address: No. 26, Fu Shing Road, HuKou Township, HsinChu Industrial Park, Hsin-Chu, Taiwan 303
Product: VigorAP 910C

DrayTek Corp. declares that VigorAP 910C is in compliance with the following essential requirements and other relevant provisions of R&TTE Directive 1999/5/EEC, ErP 2009/125/EC and RoHS 2011/65/EU.

The product conforms to the requirements of Electro-Magnetic Compatibility (EMC) Directive 2004/108/EC by complying with the requirements set forth in EN55022/Class B and EN55024/Class B.

The product conforms to the requirements of Low Voltage (LVD) Directive 2006/95/EC by complying with the requirements set forth in EN60950-1.

Federal Communication Commission 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 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 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 may accept any interference received, including interference that may cause undesired operation.

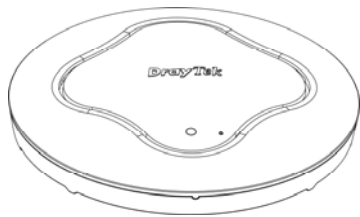
This product is designed for 2.4GHz/5GHz WLAN network throughout the EC region and Switzerland with restrictions in France.



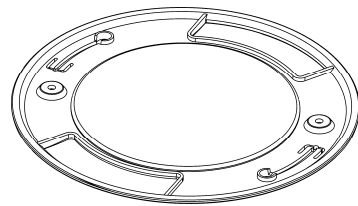
The antenna/transmitter should be kept at least 20 cm away from human body.

1

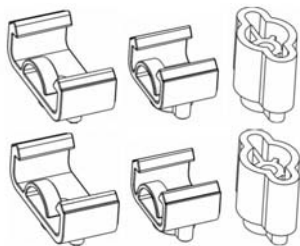
Package Content



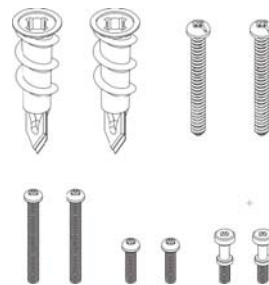
VigorAP 910C Main Unit



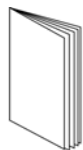
Ceiling mount bracket



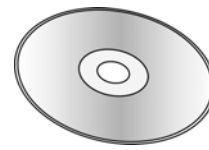
T-Rail Mounting Kits
(Used for suspended ceiling)



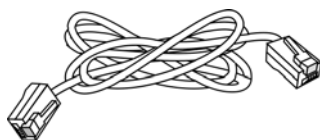
Fixings and Screws
(for ceiling mounting)



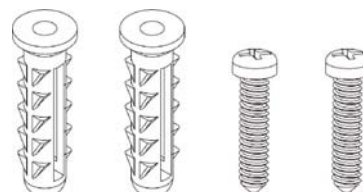
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CD

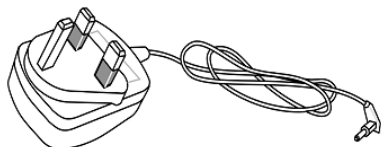


RJ-45 Cable (Ethernet)

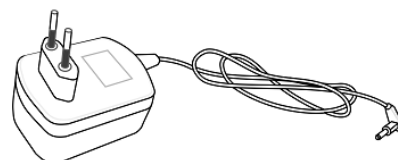


Screw set (for wall mounting)

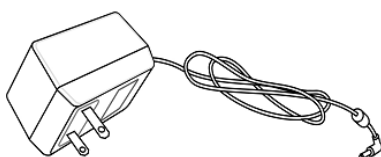
The type of the power adapter depends on the country that the AP will be installed:



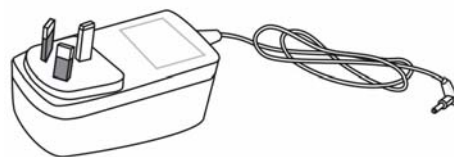
UK-type power adapter



EU-type power adapter



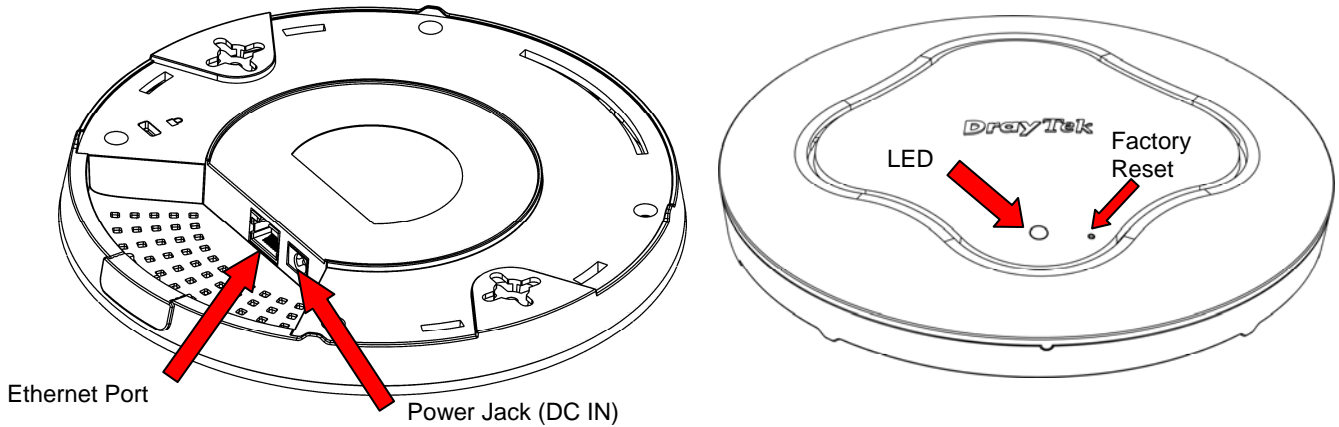
USA/Taiwan-type power adapter



AU/NZ-type Power Adapter

2

Descriptions of Components



LED	Status	Explanation
Blue LED	Blinking	VigorAP is ready and can work normally.
	Off	VigorAP is not ready or fails.
Purple LED	On	Power adapter is plugged in and VigorAP is initializing
Orange LED	Blinking	The firmware upgrade is in process.
Off	Off	VigorAP is turned off or not functioning.
Interface		Explanation
Ethernet Port		Connects to LAN or router. Supports PoE power & Gigabit (1000BaseT).
Power Jack (DC IN)		Connector for a power adapter.
Hole		Explanation
Factory Reset		Restores the unit back to factory default settings. To use, insert a small item such as an unbent paperclip into the hole. You will feel the button inside depress gently. Hold it for 10 seconds. The VigorAP will restart with the factory default configuration and the LED will blink blue.



