



WAP-8121 / WAP-8122
AC Dual Band Managed PoE Wireless Access
Point

User's Manual

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Chapter 1 Introduction

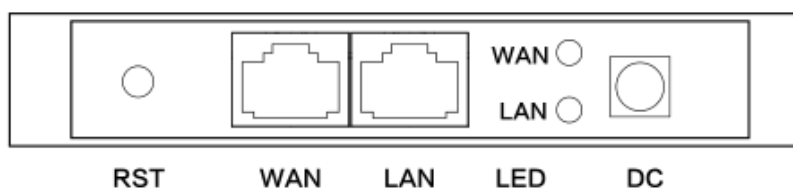
This is the user manual of 1200Mbps Ceiling AP, which will guide you to set and apply the Ceiling AP. It provides a convenient and easy graphical interface for network construction and maintenance person, as well as for a user with no experience.

1.1 LED Indicator:

Green: Power Indicator

Blue: WiFi Indicator

1.2 AP Interface:



RST: Reset Button, it make AP revert to default data after press it 15 seconds.

WAN: WAN Port, connect with ADSL modem or Internet mainly. It will be LAN port under Wireless AP and WiFi Repeater operation mode

LAN: LAN Port to end users

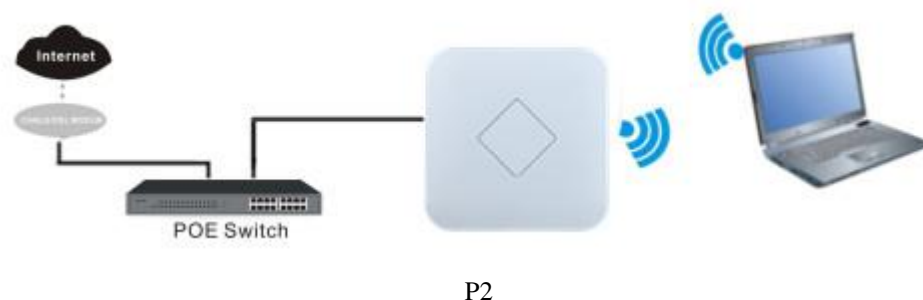
LED: LED Indicator of WAN port and LAN port

DC: DC power connector

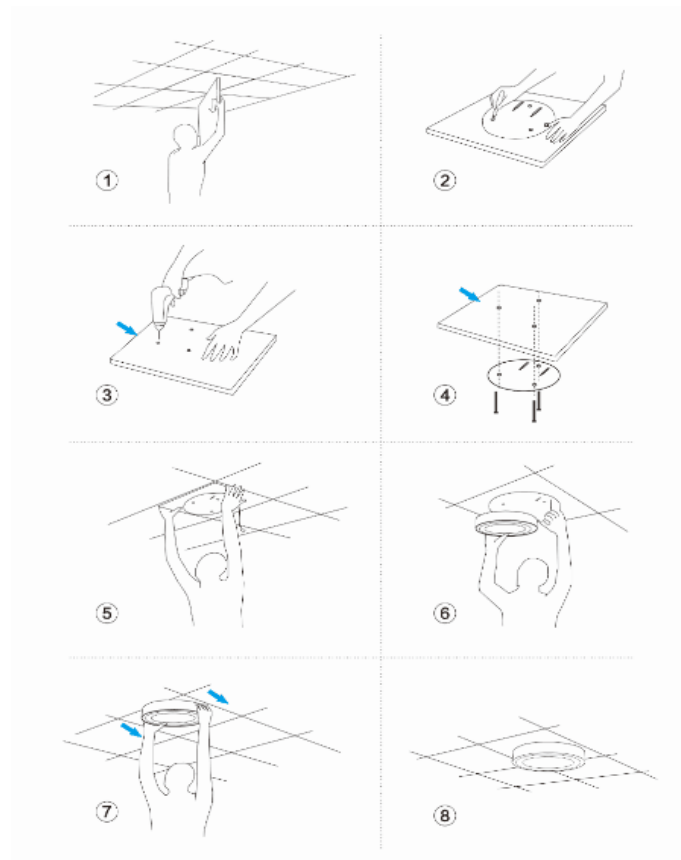
1.3 Power Supply:

The connection diagram shows as P2, Internet cable from PoE Switch to Ceiling AP's WAN Port, then PC access into ceiling AP wired/wireless.

Pls note, the PD wireless AP support 48V IEEE 802.3at standard PoE, m the PoE switch should comply with 802.3at 48V PoE standard.



1.4 AP Installation:



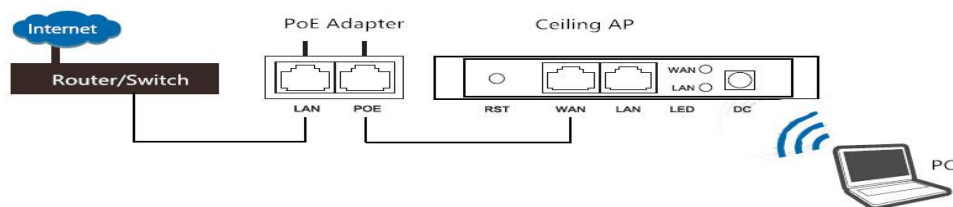
P3 AP installation

1.5 Connecting AP with PC

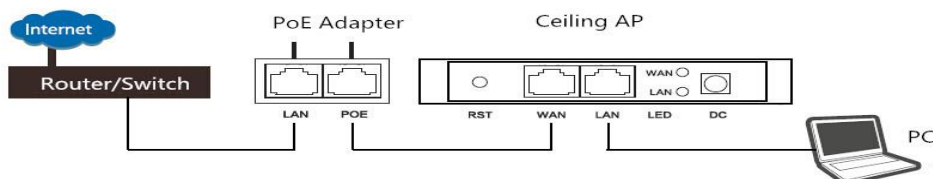
Use can connect the PC with wireless AP by Wireless SSID and LAN cable:

The diagram of wireless connection showed as follow:

