

AP Controller AC1000

User Manual



V2.0

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1. Introduction

1.1. Overview

The AC1000 series features a controller with localized small to medium-sized LAN centralized configuration, management, and status monitoring capabilities, along with integrated unified management functionality for wired devices. It supports both AC functions, such as wireless AP management, wireless internet control, wireless authentication management, and wireless security management, as well as centralized network control functions, including intelligent network initialization, comprehensive network management, automatic device discovery, and network operations and maintenance.

The product's WAN and LAN ports are designed with Gigabit Ethernet ports. Compared to traditional 100 Mbps ports, the wired transmission rate is increased by ten times, making it suitable for broadband access of 100 Mbps and above, especially for mainstream fiber optic broadband access.

The design of the product aims to provide home and small business users with a wireless coverage experience comparable to professional commercial-grade solutions. The product's hardware and software design balances, the professionalism of commercial WiFi network solutions with the convenience required for small-scale applications. By streamlining the device installation and configuration steps, it is made to easily serve home and small to medium-sized enterprise applications.

1.2. Features

- MTKT7621AT MIPS1004Kc (880 MHz) dual-core CPU, adopting high-performance processor can provide more stable network and faster transmission rate.
- Supported standard: IEEE802.3, IEEE802.3u, IEEE802.3ab.
- Equipped with 1*10/100/1000M WAN, 4*10/100/1000M LAN (PoE output), auto MDI/MDIX.
- Metal shell can provide heat dissipation and effectively shields electromagnetic interference.
- Support multiple installations: Desktop, DIN rail mounting, wall mounting, 1U Rack Mount: Standard 19-inch cabinet type(only for AC1000).

- 4 -

- Rich hardware interface: 1*USB2.0, 1*USB3.0, 1*console, 1*reload button.
- Manages up to 200 wireless access points, and 100 users as gateway.
- Support router mode and AP mode.
- Support DHCP, PPPoE, static IP in router mode.
- Support WAN/LAN switching, and multi-WAN settings.
- Supports multiple services: HTTP, NAT, QOS, etc.
- Can be centrally managed through the PUSR cloud.
- Can monitor each access point and connection status of network devices.
- Support reset to factory settings via reload button.



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• Support OpenWrt system customization.

1.3. Specification

Table 1. Parameters table

Model	AC200	AC1000	
Processor	MTK MT7621AT		
DDR	DDR3 2Gbit		
FLASH	Nor Flash 64Mbit		
POE	RTL8234B None		
EEPROM		BL24C64A	
Power			
Power	Power adapter Input: 100 – 240 V AC, 50/60 Hz	100~240V 50/60Hz AC	
Tower	Output: 53.5VDC/1.22A	100 240V 30/00H2 AC	
Power		≤12W	
consumption	≤5W	21244	
Hardware			
WAN	1*RJ45, 10/100	D/1000M, auto MDI/MDIX	
	4*RJ45, 10/100/1000M, auto		
LAN	MDI/MDIX	4*RJ45, 10/100/1000M, auto MDI/MDIX	
LAIN	48V PoE out, IEEE 802.3af, IEEE 802.3at	4 1343, 10/100/1000M, auto MDI/ MDIX	
	standard		
Console port	1* Micro USB	1*RJ45	
USB	/	1*USB2.0+1*USB3.0	
Reload	Reset t	to factory settings	
	Power, work, Ethernet port	Power, work, USB, Ethernet port	
Indicators	indicator	indicator	
	IEC 610	00-4-2, level2, ESD	
EMC Protection	IEC 61000	-4-4, level2, EFT	
	IEC 61000-	4-5, level2, surge	
Software			
Work Mode	Route	r mode, AP mode	
	HTTP Web based GUI		
Management	Local or online Firmware upgrade		
Wanagement	Configuration Backup / Restore		
Centrally managed through the PUSR cloud		through the PUSR cloud	
	Manage up to 200 access points		
AP Management	Manage up to100 end users		
Ai wanagement	Centrally and remotely to manage/configure wireless AP		
	View user's status		



	IP binding				
	Port mapping				
Others	WAN/LAN switching, and multi-WAN settings			WAN/LAN switching, and multi-WAN settings	
	Multiple services: HTTP, NAT, QOS, etc				
	OpenWrt system customization				
Physical Parameter	S				
Dimension	110*95*25mm 440*250*44.5mm				
	Desktop, wall mounting, DIN rail	Desktop/1U Rack Mount			
Installation	mounting	Desktop/10 Rack Mount			
Operating					
Temperature	0°C ~ 45°C				
Storage Temperature	-40°C ~ 75°C				
Operating Humidity	5 ~ 95 %(non-condensing)				

1.4. Button & Indicator

Table 2. Button & Indicator

Item	Description	
Power Indicator	On: Power on,	
i ower maleator	Off: Power off.	
Reset Button	ton Holding for 5s to reset to factory settings	
ETH link/data indicator	Link: there is ETH device connected.	
Em unicator	Data: Transmitting/receiving data.	
Internet Green: accessing to internet successfully.		
USB	Green: there is USB device connected.	

