LipRouter H9

5G bonding router

User Manual

V1.1

Nanjing Nagasoft Corporation

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目录

1. Hardware specifications 2
1.1Packing list 2
1.2 Equipment parameters 2
1.3 Interface diagram 3
2. Installation and debugging 5
3. Software function 6
3.1 Main User Interface 6
3.2 Settings page 7
3.3 Bonding account 7
3.4 Application option 9
3.5 WAN management 10
3.6 LAN management 10
3.7 WiFi management 11
3.8 Network speed test 13
3.9 Lock Screen 13
3.10 Device information 14
3.11 Binding code 16
4. Frequently asked questions 17

1. Hardware specifications

1.1Packing list

Name/model	Package	Standard	PCS	Quantity	Remark
Device	Inside box	H9	1	1	
Power adapter	Inside box	Customized	1	1	
User Manual	Inside box	Customized	1	1	(Digital)
Warranty card	Inside box	Customized	1	1	

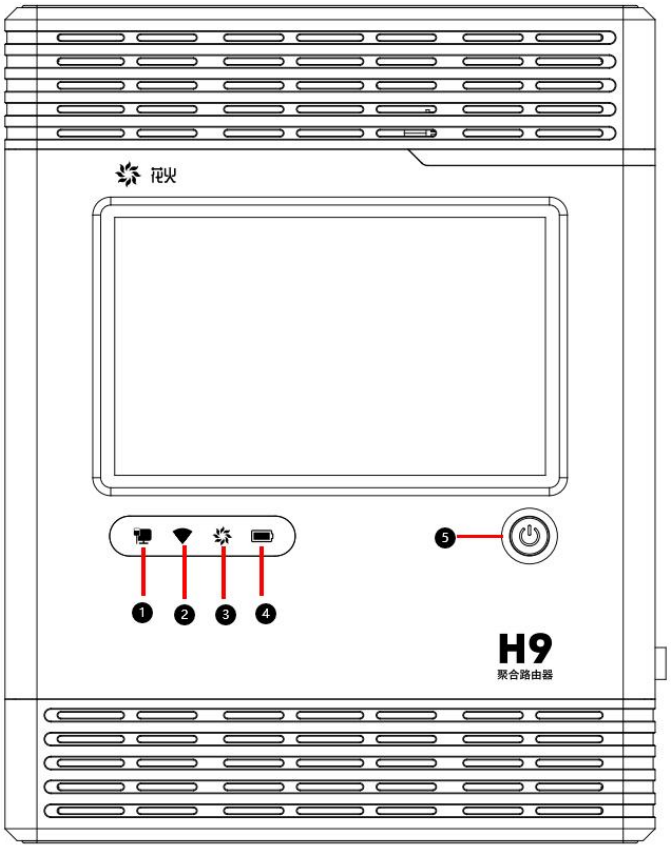
1.2 Equipment parameters

CPU	4 core 1.5GHZ ARM64
RAM	1G SD RAM、8G flash
Bonding function	10 channel network bonding, support 5Gx3 + 4Gx3 + USB port x2 + WiFi + Gigabit wired
Extended functionality	● Kernel level aggregation algorithm, super efficient multi-channel bandwidth stacking ● Efficient bandwidth detection and congestion control algorithms, fully tapping into the bandwidth of each channel ● Support port forwarding and can provide public IP addresses ● Dynamic data splitting, encrypted transmission, and improved security of private data ● Application protocol switching, TCP/UDP/TCP+UDP mix mode ● One button factory restore ● Firmware online upgrade
Bonding bandwidth	300/500Mbps, or determined by the server
Network Type	Embedded module, support 4G, 5G NSA/SA
WAN port	1 Gigabit interface
LAN port	4 Gigabit interface

WiFi frequency	2.4G/5.8G dual frequency
Antenna	WIFI/5G/4Gantenna hiding
Power supply	PD 65W 20V TYPEC power supply Embedded 14.8V 6000mAh 88.8Wh Capacity lithium battery, up to 6 hours of battery life
Screen	5-inch touch screen
USB	2 个 USB3.0
Dimension	209*163*62mm
Operation temperature	-20℃ — 60℃
Weight	1.4KG

1.3 Interface diagram

Front



① Always on after wired DHCP access, not on when wired is not connected; Always on under static IP.

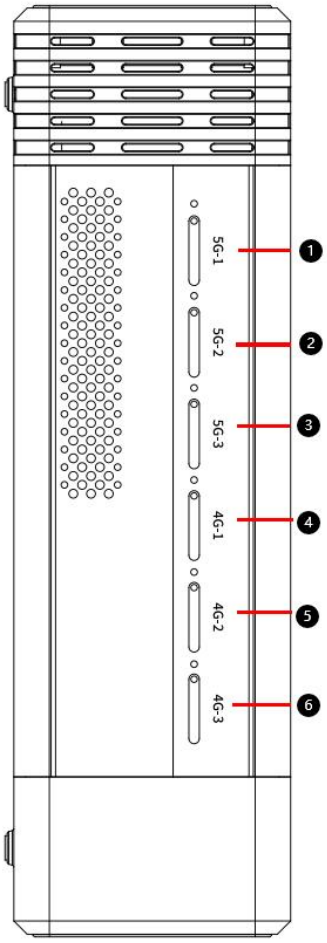
② The WiFi switch remains on continuously after being turned on.

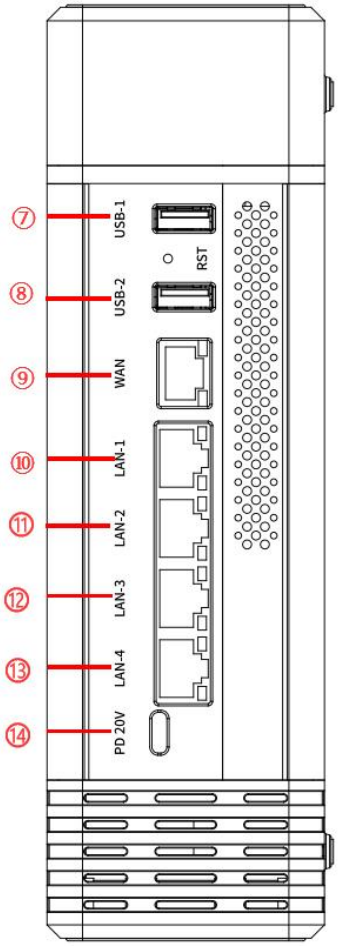
③ When the aggregation is normal, it is always on.

④ Always on when the battery is high, flashing when the battery is low.

⑤ Power button.

