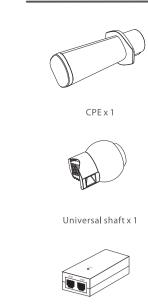
IP-COM

Quick Installation Guide

5GHz 11AC 23dBi Gigabit Outdoor CPE iLBE-5AC

Package contents



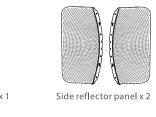
PoE adapter x 1

- $\dot{\psi}$ - Tips You may have to prepare a Phillips screwdriver, gloves and other tools to assemble and install the CPE.

For product or function details, please go to www.ip-com.com.cn.



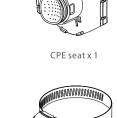
Universal shaft fastener x 1

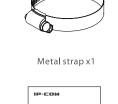


Ethernet port cover x 1

@ @ @

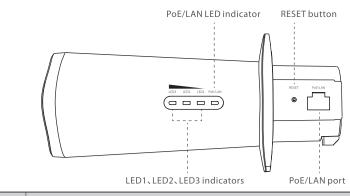






Quick installation guide x 1

Get to know your device



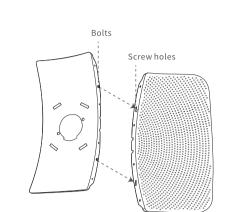
	EED TY EEDZY EEDS Malcators 1 OE/ EARY POT								
Port/Button	Description								
RESET	Reset button. When the CPE is operating normally, hold down the button for about 8 seconds and release it when all LED indicators light up and then turn off. The CPE is restored to factory settings.								
PoE/LAN	10/100/1000 Mbps auto negotiation port for both power input and data transmission. Connect this port to the PoE port of the PoE adapter to power on the CPE using an Ethernet cable (CAT5e or a better Ethernet cable is recommended, and the length should not exceed 60 meters).								

Indicator	Status	Description					
LED1, LED2, LED3 (Received signal strength indicator)	Solid on/ Blinking	The CPE is successfully bridged or connected to other devices. -Solid on: The CPE works in AP, Repeater, P2MP or Router mode. -Blinking: The CPE works in Client, Universal repeater or WISP mode. Each LED indicator is set with a received signal strength value, which is the threshold for the corresponding LED indicator to light up. You can judge the connection quality through the status of these indicators. The default values are shown below. -70dBm -80dBm -90dBm LED3 LED1 LED1 You can change the values on the Wireless > Advanced page in the web UI of the CPE.					
	Off	No device is connected to the CPE in a wireless manner, or the received signal strength does not reach the minimum value (-90dBm by default) f any LED indicator to light up.					
	Solid on	The CPE is powered on properly, but no data is being transmitted.					
PoE/LAN	Blinking	The CPE is powered on properly, and data is being transmitted over the port.					
	Off	The CPE is not powered on properly.					

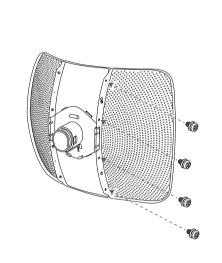
Assemble and install the CPE

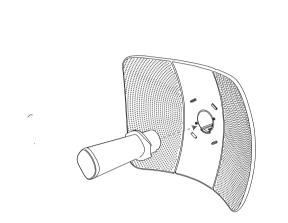
 Align the two bolts on one side of the center reflector panel with the long screw holes (the larger end) on the side reflector panel. Slide the center and side reflector panels in the opposite direction until the bolts fit into the smaller end.

Step1: Assemble the CPE.

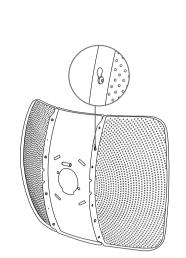


5 Fix the reflector panels with the included screws.



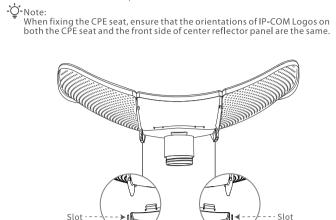


2 Repeat 1 to fix another side reflector panel.



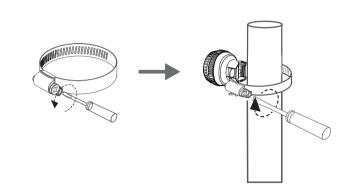
6 Insert the CPE into the CPE seat from the front side of the center

3 Align the slots of the CPE seat with the abutted edges of the center reflector panel and side reflector panels, and four hooks of the CPE seat with the four slots of the center reflector panel.