Note: For the sake of security, make the accessory kit away from children.

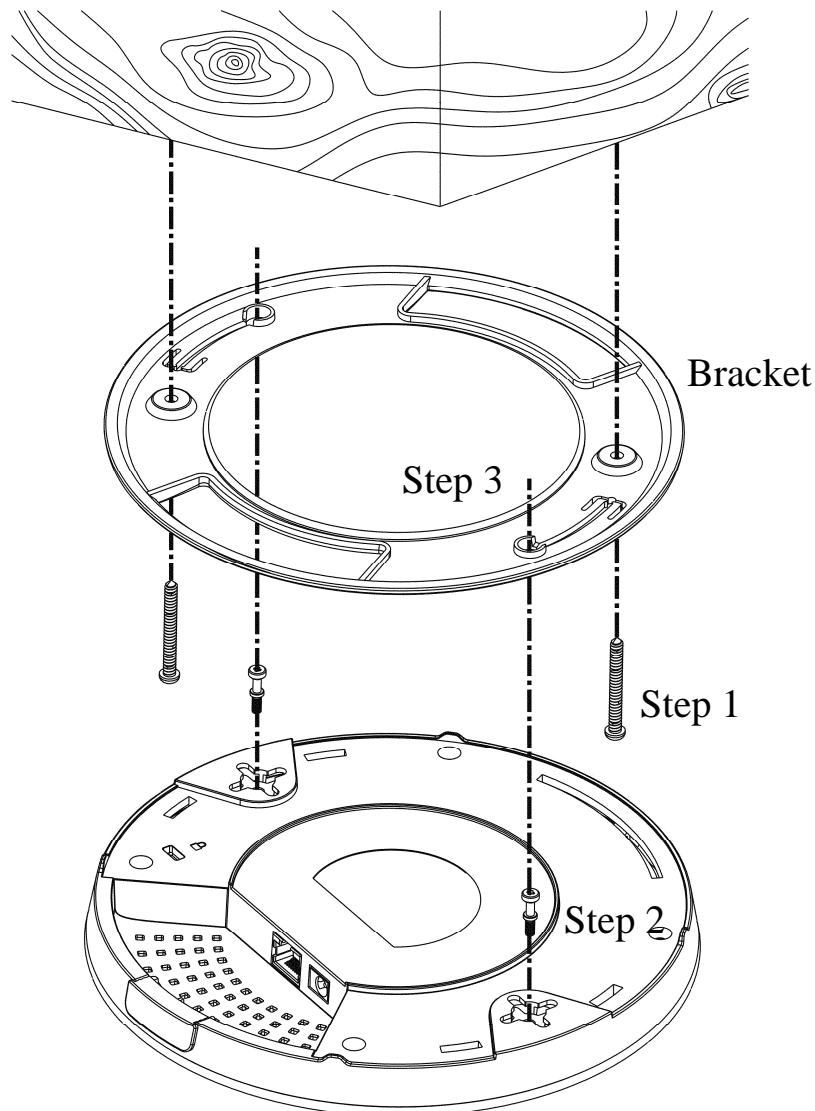
3

Installation

VigorAP can be installed under certain locations: wooden ceiling, plasterboard ceilings, light-weighted steel frame and wall.