Side





①5G SIM 1

②5G SIM 2

③5G SIM 3 (optional)

④4G SIM 1

⑤4G SIM 2

⑥4G SIM 3

⑦USB3.0 port1

⑧USB3.0 port2

⑨RJ45 Gigabit Ethernet port

⑩LAN 1 port

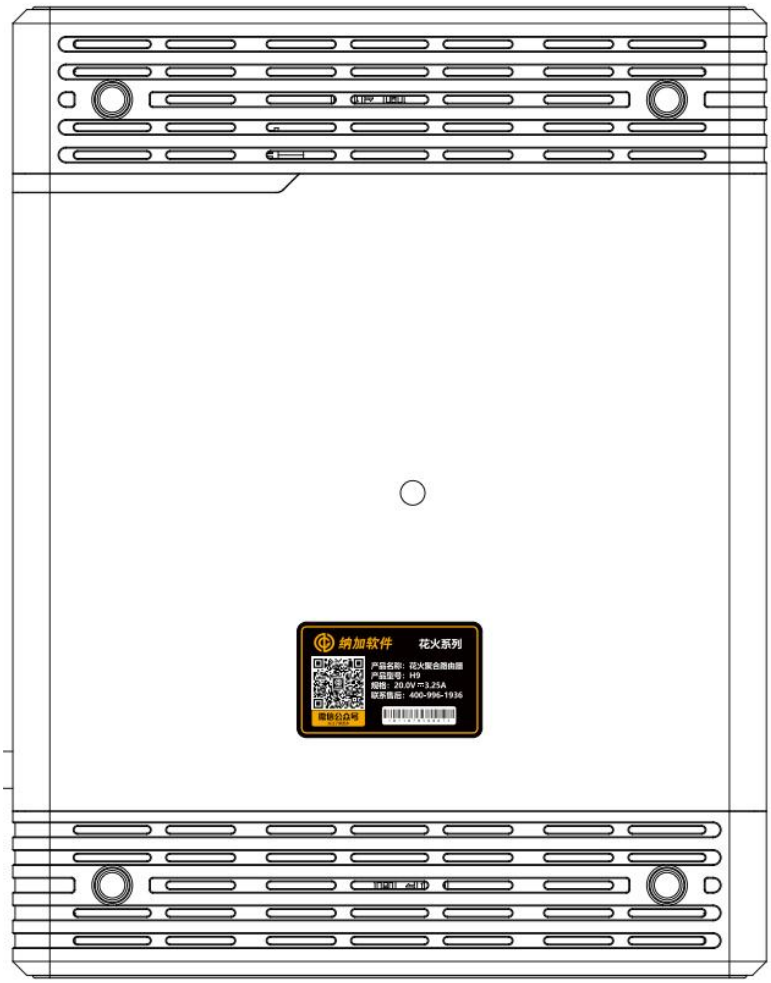
⑪LAN 2 port

⑫LAN 3 port

⑬LAN 4 port

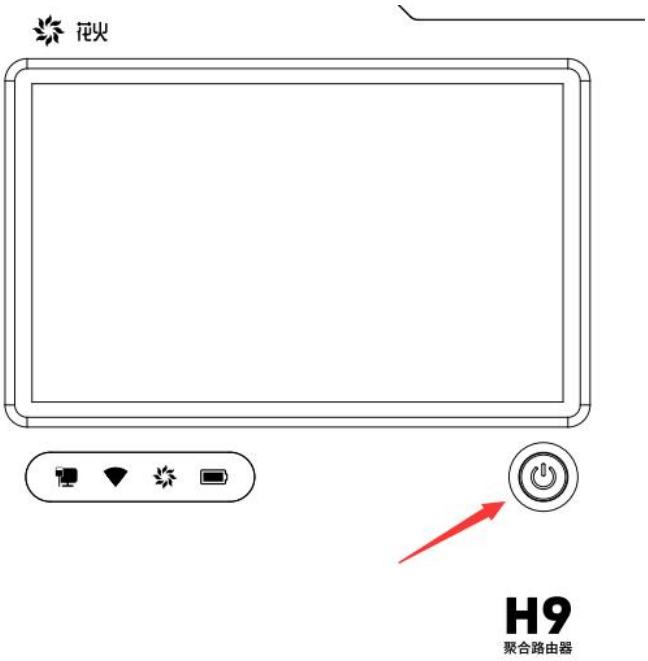
⑭PD 20v power supply port

Back



2. Installation and debugging

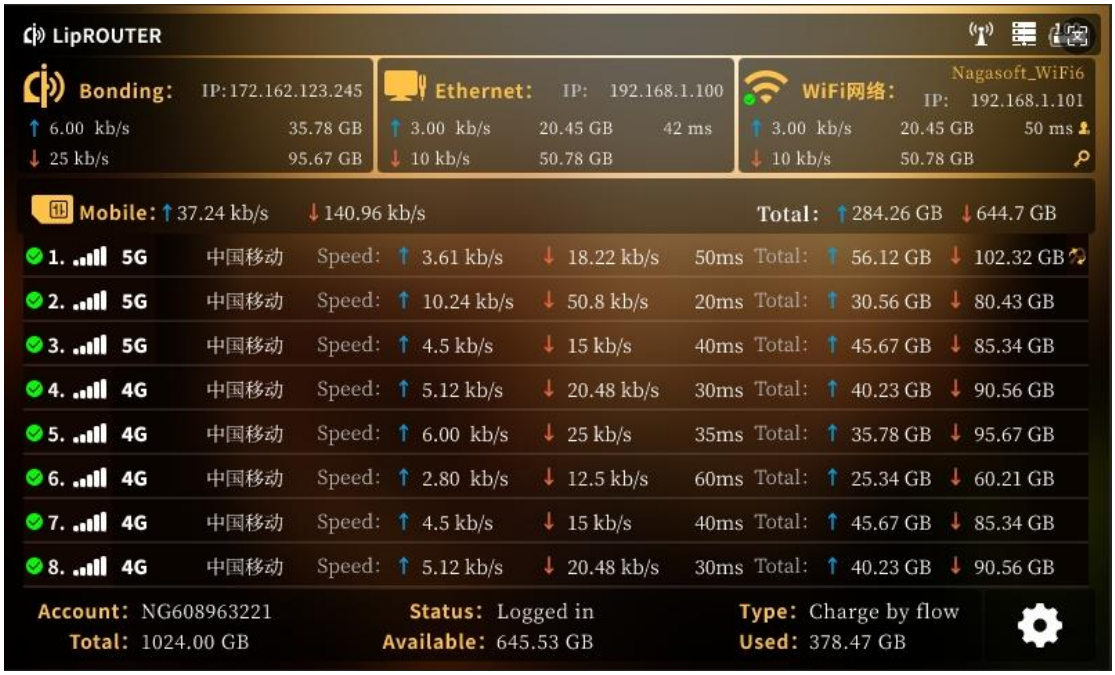
1. Remove the bonding router from the packaging and place it on a stable desktop.
2. Remove the power adapter and connect it to the DC 19V power interface of the bonding encoder, or directly use the built-in battery for power supply.
3. Insert the 5G/4G SIM card into the corresponding SIM card slot.
4. Connect the USB 5G/4G network card to one of the USB interface.
5. Use an external network cable to connect to the bonding RJ45 network port.
6. Press the power switch of the bonding encoder to start the device. See as below figure:



3. Software function

3.1 Main User Interface

After the startup of the LipRouter H9 bonding router is completed, enter the 5-inch touch screen control main interface, as shown in the following figure:



1. Bonding Network: Real time monitoring of network speed and bonding data flow.
2. Wired network: Real time monitoring of wired network speed.
3. WiFi: Real time monitoring of network speed in AP/STA mode.

4. 4G/5G network: Real time monitoring of network speed and data flow for multiple 4G/5G networks, supporting bonding of total network speed and data flow monitoring for 4G/5G networks.