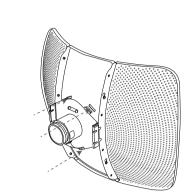


Step2: Install the CPE

1 Use a screwdriver to open the metal strap by turning the screw counter-clockwise. Put the universal shaft into the universal shaft fastener and fix the universal shaft and universal shaft fastener on the pole using the metal strap (Connect the two ends of the metal strap and use the screw driver to adjust the tightness).

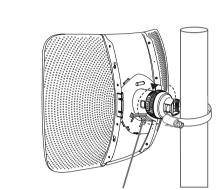


4 Press the CPE seat to fix it on the center reflector panel

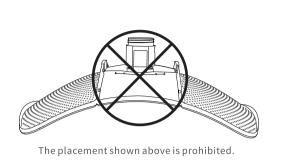


Direct the CPE seat at the universal shaft fastener, and screw the universal shaft fastener to fix the CPE (Ensure an appropriate tightness for you to

adjust the orientation of the CPE later). ❸ Connect the PoE adapter to a power source and its LAN port to the PoE/LAN port of the CPE using an Ethernet cable. The **PoE/LAN** LED indicator of the

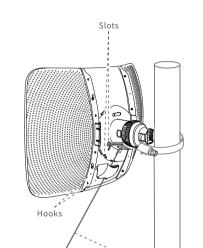


To prevent the deformation of the reflector panels and decreasing of bridging quality, DO NOT face the reflector panels down and put them on a desk or a horizontal plane while and after fixing the CPE seat.



4 Adjust the orientation of the CPE to the horizontal with a spirit level.

When the LED1, LED2 and LED3 indicators all light up after installation, it indicates that the best location is found. 5 Fasten the universal shaft fastener and fix the Ethernet port cover.



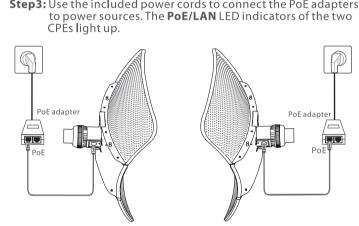
Scenario 1: CCTV surveillance or point to point data transmission 💝 Tips: At least two CPEs are required for bridging.

1. Set up the CPEs (AP mode + Client mode)

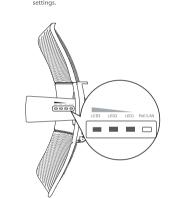
Option 1: Automatic bridging (recommended)

- After the bridging succeeds, the DHCP server of the CPEs will be disabled automatically. The IP address of the CPE working in AP mode remains 192.168.2.1, and the IP address of the CPE working in Client mode is changed

Step1: Place two CPEs in factory settings next to each other. **Step2:** Use Ethernet cables to connect the **PoE/LAN** port of the CPEs to the **PoE** port of the PoE adapters. **Step3:** Use the included power cords to connect the PoE adapters



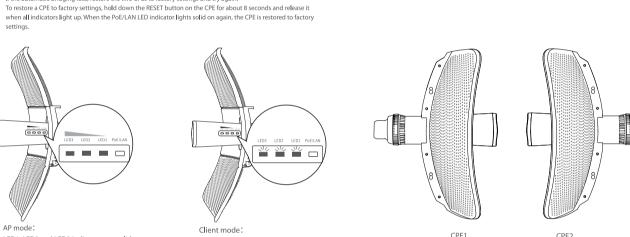
The LED1, LED2 and LED3 indicators of the two CPEs blink fast. When the LED1, LED2 and LED3 indicators of one CPE light solid on and those of the other CPE blink slow, the automatic bridging succeeds. If the automatic bridging fails, restore the two CPEs to factory settings and try again.



LED1, LED2 and LED3 indicators are solid on. LED1, LED2 and LED3 indicators are blinking.

Option 2: Manual bridging

Step1: Place two CPEs next to each other.



PoE adapter

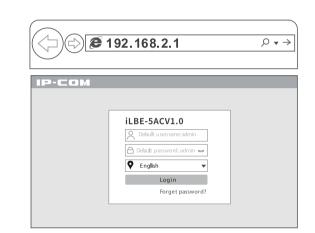
Step2: Power on CPE1 and connect it to a computer.

LED indicator of CPE1 lights up.

• Use the included PoE adapter to power on the CPE1. The PoE/LAN

2 Use an Ethernet cable to connect the LAN port of the PoE adapter

Step3: Set CPE1 to AP mode. 1 Start a web browser on the computer and visit 192.168.2.1. Enter the login user name and password and click **Login**.

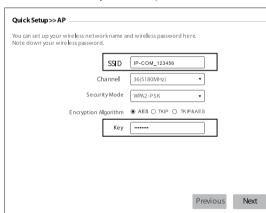


- 🕁 - Tips: If the login page does not appear, please refer to **Q1** in **FAQ**.