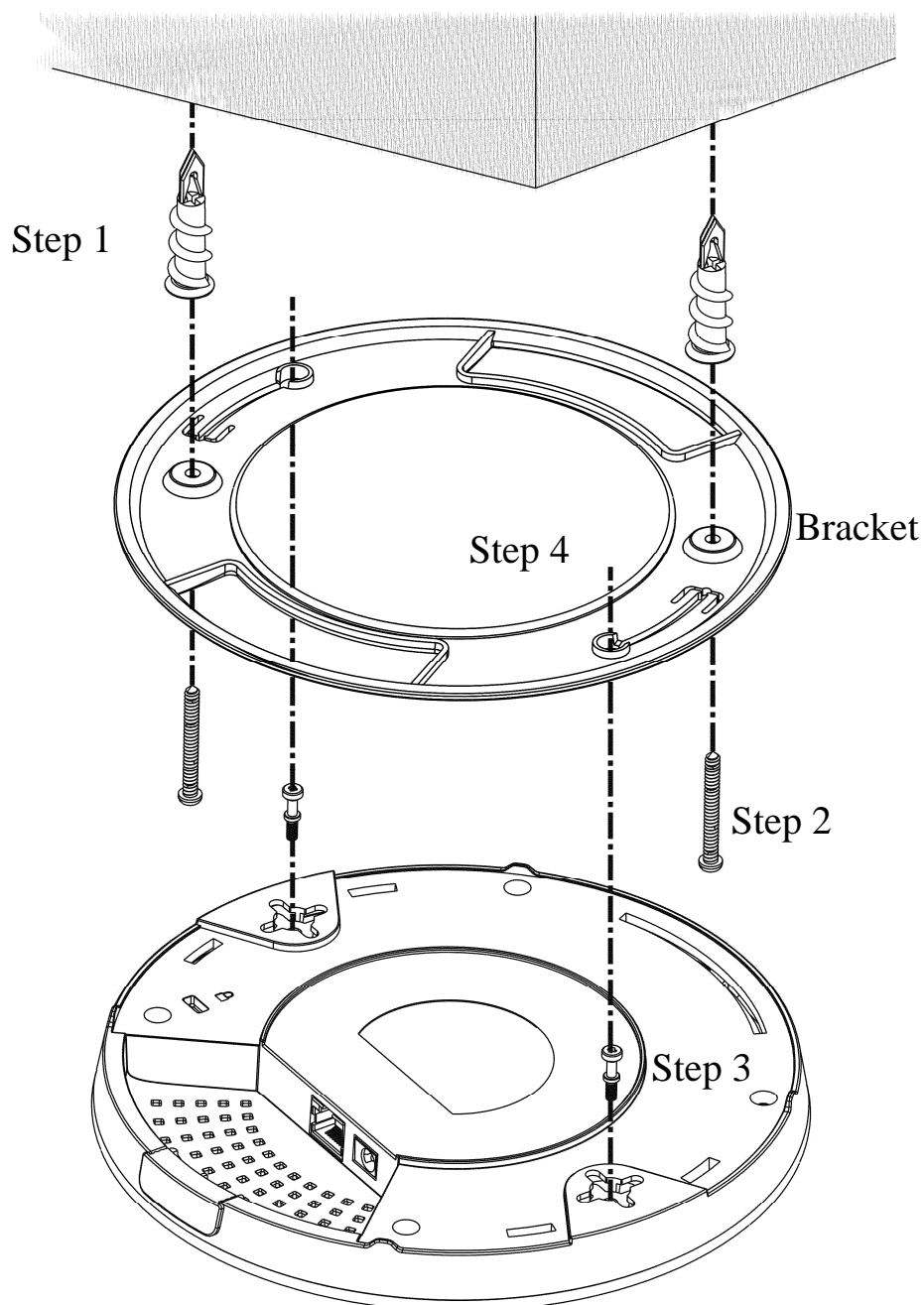
3.1 Ceiling-mount Installation (Wooden Ceiling)

1. Place the bracket under the wooden ceiling and fasten two screws firmly (as shown in Figure below, Step 1).
2. When the bracket is in place, fasten two screws firmly (as shown in Figure below, Step 2) on the bottom of VigorAP.
3. Make the device just below the bracket. Put the screws installed in Step 2 on the holes of the bracket (as shown in Figure below, Step 3).
4. Gently rotate the device to make screws slide into the notches of the bracket and move forward till it is firmly fixed.



3.2 Ceiling-mount Installation (Plasterboard Ceiling)

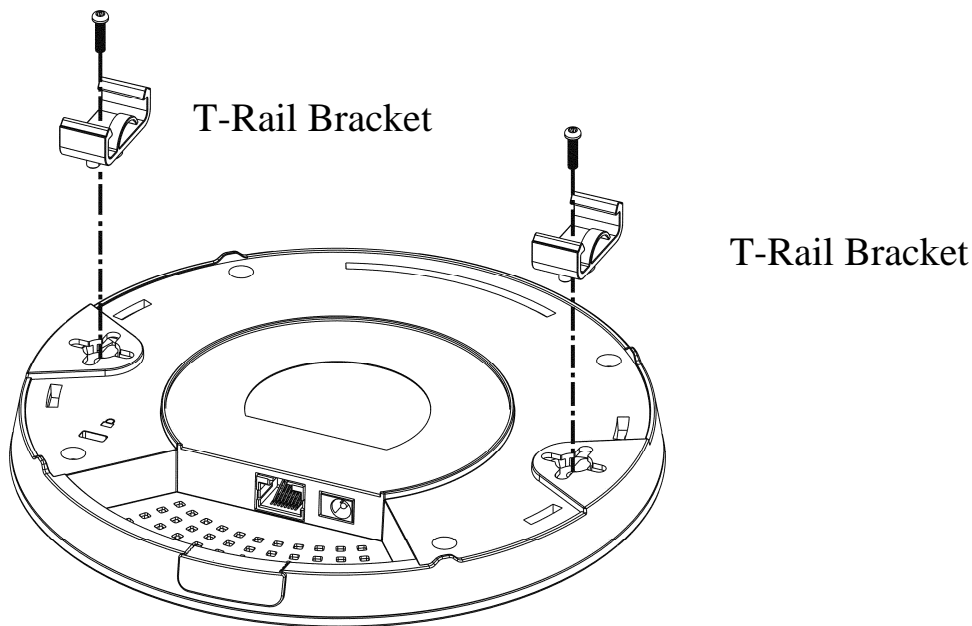
1. Place the bracket under the plasterboard ceiling and fasten two turnbuckles firmly (as shown in Figure below, Step 1).
2. Make the screws pass through the bracket and insert into the turnbuckles (as shown in Figure below, Step 2). Fasten them to offer more powerful supporting force.
3. When the bracket is in place, fasten two screws firmly (as shown in Figure below, Step 3) on the bottom of VigorAP.
4. Make the device just below the bracket. Put the screws installed in Step 3 on the screw holes of the bracket (as shown in Figure below, Step 4).
5. Gently rotate the device to make screws slide into the notches of the bracket and move forward till it is firmly fixed.