5. Bonding status: monitoring of bonding account status and account data flow information.

6. Settings: Click the button in the bottom right corner to enter the settings interface.

7. Bonding Account: Display the currently logged in bonding account.

8. Login status: Display whether the bonding account is logged in or not.

9. Account Type: Display the bonding account type currently logged in.

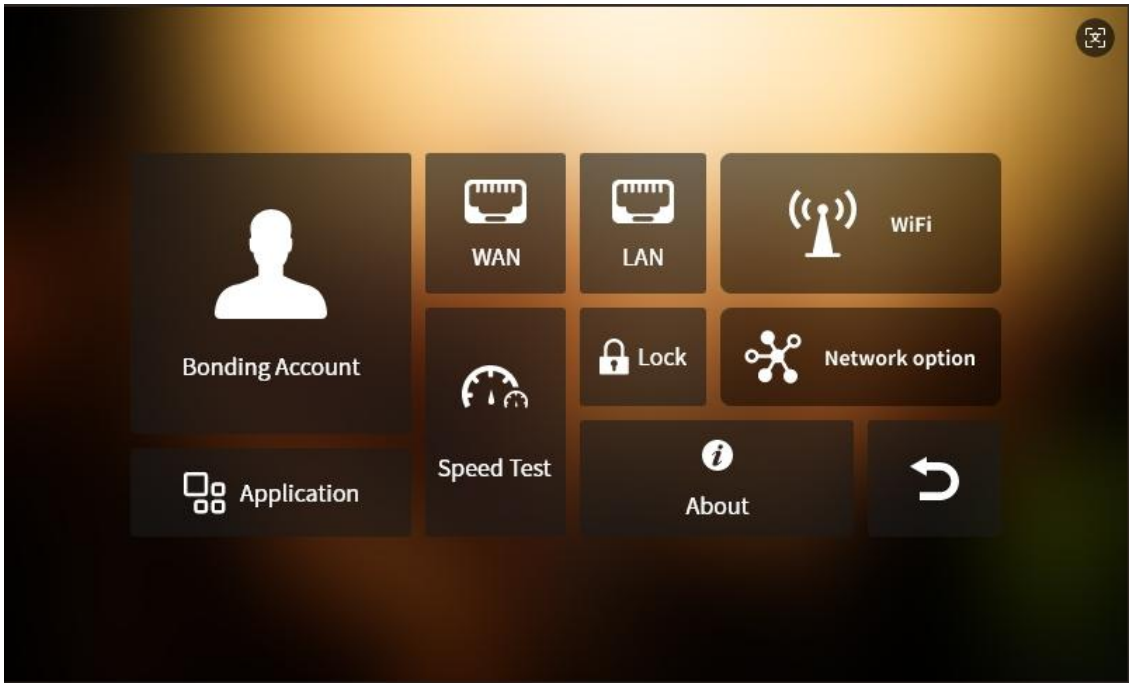
10. Total amount: displays the total bonding data flow of the currently logged in bonding account.

11. Used data: Display the bonding data used by the currently logged in bonding account.

12. Remaining data: Display the remaining bonding data of the currently logged in bonding account.

3.2 Settings page

The settings interface provides bonding accounts, application selection (TCP/UDP/TCP+UDP mixed mode) WAN,LAN,WiFi, Speed measurement, screen lock, and information about (device information, software upgrades, etc.) are shown in the following figure:

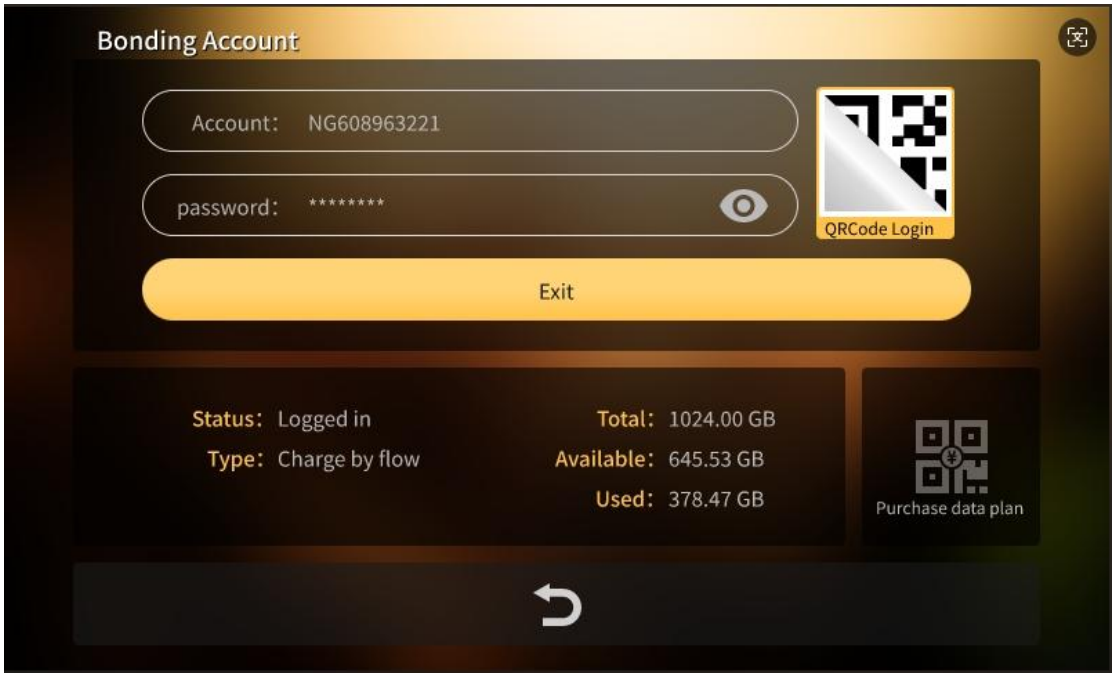


Click the button in the bottom right corner to return to the main interface.

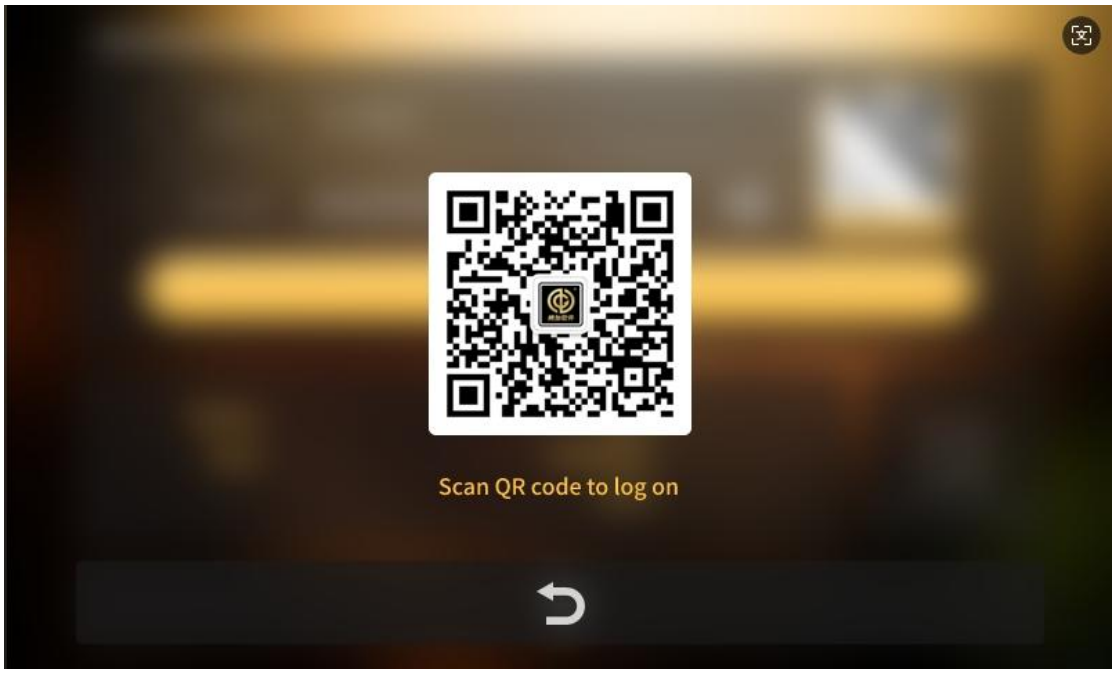
3.3 Bonding account

Click the "Bonding Account" button in the settings interface to enter the Bonding Account

