IP-COM

Quick Installation Guide

5GHz 11n 300Mbps Basestation

BS6

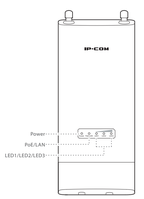
Package contents

- Basestation × 1
- PoE adapter × 1
- Power cord × 1
- Metal strap × 2
- Grounding screw × 1
- Quick installation guide × 1

If any item is missing or damaged, please keep the original package and contact the local reseller or distributor immediately. For product or function details, please go to www.ip-com.com.cn

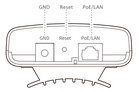
Getting to know your device

▶ LED Indicators



LED Indicators	Status	Description
Power	Solid on	The device is powered on properly.
	Off	The device is not powered on or not powered on properly.
PoE/LAN	Solid on	The port is connected properly, but no data is transmitted.
	Blinking	Data is being transmitted over the port.
	Off	The port is not connected, or not connected properly.
LED1, LED2, LED3 (Received signal strength LED indicators)	Solid on	Bridged successfully. The device may work in AP, Repeater, P2MP or Router mode. • LED1, LED2 and LED3 are solid on: Good signal • LED1 and LED2 are solid on, and LED3 is off: Fair signal • LED1 is solid on, and LED2 and LED3 are off: Weak signal. Please adjust the direction or location of the two bridging devices. Tip By default, the minimum signal strength of LED1, LED2 and LED3 are -90 dBm, -80 dBm and -70 dBm. You can change them on the Wireless > Advanced page of the web UI of the device.
	Blinking	Bridged successfully. The device may work in Client, Universal Repeater or WISP mode. • LED1, LED2 and LED3 are blinking: Good signal • LED1 and LED2 are blinking, and LED3 is off: Fair signal • LED1 is blinking, and LED2 and LED3 are off: Weak signal. Please adjust the direction or location of the two bridging devices.
	Off	The received signal strength does not reach the minimum RSSI threshold of the Base Station, or the bridging fails. Please adjust the direction or location of the two bridging devices.

▶ Ports & Button



Port/Button	Description
GND	GND terminal. Used for ESD and lightning protection. Use a grounding cord and the included grounding screw to connect this GND terminal to the earth.
Reset	Reset Button. When the **Power** LED indicator lights solid on, hold down this button for about 8 seconds, then release it. When all the LED indicators light up and then turn off, the device is restored to factory settings.
PoE/LAN	It is used to supply power or transmit data. Use the included PoE adapter to supply power to the Base Station. CAT5e or better Ethernet cable is recommended, and the length should not exceed 60 meters.

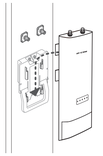
Installing the device

Installation notes

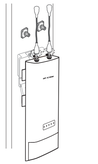
The Base Station can work with the dish, sector or other antenna (purchased separately).

Bracket mounting

1. Press the handle on the mount bracket, align the four hooks on the panel of the Base Station with the four slots on the bracket, and slide the Base Station to fix it onto the bracket.



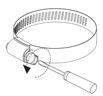
2. Remove the plastic screw caps on the RP-SMA connectors of the Base Station.
3. Connect one side of two RF coaxial cables (enclosed with the antennas) to the RP-SMA connectors of the Base Station.



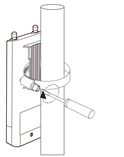
4. Connect the other side of the RF coaxial cables to the connectors of the antenna.

Pole mounting

1. Use a screwdriver to open the metal strap by turning the screw counter-clockwise.



2. Straighten out the end of the metal strap, and thread it through the back of the Base Station, wrap the metal strap around the pole, and tighten the strap by turning the screw clockwise using the screwdriver.



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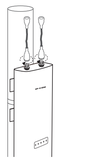
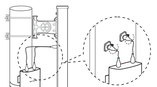


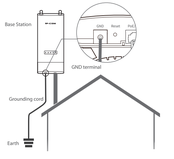
5. Connect the other side of the RF coaxial cables to the connectors of the antenna.



Lightning and ESD protection

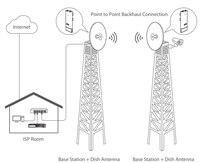
Connect the GND terminal of the Base Station to a grounding terminal connected the earth or building to protect the Base Station from overvoltage and overcurrent caused by lightning and ESD.

1. Connect one side of a grounding cord to the included grounding screw.
2. Connect the grounding screw to the GND terminal of the Base Station, and tighten it.
3. Connect the other side of the grounding cord to the grounding terminal connected to the earth or building.