2 Select AP, and click Next.



3 Customize your **SSID** (WiFi name) and **Key** (WiFi password), select a **Channel**, a **Security Mode** (WPA2-PSK is recommended), and an Encryption Algorithm. Click Next. Record the **SSID** and **Key** for later setup.



4 Click Save, and wait until the CPE reboots automatically to activate the settings.

Connect the CPEs with the LED1, LED2 and LED3 indicators solid on

Connect the CPEs with the LED1, LED2 and LED3 indicators blinking

(Client mode – the receiving end) to IP cameras or a switch which is

(AP mode - the transmitting end) to the switch which is connected to

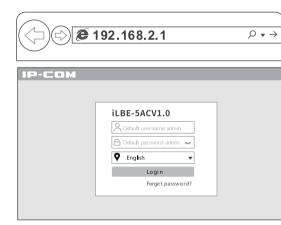
2. Application scenario

a NVR (Network Video Recorder).

connected to IP cameras.

Step4: Set CPE2 to Client mode.

• Perform **Step 2** to power on the CPE2 and connect it to a computer. 2 Start a web browser on the computer and visit 192.168.2.1. Enter the login user name and password and click **Login**.



- tips:

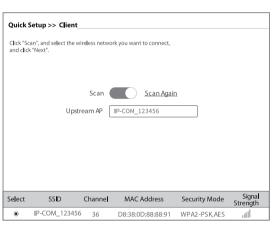
If the login page does not appear, please refer to Q1 in FAQ.

3 Select Client, and click Next.

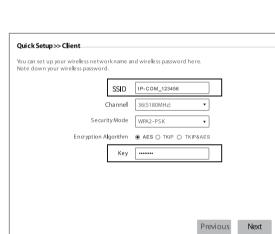
Clent I in this mode, the device works as a wireless adapter to connect to the wireless network of upstream AP Universal Repeater In this mode, this device estends an existing winders network for broader network coverage. WISP In this mode, this device connects to an access point provided by IDP in wireless manners and provides the wireless network. Repeater In this mode, the device connects to multiple wired networks through wireless bridge, and provides wireless access po	Sel	ect a working mode:
Universal Repeater In this mode, this device estends an easting windess network for broader network coverage. WISP In this mode, this device convects to an access point provided by IIP in wineless manner, and provides the windess network. Repeater In this mode, the device connects to multiple winder networks through winders bridge, and provides wineless access po	0 /	AP In this mode, the device creates a wireless network based on the current wired network.
WISP In this mode, this device connects to an access paint provided by tIP in wireless marrier, and provides the wireless network. Repeater in this mode, the device connects to multiple wired networks through wireless bridge, and provides wireless access po	• (Client In this mode, the device works as a wireless adapter to connect to the wireless network of upstream AP.
Repeater In this mode, the device connects to multiple wired networks through wireless bridge, and provides wireless access po	0 1	Universal Repeater In this mode, this device extends an existing wireless network for broader network coverage.
	0 1	WISP In this mode, this device connects to an access point provided by ISP in wireless manner, and provides the wireless network.
P2MP In this made, the device connects to multiple wired networks through wireless bridge, but does not provide wireless access	0 1	Repeater In this mode, the device connects to multiple wired networks through wireless bridge, and provides wireless access point
	0 1	P2MP In this mode, the device connects to multiple wired networks through wireless bridge, but does not provide wireless access po
Router connect to modern in wired manner, and provide network access point	O F	Router connect to modern in wired manner, and provide network access point

Select a working mode:	
AP In this mode, the device creates a wireless network based on the current wired network.	
 Client in this mode, the device works as a wireless adapter to connect to the wireless network of upstream AP. 	
 Universal Repeater In this mode, this device extends an existing wireless network for broader network coverage. 	
WISP In this mode, this device connects to an access point provided by ISP in wireless manner, and provides the wireless network.	
Repeater In this mode, the device connects to multiple wired networks through wireless bridge, and provides wireless access point.	
P2MP In this made, the device connects to multiple wired networks through wireless bridge, but does not provide wireless access point.	
Router connect to modern in wired manner, and provide network access point	
Next	i
INCAL	J

4 Select the SSID of CPE1, which is IP-COM_123456 in this example, and click Next

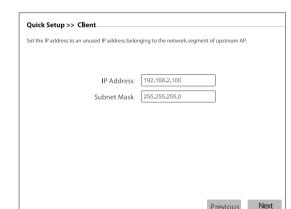


5 Enter the **Key** of CPE1, and click **Next**.



6 Set the IP address to an unused one belonging to the same network segment as that of CPE1. For example, if the IP address of CPE1 is 192.168.2.1, you can set this device's IP address to 192.168.2.X (X ranges

from 2 to 254). Then click Next.