Pls note: the default 2.4GSSID is **LevelOne 2.4G**, default 5G SSID is **LevelOne 5G**, SSID's password is **66666666**



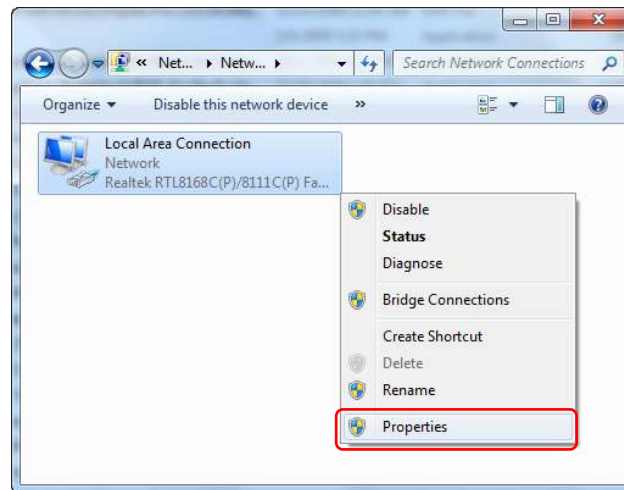
The diagram of LAN cable connection showed as follow:



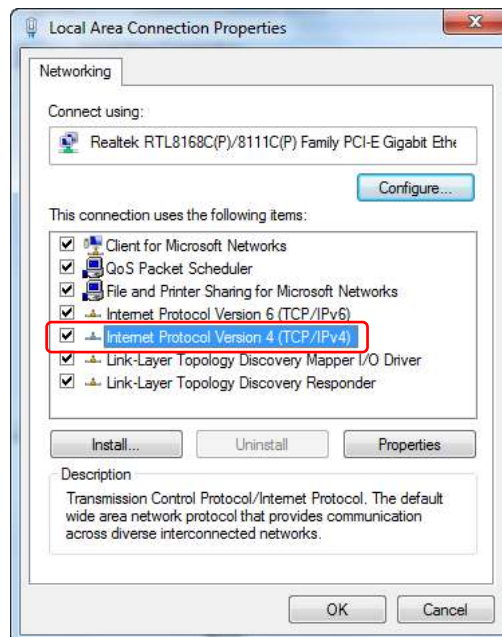
Chapter 2 Log in the WEB

The necessary information about log in is displayed on the sticker of the product, including the URL, User Name and Pass Word

- 1) Connect the Ceiling AP with computer
- 2) Configure the PC's local connection IP address as 192.168.188.X (X is number from 2 to 252), subnet mask is 255.255.255.0, follow P4 and P5 to finish.

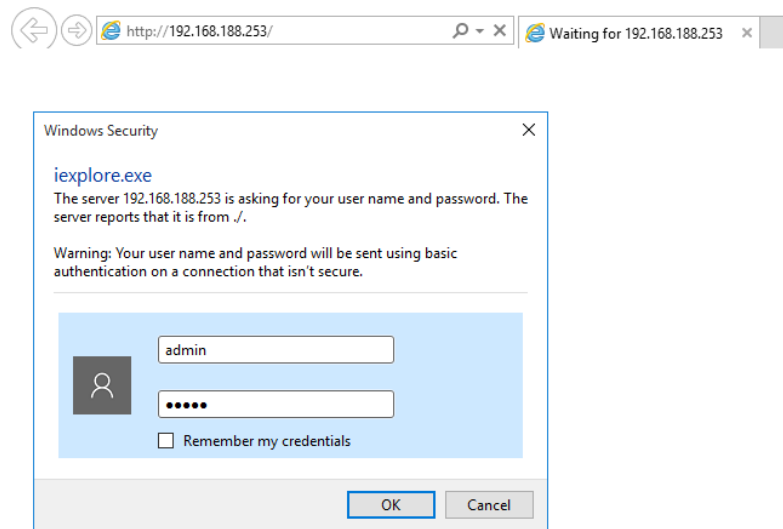


P4 Setting of computer's IP address



P 5 Setting of computer's IP address

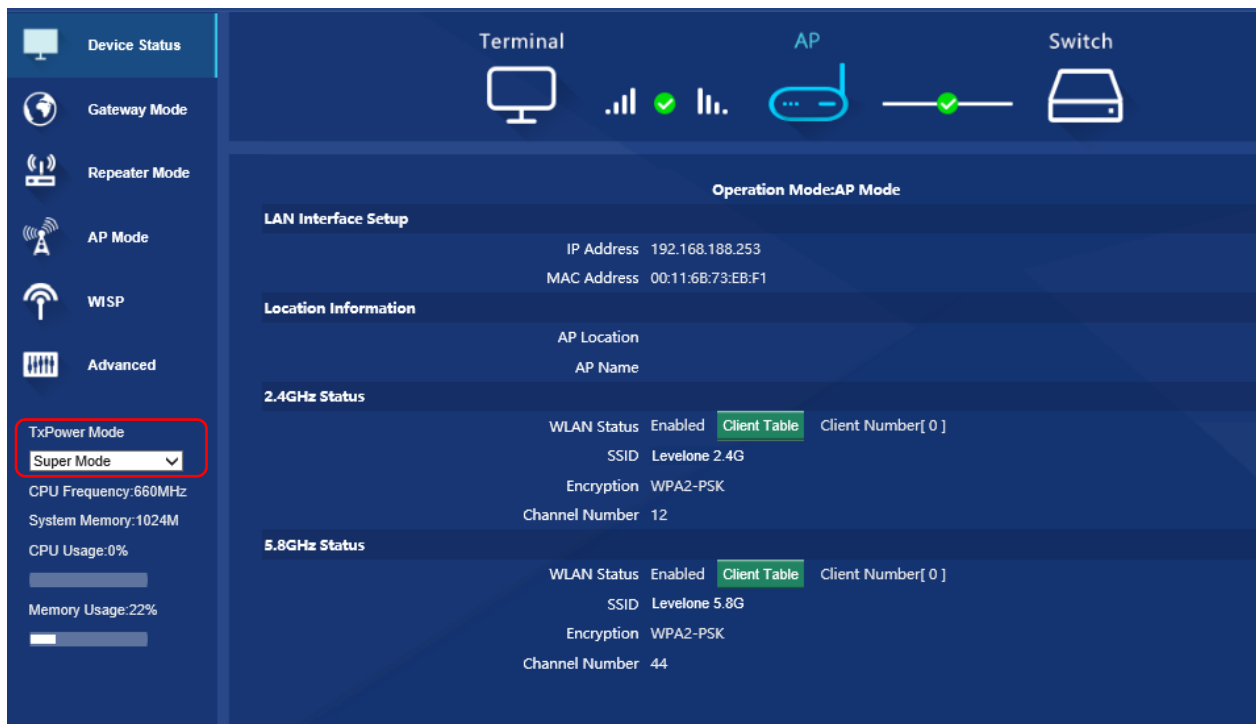
3) Input 192.168.188.253 into IE browser, then pop up the login page, the default login user name: Admin, Passwords: admin, pls do following P6