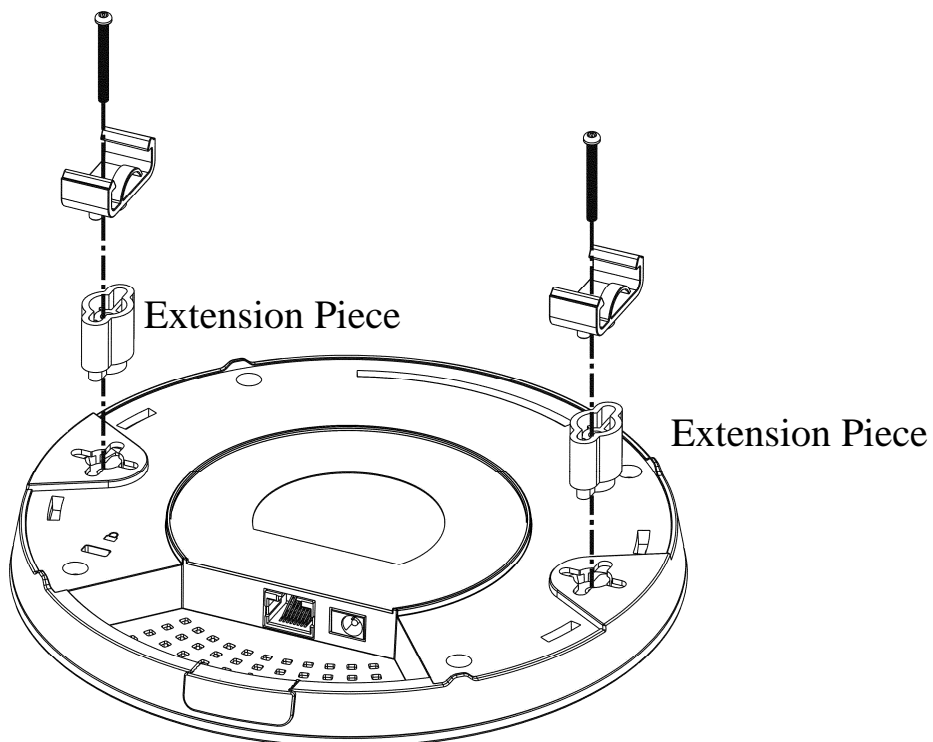
3.3 Suspended Ceiling (Lightweight Steel Frame) Installation

You cannot screw into ceiling tiles as they are weak and not suitable for bearing loads. Your VigorAP is supplied with mounts (T-Rail brackets) which attach directly to the metal grid ('T-Rail') of your suspended ceiling.

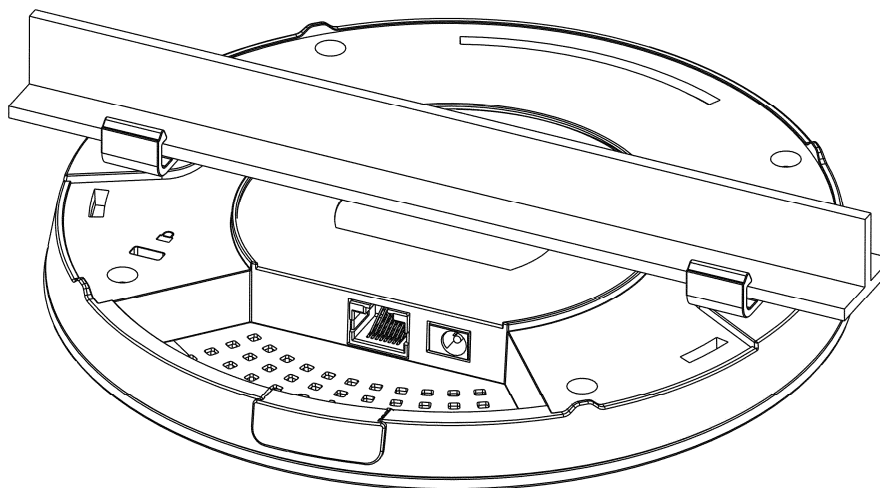
1. Choose one set of T-Rail mounting kits from the bundled package.
2. Put the T-Rail brackets on the holes of the bottom side of the device. Fasten them with suitable screws.



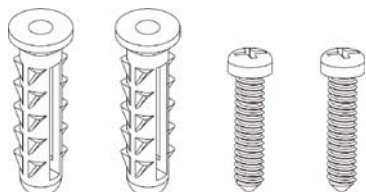
3. If a larger gap is required between the ceiling and the VigorAP, use the extension pieces to extend the height of the brackets.



4. Attach the T-Rail brackets to the ceiling frame.



Warning: The screw set shown below is for wall mounting only. Do not use such set for ceiling mounting due to the danger of falling.