Click **Save**, and wait until the CPE reboots to activate the settings. When the LED1, LED2 and LED3 indicators of CPE1 light solid on, and the LED1, LED2 and LED3 indicators of CPE2 blink, the bridging succeeds and the DHCP servers of the two CPEs are disabled automatically.

4 Enter the password for the ISP hotspot in the **Key** box, and

SSID IP-COM_123456

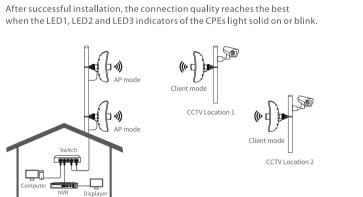
Encryption Algorithm ● AES ○ TKIP ○ TKIP&AES

Previous **Next**

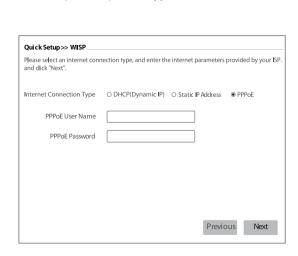
Scenario 2: Wireless ISP hotspot access

1. Set up the CPE

Step1: Power on the CPE and connect it to a computer. Use an Ethernet cable to connect the PoE/LAN port of the CPE to the PoE port of the PoE adapter. 2 Use the included power cord to connect the PoE adapter to a power source. 3 Connect a computer to the LAN port of the PoE adapter.



5 Select the **Internet Connection Type** of your ISP hotspot. **PPPoE** is used for illustration here. Enter the PPPoE user name and password provided by your ISP, and click **Next**.



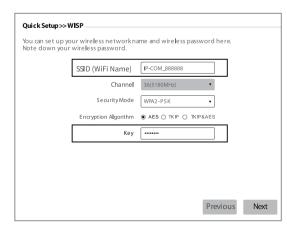


6 Customize the **SSID (WiFi Name)**, select a security mode

/─\PoE adapter

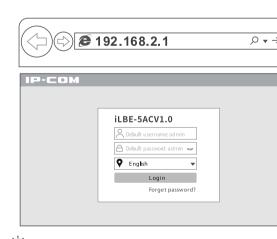


(WPA2-PSK is recommended), customize a **Key**, and click **Next**.



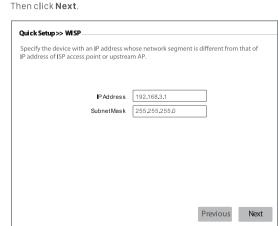
Step2: Set the CPE to **WISP** mode.

① Start a web browser on the computer and visit 192.168.2.1. Enter your user name and password and click **Login**.



Tips:
If the login page does not appear, please refer to **Q1** in **FAQ**.

Set an IP address belonging to different network segment as that of your ISP hotspot. For example, if the IP address of your ISP hotspot is 192.168.2.1, you can set this CPE's IP address to 192.168.X.1 (X ranges from 0 to 254 excluding 2). Then click Next.



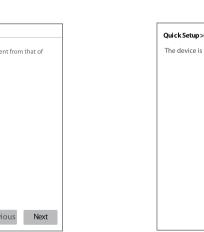
8 Click **Save**, and wait until the CPE reboots to activate the

2 Select WISP, and click Next.

Quick Setup

Select a working mode:

The device is set to WISP. Please click "Save" to apply the settings



When LED1, LED2, and LED3 indicators of the CPE are blinking, the CPE is connected to the ISP hotspot successfully.

— Reorient or relocate the receiving antenna.

authority to operate this equipment.

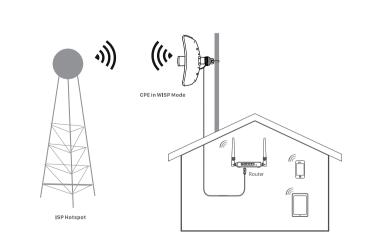
Quick Setup >> WISP Select SSID Channel MAC Address Security Mode Signal Strength

3 Select the SSID of the ISP (Internet Service Provider) hotspot, which

is IP-COM_123456 in this example, and click Next.

2. Application scenario

 Place the CPE over the roof. 2 Connect the LAN port of the PoE adapter to the WAN port of your wireless router. The connection quality reaches the best when the LED1, LED2 and LED3 indicators of the CPE blink.