P6 Login

4) After login, then P7 Device Status will be showed;

This page will show the AP's default operation mode, channel, connection status, Tx Power Mode, CPU usage, Wireless settings, LAN Setting, AP's Location, AP's hardware/firmware version.



P7: Device Status

Quick Setup	System Status	Operation Mode	2.4GHz Wireless	5.8GHz Wireless	Network Setting	Management
2.4GHz Basic	2.4GHz Virtual AP	2.4GHz Access Control	2.4GHz Advanced			
Wireless Advanced Settings						
Country Region		CN	Channel(1-13)			
Fragment Threshold		2346	(256-2346)			
RTS Threshold		2347	(0-2347)			
Ack Timeout Control		0	(0-255)us			
Beacon Interval		100	(100-1000)ms			
Max Client		32	(Range 0-32 0:No limit)			
Coverage Threshold		-90	(-65dBm~-90dBm)			
Preamble Type		☐ Long Preamble		☒ Short Preamble		
Aggregation		☐ Disabled		☐ Enabled		
Short GI		☐ Disabled		☐ Enabled		
WLAN Partition		☐ Disabled		☒ Enabled		
RF Output Power		☒ 100% ☐ 75% ☐ 50% ☐ 25% ☐ 12.5%				

P7.1 RF Output Power

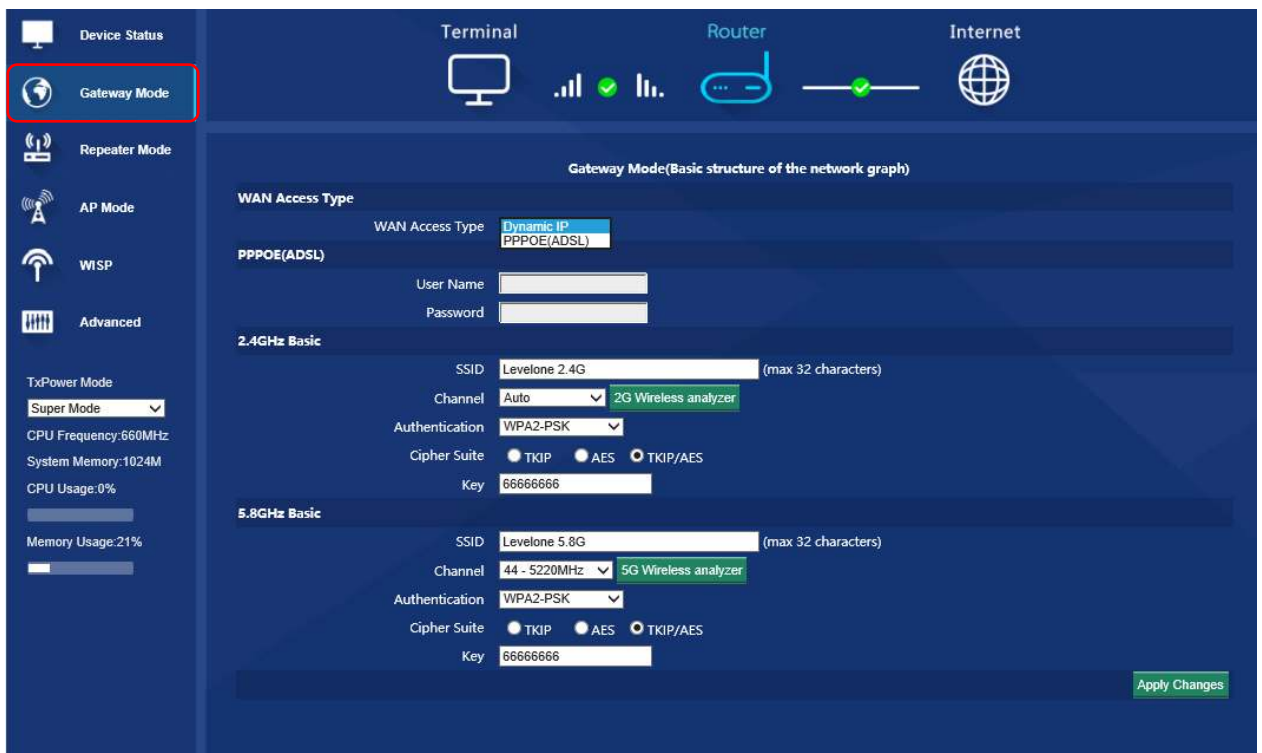


In the Tx Power Mode selection, Super mode stands for 100% of the RF Output Power, Standard mode for 50% of the RF Output Power, Power Saving Mode for 12.5% of the RF Output Power. The RF Output Power can be adjusted accordingly in

Chapter 3 Quickly Configure Wireless AP

3.1 Gateway Mode:

Before Click Gateway mode, confirm your internet will be static IP, PPPoE, or DHCP, then Click “Gateway Mode” under following picture and choose the right WAN access type. When you need to PPPOE please enter the user name and password the ISP provides . Then input the SSID, Channel and Authentication of the AP as you like, after that “Apply Changes”