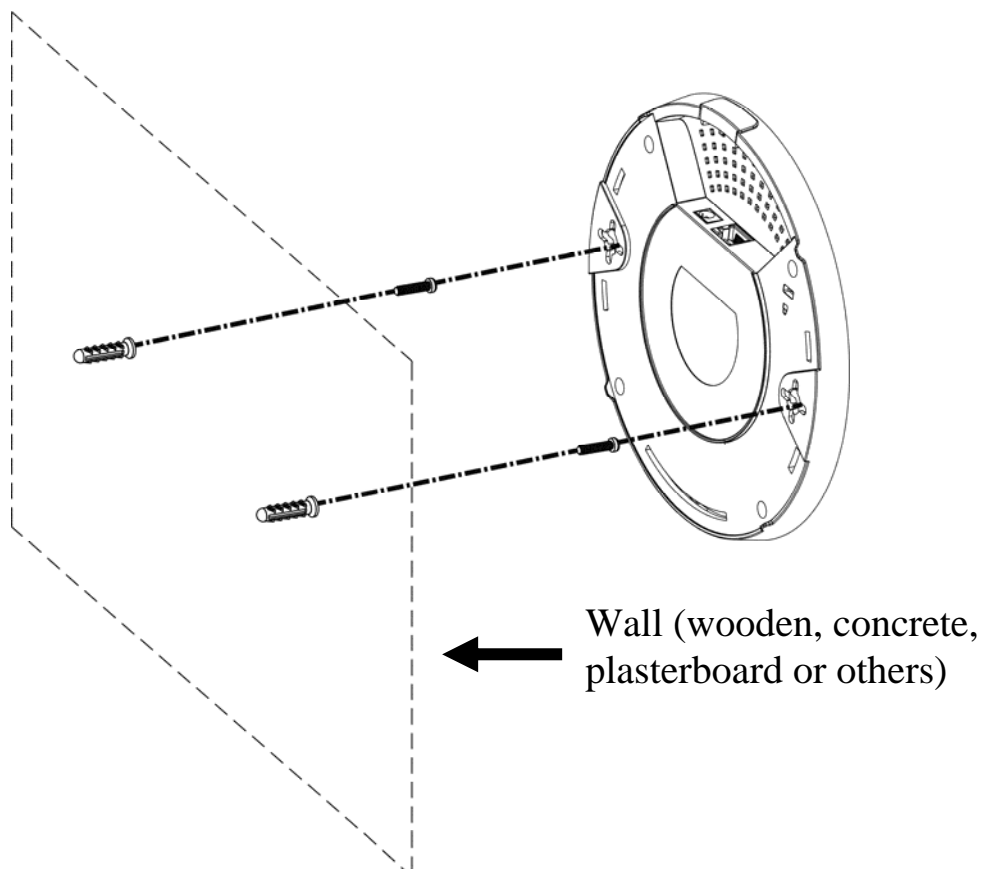
3.4 Wall Mounting

For wall-mounting, the VigorAP has keyhole type mounting slots on the underside. You can fit the AP at any axis (i.e. 12, 3, 6 or 9 O’Clock) to allow for cable entry from the most convenient location if you are using side entry – note the position of the side entry cable cutout.

1. A template is provided on the VigorAP’s packaging box to enable you to space the screws correctly on the wall.



2. Place the template on the wall and drill the holes according to the recommended instruction.
3. Fit screws into the wall using the appropriate type of wall plug (as shown in the ceiling section) but do not use the ceiling bracket – the VigorAP hangs directly onto the screws.

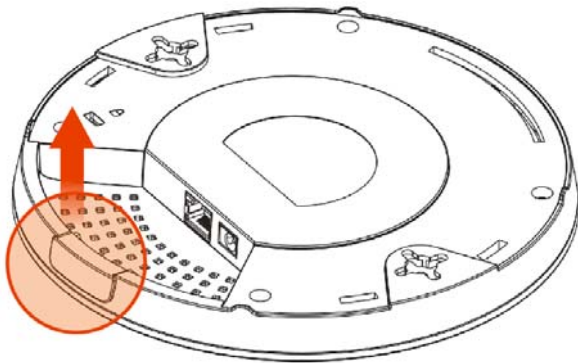


4

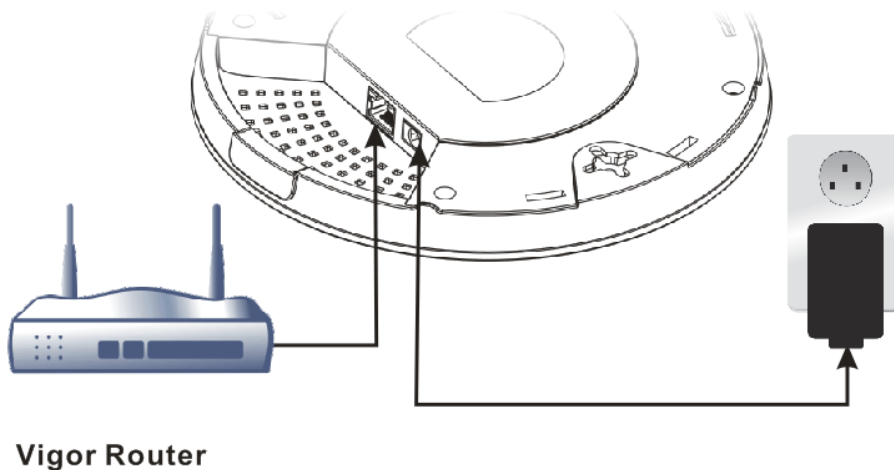
Connection and Configuration

4.1 Notifications for Hardware Connection

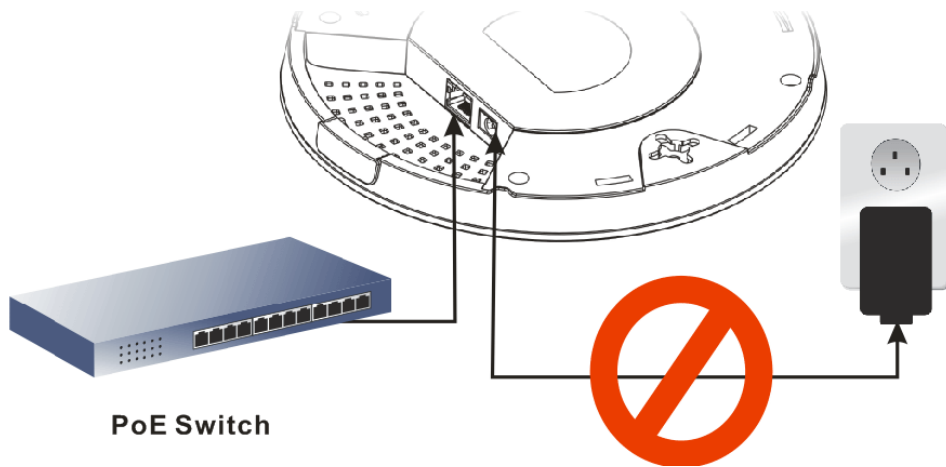
- If required, remove the protective cap of VigorAP to create extra space for the cables to pass through.



- Connect VigorAP to Vigor router (via LAN port) with Ethernet cable.