1.5. Dimension

Unit: mm



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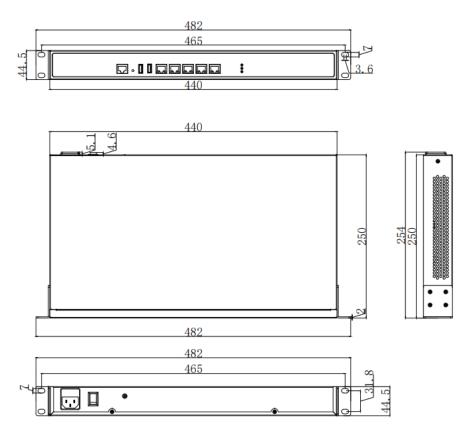


Figure 1. Dimension of AC1000

2. Get Started

2.1. Login setting webpage

Connect PC to the LAN port of the AP controller, and set the IP to static IP, such as 192.168.1.101. The IP should be on the same network segment as the AP device.

You can test whether the network is connected by ping 192.168.1.1.

```
| Microsoft Windows [版本 10.0.22621.2715]
| (c) Microsoft Corporation。保留所有权利。
| C:\Users\86189>ping 192.168.1.1 | 具有 32 字节的数据:
| 来自 192.168.1.1 | 則有 32 字节的数据:
| 来自 192.168.1.1 | 即回复:字节=32 时间=1ms TTL=64 |
| 来自 192.168.1.1 | 的回复:字节=32 时间=1ms TTL=64 |
| 192.168.1.1 | 的 Ping 统计信息: 数据包:已发送 = 4,已接收 = 4,丢失 = 0 (0% 丢失),
| 往返行程的估计时间(以毫秒为单位): 最短 = 1ms,最长 = 1ms,平均 = 1ms |
```

Figure 2. Ping command



Enter the default IP address of the AP 192.168.1.1 in the browser, and the browser will navigate to login page. The username and password are both admin.

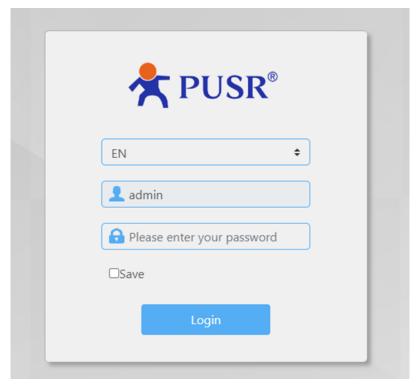


Figure 3. Login page

2.2. Briefs introduce of the webpage

The left column is divided into 9 menu pages: System status, mobile network, Internet accessing settings, WLAN settings, LAN settings, Login settings, client list, upgrade and system log.

There are three auxiliary options in the upper right corner: PUSR cloud, Luci, language, as shown in the following figure.



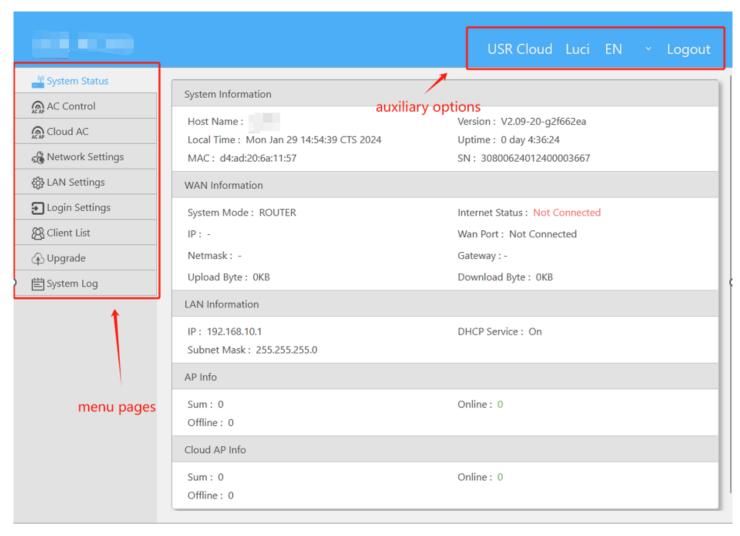


Figure 4. Function page

3. Configuration and parameter details

3.1. System status

This interface displays the basic information of the router, including 5 major blocks: system information, WAN port information, LAN port information, AP information and cloud AP information (Details will be introduced later). The specific information is shown in the figure below.