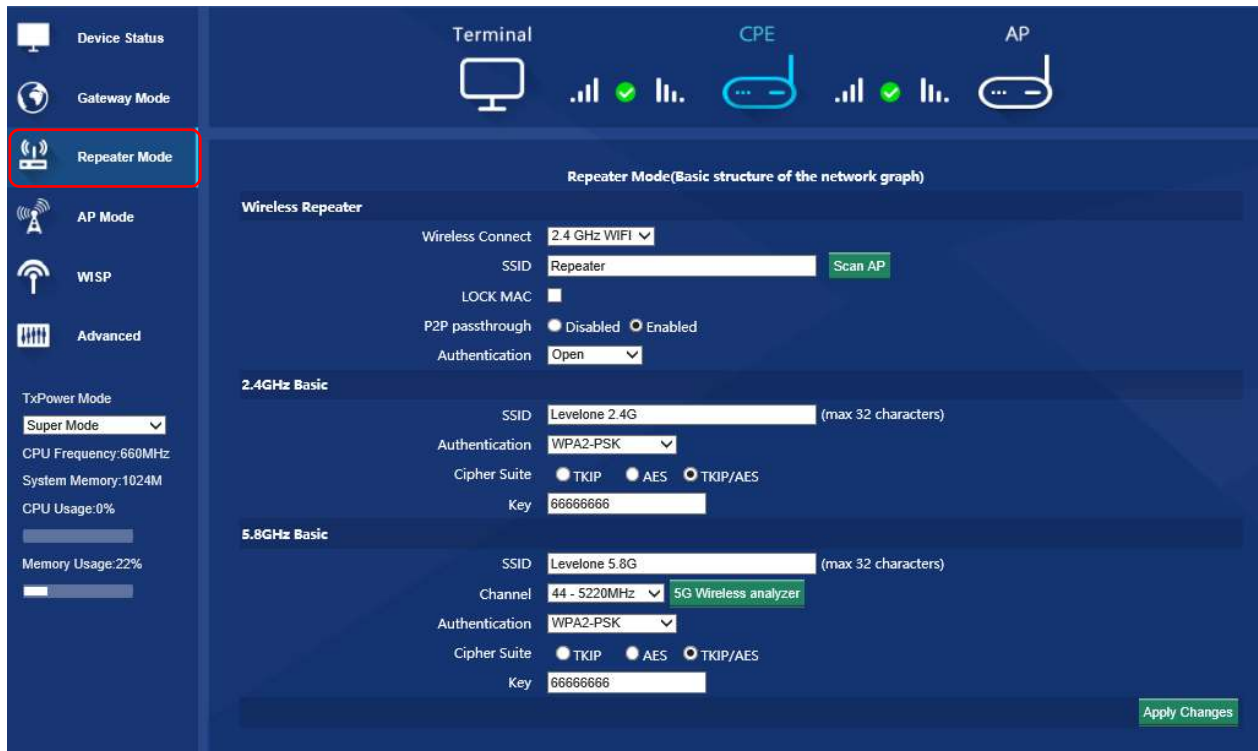
P8 Gateway Mode

3.2 WiFi Repeater and Station Operation Configuration

WiFi Repeater: Mean will bridge the exist wireless AP’s signal, then transmit it with long wifi range.

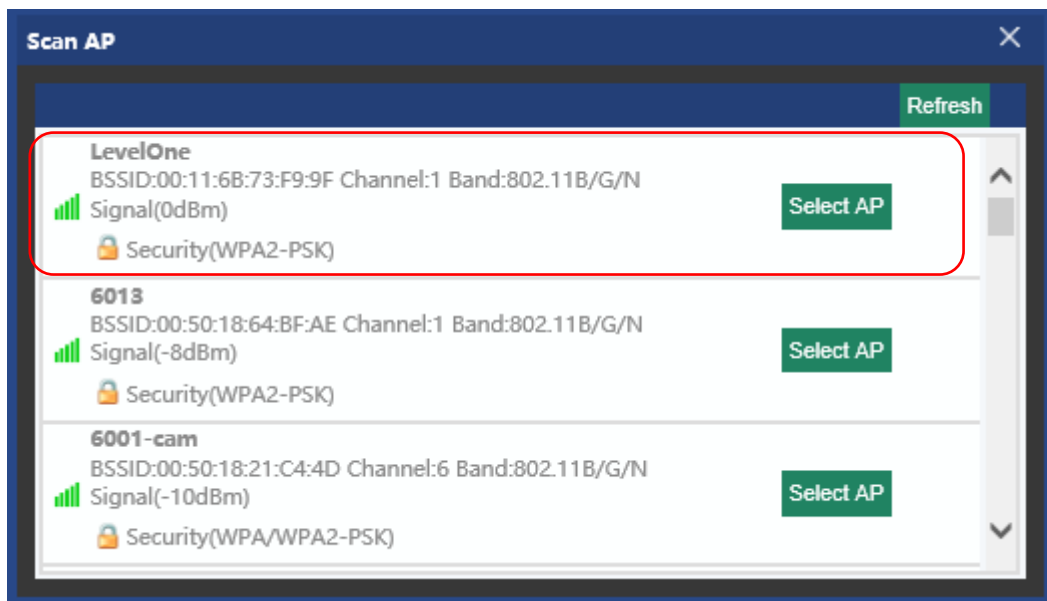
A. Login the Web management page, Choose the wireless connection as 2.4GHz WiFi or 5.8GHz WiFi, then click “Repeater Mode”, then “Scan AP” to find the AP you want to repeat.

Pls note: When choose 2.4GHz WiFi, mean can bridge the exist 2.4GHz Wireless AP; When choose 5.8GHz WiFi, mean can bridge the exist 5.8GHz Wireless AP.