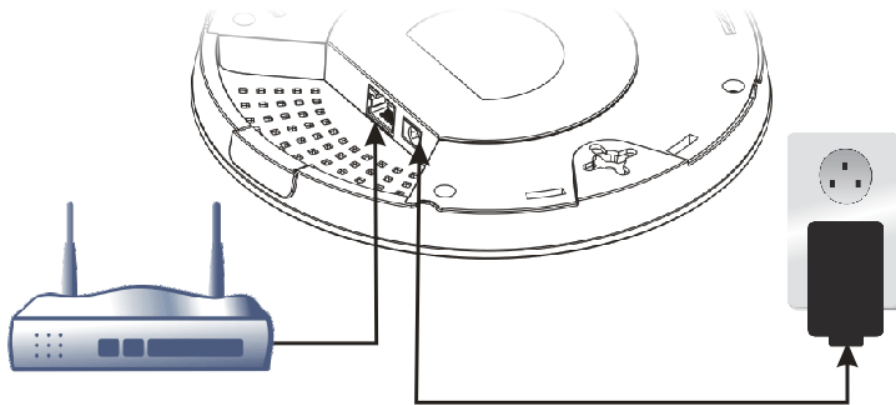
- Connect VigorAP to PoE switch (via LAN port) with Ethernet cable. For connecting with PoE switch, do not connect the power adapter. VigorAP will get the power from the switch directly.



4.2 Connect to a Vigor Router using AP Management

Your VigorAP can be used with Vigor routers which support AP management (such as the Vigor2860 or Vigor2925 series). AP Management enables you to monitor and manage multiple DrayTek APs from a single interface.

1. Connect one end of the power adapter to power port of VigorAP, and the other side into a wall outlet.



Vigor Router

2. Access into the web user interface of Vigor router. Here we take Vigor2860 as an example. Open **Central AP Management>>Status**.

Central AP Management >> Status

Index	Device Name	IP Address	SSID	Encryption	Ch.	WL Client	Version	Password	
1	AP810_007620482810	10.28.60.11						Password	x
2	AP910C_00507F22334	10.28.60.12						Password	x

Note:



Green : Online



Red : Offline



Grey : Hidden SSID

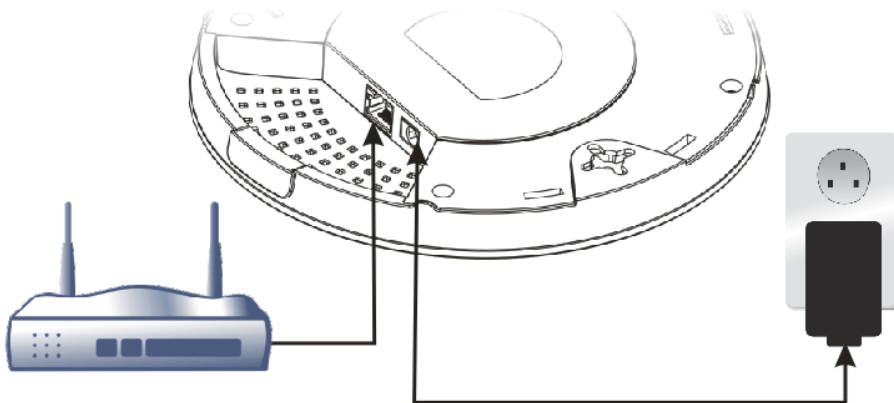
Maximum support 20 APs.

When AP Devices connect via another intermediate router or switch, please check/unblock the following ports **UDP:67,68,4944** and **TCP:80** of the router/switch, thus AP status can be retrieved.

3. Locate VigorAP 910C. Click the IP address assigned by Vigor router to access into web user interface of VigorAP 910C.
4. After typing username and password (admin/admin), the main screen will be displayed.

4.3 Connect to a Vigor Router without AP Management

1. Connect one end of the power adapter to power port of VigorAP, and the other side into a wall outlet.



Vigor Router

2. Access into the web user interface of Vigor router. Here we take Vigor2830 as an example. Open **External Devices**.

External Devices

External Device Auto Discovery

External Devices Connected

Below shows available devices that connected externally:

For security reason:

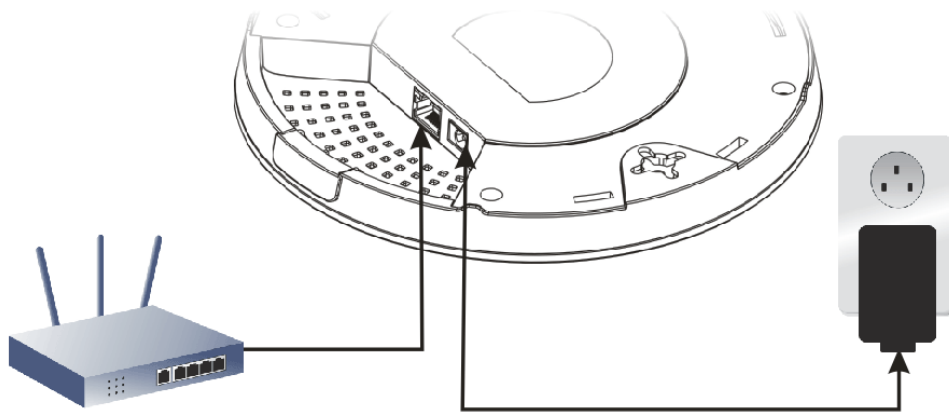
If you have changed the administrator password on External Device, please click the **Account** button to retype new username and password. Otherwise, the router will be unable to monitor the External Device device properly. Click the **Clear** button to Clear the off-line information and account information.

OK

3. Check the box of **External Device Auto Discovery** and click **OK**. When the IP address assigned by Vigor router appears, click it to access into web user interface of VigorAP 910C.
4. After typing username and password (admin/admin), the main screen will be displayed.