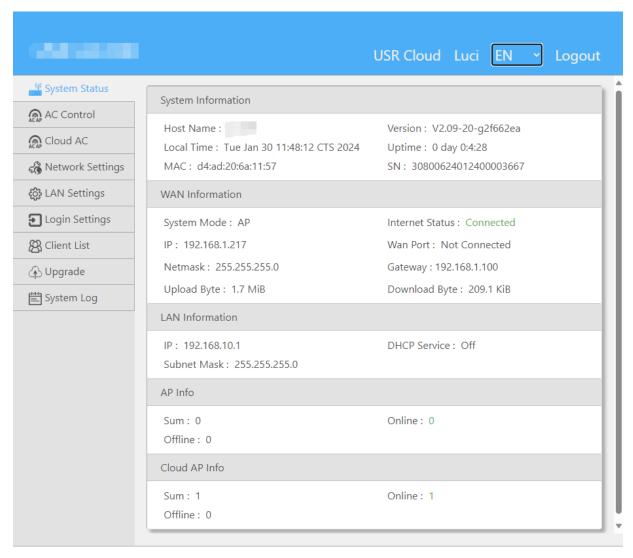


Figure 5. System information (AP)

3.2. AC management

This function is used to manage AP devices connected to the same LAN. The interface contains three submenu bars: AP List, AP Settings, and AP Details.

3.2.1. AP list

This interface is used to display the information of AP devices that connected within the LAN. The detailed information is shown in the following figure.



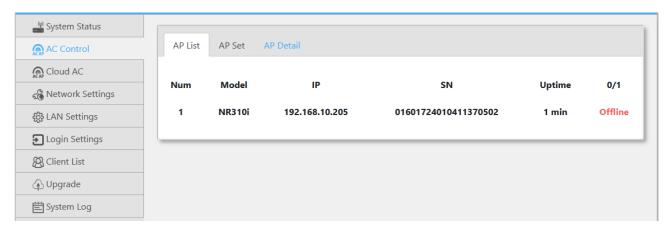


Figure 6. AP list

On this page, users can click on the IP of the connected AP device in the AP list to jump to the setting page, as shown in the figure.



Figure 7. AP list

3.2.2. AP settings

The settings for AP mainly include 7 actions: settings, restart, restore factory settings, upgrade, delete (offline AP), flash LED, export SN and cloud password, as shown in the figure.

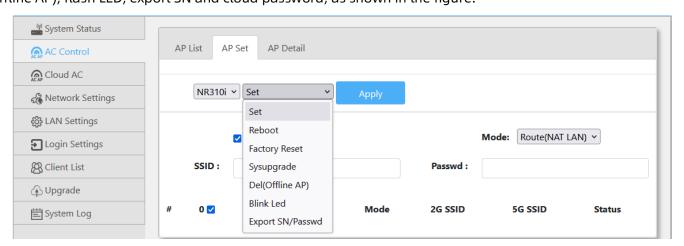


Figure 8. AP settings

The detailed information of actions is listed in the following table.



Table 3.

Items	Description	How to operate	
Settings	Set the SSID and password of the	Check the target device->Enter SSID &	
	WiFi.	password→Confirm	
Reboot	Reboot the AP device	Check the target device→ Confirm	
Reset to factory	Reset the AP to factory defaults	Check the target device → Confirm	
defaults			
Upgrade	Upgrade the firmware of AP	Check the target device→ select the	
		firmware > Confirm	
Delete (Offline AP)	Delete offline AP device	Check the target device→ Confirm	
Changing LED	Change device LED light status	Check the target device→click "Switch" →	
status		Confirm	
Exporting SN and	Export the SN and cloud password	Check the target device→ Confirm(The context of	
password	of connected devices (for cloud AC	the exported file is shown in the following	
	management import)	picture)	

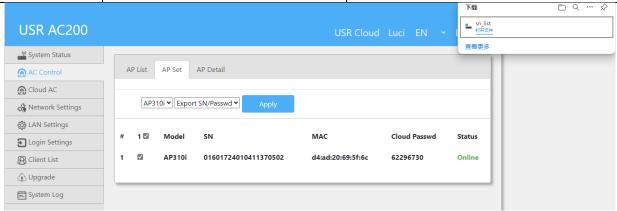


Figure 9. Export SN and passwd

3.2.3. AP information

On this page, users can view the detailed information of the AP device such as model, MAC, version number, etc. You can select the corresponding AP device by selecting the model and SN code. The specific information is shown in the following figure.