CE Mark Warning

Quick Setup>> WISP

This is a Class A product. In a domestic environment, this product may cause radio interference, in which case the user may be required to take adequate measures. This equipment should be installed and operated with minimum distance 20cm between the device and your body. **NOTE:** (1) The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment. (2) To avoid unnecessary radiation interference, it is recommended to use a shielded RJ45 cable. Declaration of Conformity Hereby, SHENZHEN IP-COM Networks Co., Ltd. declares that the radio equipment type iLBE-5AC is in compliance with Directive

The full text of the EU declaration of conformity is available at the following internet address: http://ip-com.com.cn/en/ce.html Operating Frequency Range: EU/5150-5250MHz (CH36-CH48); EIRP Power (Max.): 22.98 dBm Operating Frequency Range: EU/5470-5725MHz (CH100-CH116, EIRP Power (Max.): 26.98 dBm Software Version: V1.0.0.10

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		LT	LU	HU	MT	NL	AT	PL	PT	RO	SI	SK	FI	SE	UK

Appendix FAQ

A2: Try the following method

Q1. I cannot log in to the web UI of the CPE by entering 192.168.2.1. What should I do? A1. Try the following solutions:

- Ensure that the CPE is connected to a power source and your computer - Ensure that the IP address of the computer is set to an unused one, such as 192.168.2.X (X ranges from 2 - 254).
- Restore the CPE to factory settings, and try again.

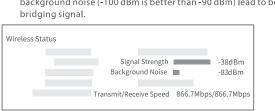
Method 1: Observe the LED indicators of the CPE. The connection quality

reaches the best when the LED1, LED2 and LED3 indicators of the

Method 2: Log in to the web UI of one CPE (the default IP address is 192.168.2.1), check the bridging status in **Status** > **Wireless** Stronger signal strength (-60 dBm is better than -70 dBm) and less background noise (-100 dBm is better than -90 dBm) lead to better

Q2: How to check that the CPE is under the best connection status?

CPEs light solid on or blink.



Q3: After the bridging succeeds, the LED1, LED2 and LED3 indicators do not light up or only some of them do. What should I do?

- Ensure that the bridging distance between the CPEs is within the

normal range.

until the best signal is received.

- Place the CPEs in an elevated location at the same height with few obstacles nearby. - Make slight direction adjustment of the CPEs by moving it vertically and horizontally. Change the direction with an interval of 20 – 30 s each time in order to observe the change of LED1, LED2 and LED3 indicators

RECYCLING

This product bears the selective sorting symbol for Waste electrical and electronic equipment (WEEE). This means that this product must be handled pursuant to European directive 2012/19/EU in order to be recycled or dismantled to minimize its impact on the environment User has the choice to give his product to a competent recycling organization or to the retailer when he buys a new electrical or electronic equipment.

Operating Temperature: -30°C - 60°C Operating Humidity: (10% - 90%) RH, non-condensing

Caution: Adapter Model: BN060-P12024

Operating Environment

=== : DC Voltage

 ${\tt Manufacture: SHENZHEN\, HEWEISHUN\, NETWORK\, TECHNOLOGY\, CO., LTD.}$ Input: 100 - 240V ~ 50/60Hz 0.3A Output: 24V== 0.5A

This equipment has been tested and found to comply with the limits for a Class A 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:

Previous Save

Next

— 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. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this $device \ must \ accept \ any \ interference \ received, including \ interference \ that \ may \ cause \ undesired \ operation.$ Radiation Exposure Statement

 $This \ device \ complies \ with \ FCC \ radiation \ exposure \ limits \ set for th \ for \ an \ uncontrolled \ environment \ and \ it \ also$ complies with Part 15 of the FCC RF Rules. $This \ equipment\ should\ be\ installed\ and\ operated\ with\ minimum\ distance\ 20cm\ between\ the\ device\ and\ your\ body.$ $Any changes \ or \ modifications \ not \ expressly \ approved \ by \ the \ party \ responsible for \ compliance \ could \ void \ the \ user's$

 $This transmitter \, must \, not \, be \, co-located \, or \, operating \, in \, conjunction \, with \, any \, other \, antenna \, or \, transmitter.$ Operating frequency: 5150-5250MHz, 5725-5850MHz **NOTE:** (1) The manufacturer is not responsible for any radio or TV interference caused by unauthorized $modifications \ to \ this \ equipment. \ (2) \ To \ avoid \ unnecessary \ radiation \ interference, it is \ recommended \ to \ use \ a$ shielded RJ45 cable.

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Shenzhen, China. 518052 Tel: (86755) 2765 3089 Email: info@ip-com.com.cn

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