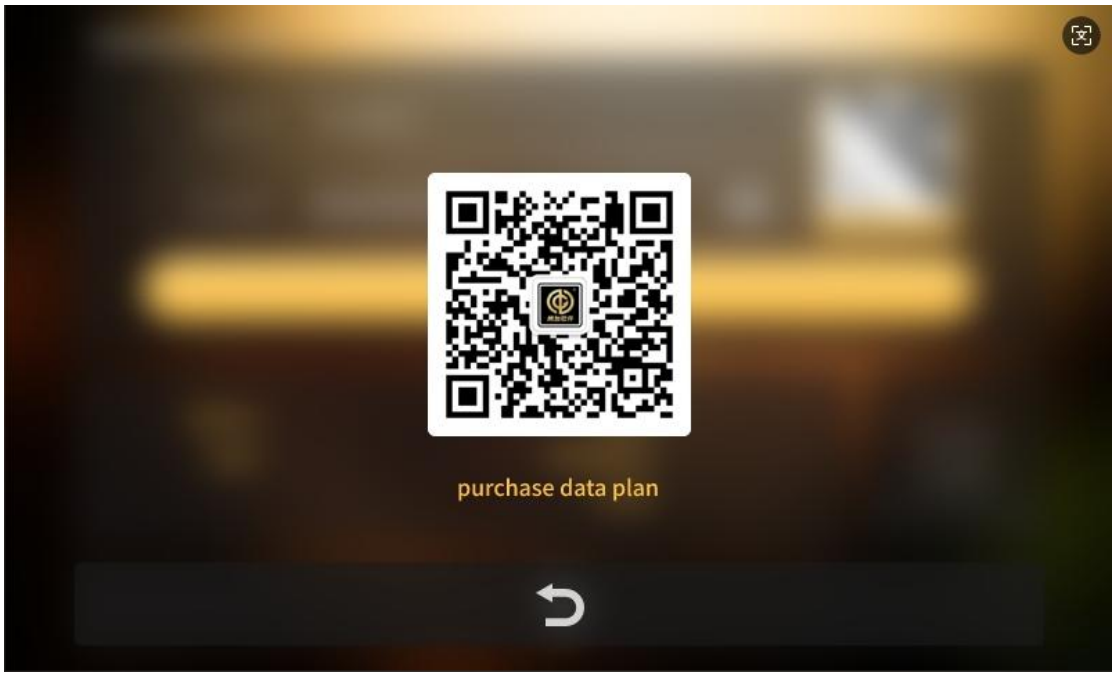
Management interface, as shown in the following figure:



In the account management interface, you can log in to the bonding account by entering your account and password, or by clicking on the QR code and scanning it, as shown in the following figure:



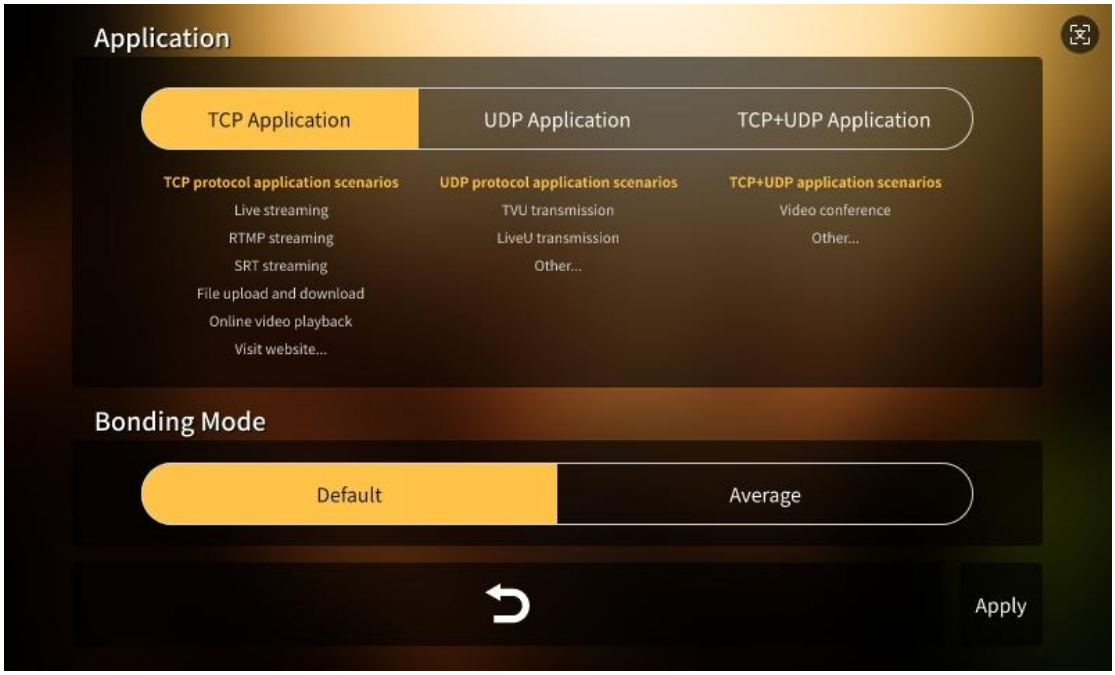
After logging into the bonding account, click on the QR code to top up data plan to the bonding account, as shown in the following figure:



After logging in, you can obtain information about the bonding account type and data usage. Click the button at the bottom to return to the bonding account interface.

3.4 Application option

Click the "Application" button on the settings interface to enter the application option interface, as shown in the following figure:

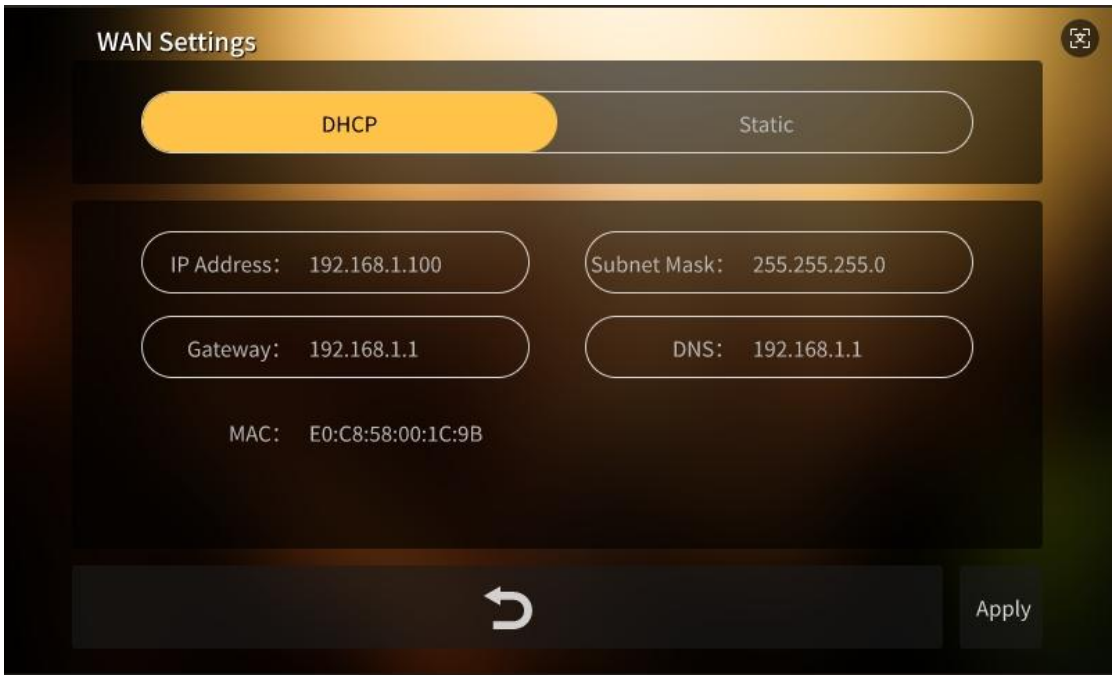


The default application option is TCP mode. You can choose the corresponding mode

according to the usage scenario instructions in the application mode. After selecting, click the 'Apply' bottom right button to apply the mode, and click  to return to the settings interface.