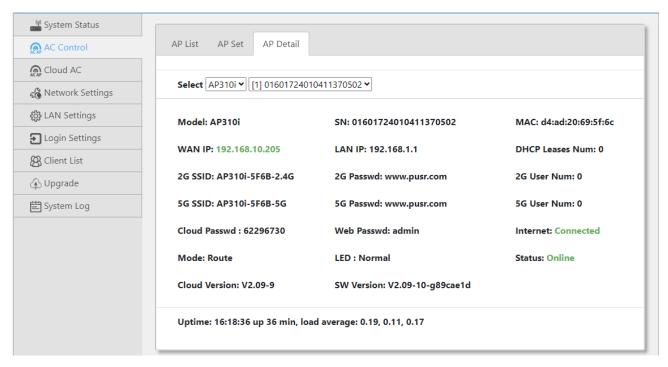


Figure 10. AP detail

3.3. AC management via PUSR cloud

This function is used to manage AP devices connected to PUSR cloud(the AP devices need to be connected to the Internet). You need to import the SN code and cloud password of the corresponding device. It contains four sub-menu bars: AP list, AP settings, AP details, and AP import.

3.3.1. AP import

Import the SN code and cloud password of the AP device on this page to enable the AC to remotely manage the AP through the PUSR cloud. There are two ways to import: manual adding and file import, as shown in the figure below. The content format of the imported file is as shown in the chapter. After successful import, and the AP device has been successfully added on the cloud platform, it will be displayed in the AP list after refreshing the page.



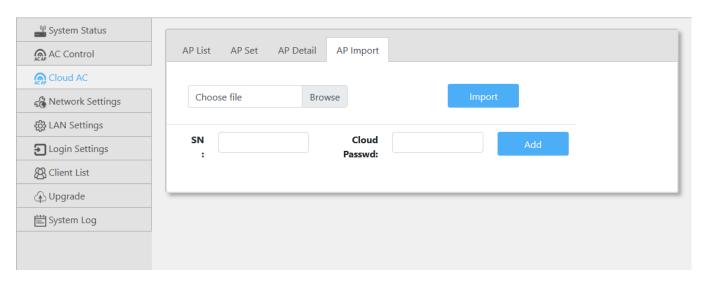


Figure 11. AP import



Figure 12. Context of imported file

3.3.2. AP list

This page displays the AP devices added on the cloud platform. The detailed information is as shown in the following figure.

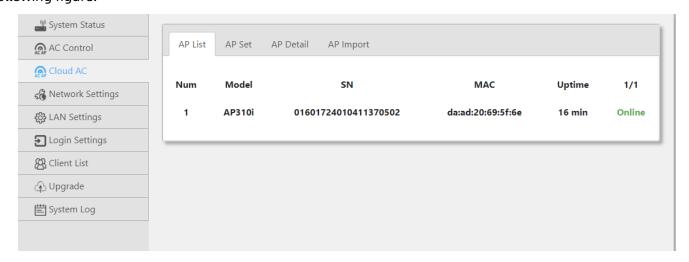


Figure 13. AP list



3.3.3. AP settings

The settings for AP mainly include 7 actions: settings, restart, restore factory settings, upgrade, delete (offline AP), flash LED, export SN and cloud password, as shown in the figure.

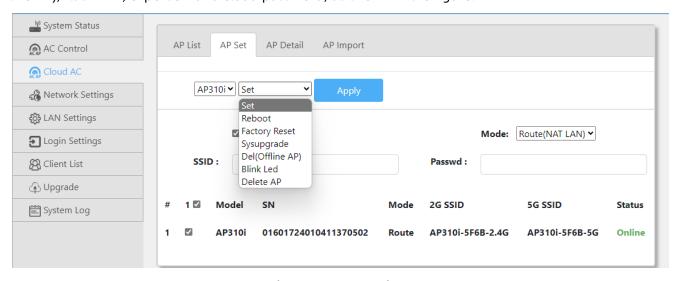


Figure 14. AP settings

The detailed information of actions is listed in the following table.

Table 4.

Items	Description	How to operate		
Settings	Set the SSID and password of the WiFi.	Check the target device->Enter SSID &		
		password→Confirm		
Reboot	Reboot the AP device	Check the target device → Confirm		
Reset to factory	Reset the AP to factory defaults	Check the target device → Confirm		
defaults				
Upgrade	Upgrade the firmware of AP	Check the target device→ select the		
		firmware->Confirm		
Delete(Offline	Delete offline AP device	Check the target device → Confirm		
AP)				
Changing LED	Change device LED light status	Check the target device→click "Switch"→		
status		Confirm		

3.3.4. AP information

On this page, users can view the detailed information of the AP device such as model, MAC, version, etc. You can select the corresponding AP device by selecting the model and SN. The specific information is shown in the



following figure.