4.4 Connect without a DrayTek Router/LAN

1. Connect one end of the power adapter to power port of VigorAP, and the other side into a wall outlet.



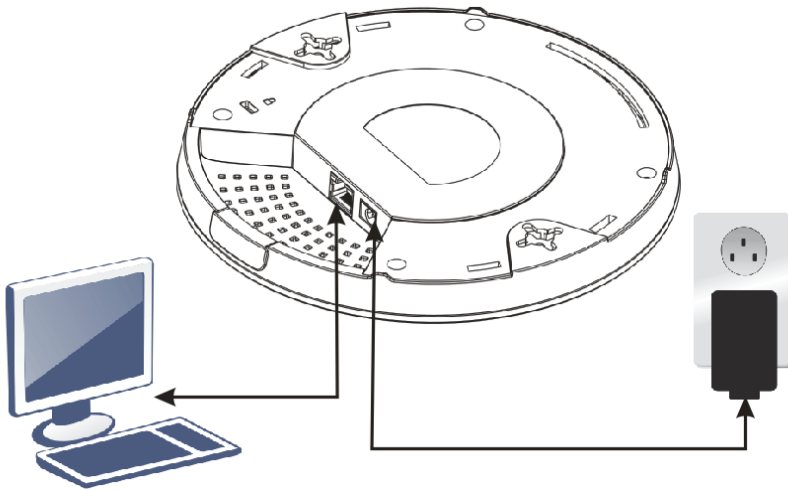
2. Access into the web user interface of the router.
3. Check that **DHCP table** to find an entry with a MAC address matching the VigorAP – the VigorAP’s MAC address is printed on a label on the base. Once you have the VigorAP’s IP address, you can access its own web interface, as shown in section 4.6

LAN	
MAC Address	: 00:1D:AA:74:DA:38
IP Address	: 192.168.1.10
IP Mask	: 255.255.255.0

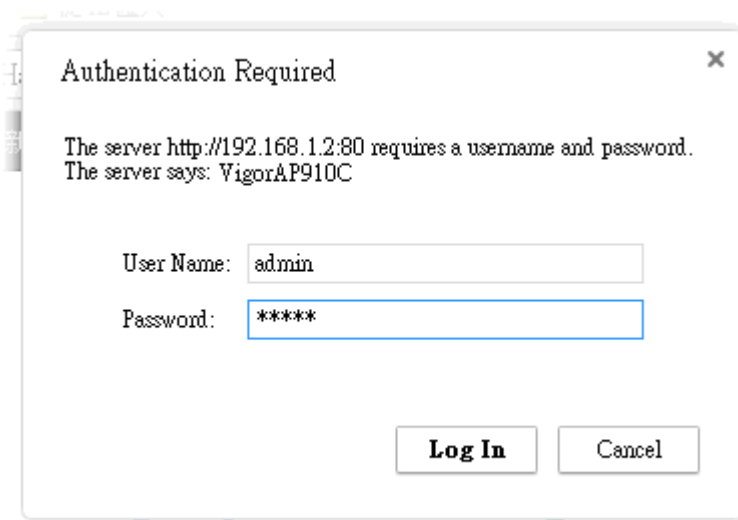
4. After getting the IP address of VigorAP 910C, access into the web user interface of VigorAP 910C through the web page of non-Vigor router.

4.5 Connecting to PC Directly

1. Connect one end of an Ethernet cable (RJ-45) to one of the **LAN** ports of the VigorAP and the other end of the cable (RJ-45) into the Ethernet port on your computer.
2. Connect one end of the power adapter to VigorAP's power port on the bottom of the device, and the other side into a wall outlet.
3. Wait for VigorAP initiation. When VigorAP is ready, the LED will blink in blue.



4. Set the IP address of the PC as “192.168.1.x (x means any number, ranges from 3 to 100).”
5. Open a web browser on your PC and type **http://192.168.1.2**. The following window will be open to ask for username and password. Type “admin/admin” and click **Login**.



6. Main screen will be displayed.

4.6 Web Configurations for VigorAP 910C

Before using VigorAP, finish the following web configuration first.

- Configuring LAN IP address(es)
- SSID and Security setting for 2.4G and 5GHz.
- Administrator's name and password.
- Time and date.

1. Open main screen of VigorAP 910C.

The screenshot shows the main interface of the VigorAP 910C. The top header includes the DrayTek logo and the device name 'VigorAP 910C'. On the left, there is a navigation menu with options like 'Quick Start Wizard', 'Operation Mode', 'LAN', 'Wireless LAN (2.4GHz)', 'Wireless LAN (5GHz)', 'RADIUS Setting', 'Applications', 'System Maintenance', and 'Diagnostics'. The main area displays 'System Status' with the following information:

Model	: VigorAP910C
Device Name	: VigorAP910C
Firmware Version	: 1.1.6
Build Date/Time	: r5621 Tue Dec 15 10:17:35 CST 2015
System Uptime	: 0d 00:40:29
Operation Mode	: AP Bridge-WDS

Below this, there are three tables showing network configurations:

System	
Memory Total	: 62332 kB
Memory Left	: 15896 kB
Cached	: 26084 kB / 62332 kB
Memory	

LAN	
MAC Address	: 00:1D:AA:74:DA:38
IP Address	: 192.168.1.2
IP Mask	: 255.255.255.0

Wireless LAN (2.4GHz)	
MAC Address	: 00:1D:AA:74:DA:38
SSID	: ap910C-BandSteering
Channel	: 11
Driver Version	: 2.7.2.0

Wireless LAN (5GHz)	
MAC Address	: 00:1D:AA:74:DA:3A
SSID	: ap910C-BandSteering
Channel	: 36
Driver Version	: 10.2.85

Universal Repeater(5G)	
MAC Address	: 02:1D:AA:74:DA:3A
SSID	:
Channel	: 36

At the bottom left, there are buttons for 'Admin mode' and 'AP Mode'.

2. Open **LAN>>General Setup**. Type the IP address (assigned by DHCP server or static IP address) for VigorAP according to your network environment. Click **OK** to save the settings.