P9 Repeater Mode

B. Select the AP's SSID want to bridge, take **LevelOne** for example.



P10 Select AP



If your computer can't pop up this window, pls check your IE explorer and see whether it is blocked already. And if this Wireless AP can't scan any SSID, pls check if there are 5G

C. input the SSID/password for 2.4GHz or 5.8GHz WiFi which will be broadcast. Then "apply changes" to finish.

2.4GHz Basic

SSID: Levelone 2.4G (max 32 characters)

Authentication: WPA2-PSK

Cipher Suite: ☐ TKIP ☐ AES ☒ TKIP/AES

Key: 66666666

5.8GHz Basic

SSID: Levelone 5.8G (max 32 characters)

Channel: 44 - 5220MHz 5G Wireless analyzer

Authentication: WPA2-PSK

Cipher Suite: ☐ TKIP ☐ AES ☒ TKIP/AES

Key: 66666666

Apply Changes

P11 Repeater Mode

3.3 AP Operation Mode:

AP mode is for wifi coverage mainly, plug and play, very easy in setting as follow:

Click the “AP mode”, set AP Location and name if need, after that to configure the Wireless Basic for 2.4Ghz and 5.8Ghz, such as SSID, password, channel, Then apply.

Device Status

Gateway Mode

Repeater Mode

AP Mode (Selected)

WISP

Advanced

TxPower Mode

Super Mode

CPU Frequency:660MHz

System Memory:1024M

CPU Usage:0%

Memory Usage:22%

Terminal

AP

Switch

AP Mode(Basic structure of the network graph)

Location Information

AP Location

AP Name

2.4GHz Basic

SSID: Levelone 2.4G (max 32 characters)

Channel: Auto 2G Wireless analyzer

Authentication: WPA2-PSK

Cipher Suite: ☐ TKIP ☐ AES ☒ TKIP/AES

Key: 66666666

5.8GHz Basic

SSID: Levelone 5.8G (max 32 characters)

Channel: 44 - 5220MHz 5G Wireless analyzer

Authentication: WPA2-PSK

Cipher Suite: ☐ TKIP ☐ AES ☒ TKIP/AES

Key: 66666666

Apply Changes

3.4 WISP Operation Mode:

Before apply WISP operation mode, pls confirm the internet will be dynamic IP or PPPoE:

Click ”WISP” mode in Wizard, then will pop up the configure page, then choose the WAN Access Type and place correct information as in the Gateway Mode. Then confirm the bridge networking is 2.4GHz WiFi or 5.8GHz WiFi,

after that “scan AP” to choose the SSID you want to bridge and input the password, then fill the SSID/password, channel will be broadcast, “Apply Changes” to finish.

Device Status

Gateway Mode

Repeater Mode

AP Mode

WISP

Advanced

TxPower Mode

Super Mode

CPU Frequency:660MHz

System Memory:1024M

CPU Usage:0%

Memory Usage:21%

CPE

AP

Internet

WISP(Basic structure of the network graph)

WAN Access Type

WAN Access Type: Dynamic IP, PPPOE(ADSL)

PPPOE(ADSL)

User Name: , Password:

Wireless Repeater

Wireless Connect: 2.4 GHz WIFI

SSID: Repeater

LOCK MAC:

Authentication: Open

2.4GHz Basic

SSID: Levelone 2.4G (max 32 characters)

Authentication: WPA2-PSK

Cipher Suite: TKIP, AES, TKIP/AES

Key: 66666666

5.8GHz Basic

SSID: Levelone 5.8G (max 32 characters)

Channel: 44 - 5220MHz

Authentication: WPA2-PSK

Cipher Suite: TKIP, AES, TKIP/AES

Key: 66666666

Scan AP

Apply Changes

P12 WISP mode

Chapter4 Advanced Setting:

In advanced setting, user can check the ceiling AP's firmware version, working status, 2.4G/5.8Ghz wireless, LAN Status, upgrade firmware, Reset...

4.1 Device Status:

This page will show basic parameters for this unit, like firmware version, hardware version, etc;

System home	System Status	Operation Mode	2.4GHz Wireless	5.8GHz Wireless	Network Setting	Management
System Status	2.4GHz Status	5.8GHz Status	LAN Status			
Status						
Software Version LevelOne-WAP-8122-V1-B20160926094247						
Hardware Version V1.0						
System uptime 0Day 22H 23M 51S						

4.2 2.4Ghz/5.8Ghz Wireless Basic Setting:

On this page, users can configure the basic wireless settings freely, including the SSID, Security, Band, Hidden SSID and channel width. You can click the Wireless analyzer to select the best channel.

System home	System Status	Operation Mode	2.4GHz Wireless	5.8GHz Wireless	Network Setting	Management
2.4GHz Basic	2.4GHz Virtual AP	2.4GHz Access Control	2.4GHz Advanced			
Wireless Basic Settings						
Status ☐ Disabled ☒ Enabled						
Mode AP						
SSID Levelone 2.4G (max 32 characters)						
Band 802.11B/G/N						
Broadcast SSID ☐ Disabled ☒ Enabled						
WMM ☐ Disabled ☒ Enabled						
Channel						
Channel Width 20MHz						
Channel Number Auto 2G Wireless analyzer						
Security						
Authentication WPA2-PSK						
Cipher Suite ☐ TKIP ☐ AES ☒ TKIP/AES						
Key 66666666						
Apply Changes						

System home	System Status	Operation Mode	2.4GHz Wireless	5.8GHz Wireless	Network Setting	Management
5.8GHz Basic	5.8GHz Virtual AP	5.8GHz Access Control	5.8GHz Advanced			
Wireless Basic Settings						
Status ☐ Disabled ☒ Enabled						
Mode AP						
SSID Levelone 5.8G (max 32 characters)						
Band 802.11A/N/AC						
Broadcast SSID ☐ Disabled ☒ Enabled						
WMM ☐ Disabled ☒ Enabled						
Channel						
Channel Width 40MHz						
Channel Number 44 - 5220MHz 5G Wireless analyzer						
Security						
Authentication WPA2-PSK						
Cipher Suite ☐ TKIP ☐ AES ☒ TKIP/AES						
Key 66666666						
Apply Changes						

4.3 Virtual AP:

There are 3 virtual AP in 2.4Ghz and 5.8Ghz individually, (total 6 virtual AP), if need virtual SSID, then users can configure basic settings showed in following picture:

Status	SSID	Broadcast SSID	WMM	Security	Apply Changes	Edit	Reset
(Off)	VAP0	Enabled	Enabled	Open			
(Off)	VAP1	Enabled	Enabled	Open			
(Off)	VAP2	Enabled	Enabled	Open			

Status	SSID	Broadcast SSID	WMM	Security	Apply Changes	Edit	Reset
(Off)	VAP0	Enabled	Enabled	Open			
(Off)	VAP1	Enabled	Enabled	Open			
(Off)	VAP2	Enabled	Enabled	Open			

4.4 Access Control

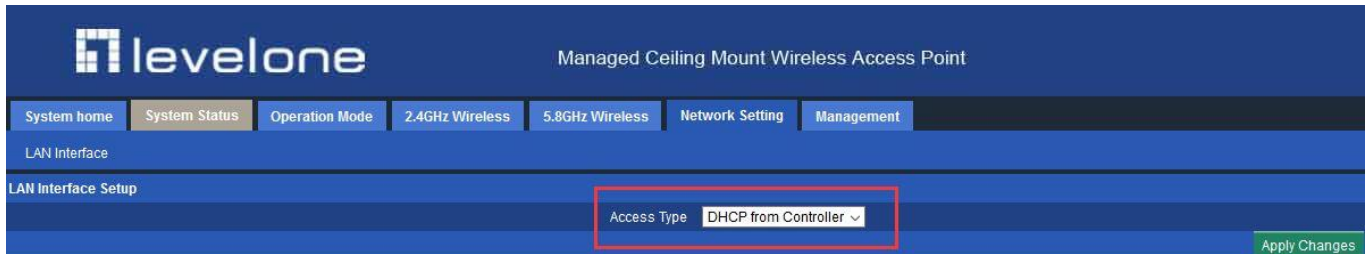
Control the end users like the white list and black list.

Wireless Access Control Mode
Allow All

4.4 Network Setting:

In this page, users can set up the basic LAN setting

Under AP Mode, DHCP from Controller means you are allowing the controller to control the IP of the AP (originally 192.168.188.253) . Therefore the controller can find and manage the AP.



When you choose Fixed IP , that means the AP is having the right to decide its own IP instead of being totally controlled by controller. However, when the IP Address is in the same network segment as controller's, can the controller find and manage the AP. Take one for example, when controller's IP is 192.168.10.1, and only when AP's IP is 192.168.10.X can the controller find and manage the AP.



4.5 Management:

4.5.1 System Time

In this part, you can set the time of the device. NTP server can only work under Gateway mode and WISP Mode. When NTP server is chosen, Sync with host will be unavailable. When it connects with controller click Sync with Host, it will get time from controller rather than from PC.

System home	System Status	Operation Mode	2.4GHz Wireless	5.8GHz Wireless	Network Setting	Management
System Time	Log	Upgrade Firmware	Settings Management	Password		

Time Zone Setting

Current Time: 1970-01-01 00:11:18 [Sync with host](#)

Time Zone Select: (GMT+05:30)Bombay, Calcutta, Madras, New Delhi

☐ Enable NTP client update

NTP Server: time.windows.com

☐ 0.0.0.0 (Manual IP Setting)

☐ When device running at 3:00 Automatic reboot

[Apply](#)

4.5.2 Log:

Log info will help the technicians to diagnose the problems of the device

System home	System Status	Operation Mode	2.4GHz Wireless	5.8GHz Wireless	Network Setting	Management
System Time	Log	Upgrade Firmware	Settings Management	Password		

System Log

system log ☒ Disabled ☐ Enabled

☐ Remote Log Server 0 0 0 0

[Apply](#)

[Refresh](#) [Clear](#)

4.5.3 Upgrade Firmware

After upgrading the firmware please reset the device.

System home	System Status	Operation Mode	2.4GHz Wireless	5.8GHz Wireless	Network Setting	Management
System Time	Log	Upgrade Firmware	Settings Management	Password		

Upgrade Firmware

Firmware Version LevelOne-WAP-8122-V1-B20160926094247

Select File [Browse...](#) [Upgrade](#)

Note: do not power off the device during the upload because it may crash the system!

4.5.4 Settings Management

Save settings will help you to save the current configuration. When you have reset the device, you can also upload the the settings you saved before.

You can click Reset Settings to reset the device instead of pressing reset button.

You are able to reboot the device through System Reboot

System home System Status Operation Mode 2.4GHz Wireless 5.8GHz Wireless Network Setting Management

System Time Log Upgrade Firmware Settings Management Password

Save/Reload Settings

Save Settings to File Save Settings

Load Settings from File Upload Settings Browse...

Reset Settings to Default Reset Settings

System Reboot System Reboot

4.5.5 Password

You can change the System Password here. We strongly recommend you to change the system password for security reason.

System home System Status Operation Mode 2.4GHz Wireless 5.8GHz Wireless Network Setting Management

System Time Log Upgrade Firmware Settings Management Password

Password Setup

User Name

New Password

Confirmed Password

Apply

4.5.6 Management under Gateway Mode

DDNS function is added in this mode. And the QoS function allow you the limit the uplink and downlink speed.

HIGH PERFORMANCE INTELLIGENT WIRELESS 450M AP/CPE

System home System Status Operation Mode 5.8GHz Wireless Network Setting Firewall Management

System Time DDNS QoS Signal tracking Log Upgrade Firmware Settings Management Password English

QoS

QoS ☐ Disabled ☒ Enabled

UP Link 1024000 Range:(100-1024000)Kbps

Down Link 1024000 Range:(100-1024000)Kbps

Apply Changes

4.5.7 Firewall under Gateway Mode

Use the firewall to secure your network as you wish.