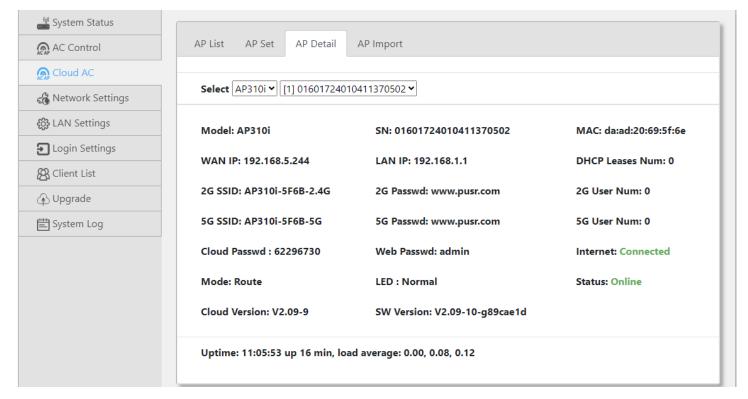


Figure 15. AP detail

3.4. Internet accessing settings

There are 4 parts included in this function block: Mode Selecting, Network Port Settings, WAN Settings, IP Mapping.

3.4.1. Mode selecting

There are 2 modes that can be selected: Router mode and AP mode.

Router mode: In this mode, the WAN port supports DHCP client, static IP, PPPoE. For LAN port, it support DHCP service to assign IP addresses to terminal network devices.

AP mode: In this mode, WAN and LAN are bridged together, and DHCP service is turned off.

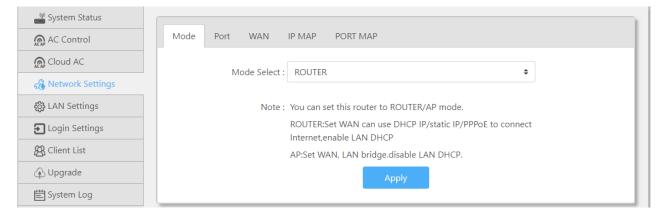




Figure 16. Mode selecting

3.4.2. Ethernet port setting

In this function block, users can implement WAN/LAN switching, and can monitor whether the Ethernet port is connected to a device.

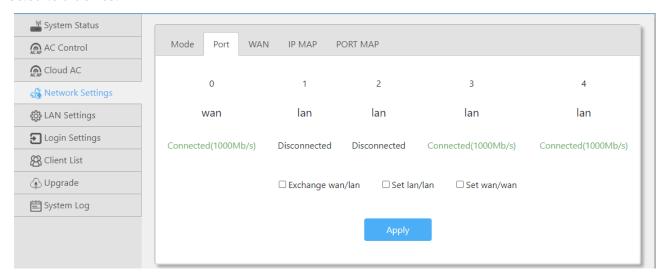


Figure 17. Ethernet port setting

3.4.3. WAN settings

On this page, users can set parameters of WAN port to get access to Internet, including DHCP client, static IP, and PPPoE.

MAC clone: Replace the AC's MAC address with this MAC.

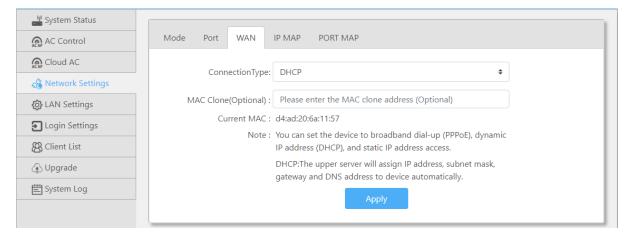


Figure 18. WAN settings

3.4.4. IP mapping

Connect the device to the LAN port, and the IP of the device is mapped to the WAN port. Users can directly access the device using the mapped IP on the WAN port. After specifying the communication host IP, the device



can connect to the WAN host through the internal IP.

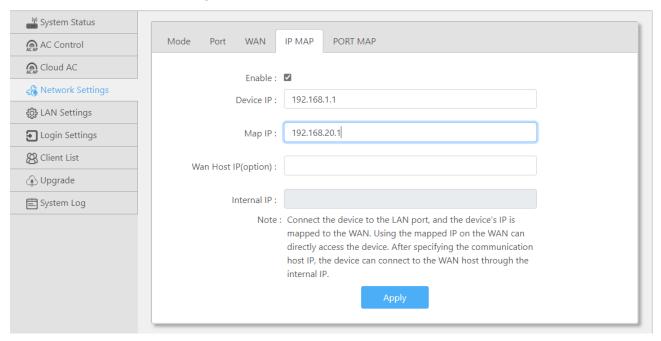


Figure 19. IP mapping

Specific steps:

- 1> Connect the device to the LAN port of AC200/1000,
- 2> Parameters of the IP mapping is listed in the following table,

Table 5.

Items	Description	
Device IP	The IP of the device connected to the LAN port.	
Mapping IP	WAN IP of AC200/1000	
Host IP	The IP of the device connected to the WAN port.	
Internal IP	Should be in the same segment of the device IP.	