3.5 WAN management

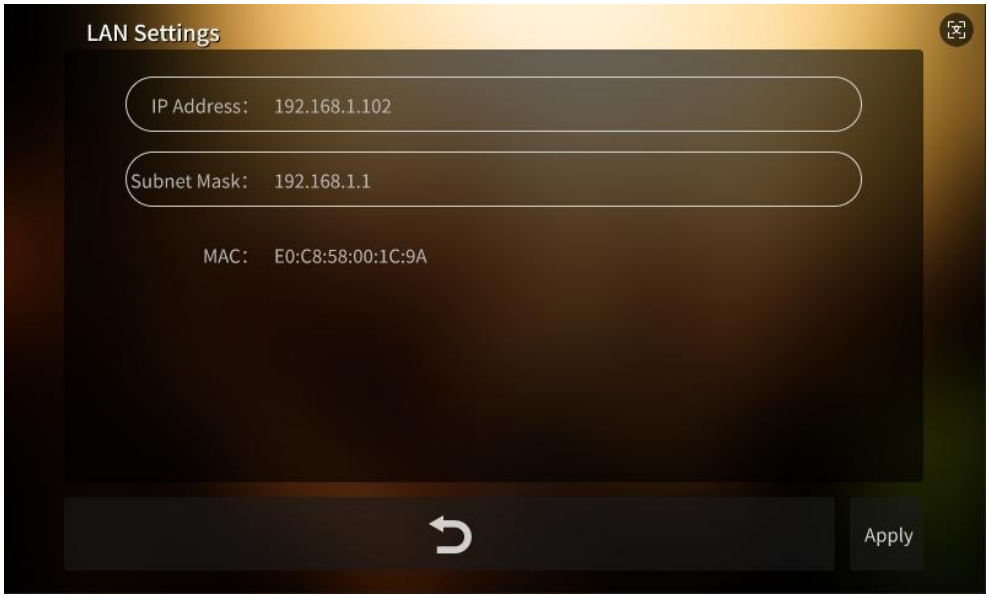
Click the "WAN button" on the settings interface to enter the WAN settings page, as shown in the following figure:



In the WAN settings interface, you can choose to dynamically allocate IP addresses or manually set static IP addresses. After selecting "Static IP", manually enter the IP address, subnet mask, gateway, and DNS, and click the "Apply" button in the lower right corner to take effect. Click the  bottom button to return to the settings interface.

3.6 LAN management

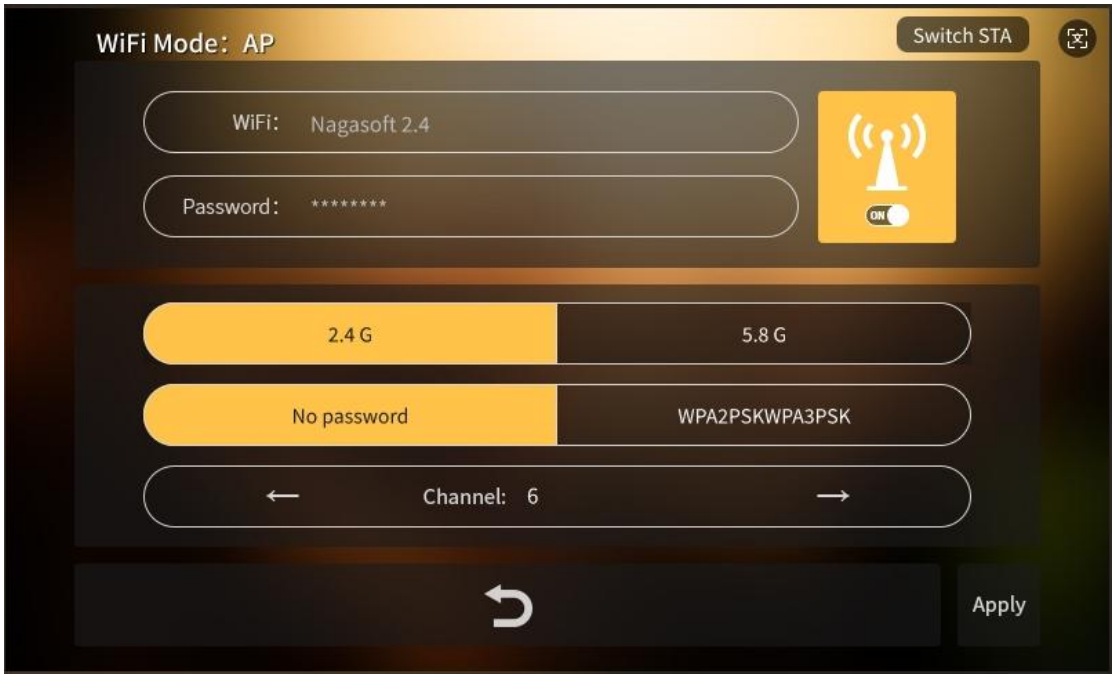
Click the "LAN" button on the settings interface to enter the LAN settings page, as shown in the following figure:



In the LAN settings interface, enter the LAN settings and set the "IP address" and "subnet mask" separately. Click the "Apply" button to activate the settings, and click the bottom button to return to the settings interface.

3.7 WiFi management

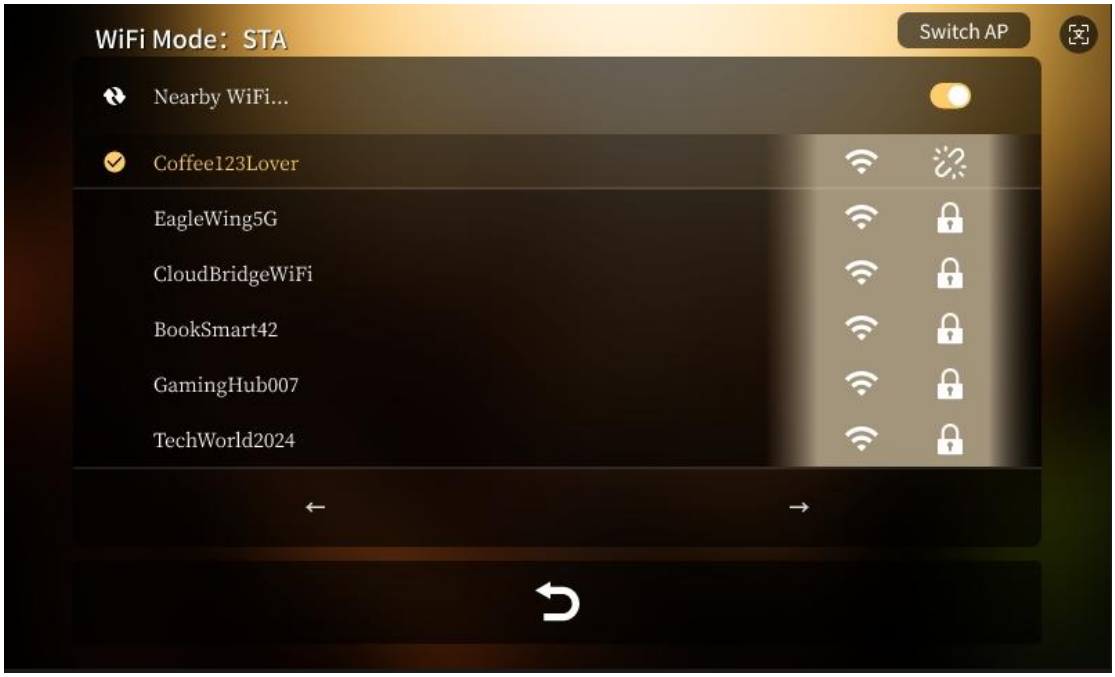
Click the "WiFi" button on the settings interface to enter the WiFi management interface. WiFi has two modes: AP and STA, with STA mode as the default. Click on the top right corner to switch between the two modes, as shown in the following figure:



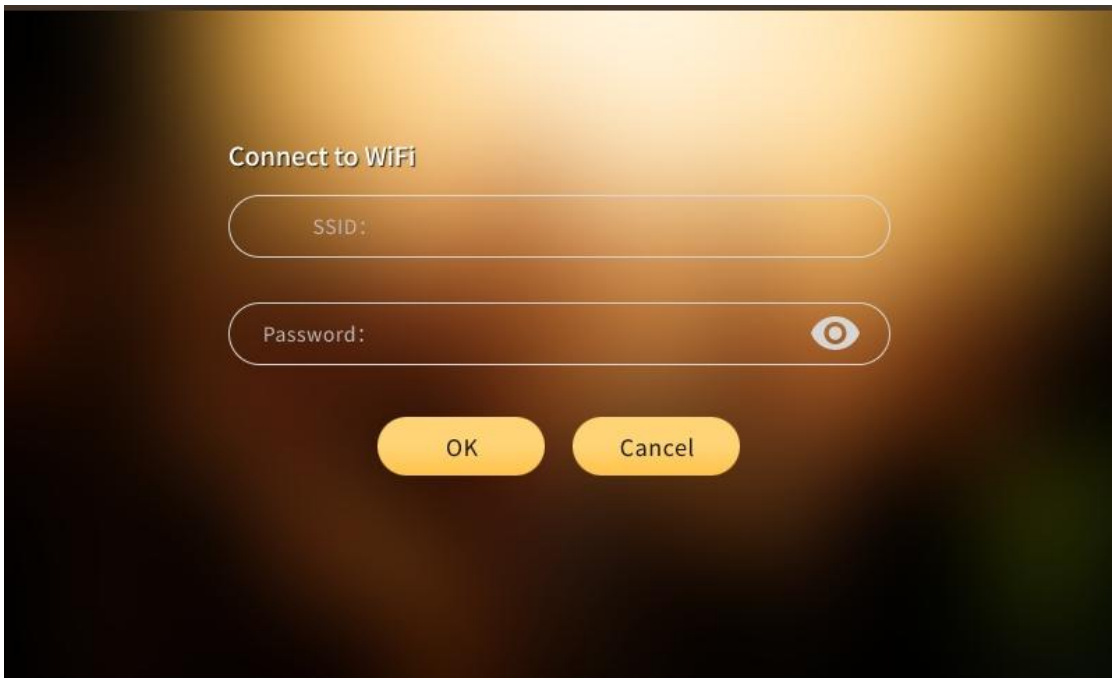
WiFi mode: AP， Customizable WiFi network name and password, able to operate WiFi on or

off, select WiFi frequency band: 2.4G/5.8G, 3 secure connection modes, automatic signal or fixed channel. After setting up, click "Apply" to make the settings effective.

WiFi mode: STA, Turn on the nearby WiFi switch to automatically scan for nearby WiFi connections. Click the ← → button to scroll up and down the WiFi list. Click the bottom ↩ button to return to the settings interface, as shown in the following figure:

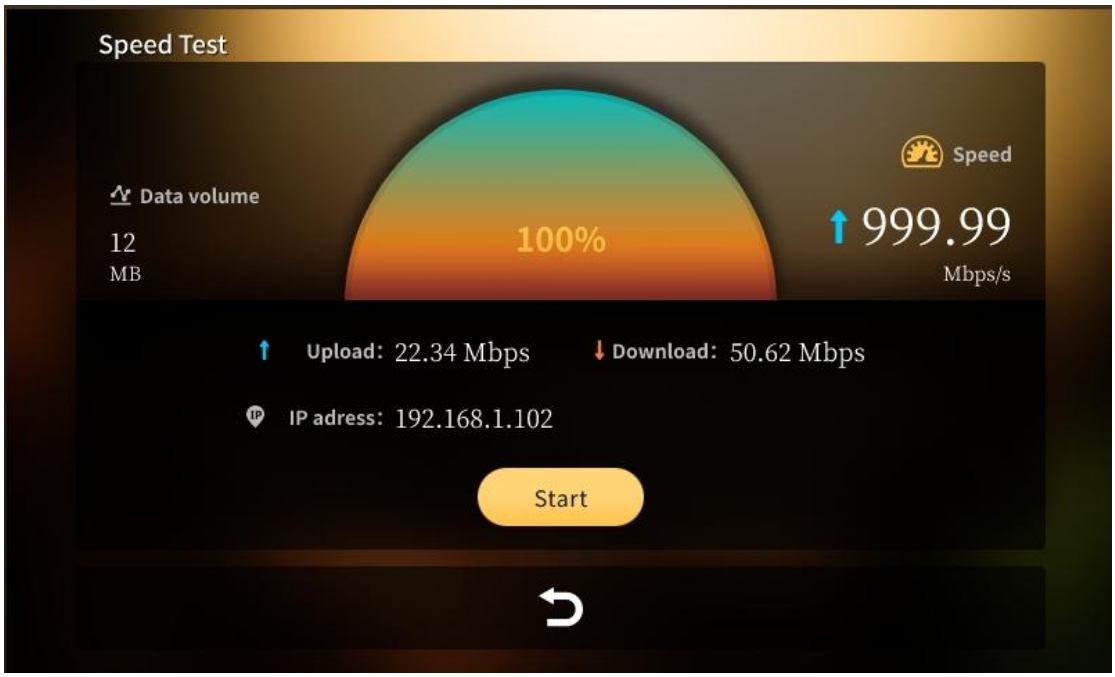


Select the WiFi that needs to be connected, enter the password, click the "OK" button to connect, click the "Cancel" button to return to the WiFi list interface, as shown in the following figure:



3.8 Network speed test

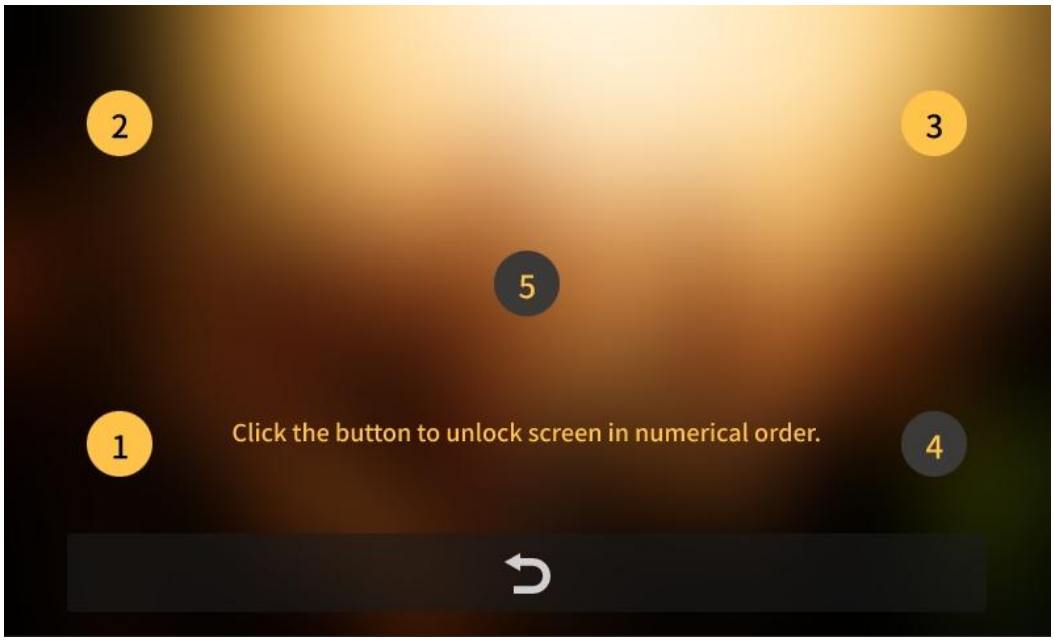
Click the "Speed test" button on the settings interface to enter the network speed test interface, as shown in the following figure:



On the network speed test interface, real-time speed test can be performed on the current bonding network. Click the "Start speed test" button to start the upload and download speed test of the network. After the speed test is completed, it will automatically stop, or click "Stop speed test" to interrupt the speed test. Click the bottom  button to return to the settings interface.

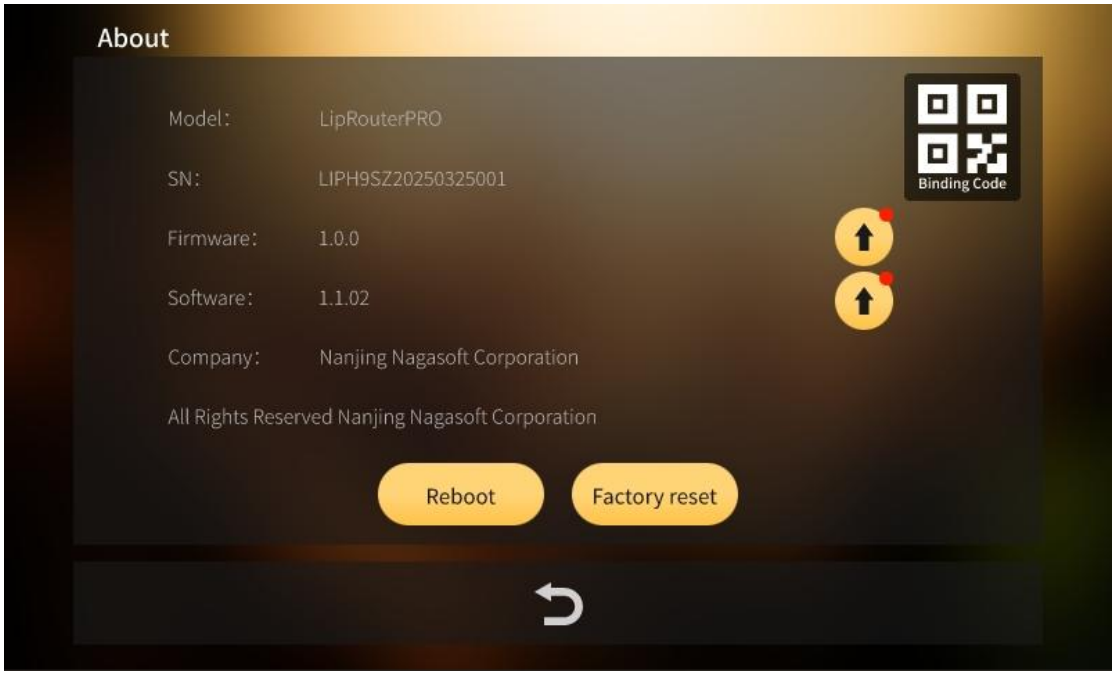
3.9 Lock Screen

Click the "Lock Screen" button on the settings interface, and the bonding router operation interface will be locked and cannot be operated. You need to follow the prompts and light up the 5-digit numbers in sequence to unlock the screen. Click the bottom  button to cancel unlocking and return to the lock screen interface, as shown in the following figure:



3.10 Device information

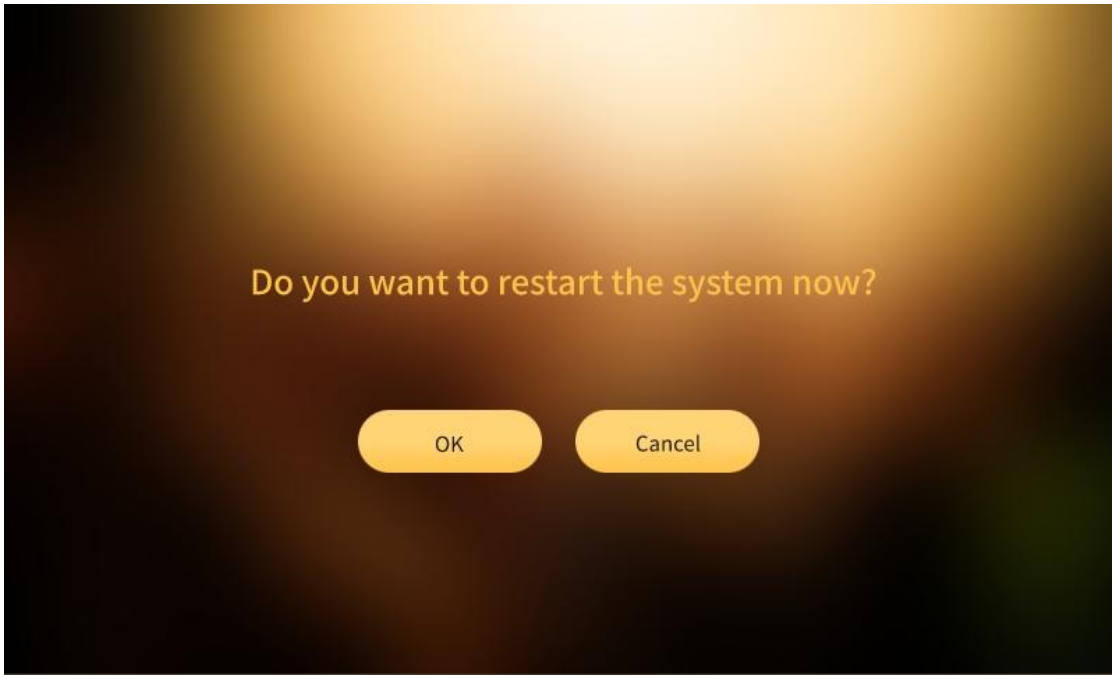
Click the "About" button on the settings interface to enter the settings information interface, as shown in the following figure:



On the device information interface, you can view information such as device model, serial number, firmware version number, software version number, etc. If there is a new version update, click the upgrade button on the interface to update the firmware or software version, as shown in the following figure:



After the update progress of software is completed (100%), you need to click "Device Reboot" manually to install the version, as shown in the following figure:



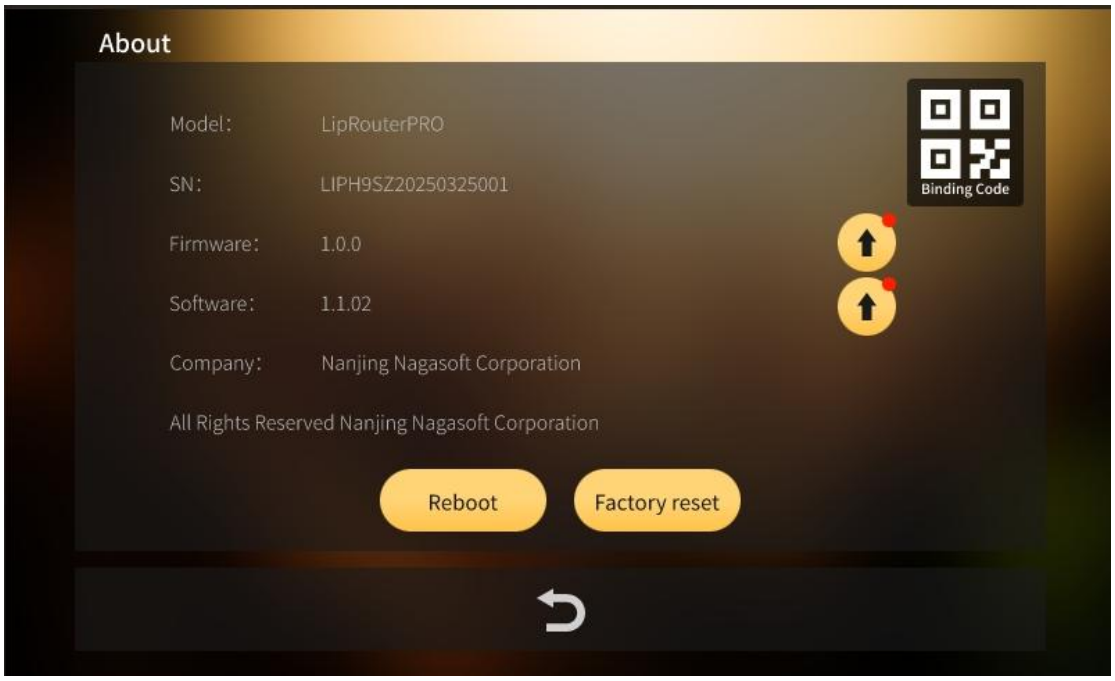
After restarting, it prompts that the update is being installed. Wait for the version installation to complete and automatically restart to complete the update, as shown in the following figure:

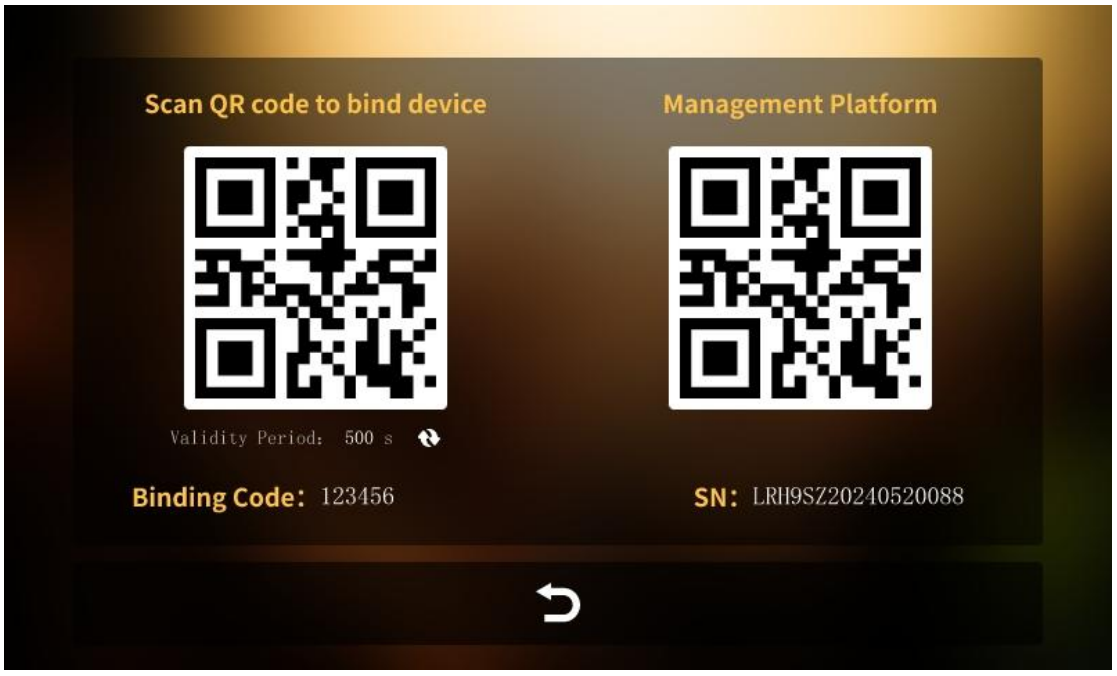


3.11 Binding code

Click the "About" button on the settings interface to enter the device information interface, and then click the "Binding Code" QR code button in the upper right corner to enter the device binding code interface.

You can use your phone to scan the QR code to open the cloud device management platform, or use your PC to open it https://cdn.ndmp.nagasoft.cn/global/user/device/#/login link, after logging into the cloud device management platform, follow the corresponding prompts on the page to bind the device, as shown in the following figure:





4. Frequently asked questions

Q: How to register a bonding account?

A: By the link https://lipmallcdn.nagasoft.cn/ You can register with your email address and set your password. Your email address will be your bonding account.

Q: Can I access the internet just by plugging in my SIM card?

A: If you do not log in to the bonding account and use a single card network, you can

directly access the internet under normal one single card conditions.

Q： Can I stack multiple card networks after logging into the bonding account?

A: You need to purchase bonding data plan package (customized server not required), you can go to https://lipmallcdn.nagasoft.cn/buy to make a purchase.

Q： Why is the testing network still poor even after inserting multiple cards?

A： Check the speed of each card itself and monitor the signal card quality and delay level. Additionally, it is recommended to use networks from different network operators, as the base station limitations of the same operator result in limited speed overlap.

Q： Why does the software display an unrecognized status after plugging in the USB dongle network card?

A： 1. Check the USB dongle network card, the blue light should be always on in normal network supply status.

2. Check if there is any outstanding data usage on the card.

3. Check if the SIM card is installed upside down.

Q： Why can't the laptop connect to the WiFi hot spot of the bonding router?

A： The main issue is that the WIFI channel is conflicting. Please try to turn off the WIFI function of the network card and restart the bonding router and laptop.

Q： Why can't I access the internet when my computer is connected to the LAN port of the bonding router?

A： 1. Check if the computer has a fixed IP address before.

2. Set the bonding router to automatically obtain IP, or the computer can be fixed on the same network segment as the bonding router.

Q： Do I need to log in to the bonding account every time I turn on the router?

A： 1. If you log in by scanning the code, you need to scan the code again every time you turn on the router and connect to the internet.

2. If you log in by entering your account password, you will automatically log in after booting up and connecting to the internet.

Q： What does the key icon on the router's main interface mean?

A： When not logged into the bonding, the card is the main link.

Q： Connected multiple SIM cards, unable to log in to bonding or unable to connect to the network after logging in?

A： 1. Please check if there is any unrecognized card or if the SIM card itself cannot access the internet

2. You can try keeping a SIM card that can be connected to the internet, and then update to the latest version on the About page.

Q： Can multiple bonding router be logged in and used simultaneously with a bonding account?

A： Sure, merge and calculate data flow without affecting the network.

Q： Can bonding Router be used outdoors with an external power supply? (Laptop external power supply battery, camera external power supply battery, etc.)

A： Sure, it comes with a built-in 14.8V 6000mAh 88.8Wh lithium battery, The PD interface specification is TYPE-C, the input voltage is 5-20V, and the full load power of the whole device is 65W.

Q： If there is suddenly no data flow during use, will the network be disconnected?

A： It won't disconnect from the internet, but it can no longer use bonding function and can only use single line or single SIM card network.