HIGH PERFORMANCE INTELLIGENT WIRELESS 450M AP/CPE

System home System Status Operation Mode 5.8GHz Wireless Network Setting Firewall Management

IP/Port Filtering MAC Filtering URL Filtering Port Forwarding DMZ English

IP/Port Filtering

IP/Port Filtering Disabled

IP Address Range 192 168 188 192 168 188

Port Range 1-65535

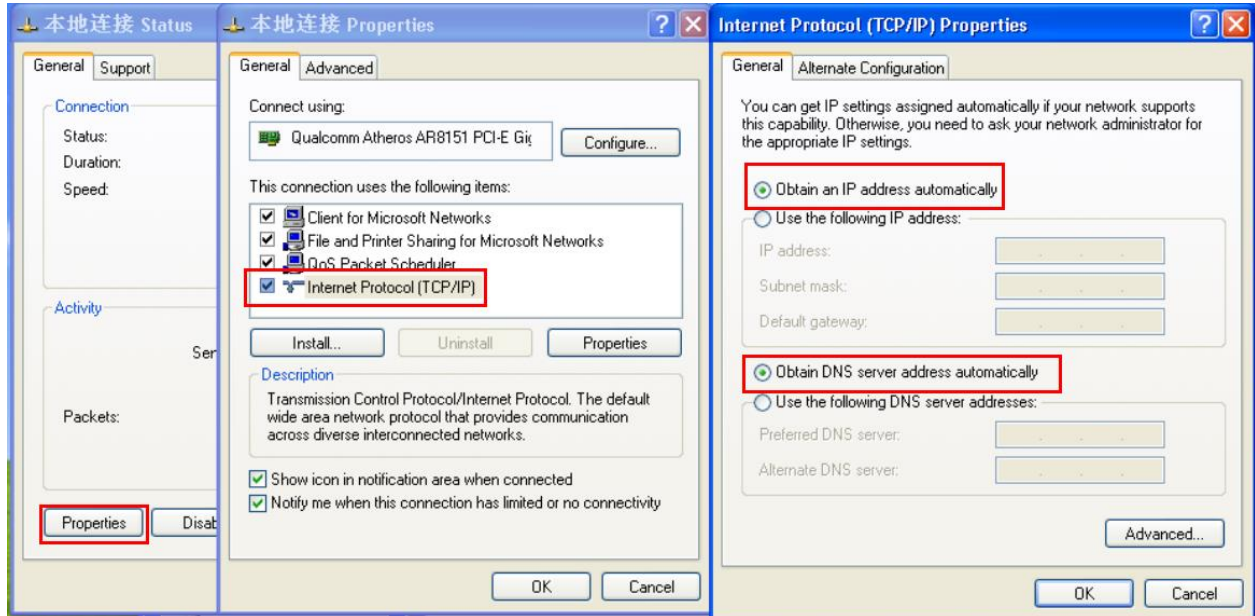
Protocol TCP+UDP

Comment

Add Delete

4.6 Share Internet and Obtain IP Address Automatically

Set computer's TCP/IP as Obtain an IP address automatically, Obtain DNS server address automatically as following picture showed. the computer will obtain the IP address from router or base station to get Internet.



Chapter 5 Trouble Shooting:

F 1 The Failure phenomenon and solution

Failure phenomenon	Solution
SYS Indicator off	Pls make sure the PoE module connection is right. POE Port connect with AP, LAN port connect with computer
Can't land to Wireless AP through Web page	Pls check the IP address of computer and Wireless AP to see whether they are in same networking segment, The method is click "start"- "Run" input "cmd", ping 192.168.188.253 to test the Wireless AP connectivity. Reset Wireless AP and load it again; Pls make sure the IP address 192.168.188.253 is not occupied by other device in Wireless AP's networking; Check computer and cable problem, recommend to use 10/100M UTP unshielded cable; Clean up Arp binding from "Start" - "Run" input "cmd" arp -d Clean the IE Brower's temporary files and Cache file.
Wireless AP can't connect with AP (the status display unconnected)	Try to scan the available wireless networking again; Make sure the Wireless AP's wireless standard is correct; (2.4Ghz signal should connect 2.4Ghz, 5.8Ghz signal should connect 5.8Ghz signal;) The Security and passwords are matched between Wireless AP and AP; The signal strength of AP is too weak to connect, should be more than -75dBm;
Can't scan the wireless AP	Scan it several times more; If using 5Ghz to scan, please make sure there are 5G signal existed. Reset the Wireless AP, scan it again after Wireless AP restart;
The connection of Wireless AP and AP is success, but the computer can't share internet	Pls Check the computer's IP address and DNS setting. If it is dynamain, set the network card as automatically obtain. If it is static IP, pls contact with ISP for correct IP address and DNS address.
How to Reset Wireless AP	Press the "Reset" button more than 15 seconds after power on. The Wireless AP will restore factory default after the Wireless AP restart.