3> Set the IP of PC to the same network segment as the mapped WAN port IP and connect to the WAN port of AC200/1000. Hardware connection is like the following:



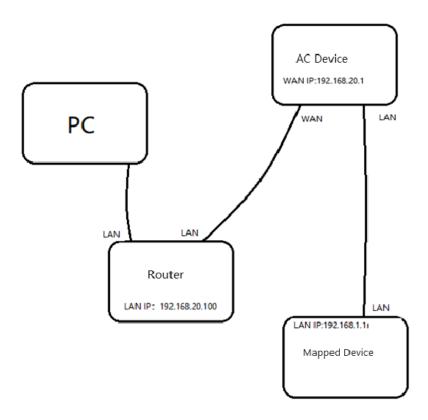


Figure 20. Topology

4> To check whether the mapped IP can be pinged (if the access device is a router, you can try to use the WAN port mapped IP to access the WEB server).



Figure 21. Accessing webpage via mapped IP

3.4.5. Port mapping

Like the IP mapping function, IP mapping occupies all ports. The difference here is that this configuration is for specific port or port range mapping functions. Therefore, to enable port mapping, it is necessary to first disable IP mapping. The port can be a number or a range, such as 23, 1-80, etc. Adding or deleting takes effect immediately. It is possible to access the corresponding LAN devices through the WAN IP and port. The WAN IP, which is also the access IP, can be set as a static IP or automatically obtained from the upper-layer router.



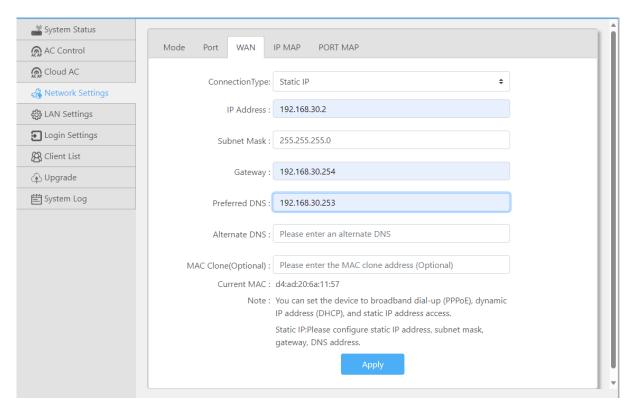


Figure 22. WAN settings

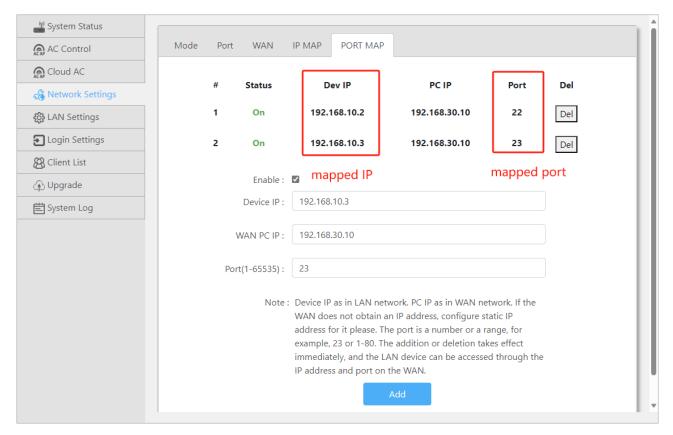


Figure 23. IP/Port mapping

Specific steps:

1> Connect the device to the LAN port of AC200/1000,



2> Parameters of the port mapping is listed in the following table,

Table 6.

Items	Description	
Device IP	The IP of the device connected to the LAN port.	
PC IP	The IP of PC connected to the WAN port of AC200/1000.	
Port	A single port or a range of ports.	

- 3> Set the PC's IP to 192.168.30.10, which is in the same subnet as the AC200 WAN port, and connect the PC to the AC200's WAN port.
- 4> Map port 22 or 23 to check if it's possible to use SSH or telnet to log into the device by accessing the IP.



Figure 24. Telnet & SSH

3.5. LAN network settings

This function block is used to set the LAN IP address of the 520X, with the setting options as shown in the following diagram, and the configuration instructions as in Table 3.

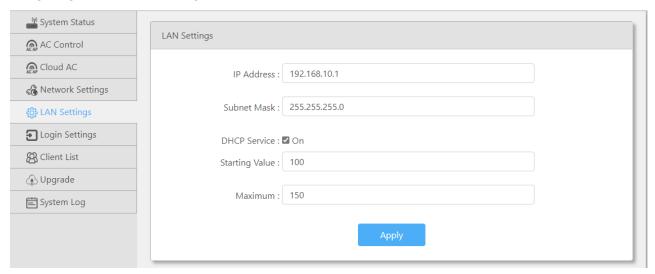


Figure 25. LAN network settings

Table 7. Parameters details of LAN network settings

Items	Description
IP address	The LAN IP of the AP(NR)520X. The default is 192.168.10.1
Subnet Mask	Subnet Mask of AP(NR)520X LAN port.