LAN >> General Setup

Ethernet TCP / IP and DHCP Setup

LAN IP Network Configuration	DHCP Server Configuration
<input checked="" type="checkbox"/> Enable DHCP Client	<input type="radio"/> Enable Server <input checked="" type="radio"/> Disable Server
IP Address: 192.168.1.10	<input type="radio"/> Relay Agent
Subnet Mask: 255.255.255.0	Start IP Address: []
Default Gateway: 192.168.1.1	End IP Address: []
<input type="checkbox"/> Enable Management VLAN	Subnet Mask: []
VLAN ID: 0	Default Gateway: []
	Lease Time: 86400
	DHCP Server IP: []
	Address for Relay Agent: []
	Primary DNS Server: []
	Secondary DNS Server: []

Note: Disable "DHCP Client" or "Auto Provision" for VigorAP Management only work with Vigor2860 v3.7.3.1 and newer APM Server.

OK Cancel

Note: If the IP address has been modified, use the new LAN IP address for accessing into the web user interface of VigorAP.

3. Open **Wireless Setting (2.4GHz)>>General Setup** to configure wireless network. We recommend changing the default SSID (the wireless network name which is visible to users). Enter a new SSID in the SSID1 field and click **OK** to save the settings.

Wireless LAN (2.4GHz) >> General Setup

General Setting (IEEE 802.11)

Enable Wireless LAN

Enable Limit Client (3-64) (default: 64)

Mode :

	Hide SSID	SSID	Isolate Member	VLAN ID (0:Untagged)	Mac Clone
1	<input type="checkbox"/>	<input type="text" value="DrayTek"/>	<input type="checkbox"/>	<input type="text" value="0"/>	<input type="checkbox"/>
2	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	<input type="text" value="0"/>	
3	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	<input type="text" value="0"/>	
4	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	<input type="text" value="0"/>	

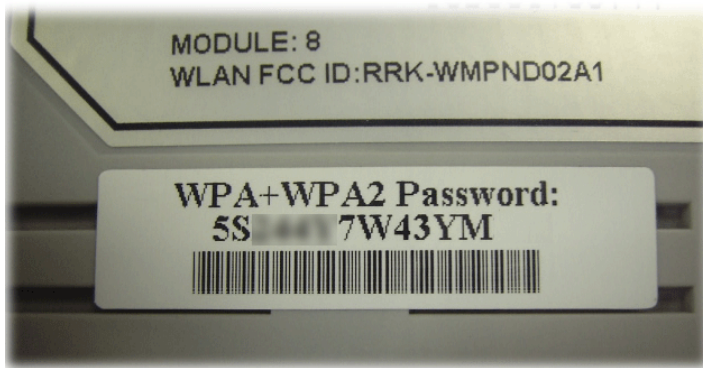
Hide SSID: Prevent SSID from being scanned.
Isolate Member: Wireless clients (stations) with the same SSID cannot access for each other.
MAC Clone: Set the MAC address of SSID 1. The MAC addresses of other SSIDs and the Wireless client will also change based on this MAC address. Please notice that the last byte of this MAC address must be a multiple of 2.

4. Open **Wireless Setting (2.4GHz)>>Security**. The default security mode is **Mixed (WPA+WPA2)/PSK**. The VigorAP has a default security key printed on a label on its base but you should change it here – choose a ‘strong’ password (complex with a mix of letters, symbols and numbers). You should also switch to ‘WPA2 only’ as it’s more secure than WEP and WPA (most modern wireless clients – tablets, laptops and phones - support WPA2). Click **OK** to save the settings.

SSID 1	SSID 2	SSID 3	SSID 4
SSID: DrayTek			
Mode: Mixed(WPA+WPA2)/PSK			
Set up RADIUS Server if 802.1x is enabled.			
WPA			
WPA Algorithms: <input type="radio"/> TKIP <input type="radio"/> AES <input checked="" type="radio"/> TKIP/AES			
Pass Phrase: <input type="text"/>			
Key Renewal Interval: 3600 seconds			
WEP			
<input type="radio"/> Key 1 : <input type="text"/> Hex			
<input checked="" type="radio"/> Key 2 : <input type="text"/> Hex			
<input type="radio"/> Key 3 : <input type="text"/> Hex			
<input type="radio"/> Key 4 : <input type="text"/> Hex			
802.1x WEP: <input type="radio"/> Disable <input type="radio"/> Enable			

OK Cancel

Default Pre-Shared Key (PSK) with 13 ASCII characters is provided and stated on the label pasted on the bottom of VigorAP.



5. Open **Wireless Setting (5GHz)>>Security**. As with the 2.4GHz band, above, you should change the SSID name, security method and default wireless password. Click **OK** to save the settings. Now, you have finished the basic configuration of VigorAP.

Note that for the communication, all wireless devices must support the same encryption bit length and share the same key. If WEP mode is selected, only one of four preset keys can be selected at one time.



Under System Maintenance you can change the access point's default admin password. You should do this immediately in order to prevent users from accessing the VigorAP's management interface and changing settings.

If the access point still cannot work correctly after trying many efforts, please contact your dealer for further help right away. For any questions, please feel free to send e-mail to support@draytek.com.

Safety

Instructions

- Read the installation guide thoroughly before you set up the access point.
- The access point is a complicated electronic unit that may be repaired only by authorized and qualified personnel. Do not try to open or repair the modem yourself.
- Do not place the access point in a damp or humid place, e.g. a bathroom.
- The access point should be used in a sheltered area, within a temperature range of +5 to +40 Celsius.
- Do not expose the access point to direct sunlight or other heat sources. The housing and electronic components may be damaged by direct sunlight or heat sources.
- Do not deploy the cable for LAN connection outdoor to prevent electronic shock hazards.
- Keep the package out of reach of children.
- When you want to dispose of the access point, please follow local regulations on conservation of the environment.