Scenario 1: PtP backhaul connection with dish antennas

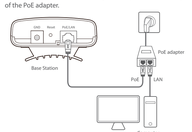
One Base Station in **AP** mode and another one in **Client (Station)** mode create a long distance wireless connection for point to point connection.



Step 1: Place two Base Stations next to each other.

Step 2: Connect a computer to a Base Station.

1. Remove the cover of the Base Station.
2. Use an Ethernet cable (CAT5e or better Ethernet cable is recommended) to connect the **PoE/LAN** port of the Base Station to the **PoE** port of the PoE adapter.
3. Connect the PoE adapter to a power source. The **PoE/LAN** LED indicator of the Base Station lights up.
4. Use an Ethernet cable to connect your computer to the **LAN** port of the PoE adapter.



Step 3: Set the Base Station 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**.

Tip:

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

2. Select **AP**, and click **Next**.

3. Set an SSID, which is **IP-COM_123456** in this example, **Security Mode** (WPA2-PSK is recommended), **Channel**, and **Key**, and click **Next**.

4. Click **Save**, and wait until the Bastion Station reboots automatically to activate the settings.

Step 4: Set the other Base Station to **Client (Station)** mode.

1. Perform **Step 2 Connect a computer to the Base Station** to connect the computer to the other Base Station.
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 doesn't appear, please refer to **Q1** in **FAQ**.

3. Select **Client (Station)**, and click **Next**.

4. Select the SSID you set on the first Base Station, which is **IP-COM_123456** in this example, and click **Next**.

5. Enter the WiFi password you set on the first Base Station in the **Key** text box, and click **Next**.

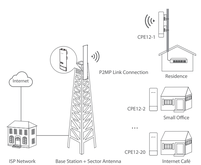
6. Set the IP address to an unused IP address belonging to the same network segment as that of the first Base Station. For example, if the IP address of the first Base Station is 192.168.2.1, you can set the IP address of this Base Station to 192.168.2.X (X ranges from 2 to 254). Then click **Next**.

7. Click **Save**, and wait until the Base Stations reboot to activate the settings.

When LED1, LED2, and LED3 of the Base Station in **AP** mode are solid on, and LED1, LED2, and LED3 of the base station in **Client (Station)** mode are blinking, the bridging succeeds. The DHCP servers of the two Base Stations are disabled automatically.

Scenario 2: P2MP connection with sector antennas

The Base Station in AP mode can provide WiFi network, allowing home users or small office users to connect to the WiFi network with outdoor long range CPEs. The Base Station can work with IP-COM CPE6 or CPE12. CPE12 is used for illustration here.



Option 1: Automatic bridging (recommend)

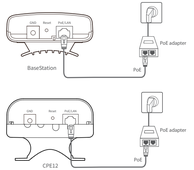
Tips:

- Automatic bridging is only applicable when the Base Station and CPE are in factory settings.
- Ensure that only the Base Station and one CPE are powered on when performing peer-to-peer bridging. Otherwise, the peer-to-peer bridging may fail.
- When the Base Station and CPE are powered on using Ethernet cables, CAT5e or better Ethernet cable is recommended, and the length should not exceed 60 meters.
- For peer-to-multiple peers bridging, perform peer-to-peer bridging first, and then power on the rest CPEs within 3 minutes. Otherwise, the bridging may fail.
- A Base Station can bridge to 20 CPEs at most.

Step1: Prepare a Base Station and 20 CPEs (CPE12), and put all CPE12 near the Base Station.

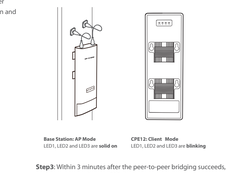
Step2: Choose one CPE12 to perform peer to peer bridging with the Base Station.

1. Place the Base Station and the CPE12 next to each other.



2. Remove the covers of the Base Station and CPE12, and use Ethernet cables (CAT5e or better Ethernet cable is recommended) to connect their **PoE/LAN** ports to the **PoE** ports of the included PoE adapters respectively.
3. Use the power cords to connect the PoE adapters to power sources. When **PoE/LAN** LED indicators of the Base Station and CPE12 light up, they completes startup.

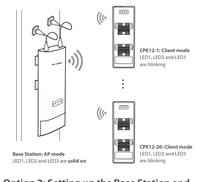
Within 1 minute, the Base station and CPE12 will perform automatic bridging. When the bridging succeeds, the DHCP servers of the Base Station and CPE12 are disabled, CPE12 works in **Client** mode and its IP address is changed to 192.168.2.2.