After enabling DHCP, the AC200/1000 can assign IP addresses to terminal DHCP service devices. The IP addresses start from the "initial value" and can be allocated up to the "maximum number "set.

3.6. Login settings

This function is used to change the login password of a webpage.

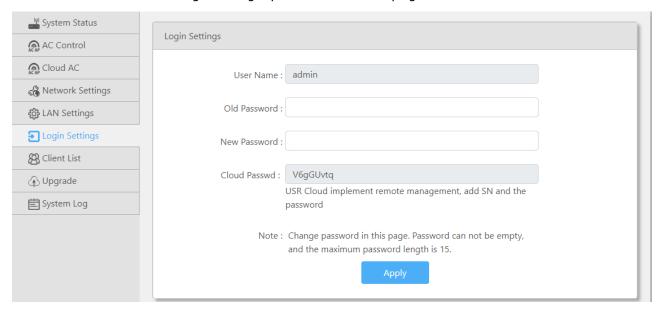


Figure 26. Login password settings

3.7. Client list

Client list has 3 submenus: DHCP List wireless clients and IP Binding.

DHCP List: Clicking on "refresh" button will display the information of computers that have obtained IP addresses through the router's DHCP service, as shown in the following figure.

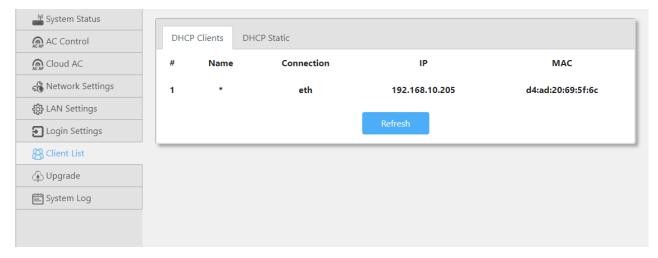


Figure 27. DHCP list



IP Binding: Enter the IP address and MAC address of the device that needs to be bound, then click on <Add>. Click on <Refresh> to view the devices that have already been bound.

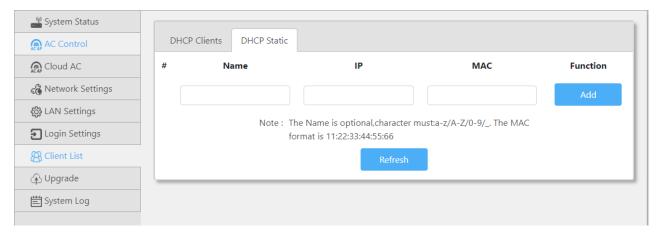


Figure 28. IP binding

3.8. Software upgrading

This functional block includes 5 submenus: [Firmware Upgrade], [Backup/Restore Configuration], [Date/Time], [Restart], and [Restore Factory Settings].