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-
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to redistribute it under certain conditions; type `show c'
for details.
```

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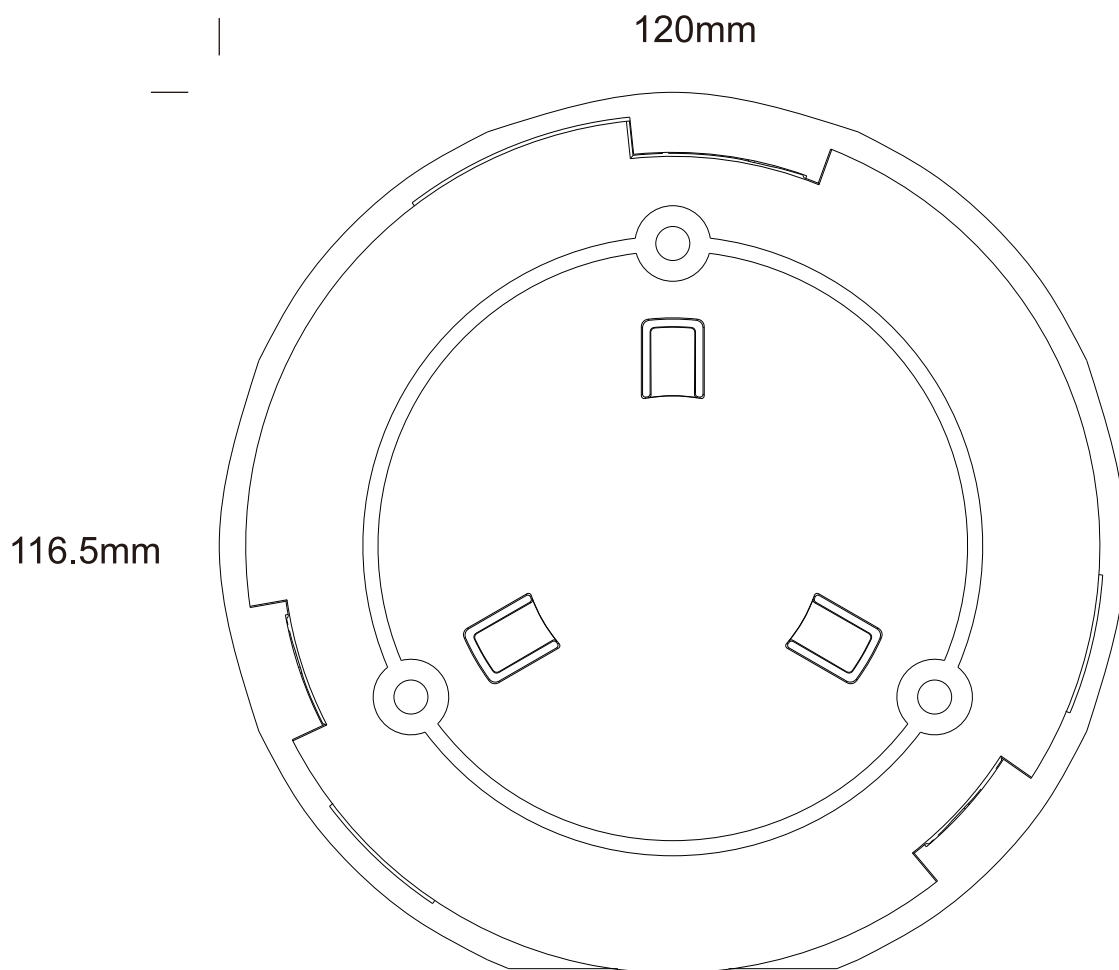


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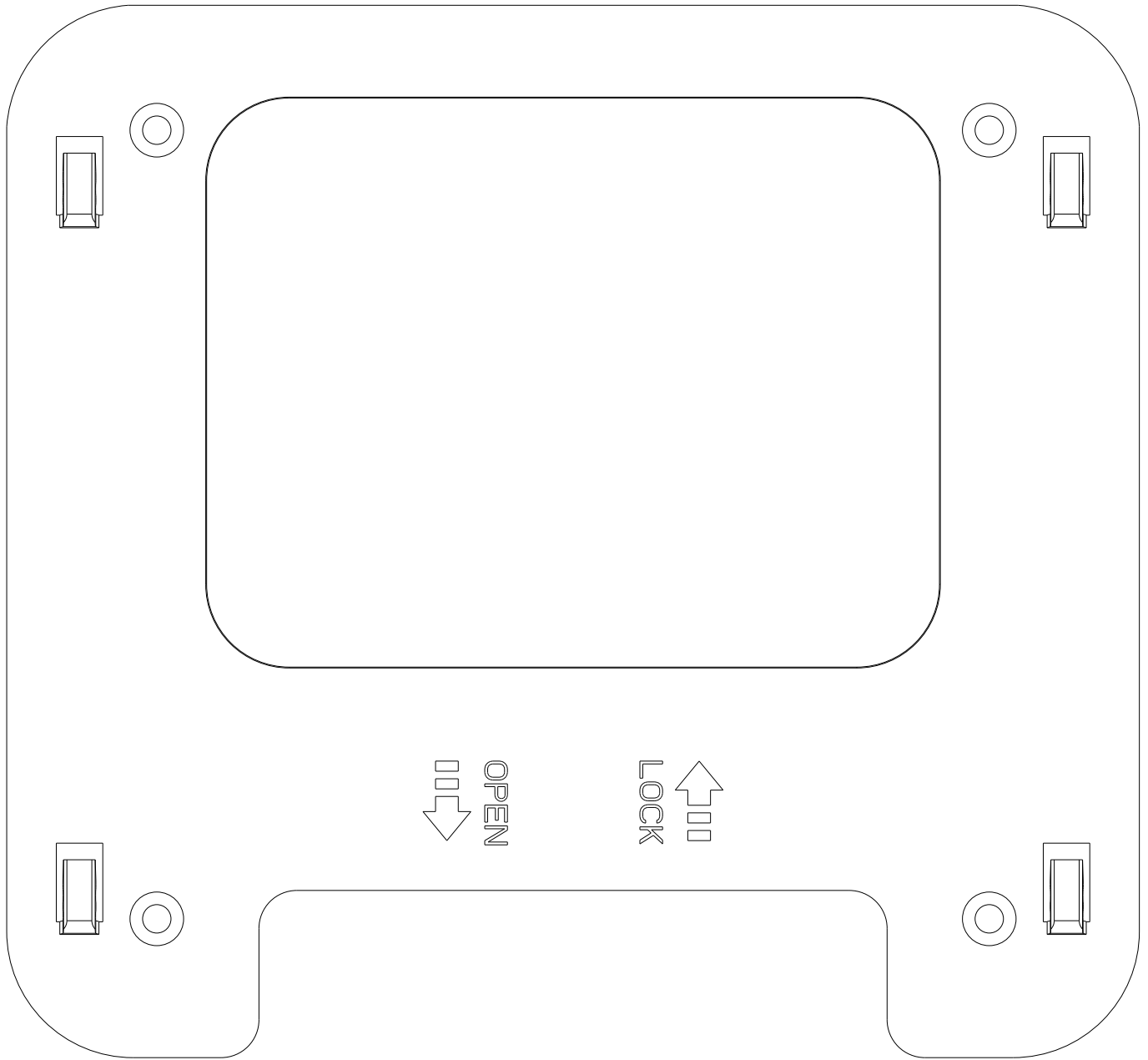


scale 1:1

WAP - 8121

176.9mm

166.8mm



scale 1:1

WAP - 8122