Step3: Within 3 minutes after the peer-to-peer bridging succeeds, power on the rest CPE12.

Step4: Wait for about 1 minute. When the LED1, LED2, and LED3 of these CPE12 are blinking, the bridging succeeds.

After the bridging succeeds, all CPE12 work in **Client** mode, and their IP addresses are changed to 192.168.2.2.



Option 2: Setting up the Base Station and CPE12 using the web UI

Refer to the configuration procedure in **Scenario 1: PtP backhaul connection with dish antennas** to set the Base Station to the **AP** mode, and set all CPE12 to **Client (Station)** mode.

FAQ

Q1:I cannot log in to the web UI of the Base Station by entering 192.168.2.1. What should I do?

A1:Try the following methods:

- Ensure that the Base Station has been connected to the power supply and the computer properly.
- Ensure that the IP address of the login computer is 192.168.2.X (X ranges from 2 to 254, which is not used by other devices).
- Restore the Base Station to factory settings.

Q2: How to reset the Base Station to factory settings?

A2: **Note: Resetting the Base Station clears all settings, and you need to configure it again.**

Method One: 1 minute after the Power LED indicator lights up, remove the cover of the Base Station, and hold down the **Reset** button for about 8 seconds. When all LED indicators light up once, the Base Station is restored to factory settings.

Method Two: Log in to the web UI of the Base Station, choose **Tools** > **Maintenance**, and click the **Reset** button.

Q3: How to determine whether the bridging signal strength is optimal when the Base Station is used for bridging?

A3: **Option One**: Observe the signal strength LED indicators of the Base Station. The bridging signal is optimum when all of the LED1, LED2 and LED3 indicators are solid on or blinking.

Option Two: Log in to the web UI of the Base Station, choose **Status**, and check the **Wireless Status** on the following page:

Stronger signal strength (-60 is better than -70) and less background noise (-100 is better than -90) lead to better bridging signal.

Q4: The automatic bridging fails. What should I do?

A4: Try the following solutions:

- If the peer-to-peer bridging fails, reset the Base Station and CPE12 to factory settings, and try again.
- If the peer-to-multiple bridging fails, ensure that the new added CPE12 is powered on within 3 minutes after the peer-to-peer bridging succeeds. If the problem persists, reset the Base Station and all CPE12, and try again.

Q5: When the bridging succeeds, the LED1, LED2, and LED3 indicators do not light up or only one or two of them light up. What should I do?

A5: Try the following solutions:

- Place the Base Station and CPE12 in an elevated location with few obstacles nearby.
- Adjust the Base Station in horizontal and vertical directions slowly. Wait for 20 to 30 seconds after you choose a direction. Observe the LED1, LED2 and LED3 indicators of the Base Station when you are adjusting the CPE until all of LED1, LED2 and LED3 indicators lights up.

CE Mark Warning

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. Operations in the 5.15-5.25GHz band are restricted to indoor use only.

This equipment should be installed and operated with a minimum distance 20cm. between the device and your body.

WARNING: The mains plug is used as disconnect device, the disconnect device shall remain readily operable.

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 BS6 is in compliance with Directive 2014/53/EU.

The full text of the EU declaration of conformity is available at the following internet address: http://ip-com.com.cn/service.html

Operating Frequency: EU/1510-5250MHz (CH36-CH48); EIRP Power (Max.): 22.98dBm

EU/5470-5725MHz (CH100-CH140); EIRP Power (Max.): 26.98dBm

Software Version: V1.0.0.3

Caution

Adapter Model: BN060-P1-2024

Manufacture: SHENZHEN HEWEISHUN NETWORK TECHNOLOGY CO., LTD.

Input: 100 - 240V AC, 50/60Hz 0.3A

Output: 24V DC, 0.5A

: DC Voltage

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 - 65 °C

Operating Humidity: 10% - 90% RH, non-condensing

For EU/EFTA, this product can be used in the following countries:

	BE	BG	CZ	DK	DE	EE	IE	EL	ES	FR	HR	IT	CY	LV
	LT	LU	HU	MT	NL	AT	PL	PT	RO	SI	SK	FI	SE	UK

FCC Statement

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:

— 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.

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 forth 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.

Caution:

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

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.

Technical Support

Address: Room 101, Unit A, First Floor, Tower E3, NO.1001, Zhongshanyuan Road, Nanshan District, Shenzhen, China, 518052

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