3.8.1. Firmware upgrading

Select firmware file-> Click upgrade

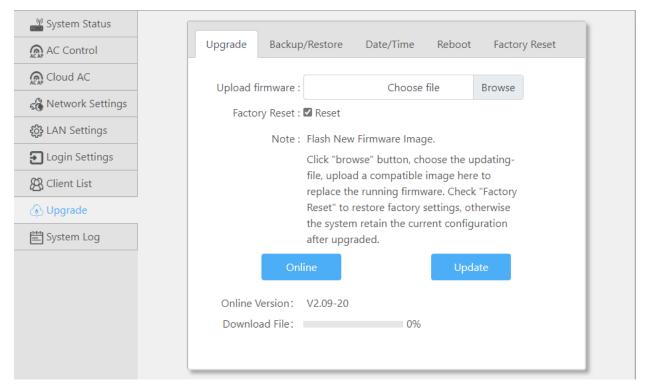


Figure 29. Firmware upgrading



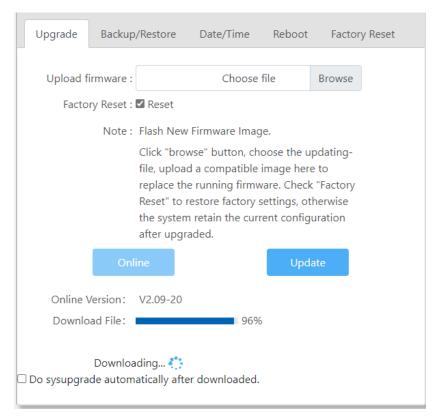


Figure 30. Firmware upgrading online

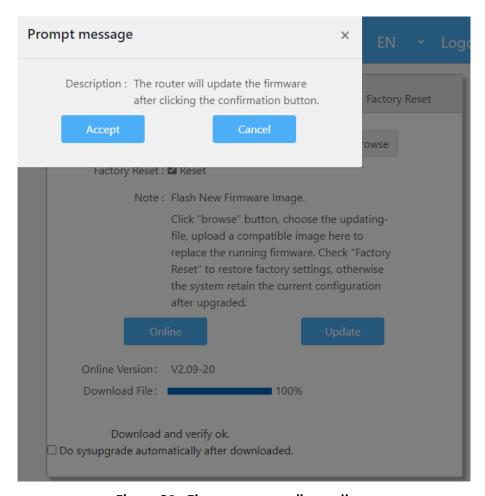


Figure 31. Firmware upgrading online



3.8.2. Backup

This function is used to back up the current parameters of AP device, and it also allows the import of previously saved parameters, making it convenient for users to configure settings.

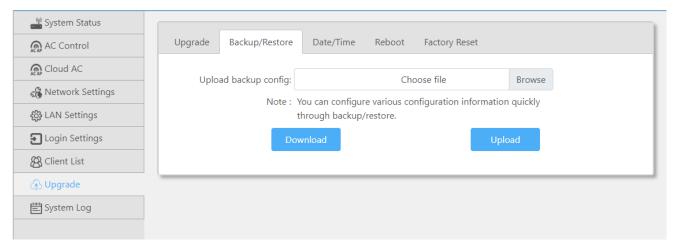


Figure 32. Configuration backup

Table 8.

Items	Description
Backup parameters	Click the <backup configuration=""> button to save the current settings to a file.</backup>
Import backup file	Click <browse> to select the configuration file. Click <import configuration="">, and in the</import></browse>
	prompt box, click <ok> to upload the settings to AC200/1000 and restart.</ok>

3.8.3. Time & Date

Set the time and date of the AC200/1000.

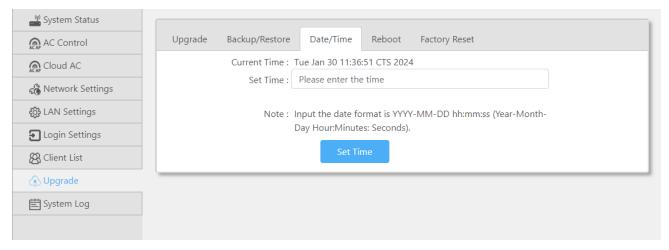


Figure 33. Time & Date



3.8.4. Reboot

Reboot the AP device.

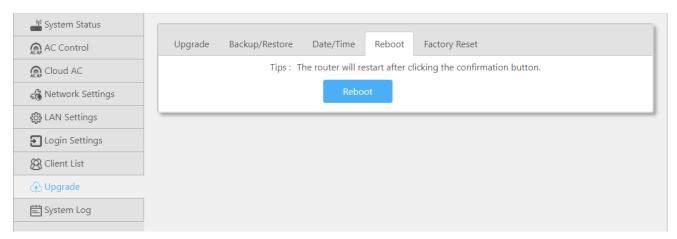


Figure 34. Reboot

3.8.5. Reset to factory setting

Reset to factory settings.

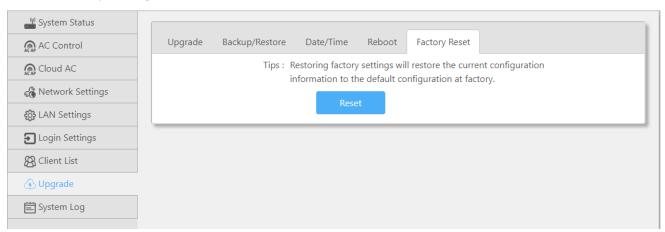


Figure 35. Reset to factory settings

3.9. System log

To check the system log.



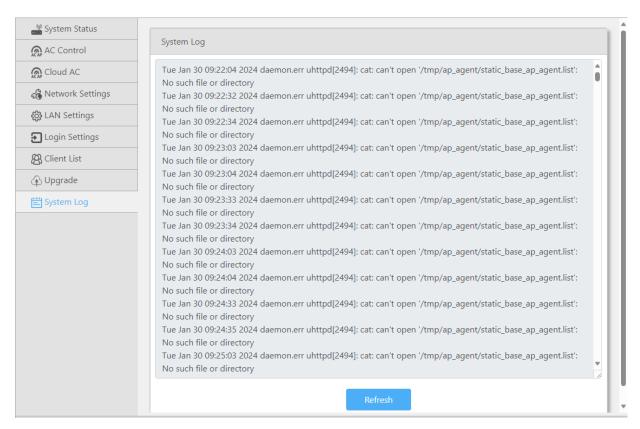


Figure 36. System log

4. Warranty

5. Contact Us

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7. Revision History

Version	Date	Author	Description
V1.0.0	2023-11-17		Established
V1.0.1	2024-01-29	May Liu	Translation

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